


# BOSTON UNIVERSITY 

ScHOOL OF EDUCATION

## THESIS

## DIAGNOSTIC READING READINESS TEST

by

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( B.Ed., New Haven State Teacher's College,1939)
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submitted in partial fulfillment of the requirements for the degree of Master in Education

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## INTRODUCTION

The purpose of this study is to devise a diagnostic reading readiness test. The writer is in accord with Wilson, Hunter and Fleming in their conception of reading readiness as "reading progress: in particular, progress of the initial 1
stages of learning to read." Thus the writer aims to procure a measure which will (1) indicate the child's progress in these first stages and thus determine his readiness to undertake a formal reading program, and (2) diagnose his inadequacy in the factors which are essential to reading progress.

It is, perhaps, the second objective which is of greatest significance, since, to the writer's knowledge, after an intensive study of the problem, there is no adequate measure for determining the specific weaknesses which render the intelligent child incapable of reading progress. Such tests as the Durrell Analysis of Reading Difficulties, the Gates Reading Diagnosis Tests, and the Ingraham-Clark 4
Diagnostic Reading Tests determine the difficulties of the

1. Wilson, F., Hunter, C., Fleming, C.

> | "Reading Progress in Kindergarten |
| :--- |
| and Primary Grades", Elementary |
| School Journal, Vol. 38, Ep.442- |
| 449, Fobruary, 1938. |

2. Published 1937 by World Book Company, New York.
3. Published 1929 by Southern California Book Depository, Los Angeles, California.
4. Published by Bureau of Publications, Teachers College, Columbia University, New York, 1933.
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child who can read to a certain extent, but are ineffective for the complete non reader, who, unfortunately exists at every grade level.
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## CHAPTER I <br> Summary of Previous Research

Notable progress in the field of prognostic, diagnostic, and remedial reading programs has been made since 1920. The first serious consideration of reading disability was made by medical men at the beginning of the twentieth century, but progress was slow for the ensuing twenty years. The child who was a poor reader was branded as incapable. Intelligence tests necessitating reading confirmed the erroneous concep1
tion in many cases, but studies and clinical observation have shown that the intelligent ohild frequently does not learn to read and thus, the intelligence test alone is not a sufficient prognostic and diagnostic measure for reading. The need of determining and providing for reading readiness is evidenced by numerous studies. Walter Percival's 2 study of causes and subjects of school failures found the first grade to be the time of greatest failure, and the cause, in $99.15 \%$ of the cases, was reading. In grade two, reading inadequacy was responsible for $90 \%$ of the failure. A study made in Chicago during 1938 revealed that, of children

1. Durrell,D.
2. Percival, F .
3. Johnson, T.
"The Influence of Reading Ability on Intelligence Measures", Journal of Educational Psychology, Voi. $24, \mathrm{pp} \cdot 412-416, \mathrm{Sep}-$ tember, 1933.

A Study of the Causes and Subjects of School Fallure. Published by Bureau of Publications,Berkeley University of California Printing Office, 1927.
"The Pre-Reading Program of the Chicago Public Schools", Elementary School Journal, Vo1.40, pp.37-44, September, 1939.

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entering grade one, $16.3 \%$ were definitely not ready to read, While 12.8\% were probably unready. Special diagnosis and help in reading is needed by $15 \%$ of the school population according to Durrell, by 12\% according to Monroe. Boney and 3
Agnew emphasize the importance of studying the child's growth before beginning reading, as the extensive numbers not ready to read make the attempt to teach beginning reading in large classes impractical.

At this point, the reader might well inquire as to the value of diagnosing a child's reading readiness. Does a knowledge that the child lacks certain factors essential to reading success and the ensuing program for the development of these factors render the child more capable of sucoessful reading achievement? Iittle research has been done in this field, but of that accomplished, all save one study indioates the effectiveness of a planned reading readiness program. 4
In the study by Gates and Bond, soon after the opening of school, four classes were given more than one hundred tests, examinations, and ratings of characteristics believed to be

1. op. cit.
2. Monroe, M.
3. Boney, C.

Agnew, K.
4. Gates, A.

Bond, G.

Children Who Cannot Read, University of Chicago Press, Chicago, Illinois, 1932.
"Periods of Awakening or Reading Readiness", Elementary English Review, Vol.14,pp.183187, May, 1937.
"Reading Readiness: A Study of Factors
Determining Success and Failuren, Teachers College Record, Vol.37,pp.679-685,May,1936.
included in readiness to read and then tested again at the end of the year to compare the results of the readiness tests with reading achievement. The correlations between the amount of previous instruction in reading given at home and in kindergarten, and success in reading, which was slightly greater than the correlation of mental age and reading success, led the experimentors to conclude that readiness for reading is something to develop rather than merely to wait for. 1
Again, Gates studied this problem, using the first grades of nine different schools in a Connecticut city. Gates Reading Readiness Tests were given at school entrance, and reading progress was measured at the end of the year by Gates Primary Reading Test, Type 1 and 2, and others. During the interim, the instructors were free to teach as they preferred, but the highest correlation between predioted and actual progress was in groups where the teacher adjusted her work to the pupils' needs as revealed by readiness tests. It would seem safe to surmise, also, in the face of proven conclusions, that drill on weaknesses, as revealed by readiness tests, would lower the predictive oorrelations by improving actual progress.

1. Gates,A.
[^0]1
In the Keith School, Chicago, it was found that twentyone of eighty pupils in February, 1932, were mentally capable, but too inexperienced to undertake first grade reading. After being placed in a separate group where orientation and before reading lessons were substituted for the regular grade one program, the reading readiness scores of every child in September, 1939, had advanced at least $90 \%$, and many more than $100 \%$.

2
Teegarden revealed that kindergarten-trained children made appreciably higher scores than did the non-kindergarten group on a test of reversal tendency, having a mean of 37.25 , and a median of 42.3 as compared to a mean of 20.23 and a median of 15.0 for the non-kindergarten group.

1. Harmon, A
2. Teegarden,J.
"Orienting First Graders- Developing Reading Readiness", Chicaso School Journal, Vol.22, pp.10-13, September, 1940.
"Tests for the Tenden cy to Reversal in Reading", Journal of Educational Research, Vol.27, pp.81-97, October, 1933.

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Petersen, in studying a first grade at Ironwood, Michigan, found that pupils, placed in a reading readiness group on the basis of a readiness test (which had shown them unready to read) and other information, had attained, as a result of a readiness program, at the end of Grade I, an average grade score of 1.8 on the Gates Silent Reading and Metropolitan Achievement Tests. 2
On the other hand, Zeta Brown found, in comparing the reading achievement of two groups of first graders, one using the formal approach with a basic reading manual, the other beginning with an extensive reading readiness program, that the former made slightly greater gains according to the Gates Word Recognition Test.

The growing interest in reading readiness is evidenced by the number of reading readiness tests produced within the 3 past few years. The Lee Clark Reading Readiness Test is a group test which includes four parts. The first two are

1. Petersen, I.
2. Brown, Z.
"The Reading Progress of the Ironwood Public Schools", Elementary School Journal, Vol. 37, pp. 438446, February, 1937.
"A Reading Readiness Experiment", Directed Study, Unpublished, Warwick, Rhode Island, 1939.
3. Published, 1934, by Southern Califormia School Book Depository, Los Angeles, California.







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matching tests in which lines are drawn connecting like letters. In Test III, the child crosses out one of four letters which does not belong with the others. In Test IV, the child crosses out the letter in a word which makes that word different from the other in the pair, for example, (amamd).

The test was given to nearly two thousand children in several cities in California and Colorado, and correlations obtained, by comparing the scores with the Lee-clark Primer Test and Gates Reading Test, were . 49 and . 54 respectively.

Using a condensed form of the Lee-clark Readiness Test 2 on 868 first grade pupils, Petty found a correlation of .44-. 05 with reading marks given almost entirely by one teacher.

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Wright's study showed the Lee-Clark Reading Readiness Test to have a correlation with the first eight sections of the Gates Primary Reading Test of . 586,.648,.089,.731,.625, .170. and. 444 respectively.

1. Lee, J.,Clark, V. Lee, D.
2. Petty, M.
"Measuring Reading Readiness", Elementary School Journal, Vol.34, pp.656-666, February, 1934.
"An Experimental Study of Certain Factors Influencing Reading Readiness", Journal of Educational Psychology, Vo1.30,pp.215-230, March, 1939.
3. Wright, W.
"Reading Readiness-A Prognostic Study, Bureau of Cooperative Research, Indiana University, School of Education, P•17, June, 1936.

Monroe's Reading Aptitude Tests for the Prediction of Success and Failure in Beginning Reading consists of a series of group tests, requiring thirty to forty minutes, and individual tests, taking ten to fifteen minutes, to administer. The group battery is as follows:
I. Visual Tests

Test 1. Tisual Recognition of Orientation-Examinee selects from two designs the one which correctly matches the stimulus design.

Test 2. Ocular Motor Control and Attention-Child draws along a twisted line.

Test 3. Visual Memory of Forms- Child attempts to reproduce designs after a ten minute period of study for each set of four.
II. Auditory Tests

Test 1. Word Discrimination- Nine pictures are numbered 1,2,3. As the word describing the picture is pronounced three ways, the child encircles the number corresponding to the one correct pronunciation.

> Test 2. Sound Blending. Each of twelve stimulus words is illustrated by three pictures; the child encircles the picture corresponding to the stimulus word as it is pronounced by the examiner.
III. Motor Tests

Test 1. Speed- Placing dots in circles.
Test 2. Steadiness-Join dots and dashes to make one line.

The individual battery includes one auditory memory test, in which the child is asked to retell a short story read by the examiner, one motor test, entailing the writing or printing of the child's name, and the following articulation, language and laterality tests:
IV Articulation
Test 1 Reproduction of wordsTest 2 Speed-Repeat a word or phrase as quicklyas possible.
V Language Tests
Test 1 Vocabulary-Words from Thorndike's listillustrated by pictures.
Test 2 Classification- Child names all the animals, toys, etc, that he knows.
Test 3 Sentence Length- Examiner notes the longest sentence used by the child in describing a picture.
VI Laterality Tests-Determination of hand preference through writing and throwing. Determination of eye and foot preference, also.
Correlation coefficient obtained between percentile scores on the aptitude tests, and grade scores on reading tests given at the end of the year for eighty-five six-year old first grade children in four IB grades, was .75t.03. The highest correlation with individual parts of the readiness tests was in those of the auditory and visual tests, rating $.66 \pm .04$ and $.60 \pm .04$ respectively. The motor test correlated $.50 \pm .05$ with reading achievement; articulation correlated . $57 \pm .05$; language . $50 \ddagger .05$.

1. Monroe, M.

> "Reading Aptitude Tests for the Prediction of Success and Failure in Beginning Reading", Education, Vol. 56 , pp.7-14, September, 1935 .

1
Dean found a correlation of . $41 \pm .04$ between the Monroe Reading Aptitude Test and the Metropolitan Achievement Test.

The Metropolitan Readiness Test is a group test consisting of the following :

Test I Discrimination of likenesses and differences in pictures, designs, numbers, letters, words.

Test II Reproduction of designs, numbers, letters.
TestsIII and IF Measure of vocabulary and comprehension of sentences. Child marks a picture as it is named by a word, a sentence, or a group of sentences.

Test $V$ Number knowledge
Test VI Range of information-child marks the picture which is described by the examiner.

In a two year study of two hundred and three IB children during 1934 and 1935, and one hundred and ninety-four children during 1935 and 1936, Wright compared success in reading at the end of the semester as measured by the teachers' final marks, and Gates Primary Reading Test, Type I, II, III, with the following predictive measures obtained within the first two or three weeks of school : (1) Metropolitan Readiness Test; (2) Lee-Clark Reading Readiness Test; (3) Detroit First Grade Intelligence Test, Fom A ; (4) Pupil Rating Scale; (5) Chronological Age. A sigmificant positive

1. Dean, C.

> "Predicting First Grade Reading Achievement", Elementary School Journal Vol.39,pp.609-616, April, 1939 .
2. Published 1933 by World Book Company, New York
3. op. cit. pp.7-23.












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correlation with reading achievement was found for all predictive measures except chronological age, but the Pupil Rating Scale and the Metropolitan Readiness Test ranked the highest. In the 1934,35 study, the Metropolitan Readiness Test correlated with the eight Gates Reading Achievement Tests as follows : Test I, . 676; Test II, .756; Test III, .825; Test IV, .292; Test V,.719; Test VI, . 621; Test VII, .669 ; Test VIII, . 518.

In 1935-36, the total correlation between the Metropolitan Readiness Test and the Gates Achievement tests was .438. However, the examiner concludes that no single predictive measure used had a sufficiently high correlation with achievement to be adequate for general pupil guidance. 1
In Dean's study, the correlation between the Metropolitan Readiness Tests and the Metropolitan Reading Achievement Tests was $.59 \pm .03$ for one hundred and sixteen cases.

Wilson and Burke, using twenty-five cases, found the correlation of the Metropolitan Readiness Test with reading achievement to be . 57 .

3
Huggett, in comparing the scores on the Metropolitan

1. op. cit. p.613.
2. Wilson, F.,Burke,A. "Reading Readiness in a Progressive School", Teachers'College Record, Vol. 38, pp.565-80, April, 1937.
3. Huggett, A.
"An Experiment in Reading Readiness", Journal of Educational Research, Vol. 32, No.4, pp.263-270,December,1938.

Readiness Test of thirty-nine kindergarten children in two schools, with results of reading tests given the following February in Grade I, disclosed a correlation of .63.

The Metropolitan Readiness Tests correlate so significantly with intelligence that it is a question with many educators as to whether it is not more of a measure of that type. The authors report a correlation of . 79 between this test and the average of the mental ages from three primary intelligence tests for one hundred and eighty-five cases. Fendrick and MeGlade found the correlation between the Metropolitan Readiness Test and the Detroit First Grade Intelligence Test to be $.94^{ \pm} .01$.

The Van Wagenen Reading Readiness Test is a group battery with two forms, both of which may be given at the same time with the exception of the final test, or one may be administered after an interval as a double check. The six battery tests include :

Test I Range of Information-Obtained by a series of scaled questions, for example- "What does a rubber ball do when you drop it ?"

Test II Perception of Relations- Measures ability to complete a relationship when given a stimulus word, example, "eat at noon", sleep at (night)".

Test III Vocabulary Opposites- Measures vocabulary through the meaning of the opposite of the stimulus word, example- "in (out) ".

1. Fendrick,P.,McGlade,C.
"A Validation of Two Prognostic Tests of Reading Aptitude", Elementary School Journal, Vol. 39 pp.187-194, November, 1938.
2. Published by Fancational Test Bureau, Minneapolis, Minnesota.





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Test IV Memory Span for Ideas- Repeat sentences scaled from simple to complex.

Test $V$ Word Discrimination-Select the one word out of five that is different.

Test VI Word Learning- Foreign words are presented and associated with English words. When the foreign word is again shown, the child is expected to recall the English word which it represents.

The mean scores on the Van Wagenen Reading Readiness Tests, correlated with the mean scores of four reading tests, given after one year of reading instruction, equalled. 80 . Correlation of the achievement tests with just one form of 1
the readiness test was .94.
Huggett found a correlation of. 71 between the Van Wagenen test, given to thirty-nine children in kindergarten, and the Detroit Reading Test, Form B, administered in Grade I during February of the following school year.

3
The Gates Reading Readiness Test is composed of seven group tests.

Test I Picture Interpretation and Direction TestThree pictures are marked by the child according to directions read by the examiner.

1. Manual of Directions, p.5.
2. op. cit.
3. Published 1939 by Bureau of Publications, Teachers' College, Columbia University, New York.
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\left.\begin{array}{l}
\text { Test II Word Matching- In a block of four words, } \\
\text { two are alike and are to be matched. } \\
\text { example baby tail } \\
\text { goat baby }
\end{array}\right\}
$$

The tests were given in 1938-39 to entering pupils in the New York City public schools, and scores were correlated With the reading achievement of each of the seven classes, a.s measured during the last ten days of the term. The correlations were: .89; .81; .78; . 69; .61; .59; and .57, with 1
a mean of .706 .

1. Gates, A.

Manual of Directions for Gates Reading Readiness Tests. Bureau of Publications, Teachers College, Columbia University, P.26, New York, 1939.


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[^1]The Stevens Reading Readiness Test is a group and individual test including visual discrimination, comprehension, and a visual auditory test. It is rather long and thus oannot be administered entirely at one time.

The following is a brief description:
Part I Visual Discrimination
A. Finding the item that is different. Figures, pictures, letters, words and phrases are used.
B. Matching. Again, figures, pictures, letters, words, phrases are used. The first figure or letter in the list is found again in the list.

Part $\mathbb{T I}$ Comprehension- Individual
A. Retelling by the child of a story read by the teacher.

Questions by exeminer test ideas that the child neglects to state.

Part III Visual-Auditory Recall- Individual
A. Words and pictures representing them, are shown the ch1ld each day for three days. The teacher says the word while it is before the child. On the fourth day, the child is given just the words and asked to pronounce them.
The author reports a reliability of $92 \pm .02$ for entire test.

1. Published 1938, by American Press Incorporated, Columbus,0. 2. Manual of Directions, p.2.














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The Ingraham-Clark Diagnostic Test Form has two measures out of five which do not require reading. They are as follows:

Test I Recognition of Word Form
A. A stimulus word is matched with an identical word selected from a group of five.

Test II Recognition: Iikenesses and Differences.
A. The child indicates whether or not two words are alike.

The test composed by the writer is based upon the factors shown by experimentors to be most closely associated with reading success, and tests visual perception, auditory perception, auditory-visual perception, motor control, vocabulary adequacy, comprehension, and recall.

Measures of visual perception are found, also, in the tests of Lee and Clark, Monroe, Metropolitan, and Van Wagenen, Gates, and Ingraham and Clark, but in each case, they are quite different from the one used in the writer's test. The writer believes that this measure involving the matching of words and of letters from memory rather than matching from words left continually before the child, as is the case in other batteries, will be more closely related to the actual reading process. Also, the series from which the counterpart

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of the stimulus words and letters are chosen are longer and very similar to the stimulus word or letter in an effort to test keen power of discrimination. Unlike the Monroe, Metropolitan and Stevens Readiness Tests, only letters and words, rather than figures and pictures have been stressed on the supposition that it is preferable to use instruments of testing which are exactly what the child will meet in reading. The letter reading test included in the visual perception section of the writer's test is used by Gates, also.

Greater emphasis has been placed upon auditory perception than has hitherto been the case. Gates and Monroe include the auditory factor, but only to the extent of marking: pictures corresponding to sounds given by the examiner. In the writer's test, although some picture marking is used, there is a rather large section which necessitates the child's ability to perceive the sounds of the letters and the blends at the beginning and ends of words clearly enough to name the letters or reproduce the sounds.

The reproduction of words, included in the auditoryperception section is a technique used in the Monroe Test, also.

No other test suitable for non readers measures auditoryvisual perception.

Only Monroe's battery includes motor tests, but they differ from the writer's in that they involve rather simple skills, while the latter requires of the child sufficient
motor coordination to enable him to copy a whole or part of a sentence of manuscript writing.

The writer's test measures vocabulary as is the case in the Monroe, Metropolitan, and Van Wagenen Tests. The same process employed by the writer of requiring the child to mark a picture as it is named, is used by Monroe and in the Metropolitan Readiness Test.

Comprehension is checked in the writer's test, and also in the Metropolitan and Stevens Tests. The Metropolitan test measures the child's ability to associate a sentence with the picture that it describes. The writer's test goes further in measuring paragraph comprehension by checking the child's aided and unaided recall in a paragraph of five sentences read by the examiner. This is similar technique to that used in the Stevens Test.

On the whole, in comparing the writer's test with outstanding readiness measures in use today, it may be said that it is more difficult and calls for higher development on the part of the child. The writer has thus constructed it because the primary purpose of the test is diagnostic.

The problem before education is - what are the factors involved in reading which need some development before a formal reading program is undertaken? Numerous studies indicate the predictive and diagnostic value of certain factors.



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The importance of visual perception in the reading process has been the subject of much research. Gates, in a study of three hundred and ten children in grades one to six, found that the correlation of .69 between the results of the perception test and silent reading, with the influence of intelligence eliminated, was higher than were the raw correlations of intelligence, pronunciation, or spelling, which were . 50 , . 30 , and .41 respectively.

Nila smith attempted to ascertain whether the child who could match well at the beginning of the term would attain greater success in reading than one who had difficulty. The resulting correlation between abiltty to matoh lower case letters and scores on the Detroit Word Recognition Test for two hundred cases was .87.

Fildes concluded that non readers have difficulty in distinguishing between visual impressions when they are much

1. Gates, A.
"A Study of the Role of Visual Perception, Intelligence and Certain Associative Processes in Reading and Spelling", Journal of Educational Psychology, Vol.17,pp.433-445, October,1926.
2. Smith, $\mathbb{N}$. Matching Ability as a Factor in First Grade Reading", Journal of Educational Psychology, Vo1.19,pp.560-571, November, 1928.
3. Fildes, I.
"A Psychological Inquiry into the Nature and Condition Known as Congenital Word Blindness", Brain Vol.44,--pp.286-307, November, 1921.






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alike but do not, when there is more obvious difference. 1
Fendrick states,"if reading is a process of acquiring meaning from symbols, then one aspect of the process should include the capacity for quickly and accurately discriminating particular symbols." In the belief that normal vision is not necessarily accompanied by good visual perception, Fendrick included, among his other tests of vision, eight measures of Visual perception. Results showed that the mean performance on these eight measures was consistently better for the control group which was composed of children of normal reading 2
ability. Thus Fendrick concluded that the perceptual factor is of significance in segregating poor readers. 3
Junkins' study of the effect of visual discrimination exercises upon beginning reading, revealed that the experimental group, which had the training, were superior in rate of learning new words, scoring 4.41 in mean number of words learned, as compared to 2.76 on the part of the controls, and superior in word recognition, scoring 12.84 in mean number of words known in the Detroit Word Recognition Test, as compared to 8.04 for the control group.

1. Fendrick,P.
"Visual Characteristics of Poor Readers", Contributions to Eaucation, Bureau of Publications, Teachers College, Columbia University, New York, No.656, 1935. p.4.
2. op. oit. p. 41
3. Junkins,K.
"Construction and Evaluation of Exercises for Developing Visual Discrimination in Beginning Reading", Master's Thesis, Boaton Universiqy,School óf Education, 1940.p.19.





















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Sister Mary of the Visitation found that ability to discriminate details in words and in groups of unrelated letters and distinguish differences in pairs of words are important factors in reading.

The importance of guarding against reversal tendencies in perception has also been recognized. Teegarden purported to measure the amount of reversal and confusion of symbols evidenced by children as they entered first grade and compare the findings with reading progress. Results revealed that, for the two hundred and sixty-two children, there was a positive relationship between the amount of reversal tendency and reading achievement at the end of the first school year, the correlation being . 541 for kindergarten trained children and . 769 for non kindergartners. Teegarden claims that the two most powerful factors in learning to read are intelligence and degree of tendency to reverse and confuse symbols.

Monroe, in her comparison of retarded and normal readers, found that reversal errors were significantly greater at all levels in the retarded group, the mean for the controls being . 017 , for the reading defect group 0.886 .

1. Sister Mary of the Visitation. "Visual Perception in Reading and Spelling", Educational Research BulleEln, Catholic University of America, Vol.IV, $\mathbb{I V} 0.1, p p .1-43$, January, 1929.
2. Teegarden, I. "Clinical Identification of the Prospective Non Reader", Child Development, Vol. $3, \mathrm{pp}$. 357-58, December, 1932.
3. Monroe, $\mathbb{M}$. "Children Tho Cannot Read" Published by Unizersity of Chicago Press,Chicago,Ill. 1933




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In a study by Davidson, 32.8\% of Grade one children selected, reversed words, and the experimenter concluded that it is common for children to make reversal errors. 2
Hildreth, on the other hand, concluded that the relationship between reversal tendency and poor reading constitutes only a small part of reading disability.

3
Payne states that the confusion of letters of similar shape is peculfar to children who are in the initial stage of reading or who have learned them incorrectly. 4
Since Teegarden reported that tendency to confuse symbols is usually eliminated in children with mental ages above seven, and Davidson stated that errors decrease with increased chron5 ological age, Harrison suggests and the writer is prone to agree, that the child be allowed to mature and corrective exercises be given before the reading process is begun if he shows marked reversal tendencies. This would necessitate the inclusion in a diagnostic reading readiness test of a measure of reversal error.

1. Davidson, H.
2. Hildreth,G.
3. Payne, c.
4. Teegarden, I.
5. op.o1t. p.14.
"A Study of Reversals in Young Children", Pedagogical Seminary, Vol.45,pp.452-465, December,1934.
"Reversals in Reading and Writing", Journal of Educational Psychology, Vol. 25 ,
"The Derivation of Tentative Norms for Short Exposures in Reading. Published by Harvard University Press, Cambridge, Mass. 1930 , p. 55. "Clinical Identification of the Prospective Non Reader", Child Development, Vol.3, pp. 357-58, December,1932.
6. 



















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Clinical observation of children led the writer to believe that a knowledge of letter forms was helpful in reading progress. Wilson, Hunter and Flemming have confirmed this idea in their studies of kindergarten and first grade children. A comparison of the results of three reading readiness tests given at the beginning of grade one with three reading achievement tests administered at the ond of the year, showed that the relationship between knowledge of letter forms and sounds, and word, sentence and paragraph reading are close. The correlation of reading success with readiness scores on naming letters was .74. Correlations of letters and reading averaged much higher than did even mental tests and reading achievement. The kindergarten and first grade children who knew the most letter forms and sounds tended to be among the first to read, while children who did not comprehend, or who were confused by letter forms and sounds, tended to be poor readers. The results are understandable after observing the additional finding of the same study, namely, that in trying to call and use words in reading, children tend to rely on letters as clues to words.

2
Gates, Bond and Russell concluded that reading the letters of the alphabet is one of the best measures for predicting reading achievement.


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Monroe found that reading ability correlated significantly with ability to repeat and read the alphabet. The mean number of errors for normal readers was 4.9, while it was 20.3 for retarded readers. Errors in reading the alphabet had a higher negative correlation with median reading than time or errors in in repeating the alphabet. The correlation coefficient was 士. 563 -.027.

Auditory perception as a factor conducive to success in reading is recognized as of paramount importance. Auditory acuity is not an adequate measure of the auditory capacity necessary for reading progress.

A combination of simple auditory perception, plus well developed speedh organs, results in facile articulation, in general, a necessary attribute for good reading. Davis states, "A normally developing child reads as he speaks as he hears. Maturity of auditory perception precedes speech and maturity of speech depends largely upon the individual's auditory acuity." Davis found the correlation between the speech ages of first and second grade children and reading ages on the Gates Scales to be significant though small, and from the study, she concludes that the child with the better articulation may be expeoted to read more clearly and comprehensively.

1. Monroe, M.

> Methods for Diagnosing and Treatment of Reading Disability", Genetic Psychology Monograph,Copyright,1928. p. 400 .
2. Davis,I.
"The Speech Aspects of Reading Readiness", Bulletin of Dept. of Elementary School Princtpals, N.E.A. Vol.17,p.282, July,1938.
3. Ibid. p.286.


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Bond's study in which normal and retarded readers were compared, revealed the total cases of speech defects for the former to be $26 \%$, for the latter, $22 \%$. This differerence is not particularly significant, but when oral reading ability was considered along with silent reading, Bond found that $35 \%$ of children who did well in silent reading, but were retarded in oral, had speech defects. Children, retarded in oral reading, but poor in silent reading, had no speech defects. The results would indicate, then, that speech defects significantly impede ability in oral reading, the most fundamental phase of reading in the primary grades.

3
Harrison believes training in accurate enunciation and pronunciation is important to reading success.

Monroe, in analysing the speech defects of 516 defective and normal readers, found that the former had many more speech defects than did the latter. In stammering or stuttering, the reading defect cases averaged $9 \%$ normal readers, of controls, $1 \%$. The number of reading defect cases with articulatory defects equalled 18, the number of controls, 7. In total speech defects, poor readers equalled 27 , normal readers 8. The seriousness of acourate articulation is stressed
I. Bond, G. The Auditory and Speech Characteristics
of Poor Readers." Teachers College, Col-
umbia University, Contributions to Educa-
tion,No.657, Burea of Publications,
Teachers Coilege, Columbia University,N.I.
2. Ibid. p. 39
3. op.cit. p.52
4. Monroe,M. Children Who Cannot Read, p.92.

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by Monroe on the grounds that a child who hears a word spoken by others one way and by himself another, may remember, upon meeting the printed symbol, either the correct or erroneous pronunciation and thus, confusion will arise in both the mechanics of reading and comprehension, as the incorrect pronunciation may change the meaning of the word. According to Monroe, "Learning to read involves speech and language as well as vision and visual perception. The ohild must be able to understand and use the speech symbols which are to be associated with the printed symbols." 2

Bennett points out, also, that children with speech defects seem liable to fail in reading.

Another, and even finer element of auditory perception, is the ability to discriminate between letters and sounds. 4 Bond compared the performance of normal and retarded readers, some taught by the look and say and some by the phonetic method, on an extensive battery of diagnostic tests measuring various auditory abilities and found auditory discrimination to be a special auditory ability which is associated with reading disability when reading is taught by the phonetic

1. Monroe, M.

Children Who Cannot Read, pp.92-93. University of Chicago Press, 1932.
2. Ibid. p. 91.
3. Bennett, C.
"An Inquiry into the Genesis of Poor Reading, "Teachers College,Columbia University Contributions to Education, No.755, Bureau of Publications, Teachers College, Columbia University, New York,1938,p.122.
4. op.c1t. pp.27-34
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method, but is of much less significance when the look and say type of instruction is used. In the auditory perception tests, which necessitate discriminatory ability, there was a significant critical ratio between total normal and retarded cases of 5.4 for Test I; 5.1 for Test II;4.2 for Test III. In the two audito ry blending tests the critical ratios of 5.2 and 6.0 existed between normal and retarded groups. Bond concluded that if instruction is suited to the child's sensory limitations he will have little difficulty with reading, but if it is not, he may experience lack of success.

Murphy, however, in addition to determining the relationship of auditory discrimination ability to reading achievement, measured the effects of six weeks auditory discrimination training on beginning reading. In comparing the experimental group, which was exposed to the auditory training, with the controls, the former increased appreciably in learning rate, With a score of mean number of words learned at 5.2, as compared to 2.7 for the latter. In the Detroit Word Recognition Test, the experimental group was again superior, the critical ratio being 2.7. In the auditory test, which was a specific measure of the teaching, the experimental group was superior, having a mean score of 27 sounds correct as compared to 10

1. Ibid. p.44.
2. Murphy,H. "An Evaluation of Exeroises for Developing Auditory Discrimination in Beginning Reading", Master's Thesis,School of Education, Boston University, 1940, p.41.








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for the control group.
Gates, Bond and Russell, in appraising the predictive value of two hundred ftems, found two of the five most predictive tests to be those of auditory discrimination.

Wilson, Flemming and Burke and Carrison found the correlation of reading success with readiness scores on a test involving the giving of phonic combinations to be .84, of letter sounds, .70.

Harrison states, "Hearing is important as a factor in reading readiness because the child first learns to attach meaning to printed symbols through the medium of spoken language. He not only needs a higher degree of auditory acuity, but he also needs the ability to perceive and reproduce sounds correctly."

A study by Monroe, in which an auditory word discrimination test was given to sixty-four children, revealed that the mean number of errors in auditory word discrimination for normal readers was 1.51 , for reading defect cases 4.58 , despite the fact that the latter group was more mature in chronological and mental age. The reading defect group also

1. op.cit.
2. op. cit.
3. op. eit., p. 26
4. Monroe, M. Children Who Cannot Read, p.94.
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showed less ability to perceive sound blends, having a mean score of 7.66 as compared to 10.15 for the normal group. 1 Just as Fenrick stated that visual perception is not necessarily found among children with normal acuity of vision, 2 Monroe concluded that auditory discrimination is a special function, as only $2 \%$ of the reading defect cases were defective in hearing on a whispered voice and watch-ticking test.

Another significant factor in reading achievement is auditory-visual association. Over twenty years ago, as a result of her study, Schmitt noted that reading difficulty in every case was the result of inability to associate the sound of the letters with the letters themselves.

Burt, in listing the most common causes of reading defects, included failure to associate the visual symbol with the sound.

Fildes, in comparing twenty-six subjects who had difficulty with reading, and twenty-six who made satisfactory

1. op. cit. p.19.
2. Monroe, M. Children Who Cannot Read, p.95.
3. Schmitt, C. "Developmental Alexia, Congenital Word Blindness or Inability to Learn to Read", Elementary School Journal Vol.18, March,1918, pp.680-700, June,1918,pp.757-769.
4. Burt,C. "Mental and Soholastic Tests London Council, P.S.King and Sons, London, 1924, p. 285.







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progress, found that a large proportion of the former group could not readily discriminate sounds. Although the choice of subjects was not of the best, as the intelligence quotients on the whole were low, the study has some significance. According to various studies there is a correlation between success in reading and motor control. Wilson, Fleming, Burke and Carrison, found the correlation between success in reading and readiness scores in writing words to be .64 , which was higher than the . 56 correlation between mental age and reading achievement.

Monroe's study indicated that in some cases, lack of motor control was an important factor in reading disability. As early as 1905, Thomas pointed out that sometimes the child was helped in acquiring the process of reading by tracing letters with the inger. He indicated that probably the earliest letter memories are muscular.

Today, Fermald and Kellar claim success with non-readers by the kinesthetic technique of tracing, writing and simultaneous pronunciation of words.

The writer was unable to locate a satisfactory number of studies to indicate the relationship of comprehension to reading achievement. However, the large number of studies on methods of improving comprehension may well indicate the

1. op. cit.
2. Monroe, M. Children Who Cannot Read, p.99.
3. Thomas,C. "Congenital Word Blindness and its Treatment", The Ephthalmoscope Vol.3 No.8, August, 1905, pp.380-385.
4. Fernald,G.

Kellar, H.
"The Effect of Kinesthetic Factors in the Development of Word Recognition in the Case of Non Readers", Journal of Eduoational Research vol.4, Dec. 1921,pp.355-377'

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importance of that factor. The word by word reader gains nothing from the process, nor does the child who cannot remember what has been read. Harrison considers essential 2 the ability to keep a series of events in mind and Monroe, although she did not measure the factor specifically, found, that for a number of reading disability cases, sentences were meaningless, even when the meaning of separate words was known.

In connection with good comprehension in reading is a fairly extensive meaning vocabulary, since this tends to render the necessary association between the visual symbol and the meaning easier.

3
Goodenough, studying one hundred cases, found a correlation of . 79 between vocabulary scores on the Binet-Simon Test and reading scores on the Stanford Achievement Tests.

The importance of a child's informational background as a factor in readiness to read was displayed by George Hilliard's study of two groups of children, from kindergarten to grade two, in order to note the effect of rich and meagre informational backgrounds on reading readiness and progress.

1. op. oit. p.10.
2. Monroe, M.
3. Goodenough,F.
4. Hilliard, G.

Children Who Cannot Read, p. 100.
"The Reading Tests of the Stanford Achievement Scale and Other Variables", Journal of Educational Psyohology, Vol.16:523-53I, November, 1925.
"Informational Background as a Factor in Reading Readiness and Reading Progress" Elementary School Journal, Vo1,38, pp,255263, December, $193 \%$.

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One of the four measures used to judge informational background was the Smith Vocabulary Test, another was the Sangren Information Test which includes vocabulary. Results of comparison with reading achievement tests showed that the rich background group make more rapid strides in reading than the meagre background group, being two months ahead of the latter, and two months ahead of grade standard at the time of the first testing and six months ahead of the meagre background group at the second testing and five month ahead of grade standard.

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Mahakian indicates the importance of vocabulary in her study of Spanish speaking children when she recommends postponing formal reading until the pupil has on adequate understanding of the English language.

Lad also reports that children from homes where a foreign language is spoken, are under a handicap.

Harrison states that a broad vocabulary is essential to adequate comprehension in reading.

Although her study did not measure the factor specifically, Monroe noted that reading disability was accompanied many times by a limited vocabulary.

1. Mahakian,C.
"Measuring Intelligence and Reading Capacity of Spanish Speaking Children," Elementary School Journal, Vol.39,pp.751768, June, 1939.
2. Lad, M. The Relation of Social, Economic and Personal Characteristics to Reading Ability", Teachers'College Contributions to Education No.582,Bureau of Publications, N.Y., 1933. p. 81.
3. op.o1t. p.11.
4. op. cit. p.99.







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One of the six prerequisites of reading readiness reported in the Twenty-Fourth Yearbook of the National Society for the study of Education, a sufficiently extensive vocabulary to recognize meaning of words or wo rd groups. Hansen also states that reading readiness develops as language ability increases.

2
Fuller found that children with foreign langauge handicaps who received special language training in kindergarten achleved more success in the primary grades than those who did not.

3
Kelly, in comparing the reading achievement of children from English speaking homes and those from non-English speaking homes, found the American, white children superfor to all other groups.

1. Report of the National Committee on Reading, The 24th Yearbook of the National Society for the Study of Education, Part I, Public School Publishing Company, Bloomington, Illinois, 1925, p.27.
2. Fuller, I. "Effect of Kindergarten Speech Training on Primary Progress and Achievement of Children with Foreign Language Handicaps", California Journal of Elementary Education Vo1.4, pp.165-173, लebruary, 1936.

## 3. Kelly,0.

"A Comparison of Reading Abilities of First Grade Children from English Speaking Homes with those of Children from nonEnglish Speaking Homes in East Chicago.", Teachers College Journal, Vol.8,p.70,July, 1937.














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Studies by Gray and O'Hern showed a foreign speaking background to be a handicap in reading except in the case of 1 Jewish ohildren.

The necessity of a beginning reader possessing a well developed meaning vocabulary is evident upon observation of the extent of primary vocabularies. A variety of primary readers is used and there is no uniform vocabulary. Thus, 2 according to Hockett's study, a child may meet, in the primer, a vocabulary range of one hundred seventy-five to four hundred and eighty different words, and from four hundred to 3 4 eight hundred in the first readers, while Gates indicates that he may encounter any of 1,811 different words in first grade reading.

1. Gray, W. "Summary Investigations Related to Reading," Supplementary Educational Monographs, No.28, University of Chicago, 1925, p.172.

O'Hern, J. "The Reading Problem in the Public School as Affected by Actual Measurement.", Journal of the New York State Teachers' Association, Vol.6, pp.81-83, 1919.
2. Hockett, J. "A Comparison of Vocabularies of Thirty-Three Neeley, IT. Primers", Elementary School Journal, Vol.37, pp.190-202, November, 1936.
3. Hockett,J. "The Vocabulary of Twenty-Eight First Readers", Neeley, N. Elemetary School Journal, Vol.37, pp.344-352, January, 1937.
4. Gates, A. "A Reading Vocabulary for the Primary Grades", Bureau of Publications, Teachers College, Columbia University, New York, 1935.

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Thus, according to studies, the outstanding factors essential to reading achievement are visual perception, auditory perception, auditory-visual perception, motor control, comprehension, and a fairly extensive meaning vocabulary. 1 The writer agrees with Monroe that there is no factor which is infallible as a diagnostic and predictive measure. Probably no child, despite general unreadiness, will lack all abilities believed necessary to reading progress. On the other hand, a child may well lack certain of these factors and still succeed, if this deficiency is adequately counterbalanced by other fundamental capabilities, or he may be defective in only one element, but to such an extent, that he is handicapped thereby.

However, the writer, in building the test around these factors previously enumerated, has endeavored to include a sufficient number of measures to justify the prediction that a child attaining a low, general score is unready to read and has attempted, also, to make each measure comprehensive enough to use for diagnostic purposes in the case of the non reader who has been exposed to the reading process for some time, but is attaining little or no progress, and to warrant the conclusion that a low score on one section, even for a prospective reader, is a recommendation for some readiness aid.

1. op. oit.

























## CHAPTER II

The Construction of the Diagnostic Reading Readiness Test
A test has been constructed on the basis of research indicating elements involved in reading which are of greatest predictive and diagnostic value and observation of factors lacking in reading disability cases at the Educational Clinic at Boston University. The purposes of the test are:

1. To discern whether or not a child is ready to learn to read.
2. To determine, if he is unready, what specific weaknesses should be corrected before the child undertakes the reading process.
3. To ascertain if the child has been exposed to a beginning reading program and is not successful, in what essential abilities he is lacking.

The test is composed of six parts and includes:

1. Visual Perception.
2. Motor Coordination.
3. Auditory Perception.
4. Vocabulary Index.
5. Auditory-Visual Perception.
6. Comprehension.

Part I, Visual Perception, is made up of three tests. The first is the matching of lower case letters from memory. A letter is revealed in the Tachistoscope for five seconds and the

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child is asked to locate the letter from memory from among a group of four letters and encircle it. For example, the examiner shows the letter, " $h$ ", and the child finds it in the following box: : n h $y$ b : The letters selected are, $\therefore \quad$ :

according to studies, those most generally confused. Fifteen items ate included in this test.

Test 2 of Part I consists of the twenty-six letters of the alphabet in mixed order, presented in the lower case and capitalized. The child is asked to name them.

Test 3 is similar to Test 1. The procedure is the same, but wordsare matched rather than letters. Monroe ${ }^{3}$ reports that children who can discriminate letters may not be successful in discriminating words.

1. Davidson, H.

Carmichael,I.
Evans, E.
Dearborm, 7.
Wechsler,D.
Pignatelii, M.
2. Durrell, D.
3. Monroe, M.
"A Study of Reversals in Young Children", Pedagogical Seminary,
Vol.45,pp.452-465, December, 1934

Special Disabilities in Learning to Read and Write, Harvard Monographs in Education, Vol.2,No.1,1925, p. 15.
"Reversal Errors in Reading"; Phenomena of Axial Rotation", Journal of Edacational Psychology, Vol.28, pp. 215-221, March, 1937,

Analysis of Reading Difficulty,
Method For Diagnosis of Cases of Feading























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According to Meek and Monroe , the usual errors made by children in word perception are omissions, additions, reversals, vowel and consonant errors. In each set of six words from which the stimulus word is to be selected, the writer has endeavored to include words which will represent each type of error, thus making a diagnosis of errors in word perception possible. An example, the stimulus word "seal" is to be selected from among the following words : zeal (reversal) ; seat (different consonant) ; sealed (addition) ; sea (omission) ; sail (changed vowels); seal.

Part II, Motor Coordination, consists of sentences containing all the letters of the alphabet except $j, q, x, y$, they being omitted due to their infrequent use in young children's writing and printing. The child is asked to copy the sentence as quickly as possible, and he is credited with as many letters as he can copy correctly in one minute. The formation of his letters is also graded according to the three division scale of good, fair, and poor. Since there is no conclusive evidence to the effect that handedness is a factor in reading progress, laterality tests have not been included, but this test provided opportunity for the examiner to note handedness.

1. Meek, L.
"A Study of Learning and Retention in Young: Children". Teachers College, columbia University. Contributions to Education, No.164.Published by Teachers College, Columbia University, New York, 1925, p. 58.
2. Monroe, M. Children Who Cannot Read, p.58.
























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Manuscript writing is presented since studies by Cutright, Houston, and others indicate that children who use this type experience superior reading achievement.

Part III, Auditory Perception, is composed of ten measures increasing in difficulty. Test I, Facility of Articulation, is the simplest measure of auditory perception. It includes thirteen pairs of words, containing, according to 3
West's study, the most difficult sounds for children to pronounce. The purpose of the test is to ascertain whether or not the child can reproduce a certain sound when it is at the beginning of the word or in the middle. Thus, the words are arranged in pairs, one word testing the initial sound, the second word testing the middle sound; for example, in testing the sound, th, the words "thoughtful" and "gather" are used.

The sounds are arranged in order from the simplest to the most difficult and include th, $f, \nabla, g, c, n g, 1, ~ \#, r$, $z, s h, c h, d g, s$. The words used were selected from Durrell's

1. Cutright,P.

> "Script, Print and Beginning Reading and Spelling", Elementary English Review, Vol.l3,pp.139-141,April,1936.
> "Manuscript Writing and Progress in Reading", Elementary School Journal, Vol.39,pp.116-118, October, 1938 .
2. Houston, H.
3. West,R.,Kennedy, I., Carr,A. The Rehabilitation of Speech, Harper and Brothers, New York. 1937, pp.301-304.

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Intermediate Vocabulary Iist to guard against the possibility of the child having met them in reading.

Test II, Matching Sounds of Letters, measures ability to associate the sounds of initial letters, final letters beginning and ending blends. The procedure in testing the ability to hear the initial letter is as follows: the examiner names four pictures and asks the child to find a picture, the name of which begins with the same letter as a stimulus word. For example, from among four pictures representing nest, kitten, mother, house, the child is requested to put a cross on the picture whose name begins with the same first letter as "man". Two stimulus words are presented for each set of four pictures. The procedure for testing final letters, initial and ending blends is the same as above. The four initial letters tested are, according to Wellman's 2 study, the four easiest beginning sounds for children to say; the ending letters tested are the four easiest final sounds; the beginning blends used are the four easiest initial blends; the ending blends tested are the four easiest ending blends, and the four phonograms are taken from

1. Durrell, D.
2. Wellman, B.

Improvement of Basic Reading Ability, World Book Company, New York, 1940. Pp. 360-369.
$\frac{\text { "Speech Sounds of Young Children" }}{\text { University of Iowa, 1931, pp.42-45. }}$

Ducker's list.
The words are taken from the vocabulary list of the 2 International Kindergarten Union so that they will be familiar to the children and are represented by pictures to prevent complicating the auditory check by a vocabulary problem such as might arise if children were asked to think of a word that began or ended the same way as a stimulus word.

Test III is the naming of initial sounds. It consists of sixteen pairs of words taken from the Durrell Intermed3 iate Vocabulary List. These words are in the speaking vocabulary of children, but are not likely to have been met by those who have begun reading, as they do not appear in

1. Ducker, M.
2. Child study Committee of International Kindergarten Union

The Present Status of the Teaching of Phonics as Shown by an Analysis of Eighteen Reading Manuals", Unpublished Master's Thesis, Department of Education, University of Chicago, 1920. Excerpt published in The Twenty-Fourth Yearbook of the National Society for the study of Education, part I, Public School Publishing Company, Bloomington, Illinois, 1925, p.89.
"A Study of the Vocabulan of Children Before Entering the First Grade, Washington, D.C., 1928.
3. op. cit. pp.360-368.

1
the Gates Primary List. The words begin with $m, n, b, d, t$, $h, w, p, f, c, g, l, j, r, \nabla$, and $s$, and are presented in that order, since, according to Wellman, ${ }^{2}$ that is the order of difficulty of sounds spoken by children. The examiner pronounces the word and the child is asked to name the final letter, or, if he is unable to do so, to give the final sound. The first pair of words on the list are wisdomnasturtium. The second pair are lemon - gown.

Again, in Test $V$, Beginning Blends, Wellman's study of initial blends in order of difficulty and Durrell's Vocabul4
ary Ilst are used to build ten pairs of words beginning with the following blends: ch, dr, gr, sh, tr, sp, st, br, sm, sw. As in the other tests, the examiner pronounces the word and the child is asked to name the first two letters or give the initial sound. The following first two pairs will serve as examples: chest - chew; drug - drip.

Test VI, Ending Blends, is composed of ten pairs of words ending with the following blends presented in order of difficulty : mp, nk, ch, ps, ts, ks, nt, sh, ns, ng. The procedure for building and administering the test is the same as for that of beginning blends, except that the examiner asks the child to name the last two letters of

1. opioit.
2. op. cit.pp.42-45
3. op. oit. pp.42-45
4. op.cit. pp.360-369







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each word or give the sound.
The purpose of Test VII, Identifying Initial Sounds, and Test VIII, Identifying Initial Blends, is to measure the child's ability to hear and to discriminate between inftial sounds. In Test VII, a list of five words is pronounced by the examiner; four of them begin with the same letter, while one word has a different initial sound. For example: magic motor mellen hatchet mayor. The child is requested to say, "Stop" upon hearing a word which differs from the rest of the group in its initial sound. This section consists of four sets of five words each. The words are taken from the Durrell Intermediate Vocabulary List; the four initial sounds stressed- $m, n, v, s$, are the two simplest and the two most difficult, according to Wellman's study.

Test VIII consists of four sets of five words each; four of the five words begin with identical initial blends, one is different. For example: chilly charge ground chuckle chief. The procedure is the same as that used in Test VII. The blends stressed, namely $\frac{\mathrm{ch}}{\mathrm{c}} \mathrm{dr}, \mathrm{gr}, \mathrm{sh}$, were selected on the basis of Wellman's study, and are, respectively, the two easiest and the two most difficult blends for children to pronounce.

1. op. eft. pp.360-369
2. op. cit.pp.42-45
3. Ibid.tpp.42-45






















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& 928-088 \cdot g 9 \cdot t+2+40 \cdot f
\end{aligned}
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The purpose of Test IX, Identifying Final Sounds, and Test $X$, Identifying Final Blends, is to examine the child's ability to hear and to discriminate between final sounds. As are the two other measures, Test IX is composed of four groups of five words each. Four of the words end the same; one differently. For example: firm seldom hem streak germ. The final sounds tested are: $m, n, r, s$, the two simplest and the two most difficult sounds for children to 1 say. The procedure is the same as that used in the other tests.

The makeup and procedure in Test $X$ is the same as that of Test IX. The blends tested are: nk, ch, nt, sh, the first two being the easiest sounds for children to say; the last two, the most difificult. The following is a sample: sink kink drip tank wink.

Part IV, Vocabulary, is included to ascertain the child's hearing vocabulary, and is taken from the Durrell-Sullivan Reading Analysis Test. This measure is used in preference to composing another cocabulary test since it has already been standardized. Twenty words are tested by means of four sets of pictures. In the future, thirty words

1. Wellman, B. op.cit. pp.42-45
2. Wellman,B. op. cit.pp.42-45
3. Published,1937, by World Book Company, New York.






















Will be tested with six sets of pictures. Each set contains eight pictures, five of which represent a word pronounced by the examiner. The child is requested to find the picture which describes the word pronounced and put the number of the picture in the space provided on the test blank. Since norms for the test are included, it is possible, according to the number of items used, to rate the child's hearing vocabulary from grade one to grade one year, nine months. With the addition of two more sets of pictures, a measure of hearing vocabulary equal to grade two years, four months, may be obtained.

Part V, Auditory-Visual Perception, necessitates a combination of abilities, namely, that of hearing a stimulus word and perceiving it visually from among three words, each differing only to a slight degree. The examiner pronounces the stimulus word and the child encircles it on his list.

Test I stresses initial consonants. In each box of three, the phonograms of the words are the same, but the initial consonants are different. For example, when the stimulus word,"man", is said, the child finds it in the following list : fan man ban

Seven items are included.











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Test II emphasizes the middle vowel, the initial consonant and the last letter of each word remaining the same, but the vowel changing. Every vowel is used in a stimulus word. For example, the stimulus word, "bad", is to be selected from among : bid
bud
bad
The test includes five items.
Test III emphasizes phonograms. In each series of three the initial consonants of the words are alike, but the phonograms change. For example, the stimulus word, "bun", is to be found from among : bat bun bow

The test includes seven items.
The phonograms used in Test III are taken from the list of phonograms taught to children using primers, and from the list taught in grades one and two. The initial consonants

1. Ducker, M.

> | "The Present Status of the Teaching |
| :--- |
| of Phonics as Shown by an Analysis |
| of Eighteen Reading Manuals Unpub- |
| lished. Master's Thesis, Department |
| of Education, University of Chicago, |
| l920. Fxcerpt published in The |
| Twenty-Fourth Yearbook of the Nation- |
| al Society for the Study of Education |
| Part I, Public School Publishing |
| company, Bloomington, Illinois,i925. |
| p.89. |





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and phonograms employed in Tests I and II are from the Vogel, Jaycox and Washburne study and from Durrell's list of important consonants and phonograms.

Part VI, Comprehension, is composed of a section of the 3
Durrell Analysis of Reading Difficulty, namely paragraph three, Silent Reading- Unaided Oral Recall. Use has been made of this paragraph rather than composing a similar test because it has been standardized. The object of the test is to measure the child's ability to comprehend a short passage. His comprehension is checked by aided and unaided oral recall, and the paragraph used measures comprehension as high as a grade three level. In the original test, the examinee read the passage silently, but, in this case, the examiner reads the story to the child and asks him to tell all that he can remember. Those ideas which the child omits are tested by the examiner's questions. On the test blank is a list of major ideas followed by two columns. In the left column the idea is checked if recalled independently; if recalled in answer to a question it is checked in the

1. Vogel, M., Jaycock, E. Washburne, C.
"A Basic List of Phonics for Grades I and II", Elementary School Journal,
2. op. cit. p. 202
3. op. cit. p.8




















right column. The following is a sample:
```
Three boys
built a house
in the woods.
They put a table
and two chairs in it.
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A complete copy of the test may be found in the appendix.

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# CHAPTER III <br> Setting Up the Experiment 

The Diagnostic Reading Readiness Test was administered by the writer to one hundred and three children in five first grades in Brookline, Massachusetts, during the last three weeks in March, and the first two weeks in April in an attempt to ascertain the items which would be of value for diagnostic and prognostic purposes. One hundred and three cases are sufficient for this study since, for the present, no standardization has been attempted. Brookline was selected as the location for the experiment, since the ohildren are used to tests, thus eliminating the elements of fear and strangeness which might invalidate the results. In the estimation of Dr. Hobson, director of child placement in Brookline, the five groups represented normal classrooms composed of superior, average, and poor readers. Results of the Manwller Word Recognition Test given in February substantiated the supposition.

To determine the validity of the test, it was necessary to correlate the scores with reading achievement and obtain an itemized analysis of errors. Thus, the Detroit Word

1. Published 1934, by World Book Company, New York.

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Recognition Test, Form A, was selected, since it checks both words and phrases and is well standardized. However, the writer regrets that time did not permit the use of an individual oral reading test, since, in the writer's opinion, that is the most effective measure of reading achievement. The writer believes that the correlations between reading achievement and the Diagnostic Reading Readiness Test would be higher with an oral measure of reading achievement.

Although, in its final form, the test is entirely individual, to conserve time and to avoid taking children out of the classroom for longer periods than was necessary, one section of the test was administered individually and one to groups. The test given individually included Test II of Part I (Visual Perception) Naming Letters, five tests in Part III (Auditory Perception) namely: Test I, Facility of Articulation; Test III, Initial Letter Sounds; Test IV, Final Letter Sounds; Test $V$, Beginning Blends; Test VI, Ending Blends; Test VII,Identifying Initial Blends; Test IX, Identifying Final Sounds; Test $X$, Identifying Final Blends, and Part VI, Comprehension Test. The section administered as a group test included: Test I of Part I, (Visual Perception), Matching Lower Case Letters, and

1. Published, 1925, by World Book Company, New York.







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Test III, Matching Words from Memory, Part II, Motor Coordination, all three tests in Part V, Auditory Visual Perception, Test II, Matching Sounds, from Part III (Auditory Perception) and Part IV, Vocabulary Test.

The children were iirst tested individually, thus eliminating any reticence on the part of the child and enabling the examiner to make fairly homogeneous selections for the group testing. The time required for giving the test varied With the examinee. The average time for administering the individual section was a half hour. Since the group section required on an average, an hour and a quarter, it was divided into three parts, and each was given at a different time. The Motor Coordination and Vocabulary Tests were given first, then the Auditory-Visual Perception and Matching Sounds Tests and last, Matching Letters from Memory and Matching Words from Memory.

The writer experienced no difficulty in administering any part of the test, as it appeared to be thoroughly enjoyed by the children.




















## CHAPTER IV

Analysis of Data
The purpose in analyzing the data is:

1. To ascertain the correlation of the diagnostic reading readiness test with reading achievement as measured by the Detroit Word Recognition Test.1.
2. To reorganize the major parts of the battery so that the tests, and the items composing the tests, are in the order of difficulty.
3. To looate those items which do not adequately discriminate between good and poor readers.

Table I
Correlation of the Diagnostic Reading Readiness Test and The Detroit Word Recognition Test


The correlation of the combined scores of the Visual Perception, Auditory, Auditory-Visual, Comprehension, and Vocabulary tests with the Detroit Word Recognition Test is $.69 \pm .03$.

Table I shows the correlation of the parts of the test and of the entire test, with reading achievement. In the correlation of Part I, Test II, Matching Lower Case Letters from Memory, was omitted from the total score, since,

1. Published, 1925, by World Book Company, New York.

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according to the itemized analysis, (Table XXXVI), it was not sufficiently discriminatory. A significant and substantial correlation of .6805 土. 03 was obtained between the Detroit Word Recognition Test and Part I, Visual Perception, including Test I, Reading of Lower Case and Capital Letters, and Test III, Matching Words from Memory.

Part II, Motor Coordination, was not correlated, since analysis, (Table XXXVII), indicated that it was not sufficientIy discriminatory.

Part III, Auditory Perception, including Test II, Matching of Sounds, Tests III, IV, $V$, and $V I$, which involve the naming and sounding of initial and final letters and initial and final blends, and Test VII, Identifying Initial Sounds, and Test VIII, Identifying Initial Blends, correlated . 6013土. 04 with the Detroit Word Recognition Test. Test I, Facility of Articulation, and Tests IX and $X$, Identifying Final Sounds and Final Blends, were omitted from the correlation due to their inadequate discriminatory value.(Table XXXVI)

Part IV, Vocabulary, correlated $.4615 \pm .05$ with the Detroit Word Recognition Test.

A correlation of $.55 \pm .04$ was obtained for Part $V$, Auditory Visual Perception and reading achievement, as measured by the Detroit Word Recognition Test.




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There is a positive but low correlation of . $179 \pm .06$ between reading achievement and Part VI, hearing comprehension, measured by unaided and aided oral recall.

The correlation of the combined scores of visual perception, auditory perception, auditory-visual perception and vocabulary with the Detroit Word Recognition Test is $.75 \pm .03$.

The correlation of the combined scores of visual perception, auditory perception, auditory-visual perception, vocabulary and comprehension with the Detroit Word Recognition Test is.69士.03.

Tables II to XXI show the satisfactory range of scores, and also indicate the order of difficulty of the tests. In Part I, Visual Perception, Table II shows the range of scores on Test II, Matching Lower Case Letters from Memory, to be from 4 to i5, with the greatest frequency among the high scores. The high mean of 12.88 and the median of 13.63 indicate it to be the easiest test of the visual percoption section.

Table II
Matching Lower Case Letters from Memory


















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| 1185964189 it |  | Trant: |  | 91002: |
| :---: | :---: | :---: | :---: | :---: |
| 11 | 1 1 | : | ! | $\vdots$ |
| + | 1 1 1 | - | : 88 | 31 : |
| 1 | ! a $!1$ | + : | $\because$ ar | - |
| i1 | i | $11 \times$ | $!$ ¢ | S $\quad$ ! |
| 11 | 11 8 | 0 ! | $:$ EL | Ef: |
| 1 | :1 |  | $\because-$ | ; |
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| $11-1108$ |  |  | $\because$ : | : |
|  | : 1 |  | $\because$ : | : |
| 11-1 | 16412: | : | $\because$ | : |
| 11 | i $2+2$ it | ; | : | : |
| $11+1{ }^{1+1}$ | 93010.i |  | : | : |

Next in difficulty is Test I, Naming Capital and Lower Case Letters, (Table III), with a range for the total score of 0 to 52, a mean of 32.42 , and a median of 42. Of the two sections comprising Test $I$, naming capital letters is the easier, (Table IV), having a mean of 16.50 and a median of 21.58, while naming lower case letters, (Table V), has a mean of 14.91 , and a median of 20.33. The range for either section, naming capital or lower case letters is 0 to 26.

Table III
Total Scores of Capital and Lower Case Letter Naming Test.










## III 9 [oss



Table IV
Table $\nabla$


The most difficult of the four indices of visual perception is Test III, Matching Words from Memory,(Table VI), having a range of 0 to 15 , with a mean of 8.17 slightly above the middle of the range, and a median of 8 .








## Table VI <br> Matching Words from Memory



Part II, Motor Coordination, as shown in Table VII, has a range of 4 to $32 t$ letters printed per minute with a mean of 17.45 and median of 14.18 . The highest scores are describad as 32 and above since they are so widely scattered and so in the minority as to lack significance.

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Table VII
Motor Coordination Test
Number of Letters Printed in One Minute


Of the tests in Part III, Auditory Perception, the simplest is Test I, Facility of Articulation, (Table VIII), having a range of 12 to 28 , with a high mean of 25.15 , and a median of 25.16. From the narrow range of scores and high mean and median, it is obvious that the scores are concentrated near the top.

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Table VIII
Faoility of Articulation


The total score of Test III, Naming and Sounding Initial Letters,(Table IXB), ranks next in dififculty with a range of 0 to 16 , a rather high mean of 12.51 , and a modian of 15. Although the significant score of Test III is the total soore resulting from the naming or sounding of the beginning letters, it is interesting to note in Table IXA that scores for naming the initial letter have a mean of 8.14, and a median of 9.42. Scores for sounding the initial letters are not significant except in regard to the total, as sounds are tested only in the event that the child cannot give the letter name.

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\end{aligned}
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Table IX A
Initial Letter Names

Table IX B
Total of Initial Letter Names and Sounds

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 Bbccoe fata semsli
4. TT OIdaT



Test II, Matching Sounds, (Table X), is the next most difficult, having a range of 2 to 20 , with the mean of 13.17 being nearer the midale score, but still rather high, and a median of 13.81 .

Table X
Matching Sounds






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Test IV, Final Letter Names and Sounds, (Table XI B), ranks next, with a range for the total score of 0 to 11, a mean of 6.26 located near the midde of the scores, but still above, and a median of 6.66. The mean for giving just the final letter name, (Table XI A), is 4.62, the median is 4.87.

Table XI A<br>Table XI B<br>Final Letter Names<br>Total Ietter Names and Sounds



Test VII, Identifying Initial Sounds, (Table XII), isthe next section in order of difficulty, having a range of 0 to 4 , a mean of 1.97 , and a median of 1.95 .




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Then comes Test VIII, Identifying Initial Blends, (Table XIII), with a range of 0 to 4 , a mean of 1.94 , and a median of 2.18 .

Next is Test $X$, Identifying Final Blends, (Table XV), the range being from 0 to 4 with a concentration of scores around 0,1 , and 2 , a mean of 1.37 and a median of 1.19.

Slightly, but not significantly more difficult than Test $X$ is Test IX, Identifying Final Sounds, (Table XIV), With a range of scores from 0 to 4 and scores again concentrated around 0,1 , and 2. The mean is 1.30 , the median, 1.23.

It is interesting to note that within Part II, Test II, Matching Sounds, (Table XXVIII), the order of difficulty in the types of sounds is the same as that of identifying sounds.


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| Table XII | Table XIII Table XIV | Table XV |  |
| :--- | :---: | :---: | :---: |
| Identifying | Identifying | Identifying | Identifying |
| Initial Sounds | Initial Blends Final Sounds Final Blend |  |  |



Letter Names and Sounds of Initial Blends, Test $V$, (Table XVI ), is the next in order of dififculty, having a range of 0 to 10 with a mean of 4 which is below the center score and a median of 3.11. The mean for letter names alone is very low, being l. 89 (Table XVIIN).

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| Table XVI A | Table XVII |
| :---: | :---: |
| Initial Blends | Total Letter Names and |
|  | Sounds of Initial Blends |



The most difficult index in auditory perception is Test VI, Ending Blends, (Table,XVIII B). A frequency of scores from 0 to 9 was obtained for the total of names and sounds of final blends. The mean is 1.16 , the median .96 . The mean for the letter names (Table XVIII A), alone is low, being l.18.

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Table XVIII A
Names of Letters Final Blends

Table XVIII B
Total Letter Names and Sounds of Final Blends


Part IV, Vocabulary, (Table XIX), has a range of 1 to 15, with the scores concentrated around the center: the mean, 7.38 is near the middie, and the median is 7.46.

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Table XIX
Vocabulary


Part V, Auditory Visual Perception, (Table XX), has a range of only 7 to 19. The scores are fairly well distributed, but frequency is heavier near the top. The mean is rather high, namely, 15.30; the median is 15.74.

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## Table XX

Auditory Visual Perception

| $\therefore$ Score | :Hrequency: : Score |  |  | :Frequency: : Soore |  |  |  |  |  |  | : |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| : | ? | : : |  | - |  | : |  | : |  |  | : |
| -19 | 13 | : : | 14 | : | 3 | : | 9 | : |  |  | : |
| : | : | : |  | : |  | : |  | : |  |  | : |
| : 18 | 17 | : : | 13 | : | 6 | : | 8 | : | 2 | 2 | : |
| : | , | : |  | : |  | : $:$ |  | : |  |  | : |
| - 17 | : 7 | : : | 12 | : | 6 | : | 7 | : | 2 | 2 | : |
| : | : | : |  | : |  | : |  | : |  |  | : |
| : 16 | : 19 | : : | 11 | . | 4 | : |  | : |  |  | : |
| : | : | : |  | : |  | : |  | : |  |  | : |
| $: 15$ | : 19 | : : | 10 | : | 4 | : |  | : |  |  | : |
| : | $\bigcirc$ | :: |  | : |  | : |  |  |  |  | : |
| : | : | : : |  | : |  |  | Total |  | 03 |  | : |
| : | : | : |  | : |  | : |  |  |  |  | : |
| - | : | : : |  | : |  |  | Mean | - | 15. | 30 | : |
| : | : | : |  | : |  | : |  | : |  |  | : |
| : | : | : : |  | : |  |  | dedian | . | 15. | 74 | : |

In Part VI, Comprehension, (Table XX ), the mean and the median are higher for unaided than for aided reaall, being 5.95 and 5.84 , respectively, for the former, and 4.17 and 4.03 , respectively, for the latter. Scores ranged from 0 to 14 for both types of recall. The distribution is more even for unaided recall with a concentration of scores near the middle, while the scores are concentrated below the midde on aided recall. The reason is due, doubtless, to the fact that aided recall merely supplements the unaided, the latter being the first readl
attempted. Thus the significant data is the total scores for both unaided and aided recall. The scores range from 1-14. The mean is high, being 10.16 . The median is 10.61 .

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Table XXI
Scores on Comprehension Test
Una1ded Recall Alded Recall

Unaided and Aided Recall


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The scores on the Detroit Word Recognition Test, (Table XXII), indicate a satisfactory distribution of reading achievement among the cases tested. Scores range from 1 to 38 with the mean of 18.91 near the center and the median of 19.6 almost exactly in the midale of the score range. Thus the writer was again reassured that all first grade reading levels were being included in the study.

Table XXII
Scores on Detroit Word Recognition Test : Form A







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Tables XXIII to XXXV indicate the frequency of errors made on each item of each test with the exception of the 1 2 vocabulary and comprehension seotions, since they have been studied previously. On the basis of the number of errors, the items of each test have been arranged in order of difficulty. In the writer's opinion, tables XXIX, XXX, XXXI, XXXII, are the most valuable, since they indicate the order of difficulty in hearing initial and final sounds and initial and final blends, information which the writer was unable to find, despite extensive research, when devising the test.

A summary of the itemisalysis of errors may be found in Table XXXVI and in Table XXXVII is an analysis of scores obtained on the test of Motor Control.

The reading diagnostic tests of thirty children attaining a raw score of 24 or above on the Detroit Word Recognition Test were compared with those belonging to thirty children who fell below a score of 14 on the Detroit Word Recognition Test. The items of the reading diagnostic test which do not discriminate between good and poor readers by a difference of $20 \%$ are indicated by an asterisk. Motor Coordination, Facility of Artioulation, Identifying Final Letters, Identifying Final Blends, and Matching Lower Case Letters from Memory, are not significantly discriminatory.

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## Table XIIII

Part I Visual Perception-Test I Matohing Lower Case Letters


Table XXIV
Part I Visual Perception-Test III Matching Words from Memory

| : Words ar- <br> :ranged in or- <br> :der of difficulty | :Errors | $\begin{aligned} & \text { Words } \\ & :(\text { continued }) \end{aligned}$ | Errors |
| :---: | :---: | :---: | :---: |
| : soon | : 31 | : drive | 47 |
| ! feed | $36$ | : sung | 51 |
| : bend | : 38 | : trail | 51 |
| : part | : 38 | hung | 56 |
| : meat | $41$ | grown | 58 |
| : dose | $\begin{aligned} & 13 \\ & \hline \end{aligned}$ | : pitah | 67 |
| ! seel | ! 44 | : drain | 73 |
| : read | $\vdots 46$ | $:$ |  |

Table XXV
Part I Visual Perception- Test II Naming Lower Case Letters


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Table XXVI
Errors in Naming Capital Letters
Part I Visual Perception-Test II Naming Capital Letters


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Table XXVII
Part III Auditory Perception-Test I Facility of Articulation


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Table XXVIII
Part III Auditory Perception Test II Matohing Sounds


| $\begin{aligned} & \text { :Initial: } \\ & \text { :Blends: } \end{aligned}$ | Error | $\begin{aligned} & :! \\ & \vdots \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { ne } \\ & \text { Len } \end{aligned}$ |  | $\begin{aligned} & \text { ::Phono- } \\ & \text { ::grams } \end{aligned}$ |  | Errors |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| : |  | : |  |  | : |  |  |  |
| : sh : | 33 | : : | ch | 46 | : : | ack | 55 | : |
| : |  | : |  |  | : |  |  | : |
| : gr : | 25 | : : | mp | 41 | : : | and | 48 | : |
| : |  | : |  |  | : |  |  | : |
| : ch : | 25 | : | ps | 39 | : | Ite | 41 | : |
| : |  | : |  |  | : |  |  | : |
| : dr : | 23 | : | np | 38 | : : | 1de | 33 | : |

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Table XXIX
Part III Auditory Perception-Test III, Initial Letter Names and Sounds.


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## Table XXX

Part III Auditory Perception-Test IV Final Letter Names and Sounds

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Table XXXI
Part III Auditory Perception-Test V-Letter Names and Sounds of Initial Blends


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## Table XXXII

Part III Auditory Perception-Test VI- Letter Names and
Sounds of Final Blends.


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## Table XXXIII

Part III Auditory Perception-Test VII, VIII, I, , , Identifying Initial Sounds.


Table XXXIV
Part III Auditory Perception- Test IX, X, Identifying Final Sounds.

| Final Sound |  |  | Final Blonds |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
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Table XXXV
Part $V$ Auditory-Visual Perception
Errors in Auditory-Visual Perception


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Table XXXVI
Itemi*ed Analysis of Errors
(Starred Items Not Sufficiently Discriminatory)

Part I Visual Perception
Test I Matching Lower Case Letters

Test III Matching Words


Part III Auditory Peroeption (continued) Test II Matching Sounds

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Part III Auditory Perception (continued) Test III Initial Letter Test IV Final Letter


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Table XXXII (continued)
Part III Auditory Perception (continued)
Test $\nabla$ Initial Blends Test VI Final Blends


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Table XXXVI (continued)
Part III Auditory Perception (continued )

| Test VII | Test VII | Test IX | Test X |
| :---: | :---: | :---: | :---: |
| Identifying | Identifying | Identifying | Identifying |
| Initial Sounds | Initial Blends | Final Sounds Final Blends |  |



Part $V$ Auditory-Visual Perception
Test TI Test II Test III


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Table XXXVII
Comparison of Scores of Good and Poor Readers

Part II Motor Control


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## CHAPTER $\nabla$

Summary and Conclusions
The purpose of the study was to devise a diagnostio reading readiness test which would:

1. Determine readiness to undertake a formal reading program.
2. Diagnose inadequacy in the factors essential to reading progress.

Accordingly, a test was built on the basis of research indicating the elements of importance in the reading process. The test was administered to one hundred and three first grade children and scores compared with reading achievement as measured by the Detroit Word Recognition Test,Form $A$, in order to:

1. Find the correlation of the parts of the test with reading achievement.
2. Find the correlation of the combined scores of the test with reading achievement.
3. On the basis of frequency of scores and frequency of errors, reorganize the major parts of the battery so that the tests and items composing the tests are in order of difficulty.
4. Published 1925, by World Book Company, New York.

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4. Locate those items which do not adequately discriminate between good and poor readers.

Conclusions:
With the exception of one section, the parts of the test correlated significantly with reading achievement. Visual perception compared most favorably with the Detroit Word Recognition Test, having a correlation of .68. The correlations of the other parts of the batter with the Detroit Mord Recognition Test are as follows: Auditory Perception .60; Auditory-Visual Perception .55; Vocabulary . 46; Comprehension 1.79.

The correlation of the combined scores of visual perception, auditory perception, auditory-visual perception, and vocabulary with the Detroit Word Recognition Test is .75.

The correlation of the combined scores of all the tests included in the battery, namely; auditory perception, auditoryvisual, visual perception, vocabulary and comprehension with the Detroit Word Recognition Test is . 69 .

1. Of the tests dealing with visual perception, the order of diffioulty from easiest to most diffioult is: Matching Lower Case Letters from Memory, Naming Capital and Lower Case Letters, Matching Words from Memory.
2. In the auditory perception tests, the order of
3. Published 1925, by World Book Company, New York.

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difficulty is as follows: Facility of Articulation, Naming and Sounding Initial Letters, Matching Sounds, Neming Final Letters and Sounds, Identifying Initial Sounds, Identifying Initial Blends, Identifying Final Blends, Identifying Final Sounds, Naming Initial Blends and Sounds, Naming Final Blends and Sounds.
3. The order of diffioulty is known also for each item within every test.
4. The task of naming initial and final letters and initial and final blends is more difficult than that of reproducing the sounds.
5. A study of the wide range of scores and graduated means of scores indicates the sensitivity of the test.
6. On the basis of the item analysis, summary of score frequencies, tabulation of errors and correlation with reading achievement, the diagnostic reading readiness test has been revised. Five tests lacking in discriminating value, (according to the itemized analysis) have been eliminated. They are: Motor Control; Facility of Articulation; Identifying Final Sounds; Identifying Final Blends and Matohing Lower Case Letters from Memory. The rest of the battery has been rearranged so that the tests within the major parts and the items within each test are in order of difficulty. In the arranging of initial and final letters and initial and final blends, since the order of diffioulty for naming letters and giving the sounds of the same letters do not ooincide, the criteria was the order of diffioulty according to the total score in naming and sounding letters.










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# CHAPTER VI <br> Suggestions for Further Research 

I To ascertain whether the correlations between the Diagnostic Readiness Test and reading achievement would be greater with a more reliable measure of reading achievement, such as an oral reading test.

II To ascertain whether the correlations between the Diagnostic Readiness Test and reading achievement would be higher if the entire Diagnostic Readiness Test were administered individually.

III To find the correlations of the individual parts of and individual tests of the Diagnostic Readiness Test with each other.

IV To find whether the Diagnostic Readiness Test guarantees failure by a comparison of the scores of every child on each test with scores of reading achievement.

V To standardize the Diagnostic Readiness Test.











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## Manual of Directions

Diagnostic Reading Readiness Test

By Alice Smart Boston University Educational Clinic



## Manual of Directions

Filling Out Information at the Beginning of the Test.

Include the child's name, age in years and months, the date the test is being given, the school, grade and the child's address.
Part I Visual Perception
Test I Matching Lower Case Letters from
Memory

Procedure

1. Insert the list of single letters in the Tachistoscope.
When number I appears in the hole at the top right of the Tachistoscope the lists will be in correct position.
2. Place the marker on the child's test blank horizontally so as to expose just the desired line of letters. Each series of letters is enclosed in a boz. The first letter on the Tachistoscope ilst corresponds to the top left box of letters on the child's test blank. The second letter corresponds to the second box on the left of the page, the third to the third box on the left of the page, etc.
3. Indicate the slot in the Tachistoscope where the letter will appear and say: "I am going to show you a letter. Keep your eyes here. Ready !"
4. Open the shutter of the Tachistoscope and expose the first letter for five seconds. If the child's gaze wanders, say: "Keep looking at the letter."
5. When the five seconds are up, close the shutter and say: "Find a letter just like this one in that box of letters (indicate) and put a circle around it."
6. The next time say: "I am going to show you another letter. Ready!" Be sure the child is paying attention and has his eyes directly upon the space in the Tachistoscope where the letter is to be revealed.
7. Continue this same procedure with each letter in the list, being sure that the examiner's list is moved up each time so that the next letter is exposed.
8. Do not give the child time to study his list before exposing the letter to be matched.
9. If the child is unable to find the correspondeng letter on his list or does not remember it, do not give a second trial.

Scoring

1. Check incorrect responses with an $X$.
2. Indicate the total number correct on the space provided on the test blank.
3. Fifteen is the total score for this test.


Test II Naming Letters
Procedure

1. Say: "Tell me the names of these letters." (Indicate)
2. The letters are not in alphabetical order so the child may merely read them; the examiner need not skip around or point. The latter may be necessary occasionally, if the child loses his place or omits letters.
3. If a child makes a mistake in naming a letter and corrects himself, give him credit for the correct answer, but do not ask him to correct an error.
4. Use the same procedure in the naming of the capital letters.

Scoring

1. Encircle incorrect responses and write the child's answer above the letter.
2. A score of 26 may be obtained for the lower case letters, and one of 26 for the capitals, with a total of 52.
3. Indicate the score for lower case letters, capitals and the total score in the spaces provided on the test blank.
4. As in Test I, insert the list of single words in the Tachistoscope.
5. Indicate the space on the Tachistoscope where the word will appear and say: "I am going to show you a word. Keep your eyes here. Ready !"
6. Open the shutter of the Tachistoscope and expose the first word for ten seconds. If the child's gaze wanders, say: "Keep looking at the word."
7. When the ten seconds are up, close the shutter and say: "Find a word just like this one in the box of words and put a circle around 1t."
8. The next time say: "I am going to show you another word. Ready !" As in Test I, be sure the child has his eyes directly upon the space in the Tachistoscope where the word is to be revealed.
9. Continue the same procedure with each word in the list.
10. Do not give the child time to study his list before exposing the word to be matched.
11. Do not give a second trial on any word.

Scoring

1. Check incorrect responses with an $X$.
2. The total score is 15. Indicate the number of words correctly matched, in the space provided on the test blank.

Part II Motor Coordination

Procedure

1. Say to the child: "Copy this sentence carefully, but work as quickly as you can. Print here." (Indicate the space on the test blank under the sentencel.
2. If the child appears unable to do the task, encourage him to try, but if it is obviously impossible, do not force him.
3. Note how he attacks the assignment, how he holds his pencil and paper.
4. Stop the child after one minute.

## Scoring

1. Count the number of letters made and indicate on the test blank.
2. Check also, letter formation, according to Good, Fair, Poor.
Part III Auditory Perception
Test I Facility of Articulation

Procedure

1. Say: "I shall say a word. You say it after me just as I do."
2. Pronounce the word for the child. Since the purpose of the test is to note whether or not the child can reproduce a certain sound when it is at the beginning of the word or in the middle, the words are arranged in pairs. Thus, the first two words should be tested before going on to the next two, etc. 3. Say each word just once.

## Scoring

1. Encircle words mispronounced and write the mispronunciation over the word.
2. Indicate the number of words pronounced correctly in the space provided on the test blank.

Test II Matching Sounds
Procedure

1. Set One and Two tests ability to hear initial sounds. Examiner points to the first row of pictures and says: "This is a nest, kitten, mother, house. Find the picture whose name begins with the same letter as man." When the child has located it, repeat the names of the pictures again and say: "Now find the picture whose name begins with the same letter as near."
2. Accept as correct either the naming of the desired word, or indication by pointing to the picture.
3. The procedure for the second set of four pictures is the same.

Test II continued
3. The names of the pictures are: hat, table, bed, doll. The stimulus words are: boy and dog.
4. The third and fourth sets test ability to hear ending sounds: thus the examiner points to each picture in set three as she says: "This is a cup, gun, book, drum. Find the picture whose name ends with the same letter as hem." Then repeat the names of the pictures again and say: "Now find the picture whose name ends with the same letter as hen."
5. The fourth set requires the same procedure as is used for Set Three. The pictures are: roof, bird, coat, girl. The stimulus words are if and fat.
6. Sets five and Six test ability to hear initial blends. Again the examiner points to the row of pictures in Set Five, indicating each in order as she says: "This is a spoon, chair, blanket, dress. Find the picture whose name begins with the same two letters as does chicken." When the child has located it, repeat the names of the piotures and say: "Find the picture whose name begins with the same letters as does dry."
7. Set Six follows the same procedure as Set Five. The pictures are: star, grass, shoes, fly. The stimulus words are grow and sheep.
8. Set Seven and Set Eight test ability to hear ending blends. Indicating the pictures in Set Seven say: "This is a mouse, sink, bush, stump. Find the picture whose name ends with the same two letters as lamp. When the child has done so, repeat the names of the pictures and say: "Now find the picture whose name ends with the same two letters as crank."

Test II continued
9. The procedure for Set Eight is the same as for set seven. The picture names are: ring, milk, patch, and cups. The stimulus words are ditch and tops.
10. Sets Nine and Ten test ability to hear phonograms; thus, after indicating the pictures, pail, hand, back, and fall, the examiner says: "Find the picture whose name rhymes with band. "Then, after repeating the picture titles, say: "Find the picture whose name rhymes with sack."
11. The procedure is the same for Set Ten. The pictures are: duck, kite, cake, hide. The stimulus words are ride and bite.

Scoring

Mark the answer to the first stimulus word in each set with a ${ }^{\text {k }}$, the answer to the second with a C.
Indicate the number of correct initial letters, final letters, initial blends, final blends, and the total.

Test III Initial Letter Sounds

## Procedure

1. Say: "I am going to say some words. Ifsten carefully and tell me with what letter each word begins."
2. The words are arranged in pairs, two words for each letter. If the child gives the correct letter for the first word of the pair, do not test on the other word, but if he does not do the first correctiy, try the second word of the pair, also.
3. If the child cannot give the letter name for either word in the pair, say: "Listen carefully and tell me with what sound this word begins." Thenrepeat the first word.
4. If the child cannot give the sound of the first word in the pair, repeat the second word of the pair, but do not bother with the second word if the first is correct.
5. After five successive failures on the part of the child to name the beginning letters, ask only for beginning sounds for the remainder of the test.
6. Then to save time, say: "Ifsten carefully and tell me with what sounds these words begin."
7. After seven successive fallures in giving even the sound of the beginning letters, abandon the test.

Scoring

1. If the beginning letter is not named correctly, check the word at the left with an X .
2. If the letter sound is not given correctly encircle the first letter of the word and write the child's attempt over the beginning letter.
3. Indicate the number of letter names correct in the space on the test blank.
4. If sounds have been tested,indicate the

Test III Scoring continued
4. number of sounds correct.
5. Cross out words omitted due to continual failure.
6. If the letter names and sounds have been mixed, add the two scores to obtain the total score. If the child has been consistent in his type of response, and thus there is only one score, bring that down as the total.

Test IV Final Letter Sounds

Procedure
The procedure is that used in Test III, except that the examiner will say: "Iisten carefully and tell me with what letter these words end", or, "Listen carefully and tell me with what sound this word ends", or, if continuing the testing of sounds, "Listen carefully and tell me with what sound these words end."

Scoring
The same as Test III, except encircle the last letter and write the child's attempt to sound it over the letter.

Test $V$ Beginning Blends
Procedure

1. The procedure is the same as that used in the other tests except that the examiner says: "Listen as I say, cry. The first two letters in that word are cr. What are the first two letters in crib?" If the child gives the correct answer, say: "Yes, cr." If not, say: "The first

Test $V$ Beginning Blends continued

## Procedure

1. two letters in crib are cr. Now listen carefully and tell me, what are the first two letters in each of these words ?"
2. If the child cannot name the letters, the procedure is the same as in other tests, except, say: "Cry begins with this sound, 'cr' (examiner gives beginning sound) "W1th what sound does crib begin?" If the child gives the correct answer, say: "Yes, 'cr'." If not, say: "Crib begins with the sound 'cr'. Ifsten carefully and tell me, with what sound does this word begin ?" Or, if continuing sound testing, say: "Iisten carefully and tell me, "With what sounds do these words begin ?"

Scoring
The same as in the other tests, except encircle the first two letters of each word, if the sounds are given incorrectly.

Test VI Ending Blends
Procedure

1. The same as Test II, except, say: "Listen as I say, 'orisp'. The last two letters in 'orisp' are sp. What are the last two letters in 'lisp' ?" If the child gives the correct answer, say: "Yes, sp." If not, say: "The last two letters in 'lisp' are sp . Now listen carefully, and tell me what are the last two letters in each of these words ?"
2. If the child cannot neme the letters, the procedure is the same as in the other tests, except, soy: "Crisp ends with the sound sp. What sound does lisp end with ?"

Test VI Fnding Blends continued

Procedure
2. If the child gives the correct answer, say: "Yes, 'sp'." If not, say: "IIsp ends with 'sp'." (give sound) "Ifsten carefully and tell me, "With what sound does this word end?"

Scoring
The same as in the other tests, except encircle the last two letters of each word, if the sounds are given incorrectly.

Test VII Identifying Initial Sounds
Procedure
Say: "I'll say some words that sound alike at the beginning. When you hear a word that begins with a different sound say, "No.' For example, which of these words has a different beginning sound- jump, Junk, Jill, make, just?" If the child gives the correct answer, say: "Yesjump, junk, Jill, just, all begin with $j$. Make begins with $m$. Therefore, the beginning letter of 'make' has a different sound from the beginning letters of jump, Junk, Jill, Just." If the child does not give the correct answer, say: "Make, because Jump, Junk, Jill, Just all begin with j. 'Make' begins with $m$. Therefore, the beginning letter of 'make' has a different sound from the beginning letters of Jump, jtnk, Jill, just. Ready now and remember, when you hear a word that begins with a different sound, say: "No!'"

Test VII Identifying Initial Sounds continued

Scoring

1. If an incorrect response is given, encircle that word.
2. Indicate the number correct in the space provided on the test blank.

Test VIII Identifying Initial Blends
Procedure
Say:"I'll say some words that sound alike at the beginning. The first two letters are alike. When you hear a word that begins with a different sound, say "No". For example, which of these words has a different beginning soundspot, spill, speak,block, spoon. If the response is correct, say: "Yes, spot, spill, speak, spoon all begin with sp; block begins with bl. Therefore the beginning letters of block have a different sound from the beginning letters of spot, spill, speak, spoon. If an incorrect answer is given, say: "Block is different because spot, spill, speak, spoon all begin with sp. Block begins with bl. Therefore the beginning letters of block have a different sound from the beginning letters of spot, spill,speak, spoon."

Scoring

1. If an incorrect response is given, encircle the word.
2. If there is no response, check the word.
3. Indicate the number correct in the space provided on the test blank.
(,

Same technique as previous tests using as examples- toad, load, read, meat, feed.

Scoring
Same as previous tests.

Test X Identifying Final Blends
Procedure

The same technique as Tests VII, VIII, and IX, using as examples- last, fist, Wrist, lamp, fast.

Sooring
Same as tests previously mentioned.

Part IV Vocabulary
Procedure

1. Say: "Look carefully at the pictures on this page. I am going to ask you to do something with these pictures. This is Set I. Put your pencil on I. One goes this way." (Examiner runs his pencil across both lines of Set I, so the ohild sees all the pictures in the set.) "There are eight little pictures in each set. The pictures stand for words. I om going to call some words and you are to look carefully at the pictures and find them." "Look at the pictures in Set I. Which pleture says 'rabbit'? What is the
2. number of the pioture?" (The child will say 6)
"All right. Put the 6 in this little box beside A." (Examiner demonstrates on his copy.) "Be sure you put the 6 in the box beside A."
"Now put your finger on $B$ in Set I." (Examiner demonstrates.)
"B says 'many'. See if you can put the right number beside B." (Pause)
"Ready. Did you write 2 beside B ? Two is correct. Now see if you can put the correct number beside C. C. says 'catch'." (Pause) "Did you put 8? Eight is correct. Be sure you look at all the little pictures in the set before you put down your number."
3. By now the child should understand the procedure.
4. Continue, always using the same words as: "D says 'alike'. E says 'under'. etc.
5. A word may be repeated if it is not heard by the child.
6. Allow sufficient time between words for the pupil to write the number. Usually this requires not more than five seconds. If a child takes too long, say: "If you can't find the word, just leave it out," and proceed to the next word.
7. The words are to be given in the following order:

| Set I | Set II |  | Set III |
| :--- | :--- | :--- | :--- |
| A. rabbit | A. cattle | A. Insects |  |
| B. many | B. dark | B. blast |  |
| C. catch | C. city | C. embrace |  |
| D. alike | D. reach | D. monument |  |
| E. under | E. long ago | E. damage |  |

Set IV
A. audience
B. mischievous
C. village
D. mansion
E. companion

Set $V$
A. family
B. sign
C. furious D. print
E. company

Set VI
A. model
B. banquet
C. athlete
D. balcony
E. distress

Part $\nabla$ Auditory-Visual Perception Tests I,II,III

Procedure

1. Place the small marker vertically on the child's test blank so that only one box of three words is visible at a time.
2. Do Test I first, proceeding from left to right. Then go on to Test II and then to Test III.
3. Say:" I shall say a word. You look at the three words on your. paper. The word I say will be one of those three. You find the word I say and put a oircle around it."
4. Pronounce the key word for the child twicedo not let him see it.
5. The key words reading from left to right are: Test I man now fill sent run jay ten Test II bad cup rig pop set Test III bun fell hog tan look sing duck

Scoring
Indicate an incorrect response with an $X$ Indicate the number of correct answer for each test and the total for the three tests in the spaces provided on the test blank.

Part VI Comprehension
Procedure

1. Say: "I'm going to read you a story. Listen carefully."
2. Read the paragraph to the child clearly and fairly slowly.
3. When you have finished say:" Tell me everything that you can remember of that story."
4. In the first narrow column beside the phrases in the record blank, check all of the ideas recalled voluntarily. Ignore minor errors, checking as right when the major idea is recalled. Also check as correct those ideas directly inferred by the use of single words. When the child stops, say:"Can you remember anything more about it?" Record his additional memories in the first column also.
5. Write inaccuracies in recall in the space above the phrases. Cross out the omitted words.
6. In the second narrow column, check the memories omitted in voluntary recall which can be recalled by the child when he is questioned specifically about them. Avoid questions that will give the answer away or that can be answered by jes or no.

Example:
No.1. What was the boy's name?
(Not "Was the boy's name Bob?") ("What did he do when he saw the red light?") Etc.

Mo.2. What kind of pet did the boy have?
(Not, "Did he have a cat or a dog?") Etc.
This part of the test is included to find out whether the omission is due to poor habits of expression or to inattention and low comprehension in reading.

## Scoring

Indicate the number of responses in Unaided Pecall and the number of responses in Aided Recall and then combine the two for the total comprehension score.

## READING READINESS TEST GROUP TEST BLANK

Name
School
Grade
Age
Date

Part I Visual Perception - Test 1 Matching Lower Case Letters from Memory


## Part II Motor Coordination

After breakfast each morning we put up the school flag high above our heads.

Number of Letters
Letter Formation Good....... Fair Po..... Por
Part III Auditory-Visual Perception
Test 1

| fan |
| :--- |
| man |
| ban |


| bow |
| :--- |
| how |
| now |


| till |
| :--- |
| pill |
| fill |


| vent |
| :---: |
| sent |
| dent |


| sun |
| :---: |
| fun |
| run |


| ray |
| :--- |
| lay |
| jay |


| pen |
| :--- |
| ten |
| den |

Number Correct
Test 2

| bid <br> bud <br> bad |
| :--- | :--- | | cap |
| :--- |
| cup |
| cop |


| rug |
| :--- |
| rig |
| rag |


| pip |
| :--- |
| pep |
| pop | | sat |
| :---: |
| sit |
| set |

Number Correct
Test 3

| bat <br> bun <br> bow | fold <br> fine <br> fell |
| :--- | :--- | | hen |
| :--- |
| hog |
| hop |$\quad$| tin |
| :--- |
| toy |
| tan |


| lick |
| :---: |
| lake |
| look |


| dear |
| :--- |
| duck |
| dump |

Number Correct
Total

## Part $V$ Visual Perception Test II Matching Sounds




Test I


Test II


A( )
B( )
C( )


Test III


Test IV


Test VI


Total ----

## Test III Matching Words from Memory

brain rain draw drown drain drawer ends bends bend bent hand band
feet freed fed lead feed food
zeal seat sealed sea seal sail
pitcher pit patch pinch ditch pitch
grows own growing drown grown green
head red reed freed reap read
trailed frail trail tail trait trial

```
spoon son soon soot moon seen
```

doze dose dosed doe does pose
port quart depart part park pat

```
swung snug sang sung sun suns
```

neat meal meat meet met meats
hunt bang hunger hug hung hang
diver drive dive die dove live

Total Correct

## Alice Smart - 1941. Boston University



Number Correct ---
Test III Initial Letter Sounds

| medicine | machine | holiday | hook | gallon | gown |
| :---: | :---: | :---: | :---: | :---: | :---: |
| necessary | nation | wicked | waist | library | lucky |
| bacon | balcony | powder | paste | jingle | juice |
| dent | damp | fountain | fade | recess | railf |
| tank | tickle | canoe | couch | vote | vacat |
|  |  |  |  | salad | singl |
|  |  |  | Number | es Corr |  |
|  |  |  | Number | rect |  |
|  |  |  |  | 1 Score |  |

Test IV Final Letter Sounds

| Wisdom | nasturtium | grab scrub |
| :--- | :--- | :--- |
| lemon | gawn | drug fog |
| beef | thief | railroad salad |
| pilot | faucet | creep group |






——....... ivoge Cotat

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[^4]Test V Beginning Blends

| chest | chew | shave | shovel |  | stale |
| :--- | :--- | :--- | :--- | :--- | :--- |
| drug | drip | trail | trace | stingy |  |
| grade | grasp | spatter | special | breathe | bravery |
|  |  |  | smock | smoulder |  |
|  |  |  | swerve | swam |  |

Number of Letter Names Correct -.Number of Sounds Correct -Total Score

Test VI Ending Blends

| hump | imp | maps | crops |
| :--- | :--- | :--- | :--- |
| crank | sank | gnats | pits |
| couch | touch | speaks | stacks |


| instant | moment |
| :--- | :--- |
| flash | flesh |
| lens | fins |

> Number of Letter Names Correct -Number of Sounds Correct Total Score

Test VII Identifying Initial Sounds
magic motor mellen hatchet mayor nursery nation bolt nonsense natural .

Test VIII Identifying Initial Blends
chilly charge ground chuckle chief drain dreary drift spoil drill

Test IX Identifying Final Sounds
firm seldom hem streak germ stiffen fountain habit frown

Test X Identifying Final Blends
sink kink drip tank wink
latch ditch fade crunch punch
grease gravel gruel start grove shark shiver bread shelter shovel

Number Correct ---
voyage read veil view volunteer subnarine sausage sank jaw sink

Number Correct -...
 boss cactus recess job dismiss

Number Correct ---

> blunt dent cast rent pant crush trash mash folk hush

Part VI Comprehension - Recall

Three boys built a house
in the woods.
they put a table
and two old chairs in it.

Therio Tns a besket full of apples funder the table pre afternoon they went away
fand left the door open. When they came back they found two little pigs eating the apples.
Score - Unaided

$$
\text { Score - Aided }=-
$$

Total Score ---

|  | $\begin{aligned} & \text { equant } \\ & \text { af smy } \\ & \text { axiosga } \end{aligned}$ | $\begin{aligned} & \text { Ymit } \\ & \text { shose } \\ & \text { toy } \end{aligned}$ |
| :---: | :---: | :---: |

19 d
radnem：
acsore Itede

Mnt rsq saod

Ialifo olvowis Amurozy agraio villifo filzb floqa jitzb Ktsexb aiszb

 aworl fiden nlajmuot M9゙るさきる



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\text { ffopof - nolamedergmol IV } 175 \%
$$



# Manual of Directions Revised 

Diagnostic Reading Readiness Test

By Alice Smart
Boston University Educational Clinic

## Manual of Directions

## Filling Out Information at the Beginning of the Test

Include the child's name, age in years and months, the date the test is being given, the school,garde, and the child's address.

## Part I Visual Perception Test I Naming Letters

## Procedure:

1. Say:"Tell me the name of these letters." (Indicate)
2. The letters are not in alphabetical order so the child may merely read them; the examiner need not skip around or point. The latter may be necessary occasionally, if the child loses his place or omits letters.
3. If a child makes a mistake in naming a letter and corrects himself, give him credit for the correct answer, but do not ask him to correct an error.
4. Use the same procedure in the naming of the lower case letters.

Scoring

1. Encircle incorrect responses and write the child's answer above the letter.
2. A score of 26 may be obtained for the capital letters, and one of 26 for the lower case letters, with a total of 52.
3. Indicate the score for the capital letters, lower case letters and the total score in the space provided on the test blank.

Tachistoscope
Part 1 Test 11

Practice
1.
2.
3.
pitch

| soon | 1. |
| :--- | :--- |
| trail | 2. |
|  | 3. |

Test 4.
5.
feed 6.
bend 7 .
pair 8.
meat 9.
dose 10.
seal 11.
read 12.
sfive
hung
grown

Test II Matohing Words from Memory

## Procedure

Note: In the three practice exercises, tell the child if he has the correct answer. If he does not,show him the word again, leave it before him and help him, if he still has difficulty.

1. As in Test $I$, insert the list of single words in the Tachistoscope.
2. Indicate the space on the Tachistoscope where the word will appear and say: "I am going to show you a word. Keep your eyes here. Ready."
3. Open the shutter of the Tachistoscope and expose the first word for ten seconds. If the child's gaze wanders, say: "Keep looking at the word."
4. When the ten seconds are up, close the shutter and say: "Find a word just like this one in the box of words and put a oircle around 1t."
5. The next time say: "I am going to show you another word. Ready!" As in Test I, be sure the child has his eyes directly upon the space in the Tachistoscope where the word is to be revealed.
6. Continue this same procedure with each word in the list.
7. Do not give the child time to study his list before exposing the word to be matched.
8. Do not give a second trial on any word.

Scoring

1. Check incorrect responses with an $X$.
2. The total soore is 12. Indicate the number of words correctly matched in the space provided on the test blank.
3. Say: "Look carefully at the pictures on this page. I am going to ask you to do something with these pictures. This is Set I. Put your pencil on I. One goes this way." (Examiner runs his pencil across both lines of Set $I$, so the child sees all the pictures in the set.) "There are eight little pictures in each set. The pictures stand for words. I am going to call some words and you are to look carefully at the pictures and find them."
"Look at the pictures in Set I. Which picture says, 'rabbit'? What is the number of the picture?" (The child will say 6).
"All right. Put the 6 in this little box beside A." (Examiner demonstrates on his copy). "Be sure you put the 6 in the box beside A."
"Now, put your finger on B in Set I."(Examiner demonstrates).
"B says 'many'. See if you can put the right number beside B." (Pause). "Ready. Did you write 2 beside $B$ ?
Two is correct. Now see if you can put the correct number beside C. C says 'catch'."(Pause) "Did you put 8? Eight is correct. Be sure you look at all the little pictures in the set before youput down your number."
4. By now the child should understand the procedure.
5. Continue, always using the same words as: "D says 'alike'. E says 'under', $\theta$ tc.
6. A word may be repeated if it is not heard by the child.
7. Allow sufficient time between words for the pupil to write the number. Usually this requires not more than five seconds.
8. (continued)

If a child takes too long, say:"If you can't find the word, just leave it out," and proceed to the next word.
6. The words are to be given in the following order:

|  | Set I |
| :--- | :--- |
| A. rabbit | A. cat II |
| B. many | B. dark |
| C. catoh | C. oity |
| D. alike | D. reach |
| E. under | E. long ago |


|  | Set IV |
| :--- | :--- |
| A. audience | Set V |
| A. family |  |
| B. mischievous | B. sign |
| C. village | C. furious |
| D. mansion | D. print |
| E. companion | E. company |

Set VI A. model
B. banquet
C. athlete
D. balcony
E. distress

Part III Auditory-Visual Perception
Tests I, II, III

## Procedure

Note: In the three practice exercises, tell the child, if he has the correct answer. If he does not, repeat the word, and help him find it.

1. Place the small marker vertically on the child's test blank so that only one box of three words is visible at a time.
2. Do sample exercises first, then Test I, proceeding from left to right. Then go on to Test II, and then to Test III.
3. Say: "I shall say a word. You look at the three words on your paper. Be sure to look at each one carefully. Look at the whole word. The word I say will be one of those three. You find the word I say and put a circle around it.
4. Pronounce the key word for the child twice- do not let him see it.
 --
5. The key words reading from left to right are:
Examples- went win wall.
Test I man now fill sent run jay ten
Test II bad cup rig pop set
Test IIIbun fell hog tan look sing

Scoring
Indicate an incorrect response with on $X$. Indicate the number of correct an swers for each test and the total for the three tests in the spaces provided on the test blank.

Part IV Auditory Perception<br>Test I Initial Letters, Names and Sounds.

## Procedure

Note: In the two practice words, if the child makes an error, tell him the correct answers and ask him to repeat them.

1. Say: "I am going to say some words. Listen carefully and tell me with what letter each wo rd begins."
2. The words are arranged in pairs, two words for each letter. If the child gives the correct letter for the first word of the pair, do not test on the other word, but if he does not do the first correctly, try the second word of the pair, also.
3. If the child cannot give the letter name for either word in the pair, say: "Listen carefully and tell me with what sound this word begins." Then repeat the first wo rd.

Test I Continued
4.If the child cannot give the sound of the first word in the pair, repeat the second word of the pair, but do not bother with the second word, if the first is correct.
5. After five successive fallures on the part of the child to name the beginning letters, ask only for beginning sounds for the remainder of the test.
6. Then to save time, say: "Listen carefully and tell me with what sounds these words begin."
7. After seven successive failures in giving even the sound of the beginning letters, abandon the test.

Scoring

1. If the beginning letter is not named correctly, cheok the word at the left with an X.
2. If the letter sound is not given correctly, encircle the first letter of the word and write the child's attempt over the beginning wor letter.
3. Indicate the number of letter names correct in the space on the test blank.
4. If sounds have been tested, indicate the number of sounds correct.
5. Cross out words omitted due to continual fallure.
6. If letter names and sounds have been mixed, add the two scores to obtain the total score. If the child has been consistent in his type of response and thus there is only one score, bring that down as the total.

- 

Test II Matching Sounds

## Procedure

Note: In the practice exercises, tell the child if he has the correct answer. If he does not,repeat the stimulus words and help the child find the right picture.

1. Demonstrate the making of an $X$ and a $C$.
2. Sets One and Two test ability to hear initial sounds. The examiner points to the first row of pictures and says: "This is a hat, table, bed, doll. Put a cross on the picture whose name begins with the same letter as'boy'." When the child has done this, say: "Now put a $C$ on the picture whose name begins with the same letter as 'dog'."
3. Accept as correct either the naming of the desired word, or indication by pointing to the picture. In either case, the examiner will mark the pictures for the child.
4. The procedure for the second set of four pictures is the same. The names of the pictures are nest kitten mother house. The stimulus words are near and man."
5. The third and fourth sets test ability to hear ending sounds; thus, the examiner points to each picture in Set Three as she says:"This is a cup coat book drum. Put a cross on the picture whose name ends with the same last letter as fat." Then repeat the name of the pictures again, and say: "Now put a $C$ on the picture whose name ends with the same letter as hem."
6. The fourth set requires the same procedut ure as is used for Set Three. The pictures are: roof, bird, gun, give. The stimulus words are ten and if.
7. Sets Five and Six test ability to hear initial blends. Again the exeminer points to the row of pictures in set Five indicating each in order as she says: "This is a star, grass, shoes, fly." Put a cross on the picture whose name begins with the same two letters as does ship." When the child has do ne so, repeat the names of the pictures and say: "Put a C on the picture whose name begins with the same two letters as grow."
8. Set Six follows the same procedure as Set Five. The pictures are: spoon, chair, blanket, dress. The stimulus words are: chicken, dry.
9. Set Seven and Set Eight test ability to hear ending blends. Indicating the pictures in Set Seven, sey: "This is a mouse, patch, bush, stump. Put a cross on the picture whose name ends With the same last two letters as ditch. When the child has done so, repeat the names of the pictures and say: "Now put a $C$ on the picture whose name ends with the same last two letters as lamp."
10. The procedure for Set Eight is the same as for Set Seven. The picture names are: ring, milk, sink, cups. The stimulus words are tops crank. Sets Nine and Ten test ability to hear phonograms; thus, after indicating the pictures pail, hand, back and fall, the examiner says: "Put a cross on the picture whose name rhymes with sack. " Then after repeating the picture titles, say: "Put a $C$ on the picture whose name rhymes with band."
11. The procedure is the same for Set Ten. The pictures are: duck, kite, cake, hide. The stimulus words are: bite and ride.

Scoring
Indicate the number of correct initial letters, final letters, initial blends, final blends, phonograms, and the total score.

Test III Final Letter Sounds
Procedure
The procedure is the same as that of Test II, except that the examiner will say: "Iisten carefully and tell me with what letter these words end," or, "Listen carefully and tell me with what sound this word ends," or, if continuing the testing of sounds, "Listen carefully and tell me with what sound these words end."

Scoring
Same as Test I, except encircle the last letter and write the ohild's attempt to sound it over the last letter.

Test IV Identifying Initial Sounds

## Procedure

Say: "I'll say some words that sound alike at the beginning. When you hear a word that begins with a different sound, say, 'No'. For example, which of these words has a different beginning sound- jump, junk, Jill, make, just?" If the child gives the correct answer, say: "Yes-jump, junk, Jill, just, all begin with j. 'Make' begins with $m$. Therefore, the beginning letter of 'make' has a different sound from the other words.
Scoring

1. If an incorrect response is given, encircle that word.
2. Indicate the number correct in the space provided on test blank.

## Test V Identifying Initial Blends

## Procedure

Say: "I'll say some words that sound alike at the beginning. The first two letters are alike. When you hear a word that begins with a different sound, say, 'No'. For example, which of these two words has a different beginning sound- spot-spill-speak-blockspoon?" If the response is correct, say: "Yes, spot, spill, speak, spoon all begin with sp; blook begins with bl. Therefore, the beginning letters of block have a different sound from the beginning letters of spot, spill, speak, spoon. If an incorrect answer is given, say: "Block is different because spot, spill, speak, spoon all begin with sp. Block begins with bl. Therefore, the beginning letters have of block have a different sound from the beginning letters of spot, spill, speak, spoon."

Scoring

1. If an incorrect response is given, encircle the word.
2. If there is no response, check the word.
3. Indicate the number correct in the space provided on the test blank.
$\int$

Test VI Beginning Blends Procedure

1. The procedure is the same as that of Test I and III, except that the examiner says: "Liste as I say, cry. The first two letters in that word are or. What are the first two letters in crib?" If the child gives the correct answer, say: "Yes, cr." If not, say: The first two letters in orib are cr. Now listen carefully and tell me, what are the first two letters in each of these words?"
2. If the child cannot name the letters, the procedure is the same as in the other tests, except, say; "Cry begins with this sound 'or'(examiner gives beginning sound) "With what sound does crib begin?" If the child gives the correct answer, say, "Yes, 'cr.'" If not, say, "Crib begins with the sound 'cr'. Listen carefully and tell me, with what sound does this word begin?" Or, if continuing sound testing, say: "Listen carefully and tell me, "With what sounds do these words begin?"

Scoring
The same as in the other tests, except encircle the first two letters of each word if the sounds are given incorrectly.

Test VII Ending Blends
Procedure

1. The same as Tests I,III and VI, except say: "Listen as I say, 'crisp'. The last two letters in 'crisp' are sp. What are the last two letters in 'lisp'?" If the child gives the correct answer say:"Yes, sp." If not, say: "The last two letters in crisp are sp. Now listen carefully and tell me, what are the last two letters in each of these wo ras?"

Test VII continued
2. If the child cannot name the letters, the procedure is the same as in the other tests, except, say:"Crisp ends with this sound,'sp'. What sound does'lisp' end with ?" If the child gives the correct answer, say:"Yes, 'sp'." If not, say: "Lisp ends with 'sp'."(give sound). "Listen carefully and tell me,"With what sound does this word end ?"

## Scoring

The same as in the other tests, except encircle the last two letters of each word if the sounds are given incorrectly.

Part $V$ Comprehension
Procedure

1. Say: "I'm going to read you a story. Listen carefully."
2. Read the paragraph to the child clearly and fairly slowly.
3. When you have finished say:"Tell me everything that you can remember of that story."
4. In the first narrow column beside the phrases in the record blank, cheok all of the ideas recalled voluntarily. Ignore minor errors, checking as right when the major idea is recalled. Also check as correct, those ideas directly inferred by the use of aingle words. When the child stops, say: "Can you remember anything more about it?" Record his additional memories in the first column,also.
5. Write inacuracies in recall in the space above the phrases. Cross out the omitted words.

## Test VII continued

## Procedure

6. In the second narrow column, check the memories omitted in voluntary recall which can be recalled by the child when he is questioned specifically about them. Avoid questions that will give the answer away or that can be answered by yes or no. Ezample.

No.1. What was the boy's name?
(Not "Was the boy's name Bob?") (What did he do when he saw the red light?" etc.
No.2. What kind of pet did the boy have?"
(Not, "Did he have a cat or a do $g$ ?") etc.
This part of the test is included to find out whether the omission is due to poor habits of expression or to inattention and low comprehension in reading.

Scoring
Indicate the number of responses in Unaided Recall and the number of responses in Aided Recall, and then combine the two for the total comprehension score.

REVISRD
DIAGNOSTIC READING READINESS TEST
by
ALICE M. SMART
Name Address
Date
Examiner
$\square$Date of Birth
$\qquad$ Age $\qquad$ GradeSchool
$\qquad$ Number of years in school

$$
\sqrt{6}
$$

watitititus $\qquad$
$\qquad$


Part I - Visual Perception
Test 1 - Naming Capital and Lower Case Letters
AOSIBTE日PKXWFRLNCMDJYGOZVQ
ostaexkfncrdihmw ply vb ja

Test 11 - Matching Words from Memory
Practice
pitcher pit patch pinch ditch pitch
spoon son soon soot moon seen
trailed frail trail tail trait trial

Test

| feet freed fed lead feed food |
| :--- | :--- | :--- |
| ends bends bend bent hand band |
| port quart depart part park pat |

neat meal meat meet met meats
doze dose dosed doe does pose
zeal seat sealed sea seal sail

| head red reed freed reap read |
| :--- |
| diver drive dive die dove live |
| swung snug sang sung sun suns |
| hunt bang hunger hug hung hang |
| grows own growing drown grown green |
| brain rain draw drown drain drawer |

Total Correct $\qquad$

Part II Vocabulary

Test I


Test II


Test III



Test V


Test VI


Part 111 - Auditory-Visual Perception
Practice

| went |
| :--- |
| bent |
| lent |$\quad$| wan |
| :---: |
| win |
| won |

Test I


Test 11

| cap <br> cup <br> cop | pip <br> pep <br> pop | rug <br> rig <br> rag |
| :--- | :--- | :--- | | bid |
| :--- | :--- |
| bud |
| bad |$\quad$| sat |
| :--- |
| sit |
| set |

Test 111

| lick |
| :--- | :--- | :--- | :--- |
| lake |
| look |$\quad$| hen |
| :--- | :--- |
| hog |
| hop |$\quad$| dear |
| :--- | :--- |
| duck |
| dump |$\quad$| bat |
| :--- | :--- |
| bun |
| bow |$\quad$| fold |
| :--- |
| fine |
| fell |$\quad$| tin |
| :---: |
| sing |
| song |
| toy |
| tan |

Part IV - Auditory Perception
Test I - Initial Letters
Practice -
zebra
zone
yellow yet

## Test

| canoe | couch | powder | paste | bacon | balcony |
| :--- | :--- | :--- | :--- | :--- | :--- |
| jingle | juice | medicine | machine | necessary | nation |
| salad | single | dent | damp | gallon | gown |
| fountain | fade | library | lucky | recess | railroad |
| holiday | hook | wicked | waist | vote | vacation |
| tank | tickle |  |  |  |  |

Number of Letter Names Correct $\qquad$
Number of Sounds Correct

Test II Matching Sounds



Test 111 - Final Letters

| pilot | faucet | beef | thief | railroad | salad |
| :--- | :--- | :--- | :--- | :--- | :--- |
| hook | tack | lemon | gown | quarter | manger |
| creep | group | grab | scrub | wisdom | nasturtium |
| mattress | cactus | drug | fog |  |  |

Test 1V - Identifying Initial Sounds
magic motor mellen hatchet mayor submarine sausage sank jaw sink voyage read veil view volunteer nursery nation bolt nonsense natural

Number Correct $\qquad$
Test V - Identifying Initial Blends
drain dreary drift spoil drill grease gravel gruel start grove shark shiver bread shelter shovel chilly charge ground chuckle chief

Number Correct $\qquad$
Test V1 - Initial Blends

| chest | chew | stale | stingy | trail | trace |
| :--- | :--- | :--- | :--- | :--- | :--- |
| shave | shovel | smock | smoulder | swerve | swam |
| spatter | special | drug | drip | breathe | bravery | grade grasp

Test V11 - Ending Blends

| couch | touch | hump | imp | instant | moment |
| :--- | :--- | :--- | :--- | :--- | :--- |
| flash | flesh | lens | fins | speaks | stacks |
| maps | crops | gnats | pits | crank | sank |

Number of Letter Names Correct Number of Sounds Correct Total Score
$\qquad$ -
Number of Letter Names Correct $\qquad$ Number of Sounds Correct

Total Score $\qquad$
$\qquad$
Part V - Comprehension - Oral Recall

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.

```
Score - Unaided
Score - Ajded
    Total Score e
```

$\qquad$
$\qquad$



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[^0]:    "Experimental Evaluation of Reading Readiness Tests", Elementary School Journal, Vol. 39, pp.497-508, March,1939.

[^1]:    
    
    
    . BCOE

[^2]:    1. Published, 1929, by Southern California School Book Depository, Los Angeles, California.
[^3]:    1. See Durrell-Sullivan Reading Analysis Manual of Directions Fablished by World Book Company, 1937, New York, p.12. 2. See Durrell Analysis of Reading Difficulty Manual of Directions, Published by World Book Company, New York,1933.p.24.
[^4]:    
    E-- dantso0 timuola tio zodmull
    -un atose datoti

