Analysis of reading difficulties of fifty freshmen of Morehouse College who enrolled in reading in September, 1962

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ANALYSIS OF READING DIFFICULTIES OF FIFTY FRESHMEN
OF MOREHOUSE COLLEGE WHO ENROLLED IN
READING IN SEPTEMBER, 1962

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K. E. U.
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CHAPTER I
INTRODUCTION

Rationale.-- Records of achievement and college progress show that many students fail to get much out of their reading because of one difficulty or another. These difficulties impede them in operating up to the level of their capacity. Most students are retarded as much as three years, and this deficiency invariably affects their general academic progress. In many cases students still wrestle with multifarious difficulties after their having undertaken a course in reading. This is usually caused by lack of proper analysis of their respective difficulties. Consequently, any remedial treatment proves to be a deplorable failure. It is clearly evident that lack of objective analysis of any reading difficulties at the student's freshman year will always curtail his efforts to read effectively. Many studies which have been done in the area of reading difficulties support the importance of analysis of the difficulties as agreed upon by Bond and Tinker. Some diagnostic reports of reading difficulties also show the crucial usefulness of the analysis: outstanding authorities subscribe wholly to this opinion.

It follows categorically that in order to offer an effective reading remedy, the diagnosed difficulties must be analyzed carefully. It is on the basis of the analysis that effective remedial instruction will be given. The results of the analysis of the discovered difficulties help to group them specifically. This implies also the classification of the difficulties whether mild or severe. Some special areas of weaknesses are properly pointed out. Then the remedial or the corrective teacher will understand where to begin.

More often than not, the college freshman who reads considerably below college-level reading status benefits very little from remedial instruction which is not based on a careful diagnosis. It is obvious beyond all doubts that these instructions fail miserably to attain their objectives, because of lack of proper analysis. The importance of this analysis cannot be over-emphasized, because it stands as the bedrock of successful clinical procedure. An investigation of the trends and tendencies in reading show that ways of improving reading abilities have been of significantly increased concern to academic institutions and communities since the second half of the twentieth century. Through the aforesaid investigation the analysis of reading difficulties has been capitalized. It grows out of much emphasis which has been laid on reading in the contemporary society. Betts and Preston state that the following trends are notable indicators of the increased emphasis on reading improvement—which, of course includes the analysis of the difficulties:
1. State, county, and local school systems have initiated continuous in-service programs for teachers, have appointed supervisors and consultants in reading and have established reading clinic services.

2. Institutes on reading, first provided in a teacher's college in 1934, are well attended in every section of the county.

3. More attention has been given to reading at the national level by professional organizations or superintendents, supervisors, principals, librarians, and teachers.

4. Reading organizations, such as the International Reading Association, have grown rapidly.

5. Progress has been made in meeting the reading needs of the superior students.

6. Industrial leaders, businessmen, and housewives in increasing numbers are enrolling in Great Books courses, speed-reading programs and basic skills courses.

7. Millions of rural people have new or improved library facilities as a result of federal-state-local-financing, especially through the Library Act.¹

The points presented indicate the importance of analysis of reading difficulties. Above all things, identification of disabled readers, specific area of retardation and how best the difficulties can be eradicated are tenable through the analysis. It is so crystally important that the research herein deals with it.

Evolution of the problem.-- The writer's experiences as a graduate-assistant in the Morehouse reading program since September, 1962, had greatly contributed to the evolution of this problem.

He had had occasions to observe that students who had had a course of reading instruction which was not profoundly based on the analysis of their respective difficulties scarcely made any progress. This observation confirmed the writer's belief that analysis of reading difficulties was a prelude to successful reading instruction. It was his desire to analyze the reading difficulties of fifty Morehouse freshmen.

Contribution to educational knowledge. — The increased recognition of the importance of reading difficulties in and out of colleges had made the writer aware of the following facts:

1. Improper diagnostic techniques increase reading difficulties.

2. Lack of authentic analysis of the discovered difficulties leads to ineffective remedial instruction.

3. Proper analysis of difficulties is an important step in diagnosis of reading difficulties which consequently helps the retarded reader to gain.

With regard to the foregoing facts, the writer hoped that this study would be of value in: (1) aiding Morehouse College to devise a more expeditious system of analyzing the freshmen's difficulties in reading, (2) supplying information as regards the basic reading difficulties which obstruct the freshmen, (3) helping to pinpoint the type of materials which will best clear the reading difficulties, (4) suggesting the best directions in dealing with special reading difficulties, (5) proving to be significant to those who are actively engaged in reading diagnosis and remedial instruction, (6) extending the writer's present knowledge of this aspect of reading.
Statement of the problem.—This study dealt with the analysis of special types of reading difficulties of fifty Morehouse freshmen enrolled in the 1962-63 Morehouse College reading program.

Purposes of the study.—The general purpose of the study was to analyze the reading difficulties of a selected group of Morehouse College freshman students. Specifically, this study would attempt to accomplish the following objectives:

1. To identify the group in terms of general and some specific reading difficulties in the areas of:
   a. Vocabulary
   b. Reading comprehension
   c. Oral reading
   d. Intelligence as it relates to reading

2. To classify the group in terms of:
   a. Expressed reading interests
   b. Study habits
   c. Visual proficiency

3. To assess general and specific reading difficulties in vocabulary, comprehension and in oral reading as they relate to the total reading process.

4. To relate the effects of variations in reading interests, study habits and visual proficiency to the total reading process.

5. To ascertain the difficulties which may be most limiting to the total process.

6. To categorize them in order of apparent needs in instructional procedures.

7. To consider implications which may have value for teachers and clinicians who seek penetrating analyses of such difficulties.

Limitations of the study.—The significant limitations of this study were as follows:
1. The proposed study was limited to a selected group of freshman students enrolled in the 1962-63 Morehouse College Reading Program.

2. The analysis of the reading difficulties was based solely on the results of the standardized reading tests results and informal measures of reading interests and habits.

Definition of terms.—For the purpose of this study, the terms "analysis," "reading difficulties," "remedial instruction," "diagnostic report," were defined as follows:

1. "Analysis" means separating of reading problems in constituent parts.

2. "Reading difficulties" are those weaknesses and inadequacies which impede or confound reading success.

3. "Remedial Instruction" is the teaching given to students who are seriously retarded in reading.

Method of research.—The method of research was descriptive survey with employment of standardized tests and informal inventories.

Locale and period of the study.—This study took place during the first semester of the 1963-64 academic year at Morehouse College, Atlanta, Georgia. Morehouse College is a liberal arts college for men, located in a metropolitan area of one million people. At the time of this study the 810 enrollees came from all parts of the United States and some foreign countries. However, students from the southern states comprised the larger percentage of the enrollment.

Description of the subjects.—About fifty freshmen who enrolled in the 1962-63 Morehouse College reading program constituted the sample for this study. Students were randomly selected from a list
wherein their names were listed in descending order according to their median score on the *Iowa Silent Reading Test*, Form AM.

**Description of instruments.**—These instruments were used in gathering data for this study:

1. *The Iowa Silent Reading Test*, Form AM
2. *Triggs Diagnostic Survey Test*, Section II, Form B
3. *Standardized Oral Reading Paragraphs* by William S. Gray
4. *Inglis Vocabulary Test*, Form A
5. *Inventories of interests and study habits*
6. *Keystone Telebinocular Test*, Short Form
7. *Otis Quick-Scoring Mental Ability Tests*, Form A

The *Iowa Silent Reading Test* was used to pinpoint some areas of reading weaknesses. This test is designed to cover a wide range of the skills known to be indispensable in effective reading of the work type. The test measures three major general areas of silent reading abilities; namely, (1) rate of reading at a controlled level of comprehension, (2) comprehension of words, poetry, sentences, paragraphs and longer articles, and (3) ability to use skills required in locating information. Each of these fields is covered in a number of different ways by means of eleven different subtests, requiring a total testing time of 45 minutes and resulting in nine different sub-test scores, each with special significance.¹

The Iowa Silent Reading Test was validated according to the method that: "...in general, validity may best be expressed in terms of the extent to which the test sets up situations calling into play the skills or abilities which experienced observers consider fundamental to success in the given field."¹

Correlations with a composite score all the tests were found to be: Iowa Silent Reading Test and Shank Test of Reading Comprehension, both .86; Nelson-Denny Reading Test, Vocabulary Unit, .945; and the Minnesota Reading Examination, .84.

The reliability of the tests was determined by correlating the scores on the odd-numbered items of a test with scores on the even-numbered items of a test and correcting the formula to yield an estimate of the reliability of the whole test...Based upon the Kuder-Richardson formula for the theory of the estimation of test reliability, it was found to be .949, standard deviation, 15.8 and the probable error of the mean, two on the basis of 2,074 students.²

Triggs Diagnostic Survey Test may be used either as an independent test or as a screening test to identify the students to whom the total battery or selected portions of the diagnostic reading tests should be administered. It is prepared by the committee on diagnostic reading tests; and measures reading performance in

¹Ibid., p. 3.

²Francis O. Triggs, Remedial Reading (Minneapolis: The University of Minnesota Press, 1943), p. 139.
four major areas: vocabulary, comprehension, silent and auditory reading, rates of reading, for science and social studies materials and flexibility of reading rate according to purpose on general materials and word recognition, both silent and auditory.¹

It has three subtests: general reading, vocabulary and comprehension:

1. General Reading: The purpose of this section is to measure the student's usual rate of reading interesting story-type material with a generally simple vocabulary load and to measure the extent to which he comprehends what he reads at the rate recorded by the test. (15 minutes)

2. Vocabulary: This section of the test is designed to secure a general measure of meaning vocabulary. It is composed of sixty items drawn from general vocabulary and the vocabularies of English, mathematics, science and social studies. Each item consists of a definition followed by five words, one of which is an appropriate response for the definition. (10 minutes)

3. Comprehension: This section measures study-type reading skills. It consists of four selections in textbooks in social studies and science. Each selection is followed by five questions based upon the reading material in the selection (15 minutes).

The Inglis Vocabulary Test is designed to measure the student's knowledge of the intelligent general reader's vocabulary; that is of those words which belong neither to one's everyday vocabulary of commonest words, nor to special and technical vocabularies which

¹Diagnostic Reading Tests, Section II, Comprehension (Revised) Form B (Prepared by the Committee on Diagnostic Reading Test, Inc.) New York: (By the Committee, 1957) (Mimeographed.)
constitute a large part of the educated person's vocabulary. It is primarily meant to test the student's reading vocabulary rather than his active vocabulary.¹

The word lists involved in this test are not based on the subjective judgment of the author. They represent a true sampling of the field covered by the intelligent general reader's vocabulary. The first step in their determination was a careful analysis of non-obsolete words other than those belonging to our everyday vocabulary of commonest words or to special and technical vocabularies. The second step was a random sampling of the vocabulary list thus secured into several large reservoir lists of about three thousand words each. The third step was a random sampling of one of those sub-reservoirs by selecting for Form A word number one, word number 17, word number thirty-three and so on. By extended experiments it was determined that reliable results could not be secured with less than 150 words to a test.

The Keystone Telebinocular Tests are visual-survey tests that are binocular. While all other monocular visual-acuity tests are given with one eye occluded, the Keystone monocular tests are given with both eyes open and therefore are tests of "usable binocular vision."² Obviously, this is a manner in which the eyes are used


in an environmental situation. When the tests are given with both eyes open, often suppression or blocking of vision in one eye will be disclosed. They provide both near and far point visual information. The tests are exclusively for screening of visual acuity. They should not be compared separately, but, rather, as a whole. The record of these tests, considered in its entirety, will generally give a reliable picture of the subject's visual efficiency.

The Otis Quick-Scoring Mental Ability, Gamma Tests are used to measure mental ability thinking power or the degree of maturity of the mind among high school and college students. For the interest of variety and broad coverage it is verbal. It includes questions on vocabulary, arithmetic reasoning etc.

The norms for Gamma AM and BM were obtained in part by means of equating experiments in which 777 pupils took Gamma and Otis Higher Examination; 742 pupils took Gamma and Beta; and 1661 pupils took Gamma and the Pinter Advanced General Ability Test. The norms stand as representative of the county as a whole.

By reliability is meant the degree of precision with which a test measures what it measures. There is one common coefficient of correlation between odd and even items of a single test. The reliability coefficient of .88 was obtained on Form EM of the Gamma Test based on 489 college freshmen entering the college of the Holy Cross, Worcester, Massachusetts in 1953. By validity of a test is meant the degree to which it measures the ability it is designed to measure. The purpose of the Gamma Test is most generally that of finding the
degree of brightness of pupils. It follows that actual rate of pro-
gress of pupils through school is the most appropriate criterion
of the validity of the Gamma Test. The mean validity index of the
test items in each form is approximately 50.1

The inventory of interests and study habits points out the
student's specific interests and study skills which have been per-
d sistently employed in all aspects of reading. It details all types
of interest possessed by the student. These interests include or
indicate attitudes towards reading. The inventory specified the
reading materials in which the student is interested. It points
out factors which have either contributed to reading gain or
disability. The items embodied therein always have some correlation
to reading performance of status.

Gray Oral Reading Paragraphs: The purpose of the test is to
secure accurate measures at frequent intervals of the progress of
pupils in rate and accuracy of oral reading, and to secure detailed
information which will aid in determining the specific nature of
the difficulties which poor readers encounter. It includes passages
at four levels of difficulty appropriate to college freshmen. Each
set contains five tests of approximately equal difficulty. The tests
of a set are numbered in order from one to five inclusively. It is
properly standardized.2

1Arthur S. Otis, Otis Quick-Scoring Mental Ability Tests,

2William S. Gray, Gray Oral Reading Paragraphs (Indianapo-
lis: The Bobbs-Merrill Company, Inc.).
Procedures.—The following steps constituted the operational procedures for this study:

1. Permission to conduct this study was obtained from the President of Morehouse College.

2. Literature pertinent to this study was reviewed and summarized.

3. The Iowa Silent Reading Test, Form Am, Triggs Survey Test, Gray Oral Paragraphs, Inglis Vocabulary Test, and Otis Quick Scoring Mental Ability Test, Form C were used in collecting the data.

4. The data derived from these instruments were arranged according to the demand of this study in terms of specific and general difficulties of the group. These were further classified and categorized for purposes of determining instructional needs of the students.

5. Conclusions, implications and recommendations were made on the basis of the findings.

Review of the related literature.—Studies within the area of reading difficulties have been fairly extensive. Most of the reports are given in periodicals, theses and textbooks. The writer only pointed out a very few cogent ones as discussed here under the following major headings: (1) survey of diagnosis and correction of reading difficulties, (2) some findings regarding interest, study habits and vision in total reading process, and (3) identification of reading disability in regard to vocabulary, comprehension and oral reading skills.

Survey of diagnosis and correction of reading difficulties.—Guy L. Bond and Leo Fay conducted a remedial reading clinic at the University of Minnesota and initiated analysis of reading difficulties as a diagnostic step. Twenty-three children, one girl and
twenty-two boys were enrolled for diagnostic and clinical treatment. The clinic was in operation two hours a day for five weeks during which time a thorough diagnosis was made of each child's difficulties. The difficulties discovered were analyzed as follows:

1. Over-emphasis on phonetic analysis
2. Faulty word recognition techniques and no systematic method of word analysis
3. A number of difficulties related to poor reading habits
4. A negative attitude toward school and reading
5. Constant tiredness and listlessness

A comparison of the average gains for the pupils with average expected gain may be used as an indication of the effectiveness of the clinic for the group as a whole. The average for the pupils was 5.0 months. Thus the group gained five times as much as their previous achievement indicated that could be expected to gain.¹

Sigmund Fogler reported a remedial program conducted by Alexander and Wiener in Public School 223, Brooklyn New York. The purpose of this program was: any pupil who was retarded two years or more in reading was retarded seriously enough to warrant inclusion in the remedial instruction.

Eighteen pupils were selected on the basis of need for instruction. Need was determined by reading retardation and by the opinion of an official or of subject matter teacher. The pupils' ages

ranged from eight to almost thirteen, from grades three through seven, from 0.0 to 4.7 in reading grade level according to standardized tests; and had intelligence quotients ranging from 60 to 113. Instructions were offered to the pupils on the basis of their analyzed difficulties. Analysis of the data presented revealed an appreciable progress.¹

Monroe in her study emphasized the importance of diagnostic and remedial work, described types of cases, suggested causes of difficulties in reading, and offered practical suggestions used in the writer's study concerning remedial instruction.²

The most extensive research in the field of reading is Robinson's report of her clinical study of thirty children. The chief purpose of her study was to extend an understanding of the causes of severe forms of reading disability and to consider the nature of appropriate therapeutic procedures. To accomplish the purpose of such a study, each child was diagnosed by the following specialists: a social worker, a psychiatrist, a pediatrician, a neurologist, three ophthalmologists, a speech correctionist, an otolaryngologist, an endocrinologist, a reading technician.

The findings of each specialist were recorded and tentative recommendations were made. When all the medical data were available concerning a given child, they were summarized and interpreted by the pediatrician. The investigator then summarized all the data


concerning the child and fitted them into a tentative report which was purely analytical. Recommendations for treatment were made on the basis of the report which proved successful as could be evidenced by the result of post testing.¹

Murphy and Davis questioned the validity of the large gains reported as a result of remedial reading because the reading scores were not "corrected for chance." They did not imply remediation is not effective. They maintained rather, that "genuine improvement can only come as a result of long, continued well conceived program of remedial instruction."²

Boyd and Schwiering reported the results of child guidance and remedial reading practices in seventy-six centers, (sixty of which were in public schools, twelve were in colleges and universities and four with independent child guidance clinics) purposes of clinic or nature of its service, concerning date of establishment, personal age limits for admission and types of cases. They concluded that the amount and kind of remedial help is on the increase, an hour a day. Both individual and group instruction are given in most centers. Some clinics plan remedial work to be carried out by schools or other agencies.³


Arthur Gates presented the following facts consequent upon his findings: recognizing that many difficulties arise in the face of keen difficulties to read, it is apparent that any degree of misleading motivation is a serious handicap...it is recognized that various weaknesses and defects of the bodily organs and mechanisms involved in reading may prove to be handicaps. Similarly, certain individual physical or mental characteristics, such as left handedness or volatile personality may predispose a pupil to develop difficulties.

Despite the fact that physical, mental and emotional obstacles are numerous and serious, it is believed that most children with intelligence quotients above 70 may be taught to read if optimum methods are employed.¹

Betts also discovered certain factors underlying reading difficulties. Believing that "as education increases measurable differences among individuals, research multiplies and extends the list of measures and identifiable functions involved in reading... a specific disability is a combination of characteristic symptoms which differentiate the difficulties?² He gave a summarized preview of the factors which are pertinent to the problem which were listed as maturation, vision, hearing, kinesthetic, language, emotional, differences in sex, pedagogical, and external.³

²Ibid., p. 51.
³Ibid., p. 54.
Luella Cole summed the above facts in her own way. Reading to her is also a highly complex performance, and involves general intelligence, vision, eye movements, past experiences, inner speech, memory, word knowledge, and inferences. The process cannot really be explained from one single point, because all the factors combine to produce the effects observed.\(^1\)

Durrell in his study found out that a testing program is of little value unless it is followed by a teaching plan designed to provide for the needs disclosed by the testing. With these facts in mind, he offered the following remedial plans:

1. Providing reading materials suited to each child's reading level
2. Providing adequate motivation for reading
3. Providing for difficulties with words
4. Providing for difficulties in comprehension of longer units
5. Increasing the speed of silent reading
6. Overcoming faulty habits in oral reading
7. Providing greater exercises in the study skills
8. Encouraging adequate independent reading
9. Providing for superior readers\(^2\)

\(^1\)Ibid., p. 3.

Bess Goody Koontz brought out the fact that all available evidence from experiments and progressive practice favors specific provision for guidance in reading.¹

Many causes of reading difficulties are interrelated. One cause might naturally seem to go with the other, and they are quite often developed together.

Monroe asserted in her diagnostic reports that many causal factors, general and specific must be known and analyzed before one could initiate a remedial program.²

Consequently, the relationship between reading difficulties and personality maladjustment is presently receiving considerable attention from a number of investigators. Various studies strongly indicate that many cases of reading difficulties and personal maladjustment are interrelated. Zolkos, having wielded much experience in analysis of reading difficulties, stated, "In many cases, intense emotional strain and reading disability seem to interact."³

Using a non-directive play therapy approach to the problem of reading disability, Ellis reported that the severity of emotional disturbance is significantly related to improvement in reading disability.⁴


³Ibid., p. 219.

⁴Ibid.
Gates, having seen the causal relationship between reading difficulties and emotional disturbances, made the following conclusion:

All of these symptoms or forms of nervousness, withdrawal, aggression, defeatism, chronic worry appear among cases in which the maladjustment is the cause, the result or the concomitant of reading difficulty. It is therefore not possible to tell whether they were causes or effects or an accompaniment of trouble with reading.¹

Smith realized that faulty teaching methods per se are not the causes of reading failure, nor is neuroticism the cause. These facts were supported by many diagnostic reports which had shown normal growth in reading amongst students exposed to neural and teaching defects. He finally investigated the neurophysiology of reading disability and arrived at the following conclusions.

1. Severe reading disability which resists correction is primarily a functional rather than a structural problem. It is most likely caused by abnormal synaptic transmission in certain non-readers and failure to achieve adequate long-term activity of neural systems in others.

2. Failure to achieve normally in reading despite instruction is, by and large, a physical problem rather than an instructional one.

3. Reading difficulty is a medical problem although it is scarcely recognized as such.²

Walter Hill did and reviewed many studies of student readers and their implications for college instruction and summarized his findings as follows:

¹Op. cit., p. 220
²Donald E. P. Smith, "The Neurophysiology of Reading Disability," Significant Elements in College and Adult Reading Improvement, Seventh Yearbook of the National Reading Conference (Fort Worth, Texas: Texas Christian University Press, 1958), pp. 54-58.
Investigations of the nature of the college student with basic difficulty in reading have been fragmentary in nature. The information presently available would indicate that these students will exhibit downward deviations from the norm in verbal and non-verbal intelligence; recognition and meaning vocabulary; advanced word attack skills demanding reasoning and in study of learning skills. There is some indication that many of these poor readers manifest an underlying negativism toward book-centered situations. Investigations of physical status and pre-college school experiences did not reveal significant causes of their reading difficulties are caused by deficiency in learning ability.\(^1\)

Walter Hill, in his critique of personality traits and reading disability, was convinced beyond all reasonable doubts that reading difficulties are strongly related to personality problems. He concluded his summary as follows:

The continuing efforts to relate isolated personality traits to reading disability fail to provide results which substantiate either the specificity of the theory or the practical value of the basic conception. A number of generalizations relating maladjustment and reading disability have been formed through authoritative interpretation of selected research and general observation of poor reader behavior. These investigations suggest that it is more realistic to assess the interaction of personality and reading through the analysis of total difficulties of the reader.\(^2\)

Fields found out in her study of the comparison and relationships of oral and silent reading performances of good and poor college freshman readers that students who have fewer difficulties in oral and silent reading will probably perform satisfactorily at the college level. In an implied analysis of the performances of the poor readers,

\(^1\)Walter Hill, "Studies of Student Readers and Their Implications for College Instructions," Research and Evaluation in College Reading, Ninth Yearbook of the National Reading Conference (Fort Worth, Texas: Texas Christian University Press, 1960), p. 15.

she discovered that their present reading difficulties would hinder their good performances at the college level. Through her findings, she subscribed to the opinions of many authorities in the field that good readers are not totally devoid of reading disabilities of some notable gravity. Analytically, she realized that college freshmen who are classified as poor readers vary greatly in their respective difficulties.

On the basis of the discovered difficulties of the poor readers she suggested that good training in fixation might allay most difficulties.¹

She recommended that a group of poor readers who are molested by many difficulties should be helped to overcome their respective disabilities through a systematic training in the reading laboratory or clinic. The clinic help must be specifically on the discovered difficulties. Where there is difficulty in rate, comprehension should not suffer in an attempt to raise the rate.²

Clemens found out in her study of "Relationship of Reading Achievement to Academic Status of a Select Group of College Freshmen" that a greater effort should be made to co-ordinate the senior


² Ibid., p. 93.
high school and college curriculum in order to nip the reading difficulties in the bud at the college level. Her findings suggested that a more positive relationship between reading status and academic achievement in courses requiring heavy reading assignments will be achieved if difficulties in areas of reading are eliminated. Having analyzed her data she made the following recommendations:

1. In order to remove an unforeseen difficulty that might likely occur among college freshmen, there should be a reading program which insists on the acquirement of basic reading skills.

2. Content area teachers should, in conjunction with the reading specialists, effect a program designed to teach and strengthen those reading skills and techniques needed in the various content areas, otherwise some difficulties will cripple the students' mastery of the subject.

3. That a reading program be sponsored during the summer months in order to allow prospective freshmen who are deficient in reading skills, to develop and improve these skills prior to their enrollment in college courses. Thereby eliminating the possibilities of college academic achievement suffering so greatly as a result of faulty reading habits and skills.¹

King's comparative study of reading achievement and academic achievement of a selected group of college freshmen at Morris Brown proved that the group that took reading courses did not improve considerably because of the dynamic difficulties which showed in many complex ways. These difficulties were not properly analyzed and the most effective remedial approach was not given. The study revealed also that the group which did not take reading courses on

the basis of their score had some difficulties which could have been eliminated. This fact was evidenced in their making persistent reading scores. On the basis of King's findings, she concluded that both groups had some reading difficulties which varied very considerably. Consequently, she recommended that both groups needed corrective help in order to allay their respective difficulties in reading.¹

King's results agree with the opinions of many authorities in the field that those who fall so far below the norm in general reading ability indicate severe disabilities which must be properly analyzed and remedial steps be taken accordingly. If no significant gain is made in the first year, the difficulties should be analyzed and consequently attacked in the second year.

Having surveyed her findings, conclusions, and implications, she made the following statement: "Special guidance in the selecting of major fields of concentration should be considered for persons in the lowest percentile of the freshman class."²

Howard's "Case Studies of Reading Problems and Achievement Patterns Among Selected Students" proved consistently that major reading problems was the lack of appropriate comprehension abilities, coupled with lack of differentiation of rates in reading which could

¹Mary B. King, "Comparative Study of Reading Achievement and Academic Achievement of Selected Group of College Freshmen at Morris Brown College" (unpublished Master's thesis, School of Arts and Sciences, Atlanta University, 1961), pp. 65-68.

²Ibid.
lead to higher degree of comprehension. She further found out that
the disclosed discrepancies in all areas of academic achievement
were caused by reading disabilities which were not corrected on
the score of their respective analysis.

She firmly recommended that there should be no misconception
which might create some psychological problems thereby aggravating
reading difficulties. She also insisted as all other investigators
in the Center that corrective cases should remain in reading for
two semesters so that their difficulties would be effectively
eradicated. She also suggested that there should be a diagnostic
analysis of the causes of the decline in academic averages after
the freshman year as that will quickly reveal any reading diffi-
culties in all content areas. ¹

Bryant's investigation of "Comparative Study of the Morehouse
College Reading Program from 1956-60" found out the following points
which are positively related to the analysis of reading difficulties:

1. The reading diagnosis, the use of general survey of
   achievements, physical screening and the securing of
   reading profile were rated as adequate.

2. Relative to the nature and type of the Morehouse
   Reading Program, the area of remedial and clinical
   services to allay reading disabilities were adequate.

3. Relative to the extent of diagnosis which revealed
   the difficulties, the following were related as adequate:

¹Dorothy A. Howard, "Case Studies of Reading Problems and
Achievement Patterns Among Selected Students" (unpublished Master's
thesis, School of Arts and Sciences, Atlanta University, 1960,
pp. 70-71.)
retesting of general reading achievement, the involve-
ment of students in the evaluation which has analytical
implications, the use of instruments other than the
general reading achievement test and consideration of
general academic achievement.

4. The use of diagnostic tests of silent and oral read-
ing, checking of hearing difficulties, checking visual
defects and assessing of environmental factors sur-
rounding the cases aided considerably in analyzing the
individual reading difficulties.

5. The budget made for the purchasing of reading materials
and devices that will help to analyze and eliminate
the students' reading difficulties was adequate.¹

Some findings regarding interests, study habits and vision
in total reading process.— Spache found out that poor reading
performances are caused mostly by poor vision. He further ex-
pounded that the visual defects which seem to bear significant
relationship to reading disability are:

1. Visual acuity which means the sharpness of vision at
near and far reading points.

2. Hypermetropia which gives imperfect focus at near point
with consequent better vision at far.

3. Astigmatism which is the blurring of image in one or
several mechanics, as vertical or horizontal vision
may be near-sighted in one dimension and far sighted
in another.

4. Binocular vision which is achieved by focusing both
eyes on the same object so that the images formed in
each eye fall on corresponding points in the retinas.
If coordination is adequate, the corresponding images
are blended into a single image by the mental process
of fusion.

¹W. H. Bryant, "A Comparative Study of the Morehouse College
Reading Program from 1956-1960" (unpublished Master's thesis,
School of Arts and Sciences, Atlanta University, 1962), pp. 132-135.
5. Esophoria is the tendency to converge in coordinating the eyes in the effort to achieve fusion.

6. Exophoria is simply an under convergence or insufficient convergence to achieve good coordination or accurate fusion.

7. Steropsis is depth perception because of the distance between the two eyes, each receives an image from a different angle, resulting in a tri-dimensional effect or depth perception. It is present only when binocular coordination is adequate.

8. Hyperphoria is vertical imbalance which makes one eye turn above or below the other thus interfering with co-ordination or fusion.

9. Aniseikonia is a visual condition whereby, the images formed in the two eyes are unequal in size or shape.

10. Accommodation convergence is a situation to achieve focus, the eyes must be turned inward for near and outward for far. At the same time, the lenses must make a corresponding adjustment for distance.

Leverett using the Massachusetts Vision Test with some 6,000 elementary and secondary school pupils, found that vision tends to deteriorate markedly from kindergarten through grade twelve. Typically the 20/30 level of visual acuity is achieved at about age five or six. At the kindergarten level 90 per cent of the children passed 20/20 binocular acuity tests. To emphasize his finding he said the following:

At school ages, the most obvious potential source of losses in acuity would appear to involve changes in refraction. A trend toward an increase in refraction, less hyperopia and more myopia, during the school years has been reported by

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many authors. . . . There is evidence that refraction may shift in the hyperopic direction in the early school years. It seems to be agreed, however, that the average refraction moves in the myopia direction after ages seven or eight.1

His follow-up study, however gave a test of ability to copy seven simple geometric forms (circle, square, horizontal and vertical diamond, cross, divided rectangle, and triangle) to 1,510 first, second and third graders in Winter Haven, Florida, Lowder concluded that performance on this test was more closely related to school achievement than were scores on an intelligence test. McQuarrie analyzed the work of Lowder and advanced the idea that skill in form perception is necessary for successful achievement in reading. They also cited the findings of Ammons, Siegel, and Hebb as illustrations of how perception skills are acquired.2

Buswell photographed the eye movements of 186 subjects ranging from the first grade to the college level. His data suggested that eye movement skills develop rapidly during the first four grades and that after this little improvement occurs. A slight use occurs in the sophomore and junior years of high school.

However, Ballantine discussing his own and Buswell's data said:


Both Buswell's and the present study have shown growth beyond the fourth grade. There are differences revealed in the pattern of growth between the two studies, but if wide enough intervals are used on Buswell's data, then both studies indicate that growth may continue as far as the tenth grade. It is extremely doubtful that in the case of average groups, any change in growth would prove significant after grade ten.¹

Robinson studied 22 reading disability cases between the ages of six and fifteen, found visual abnormalities present in 73 per cent of these cases but concluded that these contributed to the reading difficulties in only eleven of the of the cases. She also said that there was lack of agreement concerning the effects of astigmatism on reading. After summary of the research on astigmatism, she concluded that astigmatism might even be associated with superior reading performance. She noted that Betts and Eames had suggested that higher degrees of astigmatism might be a serious handicap to a reader.²

Harris suggested that lack of binocular coordination proved a definite handicap. He pointed out that visual defects, poor near-point acuity and poor eye-muscle balance are most significantly related to reading problems.³


Smith and Dechant in their research found out that interest is related both to reading readiness and to later reading achievement. They emphasized that the most effective determinants of interest seem to be sex, age and intelligence, but environmental factors are also important. They finally stated that interest is directly dependent on the child’s interest in learning to read and expansion of his interests through reading in dependent on both. With guidance towards new and challenging areas of study, interest in reading is maintained and enhanced.¹

 Identification of reading disability in regard to vocabulary, comprehension and oral reading skills. — Russell in his study discovered that lack of adequate vocabulary causes deficiency in reading. He further expounded his findings as follows:

Lack of adequate vocabulary obstructs reading in all dimensions. Knowing words is a great asset in all school work which involves reading of any description. Difficulty in vocabulary affects student’s scholastic achievement in social science, natural science, and humanities. A student’s ability is generally conditioned by his vocabulary. There is close relationship between size of vocabulary and the total reading achievement at all levels. The ability to read intelligently devotes solely on adequate reading vocabulary.²

Spache and Thorndike subscribed to this opinion by emphasizing that ideas are expressed in words, they can only be properly interpreted


if the readers are equipped with adequate workable vocabulary.  

Seashore and Eckerson conducted a study in estimating the average vocabulary for a prospective college freshman to read effectively at his level. The found out that a college freshman who is well prepared for his academic challenge should possess an average vocabulary of 150,000 words. Ramman, Hogan and Greene laid special emphasis on the importance of vocabulary particularly in specialized reading. They said the following:

The distinguishing feature of mathematic materials is the technicality of the vocabulary. There are many special terms such as cone, sine, angle of depression, tangent, coefficient, radius, reciprocal, perpendicular, acute angle and diagonal. In order to understand mathematics and its implications its specialized vocabulary is necessary. The cumulative vocabulary of mathematics can be hurdle in students’ reading of textbooks if the teacher has failed to clinch required technical vocabulary as successive courses have been taught. Specialized vocabulary should be acquired so as to enhance successful reading of mathematics.

Bush Budish found out that the need of specialized vocabulary is highly needed in the reading of industrial arts. He discovered that failure in reading of the industrial arts is often caused by lack of adequate related vocabulary. In furtherance of his findings he said the following:

The books in industrial arts are loaded with words which are rarely found in other fields. Successful reading of such books require accumulation of the required vocabulary. It is possible for a student to

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1 Ibid., p. 264.
2 Ibid., p. 264.
learn to construct simple articles in the industrial art shop by simply following the oral directions of another person or observing the work of another student. The final test of his proficiency as a student of the industrial arts is his ability to read and execute directions independently. Basic to his understanding of the processes involved is a knowledge of the vocabulary used. Often these students are further frustrated when they learn that the industrial arts program demands reading vocabulary for which they have no preparation.

Green and Petty discovered and discussed that lack of oral reading proficiency is often greatly caused by lack of good enunciation and syllabication skills. In addition, they stressed that dramatic voice inflection renders oral reading to be unpleasing, unrhythmical and generally not understandable.

Bond and Clymer did a study in oral reading in which more than four thousand children were measured in the following basic skills:

1. Associating the appropriate meanings with the printed symbols.

2. Using context clues and other meaning aids to anticipate the words to be recognized and then checking the accuracy of the recognitions.

3. Becoming flexible and efficient in visually analyzing the words into usable recognition elements.

4. Developing knowledges of visual, structural, and phonetic elements (knowledge such as what the visual element -ight says in fright, right, light, right,) knowledge of consonant and vowel sounds, blends and diagraphs, prefixes and suffixes, etc.

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5. Learning skill in auditory blending and visually synthesizing words parts to rapidly pronounce or recognize the word as a whole.

6. Forming the habit of using the more analytical and pronunciation techniques when and only when needed.

The study showed that a child could not be a good reader if he remained inadequate in any one of them and deficiency in any of the basic areas of oral reading could result in reading disability.¹

Word-recognition problems are often found to be at the root of the difficulty of those disabled readers who fall into the descriptive categories of disability and complex disability.²

Summary.— The foregoing findings surveyed clearly and crystalily pointed out that the importance of and the need for the analysis of reading difficulties are highly recognized as instrumental to effective reading programs which have proved very helpful to many retarded readers. The disabled readers should be grouped in terms of their respective difficulties, but the instruction must be strictly individualistic and on basis of need. Diagnosis of reading difficulties has indicated great overlapping and inter-relatedness of causal factors and remedial treatment. Findings have emphasized that severe reading problems are caused by and stemmed from personality factors


²Ibid., p. 266.
particularly when they are left to persist up to college freshman year without adequate remedial treatment. Some difficulties which resist correction are caused by abnormal neurotic functioning, and such cases must be given medical attention by a neurologist. Studies have shown that reading difficulties are best solved by the conjunct efforts of the content area teachers and reading specialist, and this practice should be adopted mostly among college freshmen and high school pupils. Many investigations clearly identified poor comprehension, inadequate vocabulary and lack of oral reading skills as pertinent causes of reading disability. Some of the literature reviewed showed that absence of reading interests, study-habits and visual defects are significantly related to reading difficulties.
CHAPTER II
PRESENTATION AND INTERPRETATION OF DATA

**Introductory explanations.**--This chapter deals with the identification of the specific and general reading difficulties of the selected subjects in the following areas: comprehension, visual acuity, intelligence as it relates to reading, oral reading proficiency and study habits. The data were collected from the following tests: [Iowa Silent Reading Test, Form AM administered in September, 1962, along with Triggs Diagnostic Survey, Gray Oral Reading Paragraphs, Inglis Vocabulary and Keystone Telebinocular Test.](#)

In addition to the foregoing tests, information was obtained concerning interests and study habits of the selected subjects as contained in their respective inventories. The discovered difficulties were assessed in terms of the total reading process, and thus, it was possible to ascertain those disabilities that might be most limiting to the total process of reading.

The data were categorized in order of apparent needs in the instructional procedure. In the process of categorizing, the data were analyzed through extraction of the range, mean, and median of the collected test scores from [Iowa Silent Reading, Triggs Diagnostic Survey Test, Inglis Vocabulary Test.](#) The data from the Gray Oral Reading Paragraphs were classified under word-at-
tack, enunciation, syllabication, omissions, slowness, dramatic voice inflection and slurred word ending. The frequencies and the representative percentages were arranged in tabular form.

The visual defects were analyzed in the following types: slight defect in total vision, and in fusional defects. The interests derived from the inventory were classified under the following headings: "high reading interest," "low reading interest," "scanty reading interest" and "no reading habit at all." The representative percentage of each type was indicated with its relative frequency. Finally the median scores derived from the Iowa Silent Reading Test were correlated with the respective I. Q.'s of the group to ascertain the relationship of their reading ability to natural potentialities. Through survey, analysis and possible interpretations, general assessments of the discovered reading difficulties were made. The chief limiting difficulties as revealed in the survey and analysis of abilities, habits, and skills of the freshmen were identified on the basis of categorization of the reading difficulties which have been revealed. Suggested instructional procedures which are most likely to remedy the disabilities are given at the conclusion of the analysis.

Survey and analysis of the reading comprehension abilities of the group.—In measuring the comprehension abilities of the Morehouse College freshman students who were enrolled in reading classes in September, 1962, the writer used two sets of test results from the Iowa Silent Reading Test, Advanced Form Am and the
Diagnostic Reading Tests, Survey Section, Form A. Only the comprehension sections of the tests were used in this analysis which is summarized and represented in Table 1 and Figure 1.

Findings from the analysis of the Iowa Test.—Data in Table 1 were used, first of all, to check possible normality of the distribution. The data were grouped into fourteen classes, using intervals of five. The range of the distribution was sixty-six. The mean score of the group was 165.8, with a standard deviation of 26.03. Within the mean class interval there were 26 per cent of the cases; above it, 34 per cent; and below it, 40 per cent. The median score was 166.4. Although the total picture of the distribution did not conform rigidly to the normal curve it seemed feasible to conclude that the closeness of the mean and the median and the fair proportionality of percentages above and below the mean interval indicated an appreciable trend toward a representative distribution.

Further analysis of the comprehension abilities of the selected group of freshmen was made through comparison of their performances with students of the grade-thirteen standardization group as reported in the Iowa test manual for the expressed purpose of comparison with local performances. Results of this comparison are presented in Figure 1. The local median score of 166.4 was

1H. A. Green, A. N. Jorgensen and V. H. Kelly. Iowa Silent Reading Tests New Edition Advanced Test: Manual of Directions for Forms Am (Revised), Bm(Revised), Cm, and Dm. (Yonkers-on-Hudson, New York: World Book, 1943).
## TABLE 1

**DISTRIBUTION AND BASIC COMPUTATIONS BASED ON SCORES MADE BY FIFTY MOREHOUSE FRESHMEN ON THE COMPREHENSION SECTION OF IOWA SILENT READING TEST FORM AM**

<table>
<thead>
<tr>
<th>Scores</th>
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<th>x₁</th>
<th>fx₁</th>
<th>fx₁²</th>
<th>%</th>
</tr>
</thead>
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<td>1</td>
<td>13</td>
<td>13</td>
<td>169</td>
<td>2</td>
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<tr>
<td>190-194</td>
<td>1</td>
<td>12</td>
<td>12</td>
<td>144</td>
<td>2</td>
</tr>
<tr>
<td>185-189</td>
<td>2</td>
<td>11</td>
<td>22</td>
<td>242</td>
<td>4</td>
</tr>
<tr>
<td>180-184</td>
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<td>30</td>
<td>300</td>
<td>6</td>
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<td>175-179</td>
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<td>9</td>
<td>54</td>
<td>486</td>
<td>12</td>
</tr>
<tr>
<td>170-174</td>
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<td>8</td>
<td>32</td>
<td>256</td>
<td>8</td>
</tr>
<tr>
<td>165-169</td>
<td>13</td>
<td>7</td>
<td>91</td>
<td>637</td>
<td>26</td>
</tr>
<tr>
<td>160-164</td>
<td>6</td>
<td>6</td>
<td>36</td>
<td>192</td>
<td>12</td>
</tr>
<tr>
<td>155-159</td>
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<td>20</td>
<td>100</td>
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<td>20</td>
<td>80</td>
<td>10</td>
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<td>1</td>
<td>0</td>
<td>0</td>
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Range=66
Mean=165.8
Standard Deviation=26.03
Median=166.4
Fig. 1. — Comparison of Percentile Ratings Assigned to Standard Scores obtained by Morehouse Freshmen and the Grade 13 Standardization Group on the Iowa Silent Reading Test, Comprehension Section
20 points lower than a median score of 185.3 for the standardization group. The median score for the Morehouse group fell at the nineteenth percentile of the norms group distribution, while the median score for the norms group was at the ninety-sixth percentile of the Morehouse distribution. In Figure 1 this marked difference in levels of performance of the two groups is indicated where the lines which represent the median scores of each group cut across the respective profiles.

In noting the matter of dispersion of the two distributions, the investigator found considerable differences in ranges and deviations. The range of scores in the standardization group extended from 128-222; in the Morehouse group it was 130 to 196, with ranges of 94 and 66, respectively. The manual for the Iowa Test reported a standard deviation of 21.00 for the norms group, whereas the local group had a computed standard deviation of 26.03. The smaller standard deviation of the norms group, in combination with the broader distribution of scores, was thought to be indicative of less variability in performance within this group.

Summary of the analysis.—The analysis of scores and the comparison of performances of the standardization group and the local group allowed the writer to gain some evidence as to the comprehension abilities of the freshmen as measured by the Iowa Test. In general the performances were fairly normal in distribution and might give some indication of how similar groups would perform
on this particular test. In general the Morehouse group seemed to have appreciably less proficiency than did the group on which the test was standardized.

Findings from the analysis of the Triggs Test.—Data in Table 2 were used, first of all, to check possible normality of the distribution. They were grouped into ten classes using intervals of three. The range of the distribution twenty-nine. The mean score of the group was 28.7. Within the mean class interval there were 28 per cent of the cases: above it, 40 per cent; and below it, 32 per cent. The median score was 28.5. Although the total picture of the distribution did not conform rigidly to the normal curve it appeared feasible to conclude that the closeness of the mean and the median and the fair proportionality of percentages above and below the mean interval indicated an appreciable trend toward a representative distribution.

Further analysis of the comprehension abilities of the selected group of freshmen was done through comparison of their performances with students of the grade-twelve standardization group as reported in Triggs test manual for comparison with local performances. Results of this comparison are presented in Figure 2. The local group median score of 28.5 was 12.5 points lower than a median score of 41 for the standardization group. The median score for the Morehouse group fell at the third percentile of the norms group distribution, while the median score for the norms
group was not represented within the percentile ranks of the Morehouse distribution. In Figure 2 the marked difference in levels of performance of the two groups is indicated where the lines which represent the median scores of each group cut across the respective profiles.

In noting the matter of dispersion of two distributions, the writer found that the local group distribution was characterized by a wider spread of scores with a range of 29. The range of scores in the standardization group extended from 26–47 with a range of 21. The low score for the Morehouse group was 7, and the high score was 36.

Summary of the analysis. – The analysis of the scores and the comparison of performances of the standardization group and the local group allowed the writer to gain some evidence as to the comprehension abilities of the freshmen as measured by the Triggs Test. In general the performances were fairly normal in distribution and might give some indication of how similar groups would perform on this particular test. A comparison of the median scores of the two groups offers evidence that the Morehouse group appeared to have appreciably less proficiency in the comprehension abilities measured by this test than did the group on which the test was standardized.

Survey and analysis of the vocabulary abilities of the Morehouse Freshman. – In ascertaining the vocabulary abilities of
TABLE 2

DISTRIBUTION AND BASIC COMPUTATIONS BASED ON SCORES
MADE BY FIFTY MOREHOUSE FRESHMEN ON THE TRIGGS
DIAGNOSTIC SURVEY TEST FORM A

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<th>fx12</th>
<th>%</th>
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<td>104</td>
<td>832</td>
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<td>7</td>
<td>98</td>
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Range=29
Mean=28.7
Median=28.5
S. D.=5

the freshmen involved in this study, the writer used the scores that they made on the Inglis Vocabulary Test. An analysis was made of the percentage of subjects achieving a specified percentage of items correct, and the median performance of the group was compared with that of the standardization group.

Findings of the analysis of the Inglis Test scores.—Data in Table 3 were used, first of all, to check possible normality of
Fig. 2.— A comparison of percentile ratings assigned to raw scores obtained by Morehouse freshmen and by the Grade 12 standardization group on the Triggs Diagnostic Reading Tests, section 2.
the distribution. The scores were grouped into fifteen classes using intervals of five. The mean score of the group was 63.9, with a standard deviation of 18.7. Within the mean class interval there are 14 per cent of the cases; above it, 48 per cent; and below it, 38 per cent. The median score was 63.7. Although the total picture of the distribution did not conform rigidly to the normal curve, it seemed feasible to conclude that the closeness of the mean and the median and fair proportionality of percentages above and below the mean interval indicated an appreciable trend toward a representative distribution.

Further analysis of the vocabulary abilities of the selected group of freshmen was made through comparison of their median performance with that of the college freshman standardization group. Dr. H. D. Rinsland states in a review of the Inglis Vocabulary Test that norms for the test are given in terms of median scores for grades 9-12, college freshmen and college graduates. The median score for grade nine was given as 30 per cent or 45 words out of a total 150 and for college graduates as 86 per cent or 129 words. On the basis of Rinsland's report, the writer interpolated to find a probable median score for college freshmen of 60.6 per cent or 92 words out of 150.¹

TABLE 3
DISTRIBUTION AND BASIC COMPUTATIONS BASED ON SCORES MADE BY FIFTY MOREHOUSE FRESHMEN ON THE INGLIS VOCABULARY TEST FORM A

<table>
<thead>
<tr>
<th>Scores</th>
<th>f</th>
<th>x1</th>
<th>fx1</th>
<th>fx12</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>100-104</td>
<td>2</td>
<td>16</td>
<td>32</td>
<td>512</td>
<td>4</td>
</tr>
<tr>
<td>95-99</td>
<td>1</td>
<td>15</td>
<td>15</td>
<td>225</td>
<td>2</td>
</tr>
<tr>
<td>90-94</td>
<td>1</td>
<td>14</td>
<td>14</td>
<td>196</td>
<td>2</td>
</tr>
<tr>
<td>85-89</td>
<td>1</td>
<td>13</td>
<td>13</td>
<td>169</td>
<td>2</td>
</tr>
<tr>
<td>80-84</td>
<td>4</td>
<td>12</td>
<td>48</td>
<td>566</td>
<td>8</td>
</tr>
<tr>
<td>75-79</td>
<td>5</td>
<td>11</td>
<td>55</td>
<td>605</td>
<td>10</td>
</tr>
<tr>
<td>70-74</td>
<td>5</td>
<td>10</td>
<td>50</td>
<td>500</td>
<td>10</td>
</tr>
<tr>
<td>65-69</td>
<td>5</td>
<td>9</td>
<td>45</td>
<td>405</td>
<td>10</td>
</tr>
<tr>
<td>60-64</td>
<td>7</td>
<td>8</td>
<td>56</td>
<td>448</td>
<td>14</td>
</tr>
<tr>
<td>55-59</td>
<td>5</td>
<td>7</td>
<td>35</td>
<td>245</td>
<td>10</td>
</tr>
<tr>
<td>50-54</td>
<td>5</td>
<td>6</td>
<td>30</td>
<td>180</td>
<td>10</td>
</tr>
<tr>
<td>45-49</td>
<td>3</td>
<td>5</td>
<td>15</td>
<td>75</td>
<td>6</td>
</tr>
<tr>
<td>40-44</td>
<td>2</td>
<td>4</td>
<td>8</td>
<td>32</td>
<td>4</td>
</tr>
<tr>
<td>35-39</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>30-34</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>25-29</td>
<td>3</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>20-24</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
</tbody>
</table>

Range = 83
Mean = 63.9
Median = 63.7
S. D. = 18.7
Median, Morehouse Group
Median, Standardization Group

Fig. 3.—A comparison of the median performances of the Morehouse freshmen and the freshman standardization group on the Inglish Vocabulary Test, Form A.
On the basis of this interpolated median score, the median performance of the Morehouse group was compared with that of the standardization group. The first step, however, was to construct Figure 3 in order to illustrate the cumulative percentage of subjects achieving a specified percentage of the items correct. According to Figure 3, only eight per cent of the local freshmen scored at or above the median of 60.6 per cent of items correct for the standardization group. Figure 3 enabled the writer to deduce that 92 per cent of the subjects scored less than the standardization median.

Summary of the analysis.—The analysis of scores and the comparison of performances of the standardization group and local group allowed the investigator to gain some evidence as to vocabulary abilities of the freshmen as measured by the Inglis test. In general the performances were fairly normal in distribution and might give some indication of how similar groups would perform on this test. In terms of the Inglis Test it was concluded that 92 per cent of the Morehouse group seemed to have shown appreciably less growth in vocabulary than did the group on which the test was standardized.

Analysis of oral reading performances of the students.—In analyzing the oral reading performances of the students involved in the study, the writer considered the errors which students made on the Standardized Oral Reading Paragraphs as indicative of
certain disabilities in the total reading process, silent as well as oral. The general and specific difficulties were identified, and the respective percentages and frequencies of errors in the whole group are presented in Table 4. Each error was categorized and treated in terms of its possible effect upon the total test performance. When ranked in order of seriousness the writer found the difficulties to be in the areas of word attack, enunciation, syllabication, word omission, rate, voice inflection, and slurred word endings.

Word attack.—Table 4 shows that thirty-three or sixty-six per cent of the students exhibited the greatest weakness in attacking long words which exceeded three syllables. The students experienced much difficulty in various phases of word attack. For example, in an effort to attack the words adequately and effectively, the students repeated distorted versions of the symbols but gave little evidence of facility in use of certain structural phonetic, and contextual techniques. In general, therefore, the students' word attack in oral reading proved to be a serious deficiency which might have accounted for certain difficulties which they had in silent reading.

Enunciation.—As shown in Table 4 thirty-one or 62 per cent of the group made errors in enunciation. Errors occurred in this area in spite of the students' attempts to check them. In some instances there were slurred word endings and in others there were failures to articulate whole words distinctly. This relatively
TABLE 4

DISTRIBUTION OF THE ERRORS MADE BY FIFTY MOREHOUSE FRESHMEN ON THE GRAY ORAL READING PARAGRAPHS TEST OLD FORM

<table>
<thead>
<tr>
<th>Disabilities</th>
<th>f</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Word-Attack Difficulties</td>
<td>33</td>
<td>66</td>
</tr>
<tr>
<td>Errors in Enunciation</td>
<td>31</td>
<td>62</td>
</tr>
<tr>
<td>Poor Syllabication</td>
<td>7</td>
<td>14</td>
</tr>
<tr>
<td>Omissions</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>Slow Rate</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Faulty Voice Inflection</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Slurred Word Endings</td>
<td>5</td>
<td>10</td>
</tr>
</tbody>
</table>
high incidence of faulty sounding of letters and syllables led the writer to question whether or not students had applied keen auditory discrimination when they had heard the words previously or had practiced the technique of sounding through words as they studied them visually. In the main it was concluded that poor enunciation contributed largely to general lack of oral reading proficiency.

Word omission.—In oral reading twenty per cent of the group committed errors of word omission. On the average these students missed four words in each paragraph. In some instances substitutions were made for the omitted words, and in these cases the difficulties were so severe that they hindered meaningful reading of the last four paragraphs. Often the omissions extended to disregard of punctuation marks. When this combination of omissions occurred the oral reading process was lacking in fluency and smoothness. Although word omissions were not as prevalent as word-attack and enunciation difficulties, they were a serious handicap.

Poor syllabication.—Table 1 shows that as the freshmen read the paragraphs, seven or 11 per cent of them exhibited difficulties in syllabication. This difficulty was noticeable in some short words and particularly evident in polysyllabic words. This deficiency affected the smoothness of oral reading and hampered pronunciation. The writer noted, also, that these students did not seem to be able to apply any types of rules which might have brought them closer to accuracy in pronunciation, even if the rela-
tive stress on syllables might have been incorrect. It was 
realized, furthermore, that in the absence of techniques of syllabi-
cation the students often lost the meaning of the whole paragraph, 
particularly when the difficulties occurred in sentences which 
carried the main idea.

Slow rate.—Throughout the oral reading test 10 per cent of 
the research group performed comparatively slow for students above 
ninth grade. The writer observed that one reason for the retarded 
rate was the students' attempts to prevent some other errors. It 
was noted further, that many of the same students who made errors 
in word attack and exhibited poor enunciation were in the slow-
rate group, also. It was concluded, therefore, that in the main 
these combined errors accounted for specific factors which make for 
loss of a reasonable rate of oral reading. These factors include 
limited eye-voice span, undue caution in moving to the next thought 
phrases, and eventual loss of meaning. It was probable too, that 
the students' failures in the total process lowered interest in 
meaning and encouraged considerable word calling. In general slow 
rate of oral reading was not a prevalent difficulty, but it did 
occur to be symptomatic of deeper disabilities among those who 
were so categorized.

Slurred word endings.—In oral reading performances five or 
ten per cent of the students slurred their word endings. Fre-
quently, this difficulty made their reading inarticulate, and only 
in instances where the root words were familiar did they seem to
maintain meaningfulness in spite of the lack of distinctness. The writer surmized that in earlier reading experiences the students had supplemented slurred endings when they lacked the skill to deal with the more difficult words. In simpler reading it might have been possible to engage in this distortion of the words without damage to the total selection, but in these paragraphs which present one difficult word after the other, this effort to conceal a weakness proved to be highly ineffective and detrimental to the total oral reading process.

Faulty voice inflection.—Eight per cent of the group exhibited faulty voice inflection. This difficulty was characterized by unnaturalness of the speech pattern and deviation from the usual speech tones. When the students did not seem familiar with the content of the paragraph there was the tendency toward a stilted type of reading, with changes in inflection and tone, not in line with the import of the material. Perhaps poor inflection was due to a desire to give some variety to the reading although the meaning was apparently lost. This type of faulty inflection was not necessarily an addition to poor word attack, enunciation, or syllabication, but a part of reading that was often generally satisfactory in mechanics of reading, but not in meaningfulness.

Concluding statement regarding oral reading test performances. —Summarily, the students’ oral reading of the Standardized Oral Reading Paragraphs was indicative of considerable difficulties in
word attack and enunciation and of some severe handicaps in syllabication, omissions, rate of reading, voice inflection and word endings. It was concluded, furthermore, that these difficulties were indicative of some of the reasons for disabilities in general silent reading performances and in vocabulary development.

Analysis of the students' visual defects.—In detecting the students' visual defects, the writer examined their performances on the Keystone Telebinocular Tests. Visual acuity was checked at near and far points. Fusion and other aspects of vision were tested, and possible effects upon the reading process were described.

Total vision.—Table 5 presents the frequency and percentage distributions of the group's visual defects. Eleven or 22 per cent had slight defects in total vision. Specifically, these defects included such measures as binocular coordination, lateral balance, and vertical balance. Though these difficulties were classified as mild they could have serious effects upon the students' reading. Even after longer periods of reading eyes that are functioning adequately may experience some fatigue from maintaining balance or posture and coordination at near point. Obviously, then the defective visual mechanism may reveal this strain and discomfiture much earlier than the normal one.

Vision in left and right eyes.—Nine subjects, with a group percentage of 18, showed poor vision in the left eye. The left-
### TABLE 5

**DISTRIBUTION OF THE VISUAL DEFECTS OF FIFTY MOREHOUSE FRESHMEN ON THE KEYSNE TELEBINOOCULAR TEST SHORT FORM**

<table>
<thead>
<tr>
<th>Visual Defects</th>
<th>f</th>
<th>Representative % out of 50 cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slight defect in total vision</td>
<td>11</td>
<td>22</td>
</tr>
<tr>
<td>Poor vision in the right eye</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Defect in fusion</td>
<td>7</td>
<td>14</td>
</tr>
</tbody>
</table>
eye deficiencies appeared more severe at far-point than at near. Three letters were not read at far point whereas only one letter was not seen at near point. Repeated screening proved the defect to be constant. Four subjects, with a group percentage of eight, had poor vision in the right eye. In these instances the deficiencies were greater at near point than at far point. Again, repeated screening proved the defect to be persistent.

In neither instance was the writer capable of technical diagnosis, but as Betts has stressed in his discussions of the meaning of the visual survey tests, the lack of balanced efficiency could produce methods of adjustment which work to the discomfort of the students and cause them, often unconsciously, to reject reading whenever possible because it is not a pleasant process.

Fusion.—The visual test administered to the students showed that there were some mild defects in the students' fusion. Eight per cent of the students experienced difficulty in fusion at near point, and consequently found it difficult to read the letters. The letters appeared twin to them at near point, but this difficulty was not experienced at far point. Six per cent of the subjects showed mild defective fusion at far point, but had none at near point.

Summary of the analysis of the students' visual defects.—In accordance with the foregoing points, the investigator noted that sixty-two per cent of the subjects seemed to have mild visual
defects which might affect their reading, particularly after a long period of reading.

Reading interests of the freshmen.—The information which was used to determine the degree of the students' interest in reading was secured through their responses to informal inventories prepared by their reading teachers and administered to them soon after the beginning of formal instruction. In Table 6 the distributions of frequencies and percentages of the various responses are shown.

High reading interests as expressed by the freshmen.—Students characterized as high in reading interests were described as having a strong desire to read books and other materials not included in regular school assignments. Their reading habits included regular reading of newspapers, frequent use of libraries, and keen interest in all other reading resources at their disposal. In determining high reading interests the writer considered specific items which gave opportunity for listing of materials read, checking the types of reading in which the individual wished to engage, and designating the amount of time spent in reading. Twenty-eight per cent of the students were rated as having high reading-interest levels. They read books other than the ones assigned them; they spent much more time in reading than in any other activity; and in numbers of books read within the last three months they ranged from five to fifteen. The students reported that they held mem-
TABLE 6
THE DISTRIBUTION OF READING INTERESTS OF THE FIFTY MOREHOUSE FRESHMEN ACCORDING TO THEIR INVENTORY OF INTEREST

<table>
<thead>
<tr>
<th>Kind of Interest</th>
<th>Frequency</th>
<th>Percentages of the Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Reading Interest</td>
<td>14</td>
<td>28</td>
</tr>
<tr>
<td>Low Reading Interest</td>
<td>16</td>
<td>32</td>
</tr>
<tr>
<td>Scanty Reading Interest</td>
<td>14</td>
<td>28</td>
</tr>
<tr>
<td>No Expressed Reading</td>
<td>6</td>
<td>12</td>
</tr>
</tbody>
</table>

bership in school and public libraries, and many of them kept diaries of the books which they had read. The names of their respective collections of books showed broad spheres of interest in reading. Newspaper reading was found to be their daily practice. They followed up the important editorial comments of the leading papers in the country. Their high interest in reading was reflected in their listings of comic strips, journals, and magazines which had no obvious connection with their regular academic work. Finally, the high reading interest expressed itself in their statements of the desire to read books on history, travel, adventures, plays, science, poetry, detective stories, art, music, biographies, and balanced diets.
Low reading interest.—"Low reading interest" was defined as the tendency to have limited desire for reading. The lower level was exhibited in minimum reading of assigned materials coupled with very little outside reading. The books which were assigned for classwork were scarcely read. There was no expressed desire for outside reading, and leisure time was not spent in reading, but in activities other than reading. They did not indulge in any related reading activity on their own initiative except when they knew that the information was needed in order to engage in a topic of current discussion or to fulfill an urgent obligation. In the last three months they had read no books other than class texts, and prior to college entrance they made little use of the school library.

Further study of the low-reading-interest group revealed their making little use of public and community libraries; showing no interest in an individual library collection; and indicating no definite pattern of interest in current materials. They reported that they seldom read the local daily newspapers, and those who expressed some interest in the leading papers showed that they read them more casually for sports news, trends in fashions, or some event of wide publicity and concern. Their low interest in reading typified itself in their lack of any real, consistent interest in books on history, travel, adventures, plays, science, poetry, detective stories, art, music, biographies and balanced diets. This group comprised 32 percent of the total.
Scanty reading interests.—Students who were identified as scant in reading interests indicated high irregularity in reading in terms of all descriptions found in their respective inventories. The students involved in this classification represented 28 per cent of the cases. As indicated in Table 6 they found it difficult even to read once in a while, and this was often highly selective. For months, they read scarcely any book which was outside the class texts and only one book when this was the exception. They rarely went to the school library for unassigned reading except when they had a passing fancy for reading or a pressing obligation. They seldom kept a library diary with some record of reading done, and when there was such an instance the entries were scanty and incomplete. They did not care to develop a library collection of their own, although they had very few books of real worth and depth.

In current reading the students with scant reading interests were limited. They appeared highly irregular in newspaper reading, including magazines and journals. Their inventories showed occasional interest in reading books on social science, physical science, humanities, music, but no real devotion to either area.

No expressed interest in reading.—The reading interest inventory showed that 12 per cent of the cases expressed no interest in reading. The little reading done was compulsory, and then it included only the bare essentials of the assignment. The students possessed no library membership. They expressed distaste for newspaper reading, including journals, comic strips, and magazine sec-
tions. They expressed no intention of making individual library collections. There was no expressed desire to read books concerned with social science, physical science, or the humanities. They reflected resistance to any situation that called for reading and did not wish for others to read to them. In general they appeared to have developed an antipathy toward reading as an activity for securing information, deriving pleasure, providing inspiration, or widening one's general mental horizon. A perusal of the specific reading performances of the six students falling within this category indicated that the dire lack of interest in reading had worked to their disadvantage.

Survey of reading and study habits of the freshmen.—In surveying the reading and study habits of the freshman students involved in the study, the data were collected from the reading and study habits inventories of the students. The data were classified under the following headings: Systematic reading habits, occasional systematization of reading habits, and no systematic habit. The representative percentage of the group that fell in each of them was given and duly commented upon by explicitly pointing out the classified habit involvement in the students' reading.

Systematic reading habits.—These included all the good reading habits which were strictly and steadily adopted by 20 per cent of the group as shown in Table 7. They followed their reading timetable strictly without any negligence. They had a special place for their reading. On no account did they change from
<table>
<thead>
<tr>
<th>Classification of Study Habits</th>
<th>Frequency</th>
<th>Representative Percentage of the Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Systematic Reading Habit</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>Unsystematic Reading Habit</td>
<td>19</td>
<td>38</td>
</tr>
<tr>
<td>Occasional Reading Habit</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>No Systematic Reading Habit</td>
<td>16</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td>50</td>
<td>100</td>
</tr>
</tbody>
</table>
place to place, or appear inconsistent in their reading. They persistently read silently without any lip movement. They read with high concentration and diligence. They could read for at least two hours at a sitting without getting tired. They set a special period for recreation which was often followed by reading. They portioned their time according to their reading. They read daily according to their plans and geared their reading to their purposes.

Unsystematic reading habits.—The foregoing points outlined the good reading habits. According to Table 7, 38 per cent of the group did not adopt good systematic reading habits. They did not follow their reading timetable regularly. Their reading period was often disturbed by some other activities. They had no special study place, but tended to change places everyday. They appeared inconsistent in their silent reading practices. Movement of their lips while reading was not controlled. They found it difficult to concentrate for an hour without mind wandering. They could break in some other engagements at their reading time. They had no systematically-planned timetable for their reading. They read at any-time and any place with no planned degree of consistency. No special time was marked for reading and reviewing.

Occasional systematization of reading habits.—Table 7 shows a representative percentage of 10 for the group who read occasionally with good reading habits. They seldom planned their
reading and rarely adopted a particular place for study. They were irregular in their silent reading, and their lip-movements were seldom controlled. Occasionally they could make up their minds for concentrated and more diligent reading, but they seldom read for a long period without getting tired. Occasionally they read according to their plans, but they indicated that most effective reading skills were not regularly applied, and thereby, proficient reading was impeded.

No systematic reading habits.—The table shows that 32 percent of the cases had not formulated good reading habits. They did not plan their reading. They had no definite time or place for study. Rate of reading was impeded by vocalization, and they had not formed the habit of concentration which is basic to successful reading. They had not grown into the habit of reading for a long time at one sitting. They were not used to daily reading occupation. In short, they had not formed good reading habits which could enhance profitable and rewarding activities.

Relationship of tested intelligence and general reading test performances of the freshmen.—In ascertaining the extent of relationship between the reading and intelligence levels of the freshmen who were involved in the study, the writer correlated the Iowa median scores with scores made on the Otis Quick-Scoring Mental Ability Test, Gamma level. The determining of this specific relationship was based on the belief that intelligence is a strong factor in the development and use of reading abilities and skills.
It was believed, furthermore, that students whose reading performances were decidedly below their intelligence levels held high promise of profiting from special training in reading.

Table 8 gives the median Iowa-test scores and the total Otis scores for each of the freshmen. When these were subjected to procedures for finding the Pearson Product Moment Coefficient of Correlation, the resulting \( r \) was .42. When this coefficient was checked in the Table of Significance,\(^1\) with 48 degrees of freedom at the .01 per cent level of confidence. It was found that this result was above the value of .35\( _{4} \) which is required for significance. It was concluded, therefore, that this correlation indicated a significantly moderate tendency toward positive relationship, but with many exceptions. This meant in essence that reading test performances of the freshmen were moderately influenced by intelligence and that to some degree the students who rated relatively high in intelligence tended to rate relatively high in reading; those who were low in intelligence tended toward the same relative positions in reading; and a relatively large group held "average" positions in each distribution. To a moderate degree, then, students in this study might have been doing as well as their present levels of mental functioning permitted. Since, however, a coefficient of .42 is only indicative of a moderate trend, this writer concluded that one could not say definitely that all students were

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TABLE 8

THE CORRELATION OF I. Q. AND THE FORM AM IOWA SILENT READING TEST MEDIAN SCORES MADE BY FIFTY MOREHOUSE FRESHMEN IN SEPTEMBER, 1962

<table>
<thead>
<tr>
<th>Y I.Q.</th>
<th>X M.D.</th>
<th>Y I.Q.</th>
<th>X M.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>110</td>
<td>168</td>
<td>113</td>
<td>169</td>
</tr>
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<td>108</td>
<td>168</td>
<td>113</td>
<td>168</td>
</tr>
<tr>
<td>123</td>
<td>160</td>
<td>114</td>
<td>166</td>
</tr>
<tr>
<td>107</td>
<td>161</td>
<td>122</td>
<td>169</td>
</tr>
<tr>
<td>108</td>
<td>153</td>
<td>124</td>
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<tr>
<td>124</td>
<td>170</td>
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<td>116</td>
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<td>94</td>
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<td>120</td>
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<td>108</td>
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<td>106</td>
<td>153</td>
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<td>114</td>
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<td>171</td>
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<td>116</td>
<td>165</td>
<td>121</td>
<td>160</td>
</tr>
<tr>
<td>101</td>
<td>161</td>
<td>102</td>
<td>166</td>
</tr>
<tr>
<td>Y I.Q.</td>
<td>X M.D.</td>
<td>Y I.Q.</td>
<td>X M.D.</td>
</tr>
<tr>
<td>-------</td>
<td>--------</td>
<td>-------</td>
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</tr>
<tr>
<td>108</td>
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f = 50
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\text{Sum of } x^1 = 267
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\text{Sum of } X^1 = 1659
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\text{Sum of } Y = 331
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\text{Sum of } Y^2 = 2529
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\text{Sum of } XY^1 = 1886
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\text{Sum of } XY^1 = \frac{1886}{50} = +.42
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tending to perform at their respective levels of expectancy. Rather, there were considerable exceptions to this trend, and many test results supported the need for concentrated efforts to help these students work up to potential in reading.

Identification of the chief limiting difficulties revealed in the survey and analysis of comprehension and vocabulary, interest, abilities, habits, and oral reading skills of the freshmen.—In the survey and analysis of the reading abilities, habits and skills of the freshmen, many difficulties were discovered. In many instances they worked unanimously to impede the students' reading. The writer discovered that some of the difficulties were minor and cursory, but some of them were limiting. On the basis of assessment of the areas studied, the disabilities are arranged here in order of their severity.

1. Comprehension disability.—In analyzing the students' scores in Iowa Silent Reading Test Form AM and Triggs Diagnostic Survey Test Form A, it was discovered that their median scores in each of the tests were lower than the median scores for the standardization groups. On the Iowa test their median score was 166.1, which was much lower than 185.3 for the standardization group. On the Triggs test the median score for the local group was 28.5, which was much lower than 41 for the standardization group. The low median scores of the group on the two tests authorized the writer to identify comprehension disability as one of the chief limiting difficulties of the group.

2. Inadequate vocabulary.—In checking the vocabulary of the group, the writer considered it an area of very real difficulty. The standardization median score was 60.6 percent of the items. Only eight percent of the group scored up to and above the median score for the standardization group. Ninety-two percent of the group scored below the norm, and allowed the investigator to identify
inadequate vocabulary as one of the limiting reading difficulties of the group.

3. Lack of high reading interest.—Interpretation of the data collected from the students' inventories indicated that 72 per cent of the group lacked high reading interest. This tendency was classified as a disability which impeded their reading success or achievement. The students had very low interest in reading and motivation was highly limited. Consequently the writer identified it as a severe limiting reading factor.

4. Unsystematic reading habit.—From analysis of the data collected from the students' reading habits inventories it was discovered that one of the possible causes of poor reading was their unsystematic reading habit. According to the pupils' inventories, reading was only a very rare engagement. Often, their responses indicated that it was impossible for the students to apply some of the reading skills which they know.

5. Faulty oral reading.—Through analysis of the students' oral reading test performances the writer noted considerable difficulties which might indicate reasons for some of the disabilities in silent reading. It was found that 66 per cent of them had difficulty in word-attack. This difficulty led to wrong pronunciation, poor enunciation, faulty syllabication, slurred word endings and word omissions. Although the severity of the difficulties was not concentrated in any one group of students, they were widely enough dispersed to be considered a limiting factor, not only in oral reading, but in the total reading process.

6. Generally average and low levels of intelligence.—In using intelligence test results, the writer's main purpose was to find out whether or not preponderantly low intelligence ratings might have been exerting retarding influences upon the students. A moderate correlation of .42 did not support low intelligence as a controlling factor. Rather, it indicated an appreciable tendency for students to maintain the same relatively positions on each test. Yet, the correlation was not high enough to discount the fact that many students might need intellectual stimulation, while others might not be working up to potential.
Visual defects.—Throughout the visual-survey-test distribution, there were small groups of students showing lack of visual proficiency at near and far point; others with difficulties in fusing images; and others with lateral and vertical imbalances. It was concluded that wherever these difficulties occurred to an intensive degree serious reading disabilities might obtain, while in others where the difficulties were mild the disability might be revealed only after long periods of reading. The latter interpretation seemed to be more valid for this group.

Recommendations for reading instruction based on the categorizing of reading difficulties.—Some major areas of reading difficulties as well as some predisposing factors which influence the direction of reading growth have been categorized by this writer on the basis of his analysis of freshman performance on selected tests. It is felt that in order to achieve success in a college freshman reading program, whether developmental, corrective, or remedial in nature, some recommendations growing out of this "categorization" may be helpful in a design of plans for reading instruction. The recommendations are presented below:

1. Plans for reading instruction must be based on a knowledge of the learner in terms of what can be expected of him. It is recommended therefore, that an assessment of intelligence be made as an essential element in the estimation of probable student expectancy levels. Such an estimate may be used to make some judgements as to whether the instruction must follow a developmental, corrective or remedial pattern.

2. One predisposing factor which may serve as either deterrent or catalyst in a program for reading improvement is
student interest and attitude. While the writer did not consider variations in attitude within the group of Morehouse freshmen, he did make an analysis of interest levels. On the basis of this analysis it is recommended that a survey of interests be made prior to and during the instructional period so that the selection of materials and the projection for learning situations may be predicated to a degree on the expressed interests of the students.

3. There is substantial agreement among authorities in the area of reading that no single factor, but rather a complex of anomalies function to limit growth in reading. This writer, while subscribing to the concept of multiple causation, recognizes that even mild visual defects in binocular coordination and fusion may have an inhibiting effect on the adequate satisfaction of college reading demands. It is recommended then, as a measure of positive preventive action, that as a part of the preparation for instruction in reading, arrangements for effective visual screening tests be made.

4. At the college level, comprehension skills, basic and functional and as they apply in varied areas of academic endeavor are of primary concern. It is perhaps in this major area of reading skills, that students face the greatest challenge. On the basis of the findings of this investigation, it seems essential to effect a routine, thorough diagnosis of comprehension abilities of all students. A comprehensive diagnosis of this kind is recommended here. In view of the more complex nature of higher-level reading skills, the eradication of deficiencies in basic comprehension skills and the development of more specialized comprehension skills become points of emphasis in planning reading instruction for college freshmen.

5. Concern for vocabulary in a college reading program revolves around extensiveness and depth of the students' knowledge of words. Although this is difficult to determine because of limitations inherent in vocabulary tests it seems reasonable to assume that the student has developed a substantial active vocabulary by the time he is a college freshman. Realizing the questionable value of the findings, the writer recommends that periods of study be devoted to creating an awareness within the student of the necessity for a vocabulary characterized by "breadth" and "depth" of meaning. Such an awareness is essential to understanding and expressing ideas and concepts encountered in college reading.
6. It is recommended that wherever the need arises, special provisions be made for attention to specific word recognition deficiencies. Those deficiencies discussed under word attack and syllabication are examples. Normally word recognition is not a major area of deficiency with entering college freshmen and it does not seem feasible to recommend its inclusion in over-all plans for reading instruction.

7. One might look upon "effective study habits" as a function of procedures effected to develop satisfactory comprehension abilities as well as those efforts made to engender a level of interest conducive to substantial reading growth. It is recommended that in plans for reading instruction, specific attention be given to certain mechanics involved in effective study.
INTRODUCTION. — The progress records of students in college show that many of them are confronted with many reading difficulties. Many of these difficulties persist after their having had reading courses. Many studies in this area show that an effective remedial reading course should be based on the objective analysis of the difficulties discovered by diagnosis. An investigation of the trends and tendencies in reading show that academic institutions and communities have realized the importance of analysis of reading difficulties as an effective clinical procedure to eradicate reading difficulties, particularly since the second half of the twentieth century. On basis of the foregoing facts and practical experience in the Morehouse reading program, the writer desired to analyze reading difficulties of fifty Morehouse freshmen. He hoped the investigation would be of much value both to Morehouse College, and remedial reading teachers.

STATEMENT OF THE PROBLEM. — The study dealt with the analysis of special types of reading difficulties of fifty Morehouse freshmen enrolled in the 1962-1963 Morehouse reading program.

PURPOSES OF THE STUDY. — The general purpose was to analyze the reading difficulties of a selected group of Morehouse College freshmen. Specifically, this study attempted to accomplish the following objectives:
1. To identify the group in terms of reading difficulties in the area of:
   (a) vocabulary
   (b) reading comprehension
   (c) oral reading
   (d) intelligence as it relates to reading

2. To classify the group in terms of:
   (a) expressed reading interests
   (b) study habits
   (c) visual proficiency

3. To assess general and specific reading difficulties in vocabulary, comprehension and in oral reading as they may relate to the total reading process.

4. To relate the effects of variations in reading interests, study habits, and visual proficiency to the total reading process.

5. To ascertain the difficulties which may be most limiting to the total process.

6. To categorize them in order of apparent needs in instructional procedures.

7. To consider the implications which may have value for teachers and clinicians who seek penetrating analysis of such difficulties.

Limitations of the study.— The limitations of this investigation were as follows:

1. The study was limited to a selected group of fifty freshmen enrolled in the 1962-63 Morehouse College Reading Program.

2. The analysis of the reading difficulties was based solely on the results of the standardized reading tests, visual tests and informal measures of reading interests and habits.

Description of the study.— Fifty freshmen who enrolled in the 1962-63 Morehouse College Reading Program constituted the
sample for the study. They were randomly selected from a list wherein their names were arranged in descending order according to their median score on the Iowa Silent Reading Test, Form AM.

**Instruments.**—The following instruments were used in gathering the data for this study:

1. *The Iowa Silent Reading Test*, Form AM.
2. *Triggs Diagnostic Survey Test*, Form A
3. *Standardized Oral Reading Paragraphs* by William S. Gray
4. *Inglis Vocabulary Test*
5. Inventories of Interests and Study Habits
6. *Keystone Telebinocular*, Short Form
7. *Otis Quick-Scoring Mental Ability Tests*, Form AM

The *Iowa Silent Reading Test*, Form AM was used to locate some areas of reading difficulties. This test is designed and validated to cover a wide range of effective reading skills. It measures three major general areas of reading namely, (1) rate of reading at a controlled level of comprehension, (2) comprehension of words, poetry, sentences and paragraphs, (3) ability to locate information.

The *Triggs Diagnostic Survey Test*, Form B was used as a screening test to identify the students' difficulties in comprehension, vocabulary, silent and auditory reading, rates of reading for science and social studies materials. It is valid and reliable.

The *Inglis Vocabulary Test* is validated to measure the students' knowledge of the intelligent general reader's vocabulary from grades 9 to 16. It contains 150 words.
The Inventory of Interests and Study Habits points out the student's specific interests and study habits which have been employed in all aspects of reading. It points out factors which have either contributed to reading gain or disability.

Gray Oral Reading Paragraphs constitute a valid test which is used to secure accurate measures of the progress of pupils in rate and accuracy of oral reading. It includes passages at four levels of difficulty suited to college freshmen.

The Keystone Telebinocular Tests are binocular visual-survey tests which are valid tests for screening visual acuity. They provide both near and far point visual information.

Otis Quick-Scoring Mental Ability Gamma Tests, Form AM are valid tests for measuring the mental ability of college freshmen. The tests include questions on vocabulary and arithmetic reasoning. They yield information about the freshmen's achievement and verbal mental ability. They are self-administered.

Operational Steps.— The following steps were used for the study:

1. Permission to conduct this investigation was obtained from the president of Morehouse College.

2. Literature related to this study was reviewed and summarized.

3. The Iowa Silent Reading Test, Form AM, Triggs Survey Test, Form A, Gray Oral Reading Paragraphs, Old Form, English Vocabulary Test, Inventories of Interests and Study Habits, Keystone Telebinocular, Short Form, Otis Quick Scoring Mental Ability Tests, Form AM were used in collecting the data.
4. The data collected from these instruments were arranged according to the demand of this study.

5. The data were arranged and interpreted in terms of specific and general difficulties of the group. These were further classified and categorized for instructional purposes.

6. On basis of the findings, conclusions, implications, and recommendations were made.

Summary of the related literature.— On the basis of the literature surveyed the writer concluded that:

1. The importance and need of analysis of reading difficulties before setting up a remedial program are highly recognized.

2. A planned program of remedial reading instruction will benefit the disabled readers.

3. Remedial measures for specific difficulties should be suited to the need of the retarded reader and above all must be flexible.

4. Pupils should be grouped as homogeneously as conditions may warrant, but the special reading instruction must be as individualistic as possible.

5. Special training and directions should be given to develop the desired reading skills.

6. A large proportion of retarded readers will evidently improve as a result of remedial instruction.

7. There is a great overlapping and inter-relatedness of causal factors and remedial treatment.

8. Case work is gaining ground as an unfailing method of discovering pupils' difficulties particularly when it is penetrating in design.

9. The personality factor contributes immensely to the reading difficulties which are particularly affected by attitudes, feelings, prejudices and general adjustment of the reader. It is imperative that remedial efforts should solicit the aid of psychological and psychiatric therapies.
10. Severe reading difficulties which often resist correction are caused mostly by abnormal neurotic functioning, and such cases should be regarded as medical problems.

11. Reading difficulties impede the progress of all students except where they are discovered early and remedied on the basis of diagnostic analysis followed by appropriate training.

12. In order to solve reading difficulties in all areas among college freshmen, high schools and content area teachers should work conjunctly with a reading specialist.

13. Remedial instruction should be based on the analyzed difficulties as consistently as possible.

14. Lack of reading interest, poor study habits and defective vision cause reading disability.

15. Inadequate vocabulary, poor comprehension and oral reading skills are identified as reading difficulties.

Summary of Findings. The study revealed the following reading disabilities among the group:

1. The students' median performance on the comprehension section of the Iowa Silent Reading Test, Form AM was lower than the national norm reported for this instrument. The scores were 166.4 and 185.3 for the Morehouse and Standardization groups, respectively.

   On the Triggs Diagnostic Test, the students' median score of 23.5 was lower than 41.0 for the standardization group. That also showed that the students were less proficient in comprehension than groups upon which the norms were established.

2. The Inglis Vocabulary Test scores indicated 92 per cent of the students to be lower than the standardized median score of 60.6 per cent of the test items.

3. In the Gray Oral Reading Paragraphs difficulties were as follows:
a. Sixty-six per cent of the students had difficulties in word attack.

b. Sixty-two per cent of the group committed errors in enunciation.

c. Twenty per cent of the group showed errors of word omission.

d. Fourteen per cent of the students exhibited difficulties of poor syllabication.

e. Ten per cent of the group showed very slow rate.

f. Ten per cent of the group had difficulty of slurred word endings.

g. Eight per cent of the group showed error of faulty voice inflection.

4. The correlation between the students' tested intelligence and their reading median score was .42. This generally pointed out the students' disabilities in reading.

5. The expressed reading interests of the group were as follows:

a. Twenty-eight per cent of the students were rated as having high reading interest.

b. Those who expressed low reading interest comprised 32 per cent of the group.

c. Twenty-eight per cent of the students were identified as having scanty reading interest.

d. Twelve per cent of the group expressed no reading interest.

6. The visual defects detected were as follows:

a. Eleven per cent of the students had slight defects in the total vision both at near and far points.

b. Eighteen per cent of the group showed poor vision in the left eye at far point.
c. Four subjects of the group had visual defects in the right eye at near point.

d. In fusion eight per cent of the group experienced difficulty at near point, and 6 per cent showed mild defect at far point.

7. The study habits of the group as revealed by their inventories were:

a. Twenty per cent of the group adopted systematic study habits.

b. Unsystematic study and reading habits were shown by thirty-eight per cent which included lip movement.

c. Ten per cent of the group occasionally planned their reading and rarely adopted a particular place.

d. Thirty-two per cent of the group had no systematic reading and study habits. They could neither concentrate nor read for a long time and engaged in frequent vocalization.

8. The relationship between scores made on the Iowa test and the Otis Quick Scoring Test of Mental Ability was found to be .42. This coefficient was significant at the .01 level of confidence with 48 degrees of freedom and was considered indicative of a moderate positive relationship between the reading and intelligence levels of the freshmen.

Conclusions.— On the basis of the findings the following conclusions were drawn:

1. Since the reading matter used in the tests was chosen from selections similar to those which are found in textbooks used by the freshmen, it was concluded that the group would have general difficulties in comprehension of materials which were to be read rapidly or moderately, (as was true in Iowa Silent Reading and Triggs Diagnostic Survey Tests, respectively).

2. The conclusion that students had difficulty in accurate meaning and use of words was based on reasoning similar to that of the preceding conclusion, since the Inglis Vocabulary Test is based on college demands, also. Generally, therefore, it was concluded that the
group had limited vocabulary for doing effective college work, particularly in areas requiring extensive reading.

3. Since the students' oral reading was seriously impeded by poor word attack, inaccuracies in pronunciation and enunciation, word omission, poor syllabication, slurred word endings, and faulty voice inflection, it was concluded that in addition, silent reading was hampered to some degree by these inadequacies in word attack.

4. On the basis of the moderate positive relationship found between reading and mental ability levels of the freshmen, it was concluded that there was a fair tendency for students who rated high, average, and low on one test to maintain the same relative positions on the other. It was noted, however, that the correlation was not appreciably high, and hence left considerable margin for the presence of students who were far from expected potential in reading. Also, it left a margin for those who, at present, were doing as well as could be expected.

5. Although the students' visual defects were generally mild and possibly did not affect their reading until after long periods of near-point work, this difficulty had greater possibilities of becoming a problem at the college level than in previous years when reading assignments were not as long and demanding.

6. Since 72 per cent of the group lacked high reading interest, it was concluded that the lack of motivation contributed to their reading deficiencies, particularly in the areas of comprehension and vocabulary.

7. Since the students had not cultivated good study habits, it was concluded that they had had limited practice at levels of concentration and reasoning which many of the more difficult reading test items required.

8. In order of seriousness, the limiting difficulties which affected the group were concluded to be: poor comprehension; inadequate vocabulary; lack of interest in reading; unsystematic study habits; faulty oral reading in which there were poor syllabication, faulty voice inflection, inaccurate enunciation and pronunciation, omissions; and certain visual defects.

9. In accordance with the findings and their valid relationships to the reading process it was concluded that the difficulties should be properly assessed and treated in
appropriate categories. On this basis the writer concluded that when these deficiencies in reading were arranged in order of apparent needs of the students, they might serve as a design for effective developmental and remedial procedures such as were recommended in the main body of the thesis.

Implications.— The implications which grew out of this study were based on the foregoing findings and conclusions. They are as follows:

1. It is highly probable that comprehension skills were not properly handled in the student's senior year in high schools.

2. Similarly, it seemed justifiable to imply that most of these freshman students came to college with serious handicaps in vocabulary development. These inadequacies would therefore be expected to impede them in their efforts to master new materials to which they were exposed.

3. Since there is usually little time for oral reading at high school level it is possible that no special attention had been paid to enunciation, pronunciation, syllabication, omissions, rate, substitutions and faulty voice inflection; hence these inaccuracies had persisted to the freshman year in college.

4. In all study situations interest is important, and in most instances no serious reading achievement is possible without it. This assumption permitted the inference that these freshman students were in need of this type of motivation for most effective reading.

5. Since it is generally assumed that the students' success in college depends primarily on their good study habits, the implication is drawn from this study that many of the freshmen experienced considerable frustration.

6. Although visual defects such as those identified in the present study might remain unnoticed under usual circumstances, it may be implied that reading assignments at the college level make it mandatory that some attention be given these mild defects which may be rapidly aggravated by the many reading demands.
7. There is need for further study of the possible influence which the lack or presence of mental ability exerted upon the reading levels of the college freshmen involved in this study.

8. It may be concluded from relating reading and mental-ability test scores that these students needed developmental as well as corrective and remedial instruction in reading.

**Recommendations.**—On the basis of the foregoing findings, conclusions and implications, the writer concluded that the following recommendations could be supported:

1. That all reading teachers, educators and other academic personnel should help as many high school seniors as possible, and particularly the college-preparatory group, to acquire the comprehension skills needed for successful adjustment to the demands of the freshman college year.

2. That a versatile effort be made to build and enrich the vocabulary levels of high school students as this stands as one significant index of a successful college academic career.

3. That although at the college level silent reading is more important than oral reading, it must be understood that total proficiency in reading consists of the two processes; hence, enunciation, syllabication, word attack skills, carefulness not to omit and substitute words, lack of slurred word endings, and actual rate of oral reading should be given special attention by reading teachers and their associates.

4. That visual acuity and efficiency should be checked during orientation of college freshmen, and any cases of visual disorder should be referred immediately to an eye specialist who can handle the deficiency scientifically.

5. That eye specialists and reading teachers should work cooperatively in dealing with any visual defects which can be remedied and thereby heighten the possibilities of comfort and proficiency in reading over long periods of time.

6. That reading teachers continue and intensify efforts to arouse the students' interest in reading by emphasizing how helpful the results of wide reading can be to college
students; by creating physical conditions that will motivate reading through accessibility of materials, attractive surroundings for reading; and by selecting work-type materials in which the students are vitally interested.

7. That college freshmen be led in dynamic and encouraging ways of developing desirable reading habits and that these habits be transferred to all fields of study, both informal and formal.

8. That there should be more extensive and searching diagnosis and analysis of the freshmen's reading difficulties so that developmental and remedial instruction will be substantially based. Class and clinical sessions should be designed strictly on the strength of student needs.

9. That the freshman's reading difficulties be made known to him, and that he should be assured that if he follows the instructions accordingly, his disabilities have high possibilities of being remedied in proportion to his levels of motivation and potential.

10. That teachers who handle reading classes should be cognizant of the nature of the reader whom they are helping because through this insight the difficulties will be more effectively attacked on an individualized basis.
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