Levels and stages of reading development compared with mental ability

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LEVELS AND STAGES OF READING DEVELOPMENT COMPARED
WITH MENTAL ABILITY

A THESIS
SUBMITTED TO THE FACULTY OF THE SCHOOL OF EDUCATION,
ATLANTA UNIVERSITY IN PARTIAL FULFILLMENT OF
THE REQUIREMENT FOR THE DEGREE OF
MASTER OF ARTS

BY

VIRGINIA TILLMAN WHATLEY

SCHOOL OF EDUCATION

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PREFACE

This study was the result of a direct attempt by the writer to evaluate reading performance at the fourth grade level. Authorities agree that this grade presents some critical and difficult phases of reading development. If pupils are to be guided so that they are stimulated to acquire desirable reading patterns, those who plan with and for them must understand their abilities and needs.

Primarily, the data deal with individuals; secondarily, it attempts to interpret their performances in terms of statistical phenomena. If this interpretation is sketchy, it is because of the existence of many debatable areas of psychological and educational testing. Yet, this does not eliminate the usefulness of educational testing in evaluating performances.

The writer wishes to acknowledge the patience, understanding and unequalled assistance of her family and advisors during and beyond this period of research.
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CHAPTER I

INTRODUCTION

In recent years educators at all levels of instruction have become increasingly concerned with the reading inabilities of students. Universities and colleges are establishing reading clinics in order to help students intelligently handle reading materials necessary for successful completion of courses. The consensus of opinion is that elementary first-teaching of reading, if performed under sympathetic understanding of pupil individuality, will eliminate many of the problems with which high school and college instructors are faced. This would place more concentrated effort upon individualized approaches to reading instruction.

There is an interrelationship between reading and the other phases of language arts: listening, speaking, and writing. Each of these areas receives support from the other as well as lends support to every other area. Good listening habits must be taught. They can be taught more effectively when the pupil finds the need for listening. Children will talk if they have something to talk about. The chief job of the teacher is to discover the interests of the children and to create new interests that will provide many things for them to converse about naturally and spontaneously. Experience records develop language skills fundamental to reading and independent writing. The experience chart or record composed by the pupils contains their own vocabulary and therefore is of interest to them. Primarily, they help associate meaning with the printed word.

A basic developmental skill program provides instruction for all pupils
on all grade levels in the habits, skills, and abilities necessary to ade-
quate control of reading. These skills vary, but essentially are: readi-
ness skills, comprehensive skills, vocabulary meaning skills, word analysis
skills and interpretative skills. A sound program should produce a ready
command of these reading skills.

Authorities agree that a pupil who merely comprehends facts when he
reads is performing only half the task in reading. He must learn to reflect
upon the facts he has read. Training children to think critically involves
developing the processes needed for reflective thinking. Teachers must
arrange situations to give pupils practice along this line.

Rationale.—The merits of any instructional program should be judged
on how well it satisfies the needs of the learners involved. It would be
more than a waste of time to institute such a program without first under-
standing the individual learners and how to administer to the abilities
and inabilities.

Understanding learners involves the comprehension of the growth pro-
cess as well as conditions under which learning takes place. These funda-
mental concepts become a vital springboard for program planning. The frame-
work behind a reading program ought to be based on the fact that reading is
a behavioral process and poor readers can be improved only when changes are
brought about in those behavioral patterns which have caused the inabili-
ties.

The Committee on Reading of the National Society for the Study of Ed-
ucation recognizes the teaching of reading as a problem in child develop-
ment:¹

¹Arthur I. Gates, "Character and Purposes of the Yearbook," Reading
in the Elementary School, Forty-Eighth Yearbook of the National Society for
the Study of Education, Part II (Chicago, Ill.: Univ. of Chicago Press,
The critical relationship of child development and reading is likewise manifest in the fact that many reading difficulties and failures are the result of unfortunate adjustments which are stimulated, or at least tolerated, in the home and school. Many a child fails to learn to read well or, having learned, bolts or drifts, from reading because he was poorly managed as a person. Cases of this kind comprise a substantial proportion of those eventually referred to the reading specialist. On the other hand deep understanding and genuinely sagacious management by a teacher are enormously potent in developing desirable reading abilities and habits.

A logical beginning for instituting an effective reading program or for evaluating one already in existence is the thorough testing of all the participants. Reading tests as well as tests of mental ability, interest inventories, and personality tests add to data which teachers should already have concerning learners. It is necessary for the teacher to know where the learner is, why he is at this particular point and what needs are or are not being satisfied. A variety of standardized tests is available to teachers so concerned. Teachers need to understand the background, attitudes, feelings, worries, and concerns of the children they teach in order to work more effectively with them. Significant reading tests, scales, and inventories lend information as to "levels" and "stages" of reading development.

According to Russell¹, the "stages" of reading development learners undergo correspond somewhat to the grouping of school grades. Growth, orientation, and achievement are important factors in the development of these "stages." The Pre-reading Stage covers the period from birth to that time when the child is taught to recognize words or read words. This later accomplishment usually occurs somewhere in the first grade. The Beginning

reading Stage follows and it is here that the pupil recognizes a limited number of words and develops some meaning of materials made up of words previously studied. Normally this period extends to the first grade. The Initial Stage of Independent Reading occurs around second grade. The pupil shows some ability to work out unfamiliar words and to draw forth meaning from the context. The third and early fourth grades usually comprise the Transition State. Pupils are moving from the primary type of reading to the intermediate form of reading. This is considered a critical period in reading. Often it is a difficult phase as well. The United States Census defines "literacy" as the ability to read at least at the typical fourth grade level. The Intermediate or Low-Maturity Stage of reading development includes grades four through six. Ordinarily it shows slow but steady growth in all phases of reading. The Advanced Stage of reading which begins about seventh grade and extends through the remainder of the school years and after, offers the opportunity for the continuous perfection of expert reading interests and abilities.

"Stages" of reading development point to reading not as a set of skills but as a part of the well-rounded development of children and adults. This means that reading can no longer emphasize isolated skills but must stress reading purposes and needs in order to utilize and make more functional the skills and habits acquired.

Betts' describes the "levels" of reading instruction as Basal, Instructional, Frustration, and Capacity. These classifications help teachers to differentiate reading instruction. When systematic guidance is provided at a reasonable level most pupils can make reading growth comparable with their

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capacities for reading achievement.

The Basal Level of reading instruction is the highest reading level at which the individual can read with full understanding and freedom from mechanical difficulties. This is the level at which "free," supplementary, independent, and extensive reading can be done successfully. The Instructional Level is the highest level at which systematic instruction can be initiated. Here the learner must be challenged but not frustrated. The Frustration Level is the level at which the individual is baffled or thwarted by the language of the material. The Capacity Level is the highest level at which the individual comprehends material read to him.

These two methods of analyzing reading development, "stages," and "levels," are in keeping with the current concepts of growth and child development and with the definition of education as a continuous, individual, personal process.

Evolution of the problem.--The 1940 census revealed that 13.5 per cent of adults over twenty-four years of age, some ten million, are functionally illiterate. Their reading ability is below that of the average fourth grade child. These individuals are handicapped to the extent that they are unable to perform some of the ordinary activities of life which are partly dependent on reading. In any representative sample of one hundred American adults

1 persons have had no formal schooling
10 persons have had four years or less of schooling
16 persons have had from five to eight years of schooling
10 persons have had one or more years of high school education
10 persons have had one or more years of college education.¹

These figures mean that on the general average reading abilities are so low that many people cannot receive ideas effectively from the printed page. Recent studies reveal that the average reading ability in the nation is that of the typical seventh or eighth-grade pupil.¹

In the past reading programs were more often organized in terms of skills and abilities appropriate for various grade levels and determined by tradition, a philosophy of education, or the demands made on the school by the community. Since early in the Forties the characteristics and needs of children have been used more than before in planning the reading program. At this time teachers and non-teaching curriculum workers had become aware of the influence of reading upon the child's total development.

One of the outstanding events in educational history was the growth of the child study movement. During this period after the First World War extensive research contributed to knowledge of the nature, needs, experiences, and growth patterns of children. This research is more complete for the pre-school child and the adolescent than for the elementary-school child. Reading program planners must now consider what reading experiences will contribute most to the development of individual children who share in these activities.

Being in a situation which calls for the recognition of critical problems in the area of reading, teachers must acquire broader knowledges and understandings of the children with whom they work. Caswell² reveals that children between the ages of nine and eleven experience a period marked by

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a specialization and differentiation in interests
a differentiation between work and play
uninhibited creative work
distinctly more mature intellectual ability.

This period is one of steady progress in physical development and important changes in mental and social activities. Here is the opportunity for teachers to extend experiences in reading, develop good work habits while reading and furnish varied reading materials.

The primary concern of reading instruction at the fourth grade level is the provision of rich and meaningful experiences through reading. This is not a difficult undertaking for those pupils who have acquired the basic abilities which make for competent readers.

The writer has been concerned with teaching and guiding fourth grade experiences for several years. The diversity of reading abilities has been a major concern in this role. The problem of defining reading situations has been time-consuming but profitable. Teaching reading became more than taking pupils and readers to a circle of chairs. The task required creating an atmosphere for learning by arranging an inviting and cheerful room, providing materials and equipment to capture the interest of children, and organizing an orderly, democratic climate. Beyond these prelminaries there existed a systematic searching, analyzing, and prescribing in order to bring about desirable changes in reading patterns. This study is an outgrowth of this kind of classroom procedure. A need was felt for a more systematic, purposeful teaching of reading to boys and girls in this acute period of reading development.

Contribution to educational knowledge and practice.—It was the hope of this writer that the study would offer some constructive ideas concerning the appraisal of reading progress in elementary school pupils. In the light of this appraisal there may be suggestions for extending and broadening
reading programs in the elementary school.

Statement of the problem.—The study analyzed tested reading and mental abilities of fourth grade pupils in terms of "stages" and "levels" of reading development in order to evaluate the organizational and instructional procedures then in operation at the Oglethorpe Elementary School.

Purpose of the study.—The purpose of the study was to describe the reading abilities and mental abilities of fourth grade pupils with emphasis upon "stages" and "levels" of reading development. This was carried out in terms of the present reading program. It was hoped that the following questions would be answered in the course of this study:

1. What were the characteristics of subjects' performance on the California Achievement Test and what reading "stages" were represented?
2. What was the nature of performance on the Betts Informal Reading Inventory and at what "levels" of reading did these subjects reveal independence in reading, need for basic instruction, ability to understand material that was read to them, and frustration in attempting to read material?
3. What were the distinguishing features of the subjects' performance on the Otis Quick-Scoring Mental Ability Test?
4. What were the relationships between subjects' reading "stages" and mental ability?
5. What were the relationships between subjects' reading "levels" and mental ability?
6. How did these relationships compare with each other?
7. What was the point of view of the organizational and instructional reading program through which these subjects came?
8. To what degree did the existing program seem to have been effective in the light of this study?

9. What are the implications and suggestions for an improved program?

Locale and description of subjects.—This study took place in the Oglethorpe Elementary School which is a department of the Atlanta University School of Education, Atlanta, Georgia.

The pupils involved in this study were the twenty-two members of the fourth grade at this school. Their ages ranged from eight years and nine months to ten years and eleven months at the time testing took place in April, May, and June of 1958. The average age was nine years and seven months. There were nine girls and thirteen boys in this group which permitted the writer to work very closely with these pupils on an individual basis.

All the pupils except four began their schooling at Oglethorpe. Two of these four entered at the third grade level and two had previous experiences in this system. One of the two in the later group had participated in summer school activities for three years and therefore was acquainted with the instructional procedures. The other pupil entered in second grade after testing and previous school records revealed she was not ready for third grade according to the grading standards at that time. At the end of this period this pupil transferred to a German school for a year and a half in which her adjustment was reported as "poor." She returned to Oglethorpe in January, 1958.

It should be noted that two of this group were repeating the fourth grade. Their non-promotion was based on the fact that they were seriously deficient in the fundamental skills of reading, writing, and number work as well as poorly adjusted in the general school situation. Of these two,
one was an adopted child of German and Negro American descent. He began schooling at Oglethorpe with a decided language barrier in addition to problems in social adjustment. The other repeater was a slow learner. He lacked the necessary impetus to execute those skills of which he was capable. His attention span was about that of a beginning first grader. He was further handicapped by the absence of his mother who taught some forty miles away from home and commuted on week-ends.

Most of the parents of these pupils were professional workers. Two fathers were army career men, one was a doctor, three were ministers, four were Post Office employees, one was a printer, one was an accountant, one was a probation officer who worked with juveniles, two were teachers, two operated businesses, and one was a newspaper executive. There were four homes in which the father was absent due to illness, death or divorce. An analysis of the mothers' occupational status showed twelve were teachers, one was a nurse, three were clerks, one was a social worker, one was a librarian, and two were receptionists. There were two mothers who did not work. All of these parents had shown a sincere interest in the school experiences of their children and a genuine willingness to cooperate with the writer.

Limitations of the study.--This study was concerned with the scores of the California Achievement Test, Reading Section, which gave an indication of the "stages" of reading development of each pupil; the scores of the Otis Quick-Scoring Mental Ability Test, which gave an indication of mental capacity; and the scores of the Betts Informal Reading Inventory, which gave an indication of reading "levels". It was further concerned with comparisons of these statistical indications with each other and what the writer's teacher-made evaluations showed about the reading and mental abilities of the twenty-two fourth grade pupils. There was no attempt made to
describe the causative factors involved in the reading situations in this study.

Materials to be used.--The materials used in this study consisted of the California Achievement Test, the Otis Quick-Scoring Mental Ability Test, and the Betts Informal Reading Inventory. They served as a background for securing pertinent information as well as a foundation for the descriptive and analytical framework of this investigation.

The California Achievement Test\(^1\) is one of a group of diagnostic and survey tests which includes sub-tests of reading vocabulary, reading comprehension, arithmetic reasoning, arithmetic fundamentals, mechanics of English, grammar, and spelling. Four levels of the test are available for grades one through fourteen. The test situation is so arranged that each pupil's strengths and weaknesses are apparent and the results aid teachers in fitting instruction to the needs of the learner. The Elementary Form requires approximately one hundred and fifty minutes to administer. The reliability coefficients\(^2\) for this test are listed as follows:

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<tr>
<td>Reading Comprehension</td>
<td>.89</td>
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<tr>
<td>Total Reading</td>
<td>.97</td>
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<tr>
<td>Arithmetic Reasoning</td>
<td>.77</td>
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<td>Arithmetic Fundamentals</td>
<td>.90</td>
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<tr>
<td>Total Arithmetic</td>
<td>.95</td>
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<td>Mechanics of English and Grammar</td>
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<tr>
<td>Spelling</td>
<td>.82</td>
</tr>
<tr>
<td>Total Language</td>
<td>.94</td>
</tr>
<tr>
<td>Total Test</td>
<td>.98</td>
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The standardization of the California Achievement Test Batteries has been based on more than fifty thousand cases at each level. All forms of

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\(^{1}\) Ernest W. Tiegs and Willis W. Clark, *California Achievement Tests* (Los Angeles, California: California Test Bureau, 1951).

\(^{2}\) Ibid.
this test are reported to possess a high degree of validity. The items on
the tests have been developed over a period of years after careful study
of curriculum objectives of the "most modern city and state courses of
study." The items selected are based on test given to more than fifty thou-
sand pupils in schools throughout the United States.

The Otis Quick-Scoring Mental Ability Test\(^1\) is devised by Arthur S.
Otis. There are three tests in the series: The Alpha Test is used for grades
one to four, the Beta Test for grades four to nine, and the Gamma Test for
high schools and colleges. The purpose of these tests is to measure the de-
gree to which a pupil's mental ability has enabled him to acquire certain
mental skill and knowledge. The questions have been carefully screened in
order to choose the ones with responses which depend more on thinking than
on schooling. Notice must be taken of the fact that any test involving the
use of language measures mental ability to the extent to which pupils have
had approximately the same opportunity to learn. These tests are self-
administering. The examiner needs to give only a minimum of instructions,
allowing pupils to study the first page on which are sample questions and
directions for marking answers. Another feature of this series is the time-
saving manner in which it can be administered and scored. The reliability
of the Otis Quick-Scoring Test has been measured in terms of the coefficient
of correlation between two forms of the test. The "r" between Forms A and
B of the Otis Test, grades four to nine combined, is .96. For four hundred
and sixty-five pupils in grades four to nine the standard error of measure-
ment was 4.0 points. The validity of the tests was measured by comparing

\(^1\) Arthur S. Otis, *Otis Quick-Scoring Mental Ability Test* (New York:
the rate of progress of pupils through school and the indication of probable rate of progress as measured by the Otis Test. The determination of the validity of each item on the test showed that these items contributed definitely to the capacity of the test to measure brightness as reflected in the rate of progress through school.

The Betts Informal Reading Inventory was devised for determining performance in controlled reading situations. This performance reflects previous reading instructional procedures which may have contributed to a learner's reading problem, and the validity of the inventory is enhanced by basing observations on performance in recommended first-reading and remedial-teaching situations. There may be a wide range in the time required to administer this inventory depending upon the age of pupil, the level of reading ability, familiarity of examiner with subject, and the complexity of the reading problem. There are three phases of the inventory; oral reading at sight, silent reading, and oral rereading. After each phase comprehensive questions are asked the pupil. The author indicates that the findings will tend to be more consistent from one series of materials to another and from one examiner to another at the lower levels than at the upper levels. The variations in the findings may be due to the variation in content of basal instructional materials, the variation in vocabulary, content, and language structure of basal readers, the criteria for estimation of achievement levels and the techniques employed for the inventory by separate examiners, the length of selections, the part of the book from which selections were taken and the rapport established by the examiner. Two important aspects of validity which Betts considered in constructing his inventory were equality

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1 Emmett A. Betts, Betts Informal Reading Inventory (Haverford, Pennsylvania: Betts Reading Clinic, 1953).
of the readability of the materials to that of instructional materials and the techniques employed in the inventory were equivalent to those desired for successful classroom instruction.

Methods of research and procedure.—This study employed the descriptive techniques of research. The data were gathered described, and presented as illustrated in the following operational steps:

1. Further review of literature
2. Assembling and presenting of data
3. Interpretation of data in terms of "levels" and "stages" of reading development
4. Construction of percentage tables indicating number of pupils at various "levels" and "stages"
5. Graphic representation of data using the range, mean, median, standard deviation, and the Pearson product-moment coefficient of correlation
6. Conclusions reached as a result of a accumulated data and statistical measures
7. Implications pointed out through the research and conclusions
8. Recommendations presented in terms of suggestions for improvement in the present organizational and instructional procedures

Survey of related literature.—The survey of literature consists of findings concerning the fundamental differences between reading "stages" and "levels" and research studies. The writer was unable to find other studies within the same framework but there were a limited number which touched upon some specific phases. The "stages" of reading development represent the continuous reading growth of an individual. The "levels" of reading instruction exemplify a characteristic cross-section of reading performance at a given point.
The theories behind "stages" of reading development are in accord with what we know about child development.¹ The interrelationship between the two is the basis for selecting materials and methods closely related to the child's growth status as affected by heredity and environment. Russell writes:

The developmental traits of children and their reading activities are related in two ways: (1) The characteristics, needs, and activities of children at various age levels influence what and how they should be taught in reading. (2) Reading activities influence the nature of children's development by stimulating new abilities and interests and by affecting children's total adjustment. The first relationship emphasizes developmental characteristics as a factor affecting the reading program; the second relationship stresses the reading program as an influence on desirable development.²

The characteristics and activities of any given reading "stage" constitute a section of a number of continuous growth curves in reading. The actual marking off of these "stages" is purely for convenience. The following paragraphs describe what Russell calls "those sections of the curve which correspond roughly to the grouping of school grades." These listings³ briefly identify some of the characteristic traits at the designated "stages."

The Prereading Stage - This "stage" extends from birth to the time when the pupil is taught to recognize words, usually in the first grade. In this period, growth is going on in many abilities involved in learning to read. There is a gradual understanding of the spoken words and of learning to speak them; of guessing unfamiliar words from spoken contexts; of following the cumulative development of a story; of identifying component sounds

²David H. Russell, ibid.
³Ibid., p. 19-22.
of words; of studying and interpreting pictures; of acquiring skill in pre-
ceiving small objects; of attending to directions, of identifying colors;
of handling crayons, chalk, and scissors; of turning the pages in books;
of feeling keen interest in printed words and the ability to read them; and
of adopting a though-getting attitude toward selections read to him. After
the gradual growth of these traits and others the child reaches a stage of
advancement which denotes "readiness" for beginning reading.

The Beginning Reading Stage - Reading during this "stage" is normally
slow. The child learn to recognize a limited number of words and to get
the meaning of materials made up of words previously studied. A beginning
is made in various words forms and word sounds as well as context clues and
reading in many different thoughtful ways. The habit of reading thoughtfully
should be thoroughly established at this point. The problem of utmost im-
portance here is to secure a well-balanced development of abilities and in-
terests in the complex activities involved in word recognition and thought-
getting.

The Initial Stage of Independent Reading - This stage ordinarily will
correspond to the second-grade period. There is a gradual increasing of
power to work out the recognition of unfamiliar printed words and to extract
meaning from them. The child takes pride in his progress. Reading materials
should be varied and wisely selected for his use. Good teaching at this
point will advance the child steadily in basic techniques in reading, ability
to read independently, and enjoyment of reading. This is a critical period
because basic techniques are being established and pushing the child too
hard may have unfortunate effects.

The Transition Stage - This stage is one in which the pupil should
make a transition from the primary form of reading to the intermediate type
of reading. It usually consists of third and early fourth grades. A wider variety of independent reading occurs though in an immature way. He may read word by word instead of in thought units and depend upon the appearance and sound of single letters. Often children acquire a modest level of comprehension and become so satisfied with this accomplishment that they hamper their advancement to more mature forms of reading. Leaving behind the primary reading habits and moving on toward more mature ways of reading is a major concern at this "stage."

The Intermediate or Low-maturity Stage - This "stage" includes grades four through six. It exhibits steady but slow growth in all phases of reading. Speed moves beyond the speaking rate and syllabication and more advanced forms of word recognition replace the simple attacks of the primary grades. Fiction, newspapers, magazines, informative materials and catalogues are fairly comprehensible to the group. Skimming, outlining, comparing, summarizing, all are being used to extend reading experiences. The danger of this period would be the failure of children to advance in those skills.

Advanced Stage of Reading - The truly advanced reader likes reading because there seems to be no limit to the techniques he may acquire in pursuing reading at school as well as away from school. He can read in a variety of ways to suit specific needs, and he knows how to judge, select compare, and criticize while reading. He can sight-read with expression in addition to taking advantage of abbreviations, graphs, maps, and charts.

Russell lists six principles which he believes must always influence the planning and evaluating of any reading program. These principles or generalizations are basic to child development.¹

¹David H. Russell, ibid., pp. 16-18.
1. All children go through similar "stages" of development as their reading abilities mature.

2. Development of reading abilities is a continuous and gradual process.

3. Although children go through similar patterns of continuous development, there is a wide variation in the times individuals reach certain points in reading achievement.

4. Although reading is a continuous development, at various times or levels different needs and interests tend to accelerate certain phases of growth in reading abilities and attitudes.

5. In general, there is a positive relationship between reading achievement and general physical, mental, and social development and among the various reading achievements themselves.

6. The effect of environmental influences related to reading varies with the stage of maturation reached by the child.

The "stages" of reading development can be determined to a certain degree through standardized testing. This method alone is not reliable because this score is often indicative of the child's frustration level. However, this kind of testing should constitute one means of helping to determine reading status.

Individual achievement is important to the appraisal of a reading program. Teachers must be stimulated to use a variety of techniques for appraising achievement. This is necessary because few, if any, standardized tests can be used for measuring the level at which reading instruction should begin. Some tests are effective in appraising readiness for initial reading instruction. Group intelligence tests for estimating individual capacities have some serious limitations.
No revolutionary proposals have been attempted in the modern elementary school program. The newer approach to reading instruction simply asks for a reexamination of research and good practice and an application of these to the reading problems in elementary schools today. In the early Forties Betts called attention to the fact that test results needed to be reexamined in regard to their usefulness in determining reading status. He found that Standardized Tests were reliable in certain phases of curriculum evaluation but testing for reading abilities required a more intensive search than these tests afforded.

The criteria by which Betts's reading "levels" are judged are as follows:

**Basal Level** - There are six criteria at this level. They are: a minimum comprehension score of at least ninety per cent, based on both factual and inferential type questions; freedom from tensions sometimes induced in the reading situation; freedom from finger pointing; acceptable reading posture; oral reading characterized by good rhythm, accurate interpretation of punctuation, accurate pronunciation of more than ninety per cent of the words and use of conversational tone; silent reading characterized by a rate of comprehension higher than that of oral reading and the absence of vocalization.

**Instructional Level** - There are nine criteria at this level. They are: a minimum comprehension score of at least seventy-five per cent, based on both factual and inferential questions; accurate pronunciation of ninety-five per cent of the running words; ability to anticipate meaning; freedom

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from tension in the reading situation; freedom from finger pointing, freedom from head movement; acceptable reading posture; silent reading to locate specific information characterized by a rate of comprehension substantially higher than that for oral reading, ability to use sight word techniques and word-analysis techniques for visual recognition of "new" reading words depending on the level of reading achievement; absence of vocalization; ability to identify mechanical difficulties requiring outside assistance; and oral reading performance followed by silent reading, characterized by proper phrasing, accurate interpretation of punctuation, use of conversational tone and a reasonable wide eye-voice span.

Frustration Level - There are ten general criteria at this level. They are: inability to pronounce ten per cent or more of the running words; inability to anticipate meaning; unfamiliarity with the facts discussed in the material; frequent or continuous finger pointing; distracting tension, such as frowning, blinking, excessive and erratic body movements and faulty breath control; withdrawal from the reading situation; unwillingness to attempt reading; easily distracted attention; silent reading characterized by a very low tone, inability to use context clues for pronunciation, excessive lip movement; and oral reading characterized by a lack of rhythm or word by word reading, failure to interpret punctuation, high pitched voice, irregular breathing, increased tendency to stutter, meaningless word substitution, repetition of words, insertion of words, partial and complete words reversals, omission of words and practically no eye-voice span.

Capacity Level - This level has five criteria. They include: a minimum comprehension score of at least seventy-five per cent, based on both factual and inferential questions; accurate pronunciation of words comprising the general and special vocabulary; precise use of words in describing
the facts; ability to supply from experience additional pertinent information on the problem under consideration; and ability to use language structure in oral discussion as complex as that used in the selection in question.

Betts further lists six assumptions which guided the preparation of the Informal Reading Inventory:

1. Independent reading should be done in materials that present relatively few mechanical or comprehension difficulties for the learner.

2. Independent reading usually should be done in materials that have a lower level of readability than those used for directed reading activities where intensive reading is required.

3. Systematic instruction in reading provided through carefully directed reading activities should be done in materials that are readable for the learner; that is, well below the level of readability at which the learner is frustrated.

4. Systematic instruction in reading provided through carefully directed reading activities usually should be done in materials that challenge the pupil with new learnings.

5. Hearing comprehension provides an index to capacity for reading. (It is further assumed that comprehension is highly related to the adequacy of the learner's statements describing the fact or facts).

6. Symptoms of reading difficulty increase in direct proportion to the increase in the difficulty of the material. (It is further assumed that symptoms of reading difficulty may be used as a basis

\[1\] Ibid., p. 444.
In a study by Killgallon using fourth grade pupils it was revealed that the standardized test of reading ability used placed pupils an average of one grade above their placement estimated from the reading inventory. The average estimated basal level was about first-reader level, and the average estimated instructional level was about third-reader level. The average estimated frustration level was about sixth-reader level, while the average estimated capacity level was about fifth-reader level. The instructional level was estimated to be at least two grades above the basal level. Most of the difficulties at the instructional level were noted as word perception errors. In addition, the reading and spelling phases of language were highly interrelated. Killgallon also found that on the average the ratio of word perception errors to the number of running words at the instructional level was one to twenty.

An investigation by Young using four types of materials in fifteen selections was made for the appraisal of immediate recall. He used four reading situations in grades four, five, and six. In situation one the teacher read aloud to the pupils; situation two required the teacher to read aloud while the pupils read silently; in situation three the pupils read the selection once silently at their own individual rate; and in situation four the pupils read the selection silently for the same amount of time assigned for the oral reading by the teacher. Dr. Young concluded that in general,

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children who do poorly in comprehending through reading do poorly in comprehending through hearing. No children were found to be in the highest quarter of one phase of language comprehension and in the lowest quarter of the other.

The DeLong\textsuperscript{1} report describes a workable plan used in a traditional school for promoting pupils in primary grades on the basis of reading levels. The core of this plan was the recognition of individual achievement levels in reading and the individual needs of the learners.

Much of the reporting along the line of individual reading instruction is concerned with the grouping of pupils for learning experiences. Individualized instruction does not mean that children always work alone in reading situations but that however guidance is presented it is geared to reach the learner through techniques which will broaden his reading abilities. O'Bannon\textsuperscript{2} writes that homogeneous grouping for reading on a large scale can be effective and at the same time cause serious difficulties. Three hundred and six pupils were classified into nine groups for reading classes. Within the lower group there was a wide range of capacity and ability problems.

There exists a scarcity of studies related to the one undertaken by this writer. However, there are numerous writers who substantiate the theories upon which "stages" and "levels" of reading are based.

Witty\textsuperscript{3} defines developmental reading as a "process which seeks to enable pupils to acquire the varied reading skills needed at different levels

\begin{footnotesize}


\end{footnotesize}
of growth to help them to intensify or extend worthwhile interests, and to enable them to satisfy developmental needs of tasks." In the light of the concepts and assumptions which have been discussed in this chapter, the following pages attempt to define and pinpoint the actual processes and results of a study of the mental abilities and reading "levels" and "stages" of those fourth grade pupils in this study.

**Summary.**--The writer has attempted to define and clarify the appraisal of reading development in terms of "levels" and "stages." Due to the lack of similar investigations the related literature was limited. This scarcity was interpreted as indicating the need for more research in this general area with elementary children. The study of Killgallon reported earlier in this chapter was the only similar study found and it was reported through Betts.

In the following chapter reading "levels" and "stages" will be further defined in terms of actual testing procedures and outcomes. While both concepts were interpreted as grade equivalents, "levels" referred to the performance in reading at an estimated point and "stages" were indicative of the continuous growth curve in reading which all children experience.
CHAPTER II

INTERPRETATION AND PRESENTATION OF DATA

General Introduction.—In this comparison of the reading "stages" and "levels" with mental ability the presentation and interpretation of data were outlined in terms of the major purposes of the study. Briefly, these purposes were to present the general distribution and central tendencies of the test data and to show the statistical significance between their relationships.

The three tests employed in this study were administered in three different testing situations. The California Achievement Test was given to the group by students of the Atlanta University System in a course in educational testing and measuring. This testing was carried on under the supervision of a competent psychologist, who was test consultant for the Oglethorpe Elementary School. This occurred as a part of the regular spring testing program. The Otis Quick-Scoring Mental Ability Test was administered by the writer as was the Betts Informal Reading Inventory. The former test was given during the first half of a school day in April about two weeks after the California Achievement Test was administered. The Inventory was given at various times during the first three weeks in June. These were administered individually and under the informal circumstances upon which the author insists.

The subjects in this group were very much at ease in the testing situation. In addition to regular teacher evaluations and a yearly school-wide
testing program, graduate students have often used pupils at various grade levels as subjects for educational research. The pupils looked forward to this experience with calm anticipation. Pupils were informed in advance when testing would take place and were told what kinds of test would be given and what information it was hoped the tests would reveal.

The statistical measures used in this study to interpret test data were selected as best suited for the samples considering their descriptive qualities and the limited number of pupils involved. The general distribution was of value in determining the grouping of the scores. The measures of central tendencies, the mean and median, provided descriptive analysis in terms of general tendencies toward normality of the distribution and designations of upper and lower halves of the distribution. The standard deviation was used as the measure of variability for further computations wherein comparison and relationship were involved. By way of correlation, the Pearson product-moment coefficient of correlation was used to show the relationship between "levels" of reading and mental ability and the "stages" of reading development and mental ability. For comparisons and relationships, the test for "t" was used at the five per cent level of confidence with forty-two degrees of freedom. The subsequent sections present and interpret the findings with the procedures described here.

Results from the California Achievement Test.---The California Achievement Test, Form BB, was administered in its entirety, but only the results of the Reading Section were available to this study. These scores gave an indication of the reading "stages" of each pupil and are summarized in Table 1. The general range of scores was from 1.7 to 7.7, with a median grade score of 5.3 and a mean grade score of 5.3. Above and below the mean
class interval the percentages were 31.81 and 36.35, respectively. Thirty-one and eighty-one hundredths per cent scored within the mean class interval. Although the range of grade scores was quite wide (7.0), the standard deviation of 1.5 indicated the group to be fairly homogeneous in the middle two-thirds of the distribution and permitted the group to approach normality in its general dispersion. Table 1 shows the distribution of these scores.

It should be noted, however, that this was an atypical group of fourth graders in a private elementary school situation.

**Table 1**

**Frequency and Percentage Distribution of the California Achievement Test Scores**

<table>
<thead>
<tr>
<th>Grade Scores</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
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<tbody>
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<tr>
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<td>6 - 6.9</td>
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<tr>
<td>5 - 5.9</td>
<td>7</td>
<td>31.82</td>
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<tr>
<td>4 - 4.9</td>
<td>4</td>
<td>18.18</td>
</tr>
<tr>
<td>3 - 3.9</td>
<td>2</td>
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<td>2 - 2.9</td>
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<td>4.54</td>
</tr>
<tr>
<td>1 - 1.9</td>
<td>1</td>
<td>4.54</td>
</tr>
</tbody>
</table>

| Extent of the range | 1.7 - 7.7 |
| Total range         | 7.0       |
| Median               | 5.3       |
| Mean                 | 5.3       |
| SE of mean           | 3.27      |
| SD                   | 1.5       |
| Mean grade equivalent| 5.3       |
The statistical interpretations of the data from this test revealed that fourteen pupils placed above the fourth grade in reading achievement. In terms of percentages, this number represented 63.62 per cent of the twenty-two individuals in the study. The four pupils whose performance placed them with in the fourth grade represented 18.18 per cent of the group, while the four pupils placing below fourth grade level made up 18.17 per cent. The mean showed that this group as a whole placed one-half grade above their actual grade placement.

In terms of reading "stages" as defined in this study, fourteen pupils were estimated as performing within the Intermediate or Low-maturity Stage of reading development. All of these individuals were not functioning with the same degree of efficiency at this "stage" even though they were reported as being within this area of performance. Most of the fourteen had developed the ability to read beyond their speaking rate. Over one-half were able to read material and outline or summarize the contents very satisfactorily. The other half made incomplete outlines or summaries but appeared to understand the process. Their lack of thoroughness stemmed from the inability to organize thought sequence as well as the other group. The whole group used the more advanced techniques of word-recognition; such as syllabication, contextual clues, the association of meanings with words which they recognized, the separation of words into usable recognition elements, the ability to distinguish visual, structural, and phonetic elements, and the ability to synthesize word parts visually or by blending auditorily. The reading interests in this group were varied and a wide variety of materials were used in and out of the classroom. They checked out from the school library approximately two-thirds of the books borrowed by this grade.

The five pupils reading at the Transitional Stage of reading development
were more advanced in silent reading skills than in oral reading. Only one was able to read above his speaking rate during the beginning of the year. Two others achieved this skill by the end of the year. All of this group except one showed every sign of making the transition from primary to intermediate reading. This individual had difficulty shedding many of the primary habits in reading for the more mature forms of reading. In general, these pupils were able to read, to an immature degree, for different purposes, to comprehend paragraph organization, to maintain a desirable eye-voice span in oral reading, to follow directions, to work out word-wholes from unfamiliar words, and to read in thought units. The reading interests of this group ranged from make-believe to true science stories.

There were only two pupils who scored at the Initial Stage of Independent Reading. Both of these individuals were repeating the fourth grade. One pupil had shown definite signs of reading growth. He made commendable strides in recognizing words and comprehending what he read. During the pre-reading he was able to grasp ideas and expand them to other experiences. His oral vocabulary far exceeded his reading and writing vocabulary. In the post-reading period he was alert for new ideas and most often gave comments which revealed he had been thinking constructively about the reading material. The second pupil was a slow learner. He took no pride in achieving new skills, made no effort to sound words, was unable to use the techniques of word study and analysis, and consequently was inattentive. Both pupils had a limited vocabulary, read word by word, often pointed and repeated in reading, and had difficulty with context clues.

The one pupil at the Beginning-reading Stage was a definite reading disability case. His general intelligence was above his record of achievement in any school grade. His attitude was a constant problem in the classroom. He was unable to work long in a group because he was contrary to
group discipline. He dawdled over any task whether it was self-chosen or represented a class assignment. The background and basis for this irregular behavior went beyond the limits of this study but were by no means overlooked in the school situation or at home.

The "stages" of reading development and the percentages of subjects performing at given "stages" are shown in Table 2.

**TABLE 2**

PERCENTAGE DISTRIBUTION OF "STAGES" OF READING DEVELOPMENT

<table>
<thead>
<tr>
<th>Stage</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beginning-reading</td>
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<tr>
<td>Initial-Independent</td>
<td>2</td>
<td>9.10%</td>
</tr>
<tr>
<td>Transitional</td>
<td>5</td>
<td>22.73%</td>
</tr>
<tr>
<td>Intermediate, Low-maturity</td>
<td>11</td>
<td>63.63%</td>
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<tr>
<td></td>
<td>22</td>
<td>100.00%</td>
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</table>

The Reading Section of the California Achievement Test is divided into two parts, Reading Vocabulary and Reading Comprehension. The Reading Vocabulary consists of four sub-tests: word form, word recognition, meaning of opposites, and meaning of similarities. The Reading Comprehension is composed of three sub-tests: following directions, reference skills, and interpretations. An examination of the scores from these sub-tests revealed that eleven subjects made perfect scores in word form, eight made perfect scores in word recognition, and there were no perfect scores for meaning of opposites nor for meaning of similarities. Five subjects made perfect
scores on following directions, two in reference skills, and none in interpretation. No subject had more than three perfect scores for the entire section. The four sub-tests for Reading Vocabulary yielded a mean grade score of 5.2. The highest possible score for word form was twenty-five and the mean class score was twenty-three. The highest possible score for word recognition was twenty, while the mean class score was sixteen. Twenty-three was the highest possible score for the meaning of opposites and the mean class score was fourteen. For meaning of similarities the highest attainable score was twenty-two, while the mean class score was eleven. The three sub-tests under Reading Comprehension revealed a mean grade score of 5.5. The highest score possible for following directions was ten and the mean class score was seven. In reference skills and interpretations, the highest possible scores were ten and twenty, while the mean class scores were six and twelve, respectively. The Total Reading mean grade equivalent was 5.3.

On the average these subjects performed with more efficiency on word form, word recognition, following directions, and reference skills, in the order named. The data from these sub-tests are described in Table 3.

Results from the Betts Informal Reading Inventory.—At the time the Betts Informal Reading Inventory was administered, a special sheet was used to record the performance of each subject. Another form was used for recording reading behavior, such as; lip movement, finger pointing, repetition of words or phrases, and other undesirable reading behavior. There were two sections of the inventory; and informal word-recognition inventory and the actual reading inventory which included reading selections of graded difficulty from first pre-primer to sixth grade.
# TABLE 3

Scores on Sub-tests of Reading Vocabulary and Reading Comprehension of the California Achievement Test showing mean class scores and mean grade equivalents.

<table>
<thead>
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<td>18</td>
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<tr>
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<td>7</td>
<td>1</td>
<td>1.6</td>
<td>0</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

Total 510 360 317 213 111.5 11.9 13.6 251 120.3 116.1
Mean 23 16 11.4 11 5.2 7 6 12 5.4 5.3
The words in the word-recognition section were presented pupils in two situations. The first showing was flashed for one second and the response recorded. A check was placed in the appropriate column if the word was pronounced correctly. If the pupil missed the word it was again exposed untimed and this response recorded in another column. Ninety-five per cent of the words at a given level should be achieved before the pupil is ready to advance to the next level. The scores of this inventory were not averaged in the scores for performance at various reading "levels" because many pupils were able to pronounce isolated words but unable to read them in materials at that level. In addition, the isolated word-recognition test provided a relatively usable index in the lower grades but it is decreasingly valid at higher levels of achievement. However, the scores were utilized in the evaluation of general reading performance.

The actual reading inventory solicited information in two reading situations, oral and silent. Comprehensive questions were asked by the examiner at the end of each selection. These answers were recorded verbatim on the individual test sheets. The Betts Reading Series was the source for the reading selections. Subjects read from the text during the testing.

The reading inventory was administered in its entirety. These scores gave an indication of the reading "levels" of pupils and are summarized in Table 4. The general range of scores was from 2.8 to 8.8, with a median grade score of 5.7 and a mean grade score of 5.8. Above and below the mean class interval the percentages were 14.11 and 27.64, respectively. Twenty-seven and twenty-five hundredths per cent scored within the mean class interval. The standard deviation of 1.6 indicated that the group was fairly homogeneous within the middle two-thirds of the distribution. The conclusion reached by the writer was that this group approached normality in its
general dispersion.

The informality of the inventory permitted some lee-way in improvising a more definite system for scoring in order to compare these data with other measures in the study. For the purpose of this thesis, performance at each reading "level" was converted into grade equivalents which were then averaged and used as the total score of reading "level." Table 4 presents the data from the inventory.

### TABLE 4

**FREQUENCY AND PERCENTAGE DISTRIBUTION OF SCORES MADE ON THE BETTS INFORMAL READING INVENTORY**

<table>
<thead>
<tr>
<th>Grade Level</th>
<th>Frequency</th>
<th>Percentage</th>
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<td>8 - 8.9</td>
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</tr>
<tr>
<td>3 - 3.9</td>
<td>1</td>
<td>4.54</td>
</tr>
<tr>
<td>2 - 2.9</td>
<td>2</td>
<td>9.10</td>
</tr>
<tr>
<td>1 - 1.9</td>
<td>0</td>
<td>0.00</td>
</tr>
</tbody>
</table>

**Total** 22 100.00

- Extent of the Range . . . . . . 2.6 - 8.8
- Total Range . . . . . . . . . . . . 7.2
- Median . . . . . . . . . . . . . . 5.7
- Mean . . . . . . . . . . . . . . 5.8
- SE of Mean . . . . . . . . . . . . . . . . 3.4
- SD . . . . . . . . . . . . . . . . . 1.6
- Mean reading "level" . . . . . . 5.7
The statistics showed that sixteen pupils scored above the fourth grade in regard to reading "levels." In terms of percentages this number represented 72.00 per cent of the subjects. Three of the pupils placed at the fourth grade level which made up 11.00 per cent while the three below fourth grade yielded a percentage of 11.00.

General statements concerning estimated reading "levels" within this group revealed that at the Basal Level thirteen pupils were reading above the grade placement; three were reading at some point in the fourth grade; three were estimated at a grade below fourth; and one was two grades below placement. Of the thirteen pupils above the fourth grade level; one was four grades above grade placement; three were three grades above placement; one was two grades above grade placement; three were one-half grade above placement; and five were reading at beginning fifth grade. This "level" characterized the grade levels at which pupils were able to read independently with full understanding and freedom from mechanical difficulties.

The Instructional Level revealed that the estimated grade equivalents placed fifteen pupils above the fourth grade level; four at some point in the fourth grade; one a grade below grade placement; and two two grades below the fourth grade. In the first group, one pupil scored four grades above the grade placement; three scored three grades above; five scored two grades above and six placed one grade above grade placement. This "level" represents the basis for instruction designed to fulfill the reading needs of individuals.

The Frustration Level results rated sixteen pupils above the fourth grade level; four within the fourth grade; and two one grade below fourth. In terms of grades scored above grade placement; three pupils estimated placements one-half grade above; three one grade above; four two grades
above; two three grades above; three four grades above; and one five grades above. Those pupils below grade placement were estimated at; three one-half grade below placement; one one grade below, one one and one-half grade below; and one two grades below placement. This "level" is characterized by the inability pupils to handle the reading materials.

At the Capacity Level, twenty individuals scored above the fourth grade level, and two scored within this grade placement. At this "level" individuals were rated on their ability to comprehend materials read to them.

In summarizing reading "levels," the statistics revealed that there was an increase in abilities from the Basal to the Capacity Levels which raised the means at all "levels" accordingly. In Tables 5 and 6 an effort was made to show percentage distributions from "level" to "level" and the relationship of scores from "level" to "level."

**TABLE 5**

<table>
<thead>
<tr>
<th>Levels</th>
<th>Per Cent Above</th>
<th>Per Cent Within</th>
<th>Per Cent Below</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basal</td>
<td>59.10</td>
<td>14.00</td>
<td>27.00</td>
</tr>
<tr>
<td>Instructional</td>
<td>68.00</td>
<td>18.00</td>
<td>11.00</td>
</tr>
<tr>
<td>Frustration</td>
<td>73.00</td>
<td>18.00</td>
<td>9.00</td>
</tr>
<tr>
<td>Capacity</td>
<td>90.00</td>
<td>9.10</td>
<td>-</td>
</tr>
</tbody>
</table>

In order to extend the interpretation of "level" of reading development a reproduction was made of the diagnostic silent reading chart. The figures represent the percentage of pupils having difficulties at given "levels" and are shown in Table 7. In cases where no percentages were
TABLE 6

SCORES ON THE BETTS INFORMAL READING INVENTORY IN TERMS OF SPECIFIC "LEVELS" WITH THE ARITHMETIC MEANS COMPUTED

<table>
<thead>
<tr>
<th>Pupil</th>
<th>Basal</th>
<th>Instructional</th>
<th>Frustration</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>8.0</td>
<td>8.5</td>
<td>9.0</td>
<td>10.0</td>
</tr>
<tr>
<td>B</td>
<td>7.0</td>
<td>7.5</td>
<td>8.0</td>
<td>9.0</td>
</tr>
<tr>
<td>C</td>
<td>7.0</td>
<td>7.5</td>
<td>8.0</td>
<td>10.0</td>
</tr>
<tr>
<td>D</td>
<td>7.0</td>
<td>7.5</td>
<td>7.5</td>
<td>9.0</td>
</tr>
<tr>
<td>E</td>
<td>6.0</td>
<td>6.5</td>
<td>7.5</td>
<td>9.0</td>
</tr>
<tr>
<td>F</td>
<td>5.5</td>
<td>6.0</td>
<td>6.5</td>
<td>8.0</td>
</tr>
<tr>
<td>G</td>
<td>5.5</td>
<td>6.0</td>
<td>6.5</td>
<td>9.0</td>
</tr>
<tr>
<td>H</td>
<td>5.5</td>
<td>6.0</td>
<td>7.5</td>
<td>8.0</td>
</tr>
<tr>
<td>I</td>
<td>5.0</td>
<td>6.0</td>
<td>6.0</td>
<td>7.0</td>
</tr>
<tr>
<td>J</td>
<td>5.0</td>
<td>5.5</td>
<td>7.0</td>
<td>8.0</td>
</tr>
<tr>
<td>K</td>
<td>5.0</td>
<td>5.5</td>
<td>6.0</td>
<td>7.0</td>
</tr>
<tr>
<td>L</td>
<td>5.0</td>
<td>5.5</td>
<td>6.0</td>
<td>7.0</td>
</tr>
<tr>
<td>M</td>
<td>5.0</td>
<td>5.5</td>
<td>5.5</td>
<td>7.0</td>
</tr>
<tr>
<td>N</td>
<td>4.5</td>
<td>5.0</td>
<td>5.5</td>
<td>7.0</td>
</tr>
<tr>
<td>O</td>
<td>4.5</td>
<td>5.0</td>
<td>5.5</td>
<td>7.0</td>
</tr>
<tr>
<td>P</td>
<td>4.0</td>
<td>4.5</td>
<td>4.5</td>
<td>5.0</td>
</tr>
<tr>
<td>Q</td>
<td>3.5</td>
<td>4.0</td>
<td>4.5</td>
<td>5.0</td>
</tr>
<tr>
<td>R</td>
<td>3.0</td>
<td>4.0</td>
<td>4.5</td>
<td>6.0</td>
</tr>
<tr>
<td>S</td>
<td>3.0</td>
<td>4.0</td>
<td>4.5</td>
<td>5.0</td>
</tr>
<tr>
<td>T</td>
<td>2.0</td>
<td>3.0</td>
<td>4.0</td>
<td>6.0</td>
</tr>
<tr>
<td>U</td>
<td>1.0</td>
<td>2.5</td>
<td>3.5</td>
<td>1.5</td>
</tr>
<tr>
<td>V</td>
<td>1.0</td>
<td>2.0</td>
<td>3.0</td>
<td>1.5</td>
</tr>
</tbody>
</table>

| Totals | 103.0 | 117.0 | 132.5 | 160.5 |
| Means  | 4.7   | 5.3   | 6.0   | 7.3   |
### TABLE 7
DETAILED INFORMAL INVENTORY OF SILENT READING DIFFICULTIES REPORTED
IN TERMS OF GRADE LEVELS OF MATERIALS READ

<table>
<thead>
<tr>
<th>Difficulty</th>
<th>Level of Readability of Selections</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>I</td>
</tr>
<tr>
<td>1. Comprehension</td>
<td></td>
</tr>
<tr>
<td>a. Objective test score</td>
<td>9.10</td>
</tr>
<tr>
<td>b. Inability to state main idea</td>
<td>9.10</td>
</tr>
<tr>
<td>c. Inaccurate recall of details</td>
<td>9.10</td>
</tr>
<tr>
<td>d. Inaccurate recall of sequence of ideas</td>
<td>9.10</td>
</tr>
<tr>
<td>e. Faulty inferences</td>
<td>9.10</td>
</tr>
<tr>
<td>f. Lacks versatility</td>
<td>14.54</td>
</tr>
<tr>
<td>2. Rate</td>
<td></td>
</tr>
<tr>
<td>a. Estimated slow rate</td>
<td>14.54</td>
</tr>
<tr>
<td>3. Location of Information</td>
<td></td>
</tr>
<tr>
<td>a. Inability to use table of contents</td>
<td></td>
</tr>
<tr>
<td>b. Inability to use index</td>
<td></td>
</tr>
<tr>
<td>c. Inability to use glossary</td>
<td></td>
</tr>
<tr>
<td>d. Inability to use dictionary</td>
<td></td>
</tr>
<tr>
<td>4. Vocalization</td>
<td></td>
</tr>
<tr>
<td>a. Silent lip movement</td>
<td>9.10</td>
</tr>
<tr>
<td>b. Whisper</td>
<td>9.10</td>
</tr>
<tr>
<td>c. Low voice utterance</td>
<td>9.10</td>
</tr>
<tr>
<td>d. Oral reading only</td>
<td></td>
</tr>
<tr>
<td>5. Finger Pointing</td>
<td></td>
</tr>
<tr>
<td>6. Head Movements</td>
<td></td>
</tr>
<tr>
<td>7. Tension Movements (hands, feet, legs, body)</td>
<td></td>
</tr>
<tr>
<td>8. Posture</td>
<td></td>
</tr>
<tr>
<td>9. Visual Inefficiency</td>
<td></td>
</tr>
</tbody>
</table>
recorded, pupils had all achieved some measure of success in accord with reading development at a particular level. The "levels" are coded "P" for primer, "I" for first reader, et cetera.

The Results from the Otis Quick-Scoring Mental Ability Test.—The Otis Quick-Scoring Mental Ability Test, Form EM of the Beta Test, was administered in its entirety. The raw scores were converted into Intelligence Quotients for measures of distribution and correlation. A summary of the group Intelligence Quotients is found in Table 8.

### TABLE 8

**FREQUENCY AND PERCENTAGE DISTRIBUTION OF THE OTIS-QUICK SCORING MENTAL ABILITY TEST SCORES**

<table>
<thead>
<tr>
<th>Intelligence Quotient</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>123 - 125</td>
<td>1</td>
<td>4.50</td>
</tr>
<tr>
<td>120 - 122</td>
<td>3</td>
<td>11.00</td>
</tr>
<tr>
<td>117 - 119</td>
<td>2</td>
<td>9.00</td>
</tr>
<tr>
<td>111 - 116</td>
<td>2</td>
<td>9.00</td>
</tr>
<tr>
<td>111 - 113</td>
<td>2</td>
<td>9.00</td>
</tr>
<tr>
<td>108 - 110</td>
<td>3</td>
<td>11.00</td>
</tr>
<tr>
<td>105 - 107</td>
<td>2</td>
<td>9.00</td>
</tr>
<tr>
<td>102 - 104</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>99 - 101</td>
<td>1</td>
<td>4.50</td>
</tr>
<tr>
<td>96 - 98</td>
<td>1</td>
<td>4.50</td>
</tr>
<tr>
<td>93 - 95</td>
<td>2</td>
<td>9.10</td>
</tr>
<tr>
<td>90 - 92</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>87 - 89</td>
<td>1</td>
<td>4.50</td>
</tr>
<tr>
<td>84 - 86</td>
<td>1</td>
<td>4.50</td>
</tr>
<tr>
<td>81 - 83</td>
<td>1</td>
<td>4.50</td>
</tr>
</tbody>
</table>

| Total                 | 22        | 100.00     |

**Extent of the Range** 82 - 124
**Median** 109.5
**Mean** 107.1
**SE of Mean** 2.7
**SD** 12.2
**Mean IQ** 107
**Total range** 43
The general range of IQ's was from 82 - 124, with a median IQ of 109.5 and a mean IQ of 107.1. Above and below the mean IQ the percentages were 59.50 and 31.50, respectively. Within the interval containing the mean IQ, 9.00 per cent of the pupils were situated. Although the range of scores was wide (143) and the standard deviation (12.2) revealed a fairly wide dispersion of IQ's, the writer felt justified in correlating mental capacity with reading "levels" and "stages" because the dispersion of IQ's in various populations aggregating 100,000 pupils showed standard deviations ranging from 10 to 19 points of IQ with a median value of standard deviations of IQ ranging between 15 and 16 points. In the table which Otis sets up of the per cent of pupils making IQ's from those tested in his study, only 1.60 per cent scored above the mean IQ.1

Measures of relationship between the basic variables in the study.—
The reading test results were correlated with the results from the mental ability test. The Pearson product-moment coefficient of correlation ("r") was used to determine to what extent mental ability and reading "stages" were related. A high positive correlation of .88 was found to exist between these two variables. Similarly the correlation was computed for reading "levels" and mental ability and the "r" of .78 was very near the same high positive level. When these respective correlations were checked in a table which designated coefficients of correlation significant at the 1 per cent level of confidence, both obtained "r's" were far above the .390 required, with 42 degrees of freedom. This is shown in Table 9.

A comparison of the relationship between the two sets of data was achieved by transforming the "r's" to "z" values. The difference in "z"

---

TABLE 9
CORRELATION VALUES AND SIGNIFICANCE BETWEEN READING "LEVEL" AND "STAGES" AND MENTAL ABILITY

<table>
<thead>
<tr>
<th>Factors Correlated</th>
<th>Value &quot;r&quot;</th>
<th>SE of &quot;r&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Stages&quot; and Mental Ability</td>
<td>.88</td>
<td>.16</td>
</tr>
<tr>
<td>&quot;Levels&quot; and Mental Ability</td>
<td>.78</td>
<td>.08</td>
</tr>
</tbody>
</table>

values was .33 and the resulting "t" amounted to 1.01. A "t" this low would lead one to state that there was no statistical difference between the two sets of correlation, as shown in Table 10.

TABLE 10
COMPARISON OF RELATIONSHIPS BETWEEN READING "STAGE" AND "LEVEL" WITH MENTAL ABILITY

<table>
<thead>
<tr>
<th>Compared Variables</th>
<th>Value of &quot;r&quot;</th>
<th>Value of &quot;z&quot;</th>
<th>SE of &quot;z&quot;</th>
<th>&quot;t&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stages and Mental Ability</td>
<td>.88</td>
<td>1.38</td>
<td>.38</td>
<td>.32</td>
</tr>
<tr>
<td>Levels and Mental Ability</td>
<td>.78</td>
<td>1.05</td>
<td>.05</td>
<td>.01</td>
</tr>
</tbody>
</table>

* A "t" of 2.018 or greater was required for significance at the 5 percent level of confidence with 42 degrees of freedom.

In terms of relationship, reading "stages" and "levels" show a positive marked relationship. In evaluating reading development, one might use either "stages" and "levels" and expect about the same results in reference to development and mental ability. Whatever difference exists
would appear to favor "stages" of reading development over "levels" of reading.
CHAPTER III

SUMMARY AND CONCLUSIONS

Problem and Methodology.--A reading program must provide for the individual abilities of pupils if an optimum growth is to be achieved. There must be genuine understanding and sagacious guidance for all pupils at all levels of ability.

In order to achieve this kind of functional program in reading, teachers need to constantly evaluate pupil progress to ascertain the degree to which the reading program is satisfying the needs of the individuals involved. This evaluation should include a variety of testing instruments and personal data in order to be effective. It is equally important to keep in mind the basic concepts of growth and how learning takes place.

The two processes of evaluating reading development employed in this study were outgrowths of a concentrated effort by reading specialists to re-examine methods for determining reading status and the effectiveness of instruction in elementary pupils. As a result reading "levels" and "stages" take into consideration the total growth patterns and needs of individual children.

The problem with which this study deals was the result of the realization by the writer that the fourth grade was a crucial period in reading development. The United States census defines "literacy" as the ability to read at least at the typical fourth grade level.

The purposes of the study were achieved through the answering of the following questions:
1. What were the characteristics of subjects' performance on the California Achievement Test and what reading "stages" were represented?

2. What was the nature of performance on the Betts Informal Reading Inventory and at what "levels" of reading did these subjects reveal independence in reading, need for basic instruction, ability to understand material that was read to them, and frustration in attempting to read material?

3. What were the distinguishing features of the subjects' performance on the Otis Quick-Scoring Mental Ability Test?

4. What were the relationships between subjects' reading "stages" and mental ability?

5. What were the relationships between subjects' reading "levels" and mental ability?

6. How did these relationships compare with each other?

7. What was the point of view of the operational and instructional reading program through which these pupils came?

8. To what extent did the existing program seem to have been effective in the light of this study?

9. What were the implications and suggestions for an improved program?

The materials used in this study served as a background for securing pertinent information and data as well as a foundation for the descriptive and analytical framework. These materials were:

1. The California Achievement Test
2. The Betts Informal Reading Inventory
3. The Otis Quick-Scoring Mental Ability Test

This study employed the descriptive techniques of research. The data was gathered, described, and presented as illustrated in the following
operational steps:

1. Further review of related literature
2. Assemblage and presentation of data
3. Interpretation of data in terms of "levels" and "stages" of reading development
4. Construction of percentage tables indicating number of pupils at various "levels" and "stages"
5. Graphic presentation of data using the range, mean, median, standard deviation, and the Pearson product-moment coefficient of correlation
6. Conclusions reached as a result of the accumulated data and statistical measures
7. Implications pointed out through the research and conclusions
8. Recommendations presented in terms of suggestions for improvement in the present organizational and instructional procedures

This study took place in the Oglethorpe Elementary School which was a department of the Atlanta University School of Education, Atlanta, Georgia. The subjects were the twenty-two pupils of the fourth grade.

The concern of this investigation was the scores on reading achievement, the estimated scores of reading "levels," and the indications of mental capacity of these twenty-two subjects and a comparison of the statistical measures obtained in order to evaluate the present organizational and instructional procedures in reading.

Survey of the literature.—The review of the literature gave credit to the child study movement as the guiding hand toward the newer approaches to reading instruction. As a result educators began to stress more fervently the individual needs of pupils. It was this kind of rational outlook which
linked the development of reading abilities with the physical, mental, and social development in children. A point for determining what was to be taught was the developmental traits and needs of children. But before this could be accomplished, there had to be acceptable methods employed for ascertaining specific abilities and inabilities. In order to achieve a more thorough evaluation of reading progress, Russell\(^1\) and Betts\(^2\), using "stages" and "levels" of reading, combined the concepts of growth and learning with systematic individualized methods of instruction. These approaches recognize the characteristics of children at various phases of growth and the implications for reading.

In many instances there had been a change in point of view and a re-vamping of reading programs to meet the needs of pupils. Unfortunately these instances have been too few. There still exists a lag between knowledge and practice. Witty\(^3\) writes:

> Perhaps the greatest problem of the modern school grows out of the range of individual differences within classes and the varied purposes for which pupils must read. This problem is reflected by the serious reading retardation of many pupils in the middle grades of the elementary school. In order to take their places as worthy citizens of tomorrow, pupils in our schools today must be lead to comprehend and evaluate the facts presented in varied printed forms. Through such an approach, it is possible to equip young people for responsible citizenship.

**Summary of findings.**—An analysis and interpretation of test data revealed the following information:

---

1. The California Achievement revealed a few extreme scores at either end of the distribution but a general clustering of pupils' scores around the mean grade score, 5.5. The group averaged one-half grade above grade placement. One pupil placed at the Beginning-reading Stage, two placed at the Initial Stage of Independent Reading, five placed at the Transitional Stage, and fourteen placed at the Intermediate or Low-maturity Stage.

2. The Betts Informal Reading Inventory showed less skewness in the distribution of scores and closer grouping around the mean grade score of 5.8. Often Instructional and Capacity Levels may be at or near the same grade level. However, this was not generally true in this study. On the average the group placed one grade above grade placement. At the Basal Level of reading achievement thirteen pupils were estimated above fourth grade reading level, three were estimated within this grade, and six pupils were estimated below fourth grade. The Instructional Level revealed fifteen subjects were estimated as reading above the fourth grade; four were estimated as reading within the fourth grade; and three were reading below fourth grade. At the Frustration Level sixteen subjects were estimated as reading above fourth grade; four were within the range of fourth grade; and two were below fourth grade. The Capacity Level revealed that twenty subjects were estimated as being above fourth grade comprehension while two were estimated as being within the fourth grade area of comprehension.

3. The Otis Quick-Scoring Mental Ability Test revealed a mean IQ of 107.1. In terms of individual IQ's; four pupils ranked as superior; seven were above average; five were average; and six reported
IQ's between 95 and 82. Approximately seventy-three per cent of these pupils were average or above in mental capacity. In a study made by Otis only 4.60 per cent scored above an IQ of 110.

1. There was a high degree of relationship between performance of reading development in terms of "stages" and mental ability. Those subjects whose mental ability was above average generally showed above average performance in reading "stage."

5. A high degree of relationship existed between reading "levels" and mental ability. Those individuals who scored above grade placement in reading "levels" generally ranked above average in mental capacity.

6. In comparing the relationship between reading "stage" and mental ability and reading "level" and mental ability it was concluded that there was no real difference between the two sets of correlations. One might easily use either "stage" or "level" with equal reliability in determining reading progress.

7. The point of view of the organizational and instructional program through which these pupils came was in direct accord with the modern concepts of reading. Instruction was individualized to afford greater optimum growth of pupils in reading. A process of diagnosis, guidance, and appraisal was in constant operation at all levels. Folders containing cumulative records of personal data were passed from grade to grade. From time to time teachers at various levels appraised and discussed reading progress.

8. In the light of this study the existing reading program seemed to have been effective to a large measure. No doubt the exceptionally bright pupil needed more guidance. In a few instances at the
fourth grade level in particular, too much time was consumed with pupils who had reading difficulties and not enough time devoted to those individuals who required no remedial procedures. This fact is substantiated by the relationship between Instructional and Capacity Levels of reading. It would seem that more concentrated attention on the advanced readers there would have revealed less difference between "levels" of instruction and capacity.

9. The implications for an improved program point to establishing special emphasis on broadening the reading experiences of the exceptionally alert pupil and retaining the present attitude of administering to those pupils with reading problems.

Conclusions.—From the data obtained in this study, the following conclusions were warranted:

1. In terms of evaluating pupils' reading development "levels" of reading ability and indications of mental capacity yield useful indices for the basis of instructional procedures.

2. In terms of evaluating reading progress, "stages" of reading development reveal vital information necessary for defining individual differences.

3. The informal reading inventory presents a more thorough picture of the reading development of pupils because it delineates performance at four distinct "levels" and brings into clearer focus the difficulties experienced in performing reading tasks.

4. An indication of the mental capacity is necessary in order to determine whether reading progress made by pupils is indicative of what can be expected of them in terms of their ability to achieve. This eliminates pushing children beyond their capabilities and
emphasizes the need for stimulating each individual to an optimum of performance. In this study the instances wherein mental ability exceeded "stages" and "levels" were significant and challenging.

5. Reading competences within a grade present a wide range of abilities and inabilities.

6. Evaluating pupil progress is the only way of determining the effect of instructional methods upon the pupils involved.

Implications.---This thesis holds certain implications for those persons concerned with evaluating reading in the elementary school.

An important aspect of the reading program in today's schools is the need for more intensive plans of evaluation. This entails more than pupil evaluation; it means examining the organizational and instructional program as well. It means re-evaluating existing policies in order to determine whether the changes which these procedures brought about were desirable and adequate.

The adequacy of a reading program must be made in terms of its flexibility. All fourth grade pupils would not require identical teaching procedures any more than they would all weigh eighty pounds. Some concepts will be introduced to some pupils for the first time while others will concentrate upon extending these same concepts which they have already acquired. If reading experiences are to contribute to the growth of individuals there must be definite awareness on the part of teachers concerning the kind of stimuli children need for desirable reading growth.

In regard to the reading "stages" and "levels" in this study it would seem that many of these pupils have received only a minimum of stimulation in terms of what might be expected of a group with similar Intelligence Quotients and under similar teaching conditions.
Recommendations.—The recommendations which this writer makes here must of necessity apply directly to the level at which this study was initiated. However, assuming that reading instruction at this level was guided by the overall program in reading at this school, the recommendations may surely be indicative of needs at other levels, also.

1. There is a need for a more closely knit organization of purposes in reading as a whole.

2. Children who are reading at either extremes of the distribution should have more opportunities for concentrated instruction at their reading levels.

3. The initiation of a more thorough testing program in reading at the beginning of the school year and again near completion would be beneficial to both pupils and teachers.

4. The writer further recommends that parents be confronted with their responsibility in stimulating desirable reading habits and that they are informed of the kinds of behavior in reading this program is attempting to stimulate among pupils.

This thesis represents only a fragment of the kind of evaluating in reading called for in the elementary school. Evaluation must be a continuous process if it is to be effective. It must translate the whole reading program into those desirable changes in behavior patterns toward which pupils and teachers must strive.
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Books


Articles


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Braxton, Mattie Belle. "The Effectiveness of Specific Drill on Reading Difficulties of Thirty-four Pupils in Two One-Teacher Schools in Montgomery County, Georgia." Unpublished Master's thesis, Department of Education, Atlanta University, 1946.


Yearbooks

APPENDIX
Reading

INSTRUCTIONS TO STUDENTS:
This is a reading test. In taking it you will show how many words you know and how well you understand what you read. No one can do the whole test correctly, but you should answer as many items as you can. Work as fast as you can without making mistakes.

DO NOT WRITE OR MARK ON THIS TEST BOOKLET UNLESS TOLD TO DO SO BY THE EXAMINER.
DIRECTIONS: If two words are the same or mean the same, mark S as you are told. If they are different or mean different things, mark D.

SAMPLE: A. dog.........dog dog........S........dog A S D
SAMPLE: B. boy.........girl boy........S........girl B S D

TEST 1 — SECTION A

1. run........have
2. fire........fire
3. mother........mother
4. boy........bay
5. chloride........chloride
6. engrave........engrave
7. distrust........district
8. glossary........gloomy
9. league........league
10. shriek........shrub
11. ponder........poplar
12. whither........weather
13. forceps........forceps
14. manipulation........manifestation
15. interpellation........interpolation
16. WARRIOR........WARRIOR
17. PLAIN........PLAIT
18. PLEASANT........PLEASANT
19. HEMORRHAGE........HEMISPHERE
20. subterranean........SUBTERRANEAN
21. PINK........PICK
22. THROUGH........thorough
23. vaccination........VOCIFERATION
24. straighten........straighten
25. miraculous........miraculous

STOP NOW WAIT FOR FURTHER INSTRUCTIONS

Sec. A Score (number right)........................
DIRECTIONS: Look at the words which are given on the lower part of this page. Each line is numbered and each word has a smaller number, 1, 2, 3, or 4 in front of it. There are four words on each line. The examiner will pronounce one word from each line. You are to mark as you are told the number of the word that is pronounced.

PRACTICE EXERCISE

SAMPLE: C. 1 cow 2 horse 3 dog 4 goat
In this sample the word is dog, so the 3 is marked.

SAMPLE: D. 1 run 2 jump 3 throw 4 swing
You are to mark the number of the word that was pronounced. It is number 4.

TEST 1 — SECTION B

Mark as you have been told the number of the word pronounced.

26. 1 this 2 tree 3 my 4 ball
27. 1 grand 2 growl 3 grunt 4 great
28. 1 wrath 2 wreck 3 wrist 4 write
29. 1 Tuesday 2 Wednesday 3 Thursday 4 Monday
30. 1 singeing 2 moulting 3 chattering 4 singing
31. 1 June 2 January 3 July 4 August
32. 1 thoroughfare 2 throughout 3 through 4 thought
33. 1 practice 2 precious 3 prairie 4 practical
34. 1 warship 2 watch 3 waness 4 warrant
35. 1 electrocute 2 efficient 3 elimination 4 elasticity
36. 1 premium 2 political 3 public 4 primary
37. 1 blizzard 2 blight 3 bluster 4 blotch
38. 1 associate 2 acquire 3 avenue 4 arrival
39. 1 YIELD 2 YOUNG 3 YACHT 4 YAM
40. 1 WHARF 2 WHISTLE 3 wholesale 4 whirl
41. 1 recipe 2 recital 3 regime 4 receipt
42. 1 carnival 2 contagious 3 cautious 4 cafeteria
43. 1 MASSACRE 2 menagerie 3 material 4 maximum
44. 1 chauffeur 2 chloroform 3 chapeau 4 charlatan
45. 1 rheometer 2 pneumonia 3 rheumatic 4 pneumatics

Page 4
CER-BB

STOP NOW WAIT FOR FURTHER INSTRUCTIONS

Sec. B Score (number right)........................................
DIRECTIONS: Mark as you are told the number of the word that means the opposite or about the opposite of the first word.

SAMPLE: E. little 1 blue 2 run 3 big 4 rich 3 E

<table>
<thead>
<tr>
<th>TEST 1 — SECTION C</th>
</tr>
</thead>
<tbody>
<tr>
<td>46. high</td>
</tr>
<tr>
<td>47. give</td>
</tr>
<tr>
<td>48. cry</td>
</tr>
<tr>
<td>49. strong</td>
</tr>
<tr>
<td>50. sweet</td>
</tr>
<tr>
<td>51. youth</td>
</tr>
<tr>
<td>52. hastily</td>
</tr>
<tr>
<td>53. safety</td>
</tr>
<tr>
<td>54. attack</td>
</tr>
<tr>
<td>55. below</td>
</tr>
<tr>
<td>56. despair</td>
</tr>
<tr>
<td>57. tame</td>
</tr>
<tr>
<td>58. solid</td>
</tr>
<tr>
<td>59. east</td>
</tr>
<tr>
<td>60. aloud</td>
</tr>
<tr>
<td>61. dainty</td>
</tr>
<tr>
<td>62. inferior</td>
</tr>
<tr>
<td>63. peril</td>
</tr>
<tr>
<td>64. victor</td>
</tr>
<tr>
<td>65. sad</td>
</tr>
<tr>
<td>66. unseen</td>
</tr>
<tr>
<td>67. traitor</td>
</tr>
<tr>
<td>68. expensive</td>
</tr>
</tbody>
</table>
DIRECTIONS: Mark as you are told the number of the word that means the same or about the same as the first word.

SAMPLE: F. large 1 pretty 2 run 3 big 4 rich 3 _ F

<table>
<thead>
<tr>
<th>TEST 1 — SECTION D</th>
</tr>
</thead>
<tbody>
<tr>
<td>69. enemy 1 thicken</td>
</tr>
<tr>
<td>70. promise 1 compact</td>
</tr>
<tr>
<td>71. lie 1 amateur</td>
</tr>
<tr>
<td>72. trade 1 merchant</td>
</tr>
<tr>
<td>73. hard 1 deed</td>
</tr>
<tr>
<td>74. wit 1 hail</td>
</tr>
<tr>
<td>75. calm 1 stucco</td>
</tr>
<tr>
<td>76. industry 1 business</td>
</tr>
<tr>
<td>77. consent 1 love</td>
</tr>
<tr>
<td>78. speech 1 defend</td>
</tr>
<tr>
<td>79. prophet 1 mangle</td>
</tr>
<tr>
<td>80. settlement 1 location</td>
</tr>
<tr>
<td>81. hush 1 keen</td>
</tr>
<tr>
<td>82. freight 1 allow</td>
</tr>
<tr>
<td>83. physician 1 doctor</td>
</tr>
<tr>
<td>84. magnificent 1 purchase</td>
</tr>
<tr>
<td>85. abolish 1 ocean</td>
</tr>
<tr>
<td>86. plenty 1 wonder</td>
</tr>
<tr>
<td>87. tray 1 container</td>
</tr>
<tr>
<td>88. amuse 1 fertile</td>
</tr>
<tr>
<td>89. hatred 1 haul</td>
</tr>
<tr>
<td>90. lecture 1 pulpit</td>
</tr>
</tbody>
</table>
91. By crossing out two letters you can make count out of the word, country. Mark the number of the two letters which would be crossed out.

1 ry 2 ct 3 nu 4 cy —91

92. Find the name of the largest animal and mark its number.

1 dog 2 rat 3 cow 4 sheep —92

93. Some of the Roman numerals and their values are:

IX = 9  XIX = 19  
XX = 20  XXI = 21

Mark the letter of the Roman numeral for 20.

a XIX  b XX  c IX  d XXI —93

94. Mark the number of the seventh word in this sentence.

1 third 2 word 3 the 4 in —94

95. Mark the letter which must be added to hors to make horse.

i a s e —95

96. Mark the sixth letter of the last word in this sentence.

e a n r t —96

97. Read the following names:

Marie  Arthur  Richard  Mary

Mark the number which shows the first letter of the girls' names.

1 A  2 M  3 R —97

98. Read these numbers:

6 3 4 8 5 2 1 9 0

Mark the letter of the third number to the right of 8.

a 1  b 9  c 6  d 3 —98

99. When two words are spoken as one, the shortened form is a contraction. The apostrophe denotes the missing letter; such as can not, can't. Mark the number of the word meaning do not in the form of a contraction.

1 can't 2 do not 3 doesn't 4 don't —99

100. The suffix ness is used to form nouns meaning state or quality of being; such as sick, sickness. Mark the number of the word which has the suffix ness added to the word, white.

1 sickness 2 ness 3 whiteness 4 white —100

STOP

NOW WAIT FOR FURTHER INSTRUCTIONS.
TEST 2 — SECTION F

101. The preface is found in what part of a book?
   1 beginning  2 middle  3 end ——101

102. The index is found in what part of a book?
   1 beginning  2 middle  3 end ——102

103. Help would come next after
   1 bird  2 king  3 yard ——103

104. Pail would come next after
   1 quiet  2 jar  3 king ——104

105. Mark the letter of the page which shows where “Transportation” begins.
   a 1 b 19 c 43 d 50 ——105

106. Mark the number which shows what story begins on page 88.
   1 Poultry and Eggs  2 Communication  3 Transportation ——106

107. Mark the number which shows to which chapter the material on page 38 belongs.
   1 2 3 4 5 ——107

Look at this partial index and find the answers to items 108, 109, and 110.

INDEX

Ohio River, 134.
Oil: In Iraq, 383; in Manchuria, 400; in Persia, 382; in plains, 56; in Rumania, 329; in Trans-Caucasian Regions, 377; in Yugoslavia, 331.
Oil cakes, what they are, 27.
Oil seeds, in British East Africa, 355.
Oklahoma: cattle in, 141; chief city of, 147; climate of, 132; cotton in, 137; oil in, 141; physical features of, 135; rank of, in agriculture, 140; wheat in, 157.
Olive pressing, in Albania, 333.
Olives: in Africa, 349; in Anatolia, 376; in California, 190; in Greece, 332; in Italy, 337.

108. Mark the letter which shows on what page information about the Ohio River will be found.
   a 8 b 134 c 7 d 337 ——108

109. Mark the letter which shows on what page information concerning oil in Rumania will be found.
   a 383 b 400 c 329 d 331 ——109

110. Mark the letter which shows on what page information concerning the physical features of Oklahoma will be found.
   a 141 b 147 c 157 d 135 ——110
Camels live most of the time on the desert. They have padded feet, nostrils that can be closed in a storm, and thick bushy eyebrows and lashes which protect their eyes. Their stomachs and humps are made up of cells which store their water and food for future use on their long journeys through the desert wastes. They are the principal means of transportation on the Sahara Desert.

Mark as you have been told the number of each correct answer. You may look back to find the answers.

111. The best title for the above story is
1 Domestic Animals  
2 The Camel  
3 The Desert  — 111

112. Camels are useful
1 in large cities  
2 as food  
3 in transportation  — 112

113. The stomach and hump are made up of
1 fur  
2 cells  
3 pads  — 113

114. The camel eats
1 irregularly  
2 regularly  
3 rarely  — 114

115. The camel is
1 wild  
2 useless  
3 useful  — 115

116. His home is in the
1 desert  
2 jungles  
3 mountains  — 116

One of the large countries in North America is Canada.

Canada has an irregular coast line with many fine harbors. It is lacking in large ports because of the ice-bound harbors in the winter, and this is a serious handicap to the development of trade. During the warm summer season, important agricultural products are grown.

Canada is rich in natural resources, but the population is still small. There are vast areas of valuable forests; the many fur-bearing animals are a source of great revenue, and the streams have unlimited possibilities for the development of power.

Mark the number of each correct answer. You may look back to find the answers.

117. The above story is about
1 North America  
2 Canada  
3 large countries  — 117

118. They have
1 few natural resources  
2 many large ports  
3 fine harbors  — 118

119. A serious handicap is
1 over-production  
2 ice-bound harbors  
3 a lack of streams  — 119

120. The climate of Canada is
1 changeable  
2 very dry  
3 equatorial  — 120

121. Choose the best statement:
1 Canada has few natural resources  
2 The cotton is profitable in Canada  
3 Canada has many unsettled areas  — 121
The Telephone

The telephone is a device for transmitting speech by means of electricity. The first patent for this instrument was granted to Alexander Graham Bell on March 7, 1876.

Since the original invention there have been many improvements in the mechanical features of telephones. Submarine cables have been laid across the ocean to permit communication between countries, and many overhead wires have been removed by running the wires through conduits under ground. As a result of a large amount of experimentation, we can now communicate by wireless telephone.

The principal achievement of the telephone is that of abridging space. By this means of communication, business transactions and conversations are more quickly completed and trade and commerce have been greatly stimulated. Thus we see that telephones have been a definite aid in the progress of our nation.

Mark the number of each correct answer. You may look back to find the answers.

122. Alexander Graham Bell was
1 an artist 2 an inventor 3 a navigator 4 a naturalist

123. Conduits have been used to remove
1 submarine cables 2 commerce 3 overhead wires 4 business transactions

Read the six titles below. You are to select the one that would make the best title for each of the three paragraphs of the story.

1. March 7, 1876
2. Invention of the Telephone
3. Improvements and Developments
4. Mechanical Features
5. Effects of the Invention
6. Trade and Commerce

124. The best title for the first paragraph is number
1 2 3 4 5

125. The best title for the second paragraph is number
2 3 4 5 6

126. The best title for the third paragraph is number
2 3 4 5 6

The following things are mentioned in the story:

Removing overhead wires
Granting the patent
Wireless telephone
Improving the telephone

The order in which the above things were mentioned in the story is as follows:

127. Improving the telephone was 1st 2nd 3rd 4th

128. Removing overhead wires was 1st 2nd 3rd 4th

129. Wireless telephone was 1st 2nd 3rd 4th

130. Granting the patent was 1st 2nd 3rd 4th
INSTRUCTIONS TO STUDENTS:

This is an arithmetic test. In taking it you will show how well you can think and work problems. No one is expected to do the whole test correctly, but you should answer as many items as you can. Work as fast as you can without making mistakes.

DO NOT WRITE OR MARK ON THIS TEST BOOKLET UNLESS TOLD TO DO SO BY THE EXAMINER.
TEST 3 — SECTION A

1. Thirty-four
   a 43
   b 0.34
   c 34
   d 340
   e None

2. One hundred eleven
   a 100,11
   b 1101
   c 1011
   d 111,00
   e None

3. Nine hundred fifty-two
   a 952
   b 900,52
   c 9052
   d 952,00
   e None

4. Three hundred four
   a 300,4
   b 3400
   c 304
   d 304,0
   e None

5. Two thousand six
   a 2000,6
   b 2,6000
   c 206
   d 2006
   e None

6. Two dollars and two cents
   a $2.2¢
   b $2.02
   c $2.2
   d 2.02
   e None

7. Sixty dollars and nine cents
   a $60.9
   b $60.9¢
   c 60.09
   d $60.09
   e None

Sample A: Twelve

- 10
- 12
- 11
- 2
- None

Correct Answer
Sheet Mark
A  b  c  d  e

Correct Test
Booklet Mark
b A

Sample B: Twenty

- 22
- 200
- 2
- 21
- None

Correct Answer
Sheet Mark
B  a  c  d  e

Correct Test
Booklet Mark
e B

Read these Roman numerals. Then mark as you have been told the letter of each correct answer.

8. IV means
   a 4
   b 6
   c 8
   d 6
   e None

9. XXX means
   a 25
   b 29
   c 30
   d 31
   e None

10. M means
     a 1000
     b 4000
     c 5000
     d 7000
     e None

Find the smallest number, marked a, b, c, or d, in each of the following rows. Then mark its letter.

11. a 321  b 226  c 128  d 190
12. a ½  b ¼  c ¾  d ½
13. a 20.01  b 21.3  c 2.0671  d 5.361
14. a ¾  b 25  c .62½  d ⅞
15. a ⅜  b 75%  c ⅝  d ⅝

STOP
NOW WAIT FOR FURTHER INSTRUCTIONS

Sec. A Score
(number right)................................
DIRECTIONS: Mark the letter or number of each correct answer. If you do not know an answer, or you think that none of the answers given is correct, you should mark the letter, e (items 16-19), or the number, 5 (items 20-30). Finish the first column before doing the second. Remember to do your figuring on scratch paper if you are marking your answers on an answer sheet.

TEST 3 — SECTION B

16. $5 \times 8 =$
   a 13  
   b 40  
   c %  
   d %  
   e None  
   (16)

17. $9 \div 3 =$
   a 3  
   b 27  
   c $\frac{1}{3}$  
   d 6  
   e None  
   (17)

18. $18 \div 2 =$
   a 0  
   b 1  
   c 10  
   d 25  
   e None  
   (18)

19. $20 - 4 =$
   a 5  
   b $\frac{1}{4}$  
   c 80  
   d 16  
   e None  
   (19)

20. $\div$ means
   1 add  
   2 subtract  
   3 multiply  
   4 divide  
   5 None  
   (20)

21. $+$ means
   1 add  
   2 subtract  
   3 multiply  
   4 divide  
   5 None  
   (21)

22. $-$ means
   1 add  
   2 subtract  
   3 multiply  
   4 divide  
   5 None  
   (22)

23. $\times$ means
   1 add  
   2 subtract  
   3 multiply  
   4 divide  
   5 None  
   (23)

24. $\phi$ means
   1 nickel  
   2 quarter  
   3 dime  
   4 dollar  
   5 None  
   (24)

25. oz. means
   1 hour  
   2 inch  
   3 ounce  
   4 root  
   5 None  
   (25)

26. sec. means
   1 foot  
   2 second  
   3 part  
   4 ratio  
   5 None  
   (26)

27. $\pi$ means
   1 pi  
   2 degree  
   3 root  
   4 part  
   5 None  
   (27)

28. $\%$ means
   1 degree  
   2 inch  
   3 per cent  
   4 ratio  
   5 None  
   (28)

29. $'$ means
   1 angle  
   2 part  
   3 at  
   4 inch  
   5 None  
   (29)

30. $\sqrt{}$ means
   1 care of  
   2 less than  
   3 square root  
   4 right angle  
   5 None  
   (30)

STOP NOW WAIT FOR FURTHER INSTRUCTIONS

Sec. B Score (number right)
**DIRECTIONS:** Work these problems. Then mark as you have been told the letter of each correct answer. For some of the problems none of the answers given may be correct. If you cannot work a problem, or if you think none of the answers given is correct, you should mark the letter, e. Remember to do your figuring on scratch paper if you are marking your answers on an answer sheet.

**TEST 3 — SECTION C**

<table>
<thead>
<tr>
<th>Problem</th>
<th>Description</th>
<th>Answers</th>
</tr>
</thead>
<tbody>
<tr>
<td>31.</td>
<td>Nan has 5 pieces of candy. Fred has 10 pieces of candy. How many pieces have they together?</td>
<td>a 5, b 15, c 50, d 7 1/2, e None</td>
</tr>
<tr>
<td>32.</td>
<td>A farmer had 14 cows. He sold four of them. How many cows did he have left?</td>
<td>a 18, b 4, c 9, d 56, e None</td>
</tr>
<tr>
<td>33.</td>
<td>Ann has 2 dolls. Sally has three times as many. How many dolls does Sally have?</td>
<td>a 6, b 8, c 3, d 4, e None</td>
</tr>
<tr>
<td>34.</td>
<td>Jane had 9 apples and she divided them equally among two other girls and herself. How many apples did each receive?</td>
<td>a 9, b 6, c 27, d 3, e None</td>
</tr>
<tr>
<td>35.</td>
<td>One dish contained 12 cookies and another contained eighteen. The children ate six of the cookies. How many were left?</td>
<td>a 0, b 24, c 30, d 12, e None</td>
</tr>
<tr>
<td>36.</td>
<td>A classroom had 6 rows of desks with 7 desks in each row. Five desks were moved from the room. How many desks were left?</td>
<td>a 37, b 13, c 42, d 8, e None</td>
</tr>
<tr>
<td>37.</td>
<td>Mr. Smith had 100 chickens and sold 40. He gave all the others to his four children, giving the same number to each. How many chickens did each child receive?</td>
<td>a 60, b 15, c 35, d 10, e None</td>
</tr>
</tbody>
</table>
38. Mary weighs 85 pounds, Ruth weighs 65 pounds, and Ethel weighs 90 pounds. What is their average weight in pounds?

- a 85
- b 82 1/2
- c 83 1/2
- d 80
- e None

39. How many square inches in a piece of glass 15 inches wide and 20 inches long?

- a 35
- b 200
- c 300
- d 150
- e None

40. How many one-inch squares can be placed in the bottom of a box 3 inches wide, 6 inches deep, and 10 inches long?

- a 19
- b 90
- c 60
- d 30
- e None

41. In a candy sale, four-fifths of a class brought bags of taffy to school. There were 45 pupils in the class. How many pupils brought taffy?

- a 36
- b 9
- c 19 1/5
- d 40
- e None

42. Mary paid $1.75 for a new book, 30 cents for lunch, and 20 cents for carfare. She spent the amount left out of $5.00 for a new dress. How much did the dress cost?

- a $2.25
- b $5.00
- c $2.75
- d $3.25
- e None

43. Our team has played 12 games and lost three of them. What per cent of the games did we lose?

- a 25
- b 33 1/3
- c 50
- d 1/4
- e None

44. The bank received seven per cent interest on a loan of $300.00 for one year. How much interest was received?

- a $7
- b $10
- c $21
- d 30
- e None

45. On a map 1/4 inch is used to represent 10 miles. The distance between two cities on the map is 2 inches. How many miles are they apart?

- a 20
- b 40
- c 60
- d 80
- e None
DIRECTIONS: Do these problems in addition. Then mark as you have been told the letter of each correct answer. For some of the problems none of the answers given may be correct. If you cannot work a problem, or if you think none of the answers given is correct, you should mark the letter, e. Finish each column before going on to the next. Be sure to reduce fractions to lowest terms. Remember to do your figuring on scratch paper if you are marking your answers on an answer sheet.

**TEST 4 — SECTION D**

<table>
<thead>
<tr>
<th>Problem</th>
<th>Answers</th>
<th>Options</th>
<th>Correct Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>46</td>
<td>4 1 + 3 2</td>
<td>a 10, b 73, c 55, d 9, e None</td>
<td>e None</td>
</tr>
<tr>
<td>47</td>
<td>4 0 + 2 6</td>
<td>a 120, b 12, c 66, d 660, e None</td>
<td>e None</td>
</tr>
<tr>
<td>48</td>
<td>4 0 9 + 5 2 0</td>
<td>a 929, b 20, c 90290, d 713, e None</td>
<td>e None</td>
</tr>
<tr>
<td>49</td>
<td>5 7 + 6</td>
<td>a 51, b 342, c 513, d 63, e None</td>
<td>e None</td>
</tr>
<tr>
<td>50</td>
<td>3 4 + 1 8</td>
<td>a 412, b 52, c 17, d 42, e None</td>
<td>e None</td>
</tr>
<tr>
<td>51</td>
<td>2 6 6 + 1 5 8</td>
<td>a 51313, b 653, c 633, d 543, e None</td>
<td>e None</td>
</tr>
<tr>
<td>52</td>
<td>2 3 1 7 + 6 0 2 0</td>
<td>a 19255, b 20355, c 19365, d 20365, e None</td>
<td>e None</td>
</tr>
<tr>
<td>53</td>
<td>$ 3 4 . 2 4</td>
<td>a $47.60, b $48.70, c $47.70, d $37.70, e None</td>
<td>e None</td>
</tr>
<tr>
<td>54</td>
<td>$5.00 + .60 + $12 + $2.40</td>
<td>a $8.12, b $20.00, c $31.70, d $19.00, e None</td>
<td>e None</td>
</tr>
<tr>
<td>55</td>
<td>$1/2 + 1/2</td>
<td>a 1/2, b 1/4, c 0, d 1, e None</td>
<td>e None</td>
</tr>
<tr>
<td>56</td>
<td>2 4 + 3 3/2</td>
<td>a 27/2, b 27/2, c 26/2, d 20/2, e None</td>
<td>e None</td>
</tr>
<tr>
<td>57</td>
<td>3/4 + 3 1/8</td>
<td>a 3/4, b 3/7, c 3/2, d 3/8, e None</td>
<td>e None</td>
</tr>
<tr>
<td>58</td>
<td>2 1 1/3 + 4 1/4</td>
<td>a 25/12, b 25/12, c 25/12, d 25/12, e None</td>
<td>e None</td>
</tr>
</tbody>
</table>

**STOP NOW WAIT FOR FURTHER INSTRUCTIONS**

Sec. D Score (number right).................................
DIRECTIONS: Do these problems in subtraction. Then mark as you have been told the letter of each correct answer. For some of the problems none of the answers given may be correct. If you cannot work a problem, or if you think none of the answers given is correct, you should mark the letter, E. Finish each column before going on to the next. Be sure to reduce fractions to lowest terms.

<table>
<thead>
<tr>
<th>(66)</th>
<th>46</th>
<th>a 78</th>
<th>b 4</th>
<th>c 14</th>
<th>d 18</th>
<th>e None</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>32</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(67)</td>
<td>45</td>
<td>a 32</td>
<td>b 2</td>
<td>c 48</td>
<td>d 42</td>
<td>e None</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(68)</td>
<td>3 9 8</td>
<td>a 195</td>
<td>b 601</td>
<td>c 95</td>
<td>d 185</td>
<td>e None</td>
</tr>
<tr>
<td></td>
<td>2 0 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(69)</td>
<td>47 0</td>
<td>a 2400</td>
<td>b 240</td>
<td>c 140</td>
<td>d 230</td>
<td>e None</td>
</tr>
<tr>
<td></td>
<td>2 3 0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(70)</td>
<td>4 5</td>
<td>a 37</td>
<td>b 27</td>
<td>c 63</td>
<td>d 33</td>
<td>e None</td>
</tr>
<tr>
<td></td>
<td>1 8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(71)</td>
<td>3 5 7</td>
<td>a 189</td>
<td>b 99</td>
<td>c 179</td>
<td>d 69</td>
<td>e None</td>
</tr>
<tr>
<td></td>
<td>2 9 8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(72)</td>
<td>3 7 0 3</td>
<td>a 2246</td>
<td>b 2236</td>
<td>c 2136</td>
<td>d 2146</td>
<td>e None</td>
</tr>
<tr>
<td></td>
<td>1 5 6 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| (73) | $24.00 | a $26.75 | b $22.35 | c $22.25 | d $21.25 | e None |
|      | 2.75   |    |      |      |      |        |
| (74) | $56 — $12.75 = | a $68.75 | b $43.25 | c $33.25 | d 0 | e None |
|      |        |    |      |      |      |        |
| (75) | 3/4 | a 0 | b 3/6 | c 1/2 | d 1/4 | e None |
|      | 1/4 |    |      |      |      |        |
| (76) | 3/6 | a 1/6 | b 1/6 | c 1/2 | d 1/2 | e None |
|      | 1/6 |    |      |      |      |        |
| (77) | 5/6 | a 1/2 | b 1/2 | c 1/2 | d 1/6 | e None |
|      | 1/6 |    |      |      |      |        |
| (78) | 3/4 | a 2 | b 1/4 | c 1/2 | d 1/4 | e None |
|      | 1/3 |    |      |      |      |        |
| (79) | 5 1/4 | a 2 1/4 | b 9/4 | c 1/4 | d 1 1/4 | e None |
|      | 4 |    |      |      |      |        |

TEST 4 — SECTION E

| (80) | 9 | a 3 1/2 | b 13 1/2 | c 4 1/2 | d 5 1/2 | e None |
|      | 5 1/2 |    |      |      |      |        |
| (81) | 3 5 1/2 | a 23 1/2 | b 22 1/2 | c 22 1/2 | d 22 1/2 | e None |
|      | 1 2 1/2 |    |      |      |      |        |
| (82) | 50.8 — 6 1/2 = | a 44.3 | b 44.8 1/2 | c 43.3 | d 56.8 1/2 | e None |
|      |        |    |      |      |      |        |
| (83) | 75.460 — 33.16 = | a 72.144 | b 43.2 | c 42.3 | d 45.3 | e None |
|      |        |    |      |      |      |        |
| (84) | 45.05 — 5.0379 = | a 45.874 | b 54.126 | c 40.0121 | d 40.0231 | e None |
|      |        |    |      |      |      |        |
| (85) | 8 ft. 5 in. — 5 ft. 10 in. | a 14 ft. 3 in. | b 2 ft. 7 in. | c 3 ft. 7 in. | d 2 ft. 5 in. | e None |

STOP NOW WAIT FOR FURTHER INSTRUCTIONS

Page 8
CEA-BB
DIRECTIONS: Do these problems in multiplication. Then mark as you have been told the letter of each correct answer. Finish each column before going on to the next. Be sure to reduce fractions to lowest terms.

**TEST 4 — SECTION F**

<table>
<thead>
<tr>
<th>Problem</th>
<th>Solution 1</th>
<th>Solution 2</th>
<th>Solution 3</th>
<th>Solution 4</th>
<th>Solution 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>(86) 432 × 2</td>
<td>a 434</td>
<td>b 430</td>
<td>c 864</td>
<td>d 664</td>
<td>e None</td>
</tr>
<tr>
<td>(87) 500 × 3</td>
<td>a 503</td>
<td>b 150</td>
<td>c 497</td>
<td>d 1500</td>
<td>e None</td>
</tr>
<tr>
<td>(88) 42 × 4</td>
<td>a 168</td>
<td>b 46</td>
<td>c 166</td>
<td>d 38</td>
<td>e None</td>
</tr>
<tr>
<td>(89) 95 × 5</td>
<td>a 2025</td>
<td>b 50</td>
<td>c 225</td>
<td>d 40</td>
<td>e None</td>
</tr>
<tr>
<td>(90) 805 × 9</td>
<td>a 72045</td>
<td>b 7245</td>
<td>c 814</td>
<td>d 796</td>
<td>e None</td>
</tr>
<tr>
<td>(91) 687 × 45</td>
<td>a 30915</td>
<td>b 6183</td>
<td>c 732</td>
<td>d 30815</td>
<td>e None</td>
</tr>
<tr>
<td>(92) 489 × 40</td>
<td>a 529</td>
<td>b 19560</td>
<td>c 1956</td>
<td>d 18460</td>
<td>e None</td>
</tr>
<tr>
<td>(93) 500 × 300</td>
<td>a 1500</td>
<td>b 15000</td>
<td>c 150000</td>
<td>d 80000</td>
<td>e None</td>
</tr>
<tr>
<td>(94) 3045 × 504</td>
<td>a 1534680</td>
<td>b 164430</td>
<td>c 15237180</td>
<td>d 3549</td>
<td>e None</td>
</tr>
<tr>
<td>(95) 4 × ½ =</td>
<td>a 2½</td>
<td>b 2</td>
<td>c ½</td>
<td>d 2</td>
<td>e None</td>
</tr>
<tr>
<td>(96) 4 × ¼ =</td>
<td>a ½</td>
<td>b 1</td>
<td>c ¼</td>
<td>d 1</td>
<td>e None</td>
</tr>
<tr>
<td>(97) 2/3 × 3/4 =</td>
<td>a 1/6</td>
<td>b 1/4</td>
<td>c 1/4</td>
<td>d 4</td>
<td>e None</td>
</tr>
<tr>
<td>(98) 3/5 × 5/6 =</td>
<td>a 1/15</td>
<td>b 1/2</td>
<td>c 19/25</td>
<td>d 1/2</td>
<td>e None</td>
</tr>
<tr>
<td>(99) 6 × 2 ¼ =</td>
<td>a 12 1/4</td>
<td>b 5/4</td>
<td>c 13 1/2</td>
<td>d 54</td>
<td>e None</td>
</tr>
</tbody>
</table>

STOP NOW WAIT FOR FURTHER INSTRUCTIONS

Sec. F Score (number right)...........................................
DIRECTIONS: Do these problems in division. Then mark as you have been told the letter of each correct answer. Finish each column before going on to the next. Be sure to express remainders as fractions and reduce fractions to lowest terms.

### TEST 4 — SECTION G

<table>
<thead>
<tr>
<th>Column</th>
<th>Problem</th>
<th>Choices</th>
<th>Correct Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>(106)</td>
<td>8)1 6</td>
<td>a 15, b 2, c 3, d 20, e None</td>
<td>d 20</td>
</tr>
<tr>
<td>(107)</td>
<td>9)4 5</td>
<td>a 5, b 4, c 6, d 9, e None</td>
<td>e None</td>
</tr>
<tr>
<td>(108)</td>
<td>5)3 0</td>
<td>a 8, b 60, c 80, d 6, e None</td>
<td>e None</td>
</tr>
<tr>
<td>(109)</td>
<td>7)3 5 7</td>
<td>a 501, b 105, c 51, d 50%, e None</td>
<td>e None</td>
</tr>
<tr>
<td>(110)</td>
<td>8)1 7 6</td>
<td>a .012, b 202, c 21, d 22, e None</td>
<td>e None</td>
</tr>
<tr>
<td>(111)</td>
<td>5)5 2 5</td>
<td>a 15, b 1005, c 105, d 101, e None</td>
<td>e None</td>
</tr>
<tr>
<td>(112)</td>
<td>30)3 6 0</td>
<td>a 12, b 120, c 1 1/5, d 102, e None</td>
<td>e None</td>
</tr>
<tr>
<td>(113)</td>
<td>36)7 3 4 4</td>
<td>a 24, b 204, c 240, d 199, e None</td>
<td>e None</td>
</tr>
<tr>
<td>(114)</td>
<td>200)8 0 0 0</td>
<td>a 4, b 400, c 40, d 4000, e None</td>
<td>e None</td>
</tr>
<tr>
<td>(115)</td>
<td>54)4 8 9 2</td>
<td>a 90050 2/7, b 1005, c 899 2/6, d 90 1/7, e None</td>
<td>e None</td>
</tr>
<tr>
<td>(116)</td>
<td>2 ÷ 1/2</td>
<td>a 4, b 1/4, c 2</td>
<td>e None</td>
</tr>
<tr>
<td>(117)</td>
<td>1/8 ÷ 4</td>
<td>a 12, b 1/4, c 1/2</td>
<td>e None</td>
</tr>
<tr>
<td>(118)</td>
<td>7 ÷ 9/4</td>
<td>a 5/4, b 9/4, c 3/8</td>
<td>e None</td>
</tr>
<tr>
<td>(119)</td>
<td>4/5 ÷ 4/5</td>
<td>a 1 1/25, b 1/6, c 1/5</td>
<td>e None</td>
</tr>
<tr>
<td>(120)</td>
<td>6 ÷ 1/3</td>
<td>a 2 1/2, b 5/3, c 7/3</td>
<td>e None</td>
</tr>
<tr>
<td>(121)</td>
<td>4 3/8 ÷ 3/4</td>
<td>a 3 3/2, b 4/3, c 4 1/2</td>
<td>e None</td>
</tr>
<tr>
<td>(122)</td>
<td>7 % ÷ 3 1/3</td>
<td>a 2 1/25, b 24, c 22%</td>
<td>e None</td>
</tr>
<tr>
<td>(123)</td>
<td>3/9 2 3/4</td>
<td>a 3 3/12, b 309, c 30 1/12, d 30 + 2 3/4</td>
<td>e None</td>
</tr>
<tr>
<td>(124)</td>
<td>4)5.0 4</td>
<td>a 1260, b 1.26, c 12.6, d .126</td>
<td>e None</td>
</tr>
<tr>
<td>(125)</td>
<td>.04)5 0 4</td>
<td>a 1260, b 12.6, c 1.26, d .126</td>
<td>e None</td>
</tr>
</tbody>
</table>

STOP
NOW WAIT FOR FURTHER INSTRUCTIONS

Sec. G Score (number right) .........................
INSTRUCTIONS TO STUDENTS:

This is a language test. In taking it you will show what you know about capitalization, punctuation, and words and sentences, and how well you can spell and write. No one can do the whole test correctly, but you should answer as many items as you can. Work as fast as you can without making mistakes.

DO NOT WRITE OR MARK ON THIS TEST BOOKLET UNLESS TOLD TO DO SO BY THE EXAMINER.
SAMPLE:  A. His name is sam and he is my friend.  

In Sample A the number 3 letter, s, in sam, should be a capital. Notice how the 3 has been marked.

TEST 5 — SECTION A

1. spring is here.  
2. does snow fall in winter?  
3. moss, ferns, and trees  
4. grow in brazil.  
5. The baby likes bill, mary,  
6. and the dog.  
7. The abbreviation for september  
8. is always sept.  
9. Last Friday a friend, Miss smith,  
10. sailed for europe.  
11. Many people travel through the  
12. Andes mountains during vacations.  
13. Father said, "you may go, too."  
14. Last tuesday i visited my  
15. uncle John in the city. 

STOP NOW WAIT FOR FURTHER INSTRUCTIONS
Jack wanted a dog to play with. Therefore he told his father about it.

Jack said, "Father will you buy a dog for me to play with?"

His father said, "If I buy you a dog to play with, what will you name him?"

In reply Jack said that he'd name him Spot.
DIRECTIONS: In the following sentences, mark as you have been told the number of each correct word.

TEST 5 — SECTION C

31. Mother (1 may 2 can) I go out? — 31

32. (1 Lemme 2 Let me) have the ball. — 32

33. I (1 knowed 2 knew) the candy was hard. — 33

34. The candy was given to Robert and (1 him 2 he). — 34

35. The teacher will (1 learn 2 teach) us. — 35

36. We (1 sung 2 sang) the song. — 36

37. She (1 ate 2 et) her spinach. — 37

38. Letters were mailed to (1 they 2 them). — 38

39. Mother bought the candy for (1 us 2 we) girls. — 39

40. He (1 don't 2 doesn't) ride his bicycle. — 40

41. The boy went to the playground. YES NO 41

42. When he returns. YES NO 42

43. She likes to read. YES NO 43

44. Are they coming? YES NO 44

45. The man of whom you were speaking. YES NO 45

46. The speech was given in the lecture room. YES NO 46

47. Near the source of the river and by the waterfall. YES NO 47

48. Month by month he continued to advance. YES NO 48

49. In order to provide the necessities of life. YES NO 49

50. Calling to his dog and running at top speed after his friends. YES NO 50

STOP NOW WAIT FOR FURTHER INSTRUCTIONS

Sec. C Score (number right)..........................
DIRECTIONS: Each line in this test contains four spelling words and the word, None. These words are numbered 1, 2, 3, 4, and the None is numbered 5. In some of the lines, one word is misspelled. In others, no word is misspelled. If there is a misspelled word, mark its number. If no word is misspelled, mark the 5.

<table>
<thead>
<tr>
<th>Correct Test Booklet Mark</th>
<th>Correct Answer Sheet Mark</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>1</td>
</tr>
<tr>
<td>D</td>
<td>1</td>
</tr>
</tbody>
</table>

SAMPLE: C. 1 now 2 just 3 come 4 ron 5 None
SAMPLE: D. 1 go 2 see 3 do 4 may 5 None

TEST 6

51. 1 could 2 warme 3 inside 4 mile 5 None
52. 1 sure 2 yellow 3 quick 4 pick 5 None
53. 1 gess 2 scare 3 pocket 4 trade 5 None
54. 1 north 2 broak 3 easy 4 because 5 None
55. 1 teeth 2 push 3 party 4 weare 5 None
56. 1 coast 2 blind 3 twomorrow 4 alive 5 None
57. 1 dash 2 bridge 3 front 4 pasture 5 None
58. 1 twice 2 knee 3 drank 4 allmost 5 None
59. 1 lady 2 drum 3 asleep 4 teacher 5 None
60. 1 ofen 2 wheel 3 shake 4 open 5 None
61. 1 toad 2 expeckt 3 ribbon 4 quite 5 None
62. 1 squirrel 2 parade 3 rattle 4 weigt 5 None
63. 1 form 2 bud 3 adress 4 base 5 None
64. 1 ditch 2 lisened 3 fever 4 leaving 5 None
65. 1 mice 2 year 3 befor 4 oyster 5 None
66. 1 subject 2 reduce 3 worry 4 visiter 5 None
67. 1 thimble 2 opposite 3 machine 4 extra 5 None
68. 1 apron 2 cork 3 usual 4 whenever 5 None
69. 1 fingerprint 2 promice 3 dangerous 4 whenever 5 None
70. 1 pudding 2 lonesome 3 noisy 4 stright 5 None
71. 1 patient 2 victory 3 famus 4 invention 5 None
72. 1 secund 2 cracker 3 jelly 4 flies 5 None
73. 1 ninth 2 profit 3 sucess 4 future 5 None
74. 1 conversation 2 asist 3 female 4 obedient 5 None
75. 1 level 2 dentist 3 rejon 4 worst 5 None
76. 1 gotten 2 arive 3 pavement 4 conduct 5 None
77. 1 reward 2 bonnet 3 hatchet 4 sissors 5 None
78. 1 particuler 2 orchard 3 frighten 4 ceiling 5 None
79. 1 Dramas 2 resemblance 3 varieties 4 benefited 5 None
80. 1 importance 2 disturb 3 caution 4 probaly 5 None

Page 6
CEL-BB

STOP NOW WAIT FOR FURTHER INSTRUCTIONS
Do not open this booklet, or turn it over, until you are told to do so. Fill these blanks, giving your name, age, birthday, etc. Write plainly.

Name. .................................. Grade. ....... Boy. ......... Girl. ........

Date of birth. .................................. How old are you now? .........

Month. . Day. . Year. .................................. City and state. ..............

Read these directions. Do what they tell you to do.

This is a test to see how well you can think. It contains questions of different kinds. Under each question there are four or five possible answers. You are to read each question and decide which of the answers below it is the right answer. Do not spend too much time on any one question. Here are three sample questions.

**Sample a:** Which one of the five things below is soft?

(1) glass (2) stone (3) cotton (4) iron (5) ice

The right answer, of course, is cotton. The word cotton is No. 3. Now look at the “Answer spaces for Samples” at the right. In the five spaces after the Sample “a,” a heavy mark has been made, filling the space under the 3. This is the way to answer the questions. Try the next sample question yourself. Do not write the answer; just put a heavy mark in the space under the number corresponding to the right answer.

**Sample b:** A robin is a kind of —

(6) plant (7) bird (8) worm (9) fish (10) flower

The answer is bird, which is answer 7; so you should answer Sample “b” by putting a heavy mark in the space under the 7. Try the Sample “c.”

**Sample c:** Which one of the five numbers below is larger than 55?

(11) 53 (12) 48 (13) 29 (14) 57 (15) 16

The correct answer for Sample “c” is 57, which is No. 14; so you would answer Sample “c” by making a heavy black mark that fills the space under the 14. Do this now.

Read each question carefully and decide which one of the answers is best. Notice what number your choice is. Then, in the answer sheet, make a heavy black mark in the space under that number. In marking your answers, always be sure that the question number on the answer sheet is the same as the question number in the test booklet. Erase completely any answer you wish to change, and be careful not to make stray marks of any kind on your answer sheet or on your test booklet. When you finish a page, go on to the next page. If you finish the entire test before the time is up, go back and check your answers. Work as rapidly and as accurately as you can.

The test contains 80 questions. You are not supposed to be able to answer all of them, but do the best you can. You will be allowed half an hour after the examiner tells you to start. Try to get as many questions right as possible. Be careful not to go so fast that you make mistakes. Do not spend too much time on any one question. No questions out the test will be answered by the examiner after the test begins. Lay your pencil down.

Do not turn this booklet until you are told to begin.

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Note. This Answer Sheet is not intended for machine scoring.
1. The opposite of weak is —
   (1) poor (2) sick (3) tall (4) strong (5) young

2. Which of the five words below comes first in the dictionary?
   (6) brown (7) black (8) blown (9) break (10) blend

3. Which answer tells best what a teakettle is?
   (11) a tool (12) a weapon (13) a utensil (14) a thing (15) a machine

4. An eggshell is to an egg the same as an orange skin is to —
   (16) a lemon skin (17) an orange (18) an orange seed (19) a hen (20) a clamshell

5. Ruth is prettier than Sadie but not so pretty as Mabel. Therefore, Mabel is (?) Sadie.
   (21) not so pretty as (22) just as pretty as (23) cannot say which (24) prettier than

6. The mayor is to a city as the governor is to —
   (26) a nation (27) a president (28) a state (29) a council (30) an office

7. A stove is to heat as a refrigerator is to —
   (31) a kitchen (32) cold (33) electricity (34) gas (35) food

8. Three of the four designs at the right are alike in some way.
   Which one is not like the other three?

9. Northwest is to southeast as up is to —
   (41) north (42) higher (43) northeast (44) down (45) under

10. The opposite of clockwise is —
    (46) backward (47) counterclockwise (48) right (49) left (50) round

11. Which of the five words below comes first in the dictionary?
    (51) times (52) stand (53) ruled (54) grand (55) quill

12. Which of the five persons below is most like a carpenter, a plumber, and a bricklayer?
    (56) a postman (57) a lawyer (58) a truck driver (59) a doctor (60) a painter

13. Which of the following sentences tells best what an arm is?
    (61) It goes in the coat sleeve. (62) You can put it around something.
    (63) It carries the hand. (64) It is the part of the body attached to the shoulder.
    (65) We have two of them.

14. Four of the following things are alike. Which one is different from the other four?
    (66) a beet (67) a peach (68) a radish (69) an onion (70) a potato

15. What is to hearing as an eye is to sight?
    (71) glasses (72) voices (73) a sound (74) an ear (75) an earphone

16. Three of the four designs at the right are alike in some way.
    Which one is not like the other three?

17. Which of the five things below is most like the moon, a balloon, and a ball?
    (81) sky (82) a cloud (83) a marble (84) an airplane (85) a toy

18. Fur is to a rabbit as feathers are to —
    (86) a pillow (87) a bird (88) a hair (89) an animal (90) a nest

19. What is the most important reason for using screens at windows?
    (91) They are easy to paint. (92) They improve the looks of the windows.
    (93) They keep out flies but let in the breeze. (94) They keep out burglars.
    (95) They are easier to keep clean than windows are.

20. Which of the five words below comes last in the dictionary?
    (1) front (2) local (3) lemon (4) floor (5) knoll

21. The moon (?) around the earth. (Which of the following words completes the sentence best?)
    (6) turns (7) goes (8) moves (9) revolves (10) spins

22. Printing is to a book as writing is to —
    (11) talking (12) a letter (13) a pen (14) a friend (15) reading

23. Which of the five things below is most like a chimney, a roof, and a door?
    (16) a chair (17) a bed (18) a stove (19) a window (20) a desk

24. The ground is to an automobile as water is to —
    (21) a train (22) gasoline (23) the engine (24) a ship (25) a river
64 The one of two objects that is not so good as the other is said to be —
(61) unsuitable (62) lesser (63) single (64) inferior (65) unnecessary...

65 If the following words were rearranged to make the best sentence, the last word of the sentence would begin with what letter?
fall clouds from the raindrops dark
(66) f (67) d (68) t (69) c (70) r...

66 An object or institution that is not likely to move or change is said to be —
(71) fundamental (72) stable (73) temporary (74) solid (75) basic...

67 Worst is to bad as (?) is to good.
(1) more (2) better (3) best (4) very good (5) excellent...

68 If the following persons were arranged in order, which one would be in the middle?
(6) grandfather (7) grandson (8) brother (9) uncle (10) nephew...

69 A man who buys and sells when there is considerable danger of loss is said to —
(11) transact (12) stipulate (13) contract (14) speculate (15) bargain...

70 Which tells best what a refrigerator is?
(16) a piece of kitchen furniture (17) a place to store food
(18) an electrical device for the kitchen (19) a large white box
(20) a cabinet for keeping food cold...

71 There is a saying, "A bird in the hand is worth two in the bush." It means —
(21) Two birds are worth more than one.
(22) Something you are sure of is twice as good as something doubtful.
(23) Your own bird is worth two that belong to others.
(24) It is hard to catch birds that are in bushes...

72 When the time by a clock was 14 minutes past 9, the hands were interchanged. The clock then said about —
(26) 14 minutes past 3 (27) 14 minutes of 10 (28) 14 minutes past 2
(29) 14 minutes of 3...

73 One number is wrong in the following series. What should that number be?
1 9 2 8 3 9 4 8 5 9 6 8 7 9 8 9
(31) 9 (32) 7 (33) 8 (34) 6 (35) 5...

74 The boy deserves (?) for his effort and perseverance.
(36) condemnation (37) censure (38) scholarship (39) commendation
(40) a medal...

75 One number is wrong in the following series. What should that number be?
1 2 4 8 16 32 48 128
(41) 96 (42) 6 (43) 64 (44) 12 (45) 24...

76 If I have a large box with 4 smaller boxes in it and 3 very small boxes in each small box, how many boxes do I have in all?
(46) 7 (47) 12 (48) 13 (49) 16 (50) 17...

77 If each 3 in the following series were changed to a 2 and if each 1 were dropped out, the seventh 2 would be followed by what number? (Do not mark the paper.)
1 2 5 2 3 1 5 2 3 4 2 3 1 3 4 2 2 2 5
(51) 1 (52) 3 (53) 2 (54) 4 (55) 5...

78 There is a saying, "An ounce of prevention is worth a pound of cure." It means —
(56) Prevention is a good cure. (57) Prevention and cure can be purchased by weight.
(58) It is much better to prevent something than to cure it.
(59) It is much better to cure something than to prevent it...

79 Which of the five words below is most like heavy, blue, and nice?
(61) weight (62) round (63) sky (64) color (65) weather...

80 In a foreign language, boli deta kipo means very good weather; boli cora means bad weather; and deta sedu means very bad weather. What word means good?
(66) boli (67) deta (68) cora (69) kipo (70) sedu
45 A chair is most likely to have —
(41) rockers (42) upholstery (43) legs (44) a seat (45) arms.

46 A boy has three dogs. Their names are Rover, Spot, and Fido. Rover is larger than Spot and Spot is larger than Fido. Therefore, Rover is (?) Fido.
(46) smaller than (47) larger than (48) the same size as (49) cannot say which.

47 Wood is to box as wire is to —
(51) iron (52) electricity (53) doorbell (54) screen (55) fire.

48 There is a saying, “It is a long road that has no turning.” It means —
(56) Most long roads are straight. (57) Things are bound to change sooner or later.
(58) Most short roads have turns. (59) It is a bad idea to turn around on the road.

49 Which of the five things below is most like a sheet, a towel, and a handkerchief?
(61) a blanket (62) a coat (63) a napkin (64) a carpet (65) a mattress.

50 Three of the four designs at the right are alike in some way. Which one is not like the other three?

51 If the following were arranged in order, which one would be in the middle?
(71) foundation (72) walls (73) ceiling (74) roof (75) floor.

52 Which one of these series contains a wrong number?
(1) 2 4 6 8 10 (2) 1 3 5 7 9 (3) 3 6 9 12 15 (4) 1 4 7 10 12
(5) 2 5 8 11 14.

53 A pair of trousers always has —
(6) a belt (7) cuffs (8) pockets (9) a crease (10) seams.

54 One number is wrong in the following series. What should that number be?
8 1 8 2 8 3 3 4 8 5 8 6 8 7 8 9
(11) 9 (12) 7 (13) 6 (14) 8 (15) 5.

55 A machine that works rapidly and well is said to be —
(16) fluent (17) revolutionary (18) novel (19) automatic (20) efficient.

56 What letter in the following series appears a third time nearest the beginning?
A C E B D D E A B C B E C A D A B C D E
(21) A (22) C (23) D (24) E (25) B.

57 The stomach is to food as the heart is to —
(26) a man (27) the lungs (28) blood (29) a pump (30) beating.

58 In the alphabet, which letter follows the letter that comes next after Q?
(31) O (32) S (33) F (34) T (35) R.

59 Most persons prefer automobiles to buses because —
(36) it is always cheaper to use an automobile. (37) the bus carries too many persons.
(38) an automobile gets you where you want to go when you want to go.
(39) automobiles are easier to park.

60 The opposite of contract is —
(41) explode (42) detract (43) expend (44) die (45) expand.

61 In a certain row of trees one tree is the fifth one from either end of the row. How many trees are there in the row?
(46) 5 (47) 8 (48) 10 (49) 9 (50) 11.

62 There is a saying, “Honesty is the best policy.” It means —
(51) Honesty is more important than generosity.
(52) In the long run it pays to be honest. (53) Honest people become wealthy.
(54) You can never tell what a dishonest person will do.

63 Three of the four designs at the right are alike in some way. Which one is not like the other three?
25 If grapefruit are 4 for a quarter, how much will two dozen cost?

(26) 23¢ (27) 60¢ (28) 96¢ (29) $1.50 (30) $1.00

26 The author is to a book as the inventor is to a —

(31) machine (32) bookmark (33) discoverer (34) writer (35) magazine

27 Which of the following tells best what a kitchen is?

(36) a room in which to cook  (37) a place to keep knives and forks
(38) a part of a house  (39) a room with a table and chairs
(40) a room next to the dining room

28 If the following words were rearranged to make the best sentence, with what letter would the last word of the sentence begin?

wood made often of are floors

(41) a (42) m (43) w (44) f (45) o

29 Which of the following tells best what a kitten is?

It has whiskers. (57) It is a small animal that drinks milk.
(58) It is a playful animal. (59) It is afraid of dogs. (60) It is a young cat

30 Three of the four designs at the right are alike in some way. Which one is not like the other three?

(51) (52) (53) (54)

31 Which of the sentences below tells best what a kitten is?

It has whiskers. (57) It is a small animal that drinks milk.
(58) It is a playful animal. (59) It is afraid of dogs. (60) It is a young cat

32 If the following were arranged in order, which one would be in the middle?

pint barrel cup quart gallon

33 If Tom is brighter than Dick and Dick is just as bright as Harry, then Harry is (?) Tom.

(66) brighter than (67) not so bright as (68) just as bright as (69) cannot say which

34 Count each 4 that has a 2 next after it in this row.

2 4 1 4 2 3 5 6 2 4 7 5 2 4 4 2 3 9 4 3 2 8 7 8 4 2 2 4 5 5 2 2 4 2

How many are there?

(71) 1 (72) 2 (73) 3 (74) 4 (75) 5

35 The opposite of ignorance is —

(76) beauty (77) knowledge (78) goodness (79) honesty (80) truth

36 Four of the following words have something in common. Which one is not like the other four?

cowardly (82) dishonest (83) poor (84) stingy (85) rude

37 A photograph is 3 inches wide and 5 inches long. If it is enlarged to be 12 inches wide, how long will it be?

(1) 8 in. (2) 20 in. (3) 14 in. (4) 15 in. (5) 60 in

38 The opposite of spend is —

(6) give (7) earn (8) money (9) take (10) use

39 Which of the following sentences tells best what an airplane is?

It flies. (12) It is something to travel in. (13) It is a flying conveyance.
(14) It has wings and a tail. (15) It is a mechanical bird.

40 A man drove 9 miles east from his home, and then drove 4 miles west. He was then (?) of his home.

(16) 5 miles east (17) 5 miles west (18) 13 miles east (19) 13 miles west

41 If the following words were rearranged to make the best sentence, with what letter would the last word of the sentence begin?

men deep the a trench dug long

(21) d (22) l (23) t (24) s (25) m

42 A pitcher is to cream as a bowl is to —

(26) baseball (27) a saucer (28) coffee (29) sugar (30) a dish

43 If the following words were rearranged to make the best sentence, the last word of the sentence would begin with what letter?

cook the pie a made apple deep

(31) c (32) p (33) a (34) d (35) m

44 A very strong feeling of affection is called —

(36) sympathy (37) pity (38) admiration (39) love (40) esteem

[4]
INFORMAL READING INVENTORY: FORM B-1


I. Preliminary Interview: (Subjects liked best and least; books being read; type of reading instruction; purpose of this inventory.)

II. Informal Word Recognition Test

<table>
<thead>
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<th>Level</th>
<th>Flash</th>
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III. Estimated Levels

- Basal ____________________________
- Independent _____________________
- Instructional
  - Immediate _____________________
  - Basic _________________________
- Frustration _____________________
- Hearing Comprehension
- Estimated M.A. __________________
- Estimated I. Q. __________________
First Pre-Primer: Ride Away

Oral reading at sight: (15 words) p. 39

Come in, go out.
Ride in, ride out.
Wendy and Tike!
Ride in and out.

Comprehension check

1. Who is talking?
2. To whom is Kim talking?
3. What is he telling them to do?
4. Which way is in?
5. Are Wendy and Tike in or out?

Silent: (14 words) p. 40

Stop, Kim!  Stop!
Stop and ride.
Go, Kim and Tike.
Go in and out.

Comprehension check

(Top picture)

1. Who is talking?
2. What does Wendy want Kim to do?

(Bottom picture)

3. Did Kim do what Wendy wanted him to do?
4. Who got more than one ride on the swing?

Oral rereading: Read aloud the sentence that tells what Wendy told Kim and Tike to do.
Come in! Come in!

Stop here for a toy.

A big blue toy.

A little red toy.

A big toy! A little toy!

Stop here! Stop here!

**Comprehension check**

1. What is Kim doing?
2. What kind of store does he have?
3. What is he telling Wendy and Tike to do?
4. What color is the big toy he wants them to buy?
5. What color is the little toy he wants them to buy?
6. What word has Kim printed on his counter?

**Silent: (26 words) p. 47**

Here is a big toy, Wendy.

A big blue airplane.

And here is a little toy.

A little red train.

Look here and here and here.

**Comprehension check**

1. What is Kim doing?
2. Which big toy is Kim showing Wendy?
3. What is the color of the big toy?
4. Which little toy is Kim showing Wendy?
5. What is the color of the little toy?
6. Does he want her to look at other toys?

**Oral rereading:** Read aloud the part that tells about the little toy.
Kim and Wendy like to play here.

"Oh, Kim," said Wendy.

"Do you see what I see? Here is something blue for you. Here is something red for me. We will have fun."

**Comprehension check**

1. Where are Kim and Wendy?
2. Do they like to be in the attic?
3. What are they doing?
4. What does Wendy have?
5. Who will wear something blue?
6. Who will wear something red?

"Oh, Wendy," said Kim.

"Here is something for you. You will look big in it. You will look like Mother."

"Kim! Kim!" said Wendy.

"Do I look like Mother?"

**Comprehension check**

1. What does Kim have?
2. Who will wear it?
3. Who will Wendy pretend to be?
4. What did Wendy ask Kim?
5. What do you think Kim's answer will be?

**Oral Rereading:** Read aloud Wendy's part.
One morning old Mrs. Duck came out of the house.
She went down the hill and up the street.
"What a good day!" she said.
"A good day makes me happy. I will go for a walk under the trees."
And into the park she went.

Comprehension check

1. Who is this story about?
2. What did Mrs. Duck do first?
3. Where did she go?
4. What time of day is it?
5. How does Mrs. Duck feel?
After a time Mrs. Duck came to a big apple tree. Something came down. Out of the tree and DOWN!

Mrs. Duck looked under the tree. She looked here and she looked there. She looked all around. But she did not see a thing under the old apple tree. And on she went for a walk.

Comprehension check

1. What did Mrs. Duck walk under?
2. What happened when she walked under the tree?
3. Did Mrs. Duck know what fell out of the tree?
4. Did she try to find out?
5. Did she find out what fell?
6. What fell out of the tree?
7. What do you think happened to the nest?

Oral Rereading: Read aloud the part that tells what happened after the nest fell out of the tree.
Mrs. White looked at the clock. But the clock was not working.

"Oh, my," she said.

"That old clock is broken again.
And the children must not be late
for school."

Comprehension check

1. Who is the lady in the picture?
2. Why does she look worried?
3. Why does she need a clock that tells correct time?
4. Why should the children not be late for school?

Just then the children came in.
All three of them were laughing.
And Jack had a box in his hands.

"Mother," said Jack.

"We have a surprise for you."
And he gave the box to his mother.

Comprehension check

1. How many children did Mrs. White have in her family?
2. Were they worried?
3. What did Jack have?
4. Who was to receive the box?
5. Did Mrs. White know what was in the box?
6. What do you think was in the box?

Oral Rereading: Read aloud the sentence that tells how the children felt.
There was once an old woman who
lived in a small house by the woods.
On the table sat her pet bird.
He called, "Good day" to all her friends.
People liked this house, which was
always filled with bright, warm light.
The light did not come from the sun.
It came from a flowering apple tree
which stood close by the door.

Comprehension check
1. Who is this story about?
2. What kind of pet did the old woman have?
3. How did the neighbors feel about the old woman and her pet?
4. What was unusual about this woman's home?
5. Where did the light come from?

Throughout the year this tree
was covered with white flowers and apples.
The apples were gold and they gave out
wonderful warm sunlight.
So the tree was called the Sun Tree.

Comprehension check
1. Was this apple tree like other apple trees you know about?
2. What was unusual about it?
3. What part of the tree gave out the beautiful light?
4. What was the tree called?
5. Is this a make-believe or a true story?

Oral Rereading: Read aloud the paragraph that describes the Sun Tree.
A young man stood at the door of the filling station. The children asked if they might have a drink. So he brought them each a glass of water.

They both began to drink so fast that the man said, "Don't drink too much."

"Isn't this a filling station?" laughed Peter loudly.

"Yes," answered the young man. "It's a shop for fixing cars, also. I imagine you might like to look around."

**Comprehension check**

1. Where were Peter and Betty?
2. Why had they stopped at the filling station?
3. Why did the man tell them not to drink too much?
4. Why is Peter's question funny?
5. What was done at this station other than filling cars with gas and oil?
Second Reader (2-2) - Continued

Silent: (64 words) pp. 239-240

It wasn't long before the children saw some horseshoes nailed above the door.

"Why are those horseshoes nailed on the board above the door?" they both asked.

The man said, "I nailed them there to help me remember that times change."

The young man went on, "Fifty years ago this wasn't a filling station. It was a blacksmith's shop. But those days are gone."

Comprehension check

1. What are horseshoes?
2. Where were the horseshoes?
3. Why did the man have the horseshoes?
4. How had times changed the work done in this building?
5. What is a blacksmith?

Oral rereading: Read aloud the paragraph that tells what this building was fifty years ago.
Long ago a mighty king lived in a beautiful gray stone castle. In front of his castle flowed a wide river. Day after day, tall ships from neighboring countries sailed up and down the river.

Often the ships would stop at the great stone wharf of the castle. Often a prince would come on shore to ask for the hand of the king's only child.

**Comprehension check**

1. Is this a true story or make-believe?
2. When did the story take place?
3. Who lived in the castle?
4. What was one reason ships stopped at the castle?
5. What is a wharf?
6. How many children did the king have?
7. Was the king's child a man or a lady?
8. What is meant by "to ask for the hand?"
This child was a princess who was as lovely as the night. Her eyes were as blue as the ocean waves. Her teeth were as white as snow. She was always decked in flowing silk dresses. Any prince would have been glad to win her for his wife.

However, she turned down all the offers that the princes made to her. "I am not lonely," she said. "I am happy as I am."

Comprehension check

1. What is the title of the king's child?

2. Was the princess pretty or ugly?

3. Was she interested in becoming the wife of a prince?

4. Why did the princess turn down all offers to get married?

5. What do you think will happen to this princess?

Oral rereading: Read aloud the paragraph giving the reasons the princess refused to marry.
Tommy Price was delighted when Mr. Wakefield suggested that he visit the offices of the Rocky Mountain Morning Sun. The Sun was one of the finest newspapers on the Pacific Coast. Tommy would learn how a newspaper is planned and printed. He would learn also how the news is gathered.

Comprehension Check

1. Does this story take place in eastern or western United States?
2. What did Mr. Wakefield suggest to Tommy?
3. What is the name of the newspaper?
4. What three things would Tommy learn?
Mr. Wakefield, who was the night editor of the Sun, had just come to live next door to the Prices. He and Tommy had become friends while each was cutting his grass.

"May I bring my cousin, Don Church?"

Tommy asked quickly. "Don and I plan to start our own newspaper as soon as possible."

"Tom Edison ran a newspaper when he was a boy," chuckled Mr. Wakefield, "I suppose it could happen again. So bring your Cousin Don. You may learn a few things."

**Comprehension check**

1. What was Mr. Wakefield's job on the newspaper?  
2. What does a night editor do?  
3. How had Tommy met Mr. Wakefield?  
4. Who was Don Church?  
5. Why was Don interested in visiting the newspaper offices with Tommy?  
6. What famous scientist had run his own newspaper?  

**Oral rereading:** Read aloud the paragraph that tells why Tommy was interested in newspaper publication.
"Good morning," said the announcer.

"Questions about television are frequently directed to this station by young people. Today you will hear some of these questions asked by boys and girls in our studio."

The children appeared on the screen. The announcer went on, "The camera in the studio will show you the boy or girl who asks each question."

At that moment a boy in the audience asked, "What does television mean?"

"That's a good question," said the announcer. "It means 'seeing across space.'"

Comprehension check

1. Where were the children who were asking the questions?

2. What was the first question?

3. What was the answer?

4. What is a studio?

5. What part of the television is the screen?

6. What part of the word television means "seeing"?

7. What part of the word television means "far" or "great distance"?
Silent: (113 words) pp. 401

"How old is television?" another boy asked.

"Experiments were begun in 1925," the announcer replied. "The first real television program was broadcast from the New York World's Fair in 1939."

"There are four cameras in this studio," said a girl. "Are they all working?"

"Yes," was the reply. "Each camera is photographing a different place. Any one of you in the audience may be on the air right now. Remember that for the time being you are television actors."

"Why aren't all those photographs seen on the screen at the same time?" a boy asked.

"After the program, we shall visit the control room," said the announcer. "There you will see four screens."

Comprehension check

1. What was the second question?
2. What was the answer?
3. How many years after the first experiments was the first program broadcast?
4. What was the third question?
5. Were all four cameras working at once?
6. Why do you think the viewers did not see four pictures at once?
7. What were the children going to see after the program?

Oral rereading: Read aloud the paragraph that answers this question, "Were all four cameras working?"
"I see we have new neighbors across the street in the Chambers place," said Mr. Jack Beard one Saturday afternoon. "Anyone who rents that old, run-down house has my sympathy."

"Yes," said Jack, Junior. "I watched them move in yesterday. They're foreigners."

"That's fine," said Mr. Beard. "I'll have a lot in common with them."

Jack was surprised. "You're not a foreigner, Dad," he said. "You're an American."

"That's right," Mr. Beard replied. "I'm an American and a foreigner, too. Come over here. I want to show you something."

Comprehension check

1. Why did Mr. Beard feel sorry for the new neighbors?

2. What did Jack, Junior, call the neighbors?

3. What kinds of people would be considered foreigners to the United States?

4. What is Mr. Beard going to explain to Jack, Junior?
Mr. Beard fumbled in his pocket, took a handful of coins, and picked out a Lincoln penny. Turning it over, he showed Jack two heads of grain, surrounding the words, "One Cent, United States of America."

Above the words, near the outward rim of the coin, were three other words written in an ancient language.

"Those words mean 'one from many,'" interpreted Mr. Beard, "or one country composed of many states. We might go further and say that the words mean that America is one country composed of people representing many nations."

Mr. Beard handed the penny to Jack. "Do you realize," he continued, "that the first settlers in this country were immigrants and foreigners? Our heroes -- men like Daniel Boone, Wild Bill Cody, and George Washington -- had foreign ancestors, as do all of us today."

**Comprehension check**

1. What did Mr. Beard show Jack?
2. What kind of grain is shown on a penny?
3. What does "one from many" mean?
4. What is the United States motto that means "one from many"?
5. What is an immigrant?
6. What is an ancestor?
7. What three American heroes mentioned by Mr. Beard had foreign ancestors?

**Oral rereading:** Read aloud the two interpretations Mr. Beard gave of "one from many".
It was the year 1214. Through the entire English kingdom, angry murmurs about the cruel King John were increasing. His reign had brought misery and unhappiness to nobles, monks, and peasants alike.

The evil king had robbed his people. He had quarreled with his knights and barons. It was said that he had even murdered a young kinsman who should have been king in John's place.

Worse still, people were disgusted by the king's treatment of his brother, Richard the Lion-Hearted. Richard, beloved by the English, had been taken captive in Austria as he was returning from the Holy Land.

Comprehension check

1. In what country does this story take place?
2. During what year did the story take place?
3. Who was king of England at that time?
4. What did King John's subjects think of him?
5. What is meant by "King John's reign"?
6. Why was King John considered to be an evil ruler?
7. Who was Richard the Lion-Hearted?
8. What kind of work did a monk do?
9. Was a knight a noble, monk, or peasant?
Sixth Reader - Continued

Silent: (104 words) p. 413

King John had made no effort to free his tall, yellow-haired brother from a prison on the Danube. Had it not been for Richard's friends, he would have been doomed to spend the rest of his life in a foreign land.

There were other reasons for England's disgust with its ruler. He had had a quarrel with the head of the Church in Rome. During this time, all churches in England were closed. In every way, John showed little regard for the rights of his subjects.

At last the barons, deeply grieved by these wrongs, met to discuss what measures ought to be taken.

Comprehension check

1. What did King John do about Richard the Lion-Hearted?
2. Why do you suppose King John preferred to have his brother in prison?
3. What is the Danube?
4. Through which country does the Danube flow?
5. Was Austria a part of the English Empire?
6. Was Richard finally freed from prison?
7. What right did King John deny his subjects?
8. What did some of King John's subjects plan to do?
9. Which group of subjects started the action for justice?
10. What is a baron?
11. What were all the people ruled by King John called?

Oral Rereading: Read aloud the paragraph that tells why the churches of England were closed.
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<tr>
<th>Name</th>
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princess  
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Comments:
INFORMAL INVENTORY: SILENT READING

Directions: (1) Under "Level of Readability of Selections" indicate by P.P. (preprimer), P. (primer), I (first reader), II (second reader), etc. Use first column for basal level. For items such as vocalization, finger pointing, head movement, and tension movements indicate by abbreviations the intensity of the symptoms. For example, O (occasionally), F (frequently); C (continuously).
(3) Estimate the rate as S (slow), A (average), or F (fast).

1. Comprehension
   1. Objective test score
   2. Inability to state main idea
   3. Inaccurate recall of details
   4. Inaccurate recall of sequence of ideas
   5. Faulty inferences
   6. Lacks versatility

2. Rate
   1. Objective test score
   2. Estimated rate

3. Location of Information
   1. Inability to use Table of Contents
   2. Inability to use Index
   3. Inability to use Glossary
   4. Inability to use Dictionary

4. Vocalization
   1. Silent lip movement
   2. Whispering
   3. Low vocal utterance
   4. Oral reading only

5. Finger Pointing
6. Head Movement
7. Tension Movements
   1. Hands
   2. Feet
   3. Legs
   4. Body

8. Posture
   1. Book too close
   2. Book too far
   3. Book at any angle

9. Visual Inefficiency
   1. Frowns
   2. Squints
   3. Blinks
   4. Rubs eyes
   5. Shades eyes
   6. Print blurs
   7. Print doubles
   8. Covers one eye
## INFORMAL INVENTORY: ORAL READING

Directions: (1) Check undesirable performance in oral rereading with a red pencil. (2) Check undesirable performance in oral reading at sight with a blue pencil.

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<td>4. Insertions</td>
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<td>5. Omissions</td>
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<td>6. Reverses letters</td>
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<td>7. Reverses words</td>
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<td>8. Reverses word sequence</td>
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<td>9. Overdependence on configurations</td>
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<td>10. Overdependence on picture clues</td>
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<tr>
<td>11. Lack of emphasis on meaning</td>
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<tr>
<td>12. Confusion of short vowels</td>
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<td>13. Nonrecognition of final e</td>
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<td>14. Overdependence on initial clues</td>
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<td>15. Overdependence on final clues</td>
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<tr>
<td>16. Confusion of initial consonants</td>
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<tr>
<td>17. Confusion of final consonants</td>
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<tr>
<td>18. Nonrecognition of diphthongs</td>
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<tr>
<td>19. Nonrecognition of vowel digraphs</td>
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<tr>
<td>20. Vowel digraph-diphthong confusion</td>
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</tbody>
</table>
SUMMARY

1. Independent Reading Level: ________________________________
2. Instructional Level: ________________________________
3. Frustration Level: ________________________________
4. Capacity Level: ________________________________
5. General Reaction Time: slow, average, fast
6. Chief Interests: ________________________________
   Speech: stuttering, cleft palate, lisping, infantilism, nasality, oral inactivity.
9. Comments: