An historical survey of methods used in evaluating and selecting intermediate and secondary school reading materials

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Boston University

http://hdl.handle.net/2144/14799

Boston University
Buckley, F. M. 1945

An historical survey of methods used in evaluating and selecting intermediate and secondary school reading materials.
BOSTON UNIVERSITY
SCHOOL OF EDUCATION

Thesis

AN HISTORICAL SURVEY OF METHODS
USED IN EVALUATING AND SELECTING
INTERMEDIATE AND SECONDARY SCHOOL
READING MATERIALS

Submitted by

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(E. S. in Education,
Salem Teachers College, 1940)

In partial fulfillment of requirements for
the degree of Master of Education
1945

First Reader: Roy O. Billett, Professor of Education
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Third Reader: Edward J. Eaton, Professor of Education
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CHAPTER I
HISTORICAL BACKGROUND OF THE STUDY

Purpose and Limitations

Ever since schools departed from the tutorial method and became more or less dependent upon the textbook as the tool most readily used in education, the problem of selecting the best reading materials from a number of inferior or mediocre books offered has been manifest.

The purpose therefore of this study is to discover who the educators are who have recognized this problem and what means they have chosen to solve it. As far as is possible this study will attempt to trace the development of this problem from the time it first became apparent until the present. To do this efficiently the study will be divided into three periods: (1) Previous to and during 1920 to 1929; (2) 1930 to 1939; (3) 1939 until the present.

This study is limited in that it is based on research mainly into the writings of others and attempts only to set forth their findings. Much of the material presented will consist of adaptation or direct quotation accompanied by criticisms or conclusions. In order to discover what literature was already available the following were consulted: Card catalogues of Boston University School of Education Library and the Boston Public Library; also the

Historical Background

At this point it might be advisable to briefly trace the history of the textbook as adapted from Hall-Quest to show how the need for evaluation has arisen.

In the educational systems of ancient Egypt, Babylon, Assyria or Israel there were no available textbooks for individuals. Also in Greece and Rome it is unlikely that each pupil possessed a textbook of his own. However toward the end of the twelfth century individual manuscripts were not uncommon. They consisted of Greek and Latin treatise and their contents were memorized in entirety.

The Renaissance textbooks were similar to those of the preceding age. But at this time many new books began to appear. The printing press made it possible to produce books more quickly, more cheaply and in larger numbers. As theology was the outstanding subject studied in that era, Melancthon, a Renaissance writer and teacher, claimed that the knowledge of Latin was indispensable. His "Latin Grammar" written to supply that knowledge received the following comment from Schenck, an early German teacher:  


This little book has now attained to that perfection that there appears to be nothing deficient in it, nor can there hereafter be anything added to it; and accordingly it will ever continue to be as it is now, the sum of all perfection, neither to be altered or remodeled.

"Between 1525 and 1727 it passed through fifty-one editions, each more or less altered from the original."\(^1\)

Strictly speaking the modern textbook is little more than three hundred years old. Only within the last seventy-five years has it become more adequately adapted to the laws of the learning process and there are still needs of a better adaptation.\(^2\)

In the early days of colonial America the alphabet was the beginning of knowledge. Attempts at grading were very indefinite. The pupils were first required to learn letters. After mastering these they were exposed to simple syllables, which were followed by more difficult syllables. The reading materials which were eventually provided consisted of religious doctrines.

The first attempt to break away from the narrow, biased, religious concept of education appeared in the form of "spelling books."

A reading book written by Noah Webster was published in 1785 which contained stories about the heroes of the Revolutionary War, Indian wars and other ancient stories. Previous to this time the Bible and various kinds of homilies served as bases for instruction in reading. However the

\(^1\) Alfred Lawrence Hall-Quest, op. cit. p. 18.
\(^2\) Ibid. p. 20.
little reading book was well received and from the standpoint of variety of subject matter it was greatly advanced over any material of its kind in those days.

Grammars began to appear between 1580 and 1594, but it wasn't until 1329 that a grammar designed for young students was published. It was called "The Little Grammarian."

Arithmetics were uncommon among the early colonists. When the subject was taught in 1729 it was taught from a manuscript. This was provided only for the teacher who dictated the examples which the pupils wrote in their "sum-books." An early textbook was written by Nicholas Pike and was published about 1788. In this many of the problems dealt with contemporary history, as for example: "General Washington was born in 1732; what was his age in 1787?" 1/

Geography was not taught in the elementary schools before the Revolution. In the more advanced schools some rudimentary instruction was given in this subject. At first Geography was used as reading material but slowly it won an independent place. 2/

"Before 1821 no satisfactory history of the United States had appeared. The following year, 1822, C. A. Goodrich published 'A History of the United States' .... In many respects it was an excellent piece of work." 3/

During the period immediately preceding the Civil War

1/ Alfred Lawrence Hall-quest, op. cit. p. 31.
2/ Ibid. p. 34.
3/ Ibid. p. 36.
it was noticed that large numbers of pupils of approximately the same attainments were crowding the schools. This made possible a grading of the children into units through which they advanced annually or semi-annually by promotion. The tendency toward an eight year elementary school followed by four years of secondary education was developing and by 1890 the most common arrangement of the city schools in the United States was the so-called 8-4 plan.

The factor of gradation, with each class under a single teacher, gave a great deal more time for the treatment of the stated school subjects and even invited the addition of new subjects .... The traditional reading, spelling, writing, and arithmetic continued alongside the newer subjects, geography, grammar and United States History. In many elementary schools were to be found also some or many of the following: object-teaching, singing, drawing, gymnastics, vocal culture, English literature, natural history, physics, history of England, algebra, metric system, physical geography, physiology (including anatomy and hygiene), geometry and mensuration, bookkeeping, astronomy, the German Language, Constitution of the United States, sewing and perhaps some others.'

With the gradation of the school system came more exacting courses of study which outmoded many of the then popular textbooks. The publishers refusing to allow their material to become obsolete began to present "series" of arithmetics, spellers, readers and other school books corresponding to the exact classification of the pupils and meeting the expanded demands of instruction.

The series of readers began with a primer and progressed through first reader to sixth. Arithmetics were produced in at least three grades of difficulty and in the matter of histories, geographies, and language lessons there was a corresponding effort to produce school works specifically related to the graded demands of the course of study.1

Conclusion

According to present day standards many of the early reading materials would earn a very low rating. As a whole they were extremely poor specimens of what textbooks should be. They were badly bound, miserably printed on paper of inferior quality and for many students presented insurmountable vocabulary difficulties. However they were a beginning and in the case of some problems in the Colonial mathematics texts, they did show a trend toward adaptation to the needs of the community.

One obstacle to the harmony of teaching in the early Colonial schools arose in the practice of each pupil purchasing his own books without taking class uniformity into consideration. Although this practice did provide for much individual attention, it was a factor in retarding educational advancement during that period.

As our country grew, so its educational system developed until it became at the close of the Civil War Period almost a school-machine with every action regimented. It was at this time that gradation of reading materials

was begun in earnest, but by the publishers, wholly for business reasons and in a manner not too satisfactory to the educators.

In the early nineteen hundreds a movement was begun: (1) To set up standards for textbooks to be used in the schools and (2) To provide objective bases for evaluating reading materials already published.

In Chapter II many of these methods of evaluation will be described.
CHAPTER II
METHODS OF EVALUATION

Previous To and During 1920 to 1929

Early studies in criteria for judging reading materials.---One of the earliest educational pioneers in the evaluation and selection of reading materials was Dr. C. R. Maxwell, 1/ Dean of the College of Education, University of Wyoming.

As early as 1919 he was aware that the present day standards for the selection of school reading materials were very low and at that time made pertinent suggestions for their improvement.

He found that school texts were being selected upon the following bases:

1. Prestige of the author
2. Prestige of the publisher
3. Efficiency of the book salesman
4. Appearance of the book
5. Wide use of a text
6. Cost 2/

It would not be difficult even for an uninformed person to observe many opportunities for error in the above system. The prestige of the author does not infer

2/ Loc. cit.
that he is capable of adapting his materials to the ability of his readers, nor does the prestige of the publisher (reputation, ability to meet financial obligations) always mean that he publishes the best books. The efficiency of the salesmen should not be unduly noticed yet it is this factor alone which has sold many texts which would not have been purchased were their merits alone being judged. The appearance of a text can be very deceptive, whereas its wide use may be due to previous high pressure salesmanship technique, and were the schools using a certain text given an opportunity to change, many would probably not even consider the book they were using. Of course cost has always been an influential item in saddling schools with inferior texts, when one or two cents more per copy might have provided more worth while reading materials.

Dr. Maxwell 1/ suggests that if the following "broad underlying principles" are applied in selecting reading materials, "one of the ills of the school system has been remedied if not entirely corrected:"

1. It must be taken into consideration that there is a difference in the ideals of the persons responsible for the work in a school system. The persons in one system may be working along a definite line, and their energy is focused toward accomplishing the ends that are set up. The text should be examined with this ideal in view.

2. An exhaustive examination should be made by a competent committee.

a. From the standpoint of accuracy and reliability.
b. From the standpoint of whether or not relative values have been given sufficient consideration.

3. The committee who make selections should be composed both of the administrators of the school system and of the teachers who use the books in the classroom.

4. The book should be written by an author who has a broad knowledge of his field; who has adequate knowledge of the particular aspects of the work he is treating and who has had experience in teaching students at the stage of advancement for which the text is intended.

5. Books need to be examined in the light of elements common to all books as: Mechanical construction, appearance, binding, size of type, length of lines, illustrations. These are all important factors, and in addition to them, the text should be analyzed from the standpoint of its value in the subject which it covers.

6. It should be selected wholly upon the worth of the book in the particular situation for which it is chosen, irrespective of prestige of author or publisher.1/

Many other standards and principles are set forth in Hall-Quest 2/ but they are so similar to those already given that they will not be discussed further here.

Following the method of evaluating by applying broad, educational principles to the texts has come the more simplified method of applying a check list.

One of the earliest of these, an "Outline Aid for Judging All Books" which appeared in a monograph published by Dr. Maxwell in 1921 is presented in the following pages.

1/ Maxwell, op. cit. p. 51-52.
2/ Hall-Quest, op. cit. Chapters III, IV and VII.
Outline Aid for Judging All Texts. 1/ 

<table>
<thead>
<tr>
<th>I. Publication</th>
<th>Excellent</th>
<th>Good</th>
<th>Fair</th>
<th>Poor</th>
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<tbody>
<tr>
<td>1. Title</td>
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<tr>
<td>2. Authors:</td>
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<tr>
<td>A. Reputation.</td>
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<td>B. Authority.</td>
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<tr>
<td>C. Other writings.</td>
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<tr>
<td>3. Publisher:</td>
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<tr>
<td>A. Reputation</td>
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<td>B. General experience.</td>
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<tr>
<td>C. Experience in this field.</td>
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<tr>
<td>4. Date of copyright:</td>
<td></td>
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<tr>
<td>A. First edition.</td>
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<tr>
<td>B. Revised edition, if any.</td>
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</table>

II. Mechanical construction:

1. Size:
   A. Size of page. 
   B. Number of pages. 

2. Shape. 

3. Binding:
   A. Paper 
   B. Cloth. 
   C. Board. 
   D. Leather. 
   E. Durability. 
   F. Attractiveness. 

Outline Aid (continued)

<table>
<thead>
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<th>Excellent</th>
<th>Good</th>
<th>Fair</th>
<th>Poor</th>
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<tr>
<td>4. Covers:</td>
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<td>A. Color.</td>
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<td>B. Decoration.</td>
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<td>5. Paper.</td>
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<tr>
<td>A. Finish:</td>
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<td>a. Plain.</td>
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<td>b. Gloss.</td>
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<td>c. Dull.</td>
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<tr>
<td>d. Tinted.</td>
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<td>B. Fiber:</td>
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<td>a. Heavy.</td>
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<td>b. Thin.</td>
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<tr>
<td>C. Filled.</td>
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<td>6. Type:</td>
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<tr>
<td>A. Kind.</td>
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<tr>
<td>B. Size.</td>
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<tr>
<td>C. Conform to the needs of different ages to avoid eye-strain.</td>
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<td>7. Spacing:</td>
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<tr>
<td>A. Letters.</td>
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<tr>
<td>B. Words.</td>
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<tr>
<td>C. Lines:</td>
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<tr>
<td>a. Length - in accordance with psychological investigation.</td>
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<tr>
<td>D. Paragraphs.</td>
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<tr>
<td>8. Width of margins.</td>
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<tr>
<td>III. Content:</td>
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<tr>
<td>1. Meet needs of user</td>
<td></td>
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<tr>
<td>2. Purpose of author:</td>
<td>Excellent</td>
<td>Good</td>
<td>Fair</td>
<td>Poor</td>
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<td>----------------------</td>
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<tr>
<td>A. Indicated by preface.</td>
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<td>B. Developed in book.</td>
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<tr>
<td>C. Consistent point of view.</td>
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<tr>
<td>3. Exact scholarship.</td>
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<td>4. Vocabulary:</td>
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<tr>
<td>A. Within comprehension of students.</td>
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<tr>
<td>B. Many new words introduced in each assignment.</td>
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<td>5. Style: clear, lucid.</td>
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<td>6. Treatment of topics in proportion to their importance.</td>
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<tr>
<td>7. General treatment or particular phase of subject.</td>
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<tr>
<td>8. Organization.</td>
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<td>9. Aids in use:</td>
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<tr>
<td>A. Index.</td>
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<tr>
<td>B. Table of contents.</td>
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<tr>
<td>C. References:</td>
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<tr>
<td>a. Selection.</td>
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<tr>
<td>b. Representative or chosen without regard to value.</td>
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<tr>
<td>D. Illustrations</td>
<td></td>
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</tr>
<tr>
<td>a. Number.</td>
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<tr>
<td>b. Representative.</td>
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### Outline Aid (concluded)

<table>
<thead>
<tr>
<th>c. Clear.</th>
<th>Excellent</th>
<th>Good</th>
<th>Fair</th>
<th>Poor</th>
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<tr>
<td>d. Purposeful.</td>
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</table>

E. Maps, charts, diagrams, and graphs:
   a. Use.
   b. Value.

F. Suggestions as to methods of treatment:
   a. Teacher's manual.
   b. Suggestions in text.

### IV. Use:
1. Grades to which best adapted.
2. Adapted to course of study.
3. Basic text.
4. Supplementary text.
5. Reference.
6. Source material.
7. Teacher's handbook.

In this monograph many other similar outlines are presented to be used in rating separate elementary school subjects, such as reading, arithmetic, spelling, language, geography, history, drawing, music and penmanship; also some secondary-school subjects as, civics, algebra, geometry, science and foreign languages.
In 1923 Dr. John Guy Fowlkes, Assistant Professor of Education at the University of Wisconsin, after reading extensively on the subject of methods used in the selection of reading materials, made the following comment:

The work of Dr. Maxwell is worthy of the highest praise. While Dr. Maxwell has not resorted to a statistical treatment of the study, he has recognized that there are certain criteria that should be applied to all books proposed as school texts. He, as did Dr. Hall-Quest, has also shown that there is a good deal of variance between different texts in relation to the general standards. Dr. Maxwell has opened the way for the development of a general score card for reviewing and evaluating all school textbooks.

Dr. Fowlkes however, wished to go beyond the simple check list offered by Maxwell, and prepare a form which contained not only objective data, but also the subjective opinion of the person evaluating the textbook. So in 1923 he published a pamphlet entitled, "Evaluating School Textbooks." In this pamphlet charts are provided for recording such objective data as the training and educational experience of the author, the proportional distribution of the subject matter, the proportional distribution of illustrative material, and aids for using the book. His pamphlet is an improvement over previous evaluating devices in that several pertinent questions are listed under each of the following topics:

(1) The Author's Background
(2) Content
(3) Validity and Reliability
(4) Style or Nature

Additional space is provided on each page for any comments the reviewer wishes to make.

The following are a few of the questions listed under each of the above topics:

(1) The Author's Background
1. Is the book based mainly on experience? Yes ___ No ___
2. Is it based partly on experience? Yes ___ No ___
3. Is it based mainly on experimentation? Yes ___ No ___
4. Is it based partly on experimentation? Yes ___ No ___

(2) Content
1. State the purpose of this book by means of brief quotation from the preface or introduction.
2. Is relatively too much space devoted to any topic or topics? Yes ___ No ___
3. Is relatively too little space devoted to any topic or topics? Yes ___ No ___

(3) Validity and Reliability
1. Are there any errors in fact or statement? Yes ___ No ___ If so, cite page and line, and, if possible, quote authority to substantiate your charge.
2. Are there fallacies in the illustrative material?...

(4) Style or Nature
1. In what style is the book written?
   a. Intimate? Yes ___ No ___
   b. Clear? Yes ___ No ___
   c. Coherent? Yes ___ No ___
   d. Concise? Yes ___ No ___
   e. Verbose? Yes ___ No ___
   f. List any other striking characteristics of style of writing.
2. Would any part of the book appeal to girls or women more than to boys or men? Yes ___ No ___
3. Would any part of the book appeal to boys or men more than to girls or women? Yes ___ No ___
4. Is the book written in too detailed a manner? Yes ___ No ___ Illustrate by short quotations giving page where material appears.
5. Is the book written in a sufficiently comprehensive manner? Yes ___ No ___

\[/\] Fowlkes, op. cit. p. 11-31
6. Is the book interesting to the people for whom it is intended? Yes  No

7. Is the diction of the book adapted to the vocabulary of the people for whom it is intended? Yes  No

8. If not, is the diction too difficult? Yes  No

9. If not, is the diction too easy? Yes  No

10. Is the book likely to create or increase
    a. Race Hatred? Yes  No
    b. National Hatred? Yes  No
    c. Sectional Prejudice? Yes  No
    d. Religious Prejudice? Yes  No

(5) Organization

1. Is there any unifying principle? Yes  No
   a. If so, is it secured by
      (1) A central theme permeating entire text? Yes  No
      (2) Interrelation of chapters? Yes  No

2. Does the organization comply with psychological as well as logical principles? Yes  No

3. Is there provision for varying types of teaching? Project method? Yes  No  Problem? Yes  No  Original work? Yes  No  Drill review? Yes  No

4. List any other particular types of teaching for which special provision is made.

(6) Mechanical Make-up

A. Binding and Size

1. Do you think the book is attractively bound? Yes  No
2. Do you think it will endure much use? Yes  No
3. Is the book too heavy? Yes  No

B. Paper

1. Is the paper of good quality? Yes  No
2. Is it glossy? Yes  No
3. Is it tinted? Yes  No
4. Is it too thin? Yes  No
5. Is it too heavy? Yes  No
6. Is it easily torn? Yes  No
7. Is it seemingly durable? Yes  No

C. Typography

1. Letters
   a. Are they of proper style? Yes  No
   b. Are they of proper height? Yes  No
   c. Are they of proper thickness? Yes  No
   d. Are they properly spaced? Yes  No
   e. Are they printed clearly? Yes  No
2. Words
   a. Are they properly spaced? Yes ___ No ___

3. Lines
   a. Are they of proper length? Yes ___ No ___
   b. Are they properly spaced? Yes ___ No ___

4. Paragraphs
   a. Are they properly spaced? Yes ___ No ___
   b. Are the margins of sufficient width? Yes ___ No ___

(7) Adaptability
A. Do you think this book fulfills the purpose as stated in the preface?
   For any community which might be selected at random? Yes ___ No ___
   For some particular community? Yes ___ No ___
   Briefly give reasons for your answer.

B. Do you think this book could be used to advantage?
   Yes ___ No ___
   In what grade or grades do you think it could be used advantageously? ....
   Briefly give reasons for your answer.

C. Check uses for which you think this book could be used advantageously.
   1. As a text for reading and recitation? Yes ___ No ___
   2. To give accurate information? Yes ___ No ___
   3. To arouse interest with little attention to information? Yes ___ No ___
   4. To give a general knowledge of _________? Yes ___ No ___
   5. To lead to further work in _________? Yes ___ No ___
   6. Reference work only? Yes ___ No ___
   7. As a laboratory manual? Yes ___ No ___
   8. If you think the text can be used for other purposes, list them.

   Miscellaneous comments. 1/

Although Dr. Fowlkes' evaluation device is a vast improvement over all previously constructed score cards, it seems to require more care and detail in use than the average teacher would feel free to give. However it has many good characteristics among which are its specific requirements 1/ Fowlkes, loc. cit.
while making provision for the reviewer's opinion.

The score card has been further refined during this decade by assigning a definite weight to the items selected for evaluation. It was thought that in this manner undue emphasis on relatively insignificant items could be avoided, and also that there could be no doubt about the final score if a few books were rated almost equally in the minds of the judges.

An example of this type of score card is shown below. It is quoted by Oscar F. Weber \(^1\) from an article by Allen Peterson in the May 1922 issue of *School Science and Mathematics* on "A Score Card for Judging the Value of General Science Textbooks."

Score Card for General Science Texts

<table>
<thead>
<tr>
<th>Items</th>
<th>Weights</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>I. Interest</strong></td>
<td></td>
</tr>
<tr>
<td>Subject matter</td>
<td>200</td>
</tr>
<tr>
<td>Demonstration and experiments</td>
<td>100</td>
</tr>
<tr>
<td>Supplementary work</td>
<td>60</td>
</tr>
<tr>
<td><strong>II. Comprehension</strong></td>
<td>250</td>
</tr>
<tr>
<td>Of reading matter</td>
<td>125</td>
</tr>
<tr>
<td>Of demonstrations and experiments</td>
<td>75</td>
</tr>
<tr>
<td>Of illustrative material</td>
<td>50</td>
</tr>
<tr>
<td><strong>III. Permanent value of subject matter</strong></td>
<td>250</td>
</tr>
<tr>
<td>Authorship - practicability - permanence</td>
<td>100</td>
</tr>
<tr>
<td>Scope of field</td>
<td>100</td>
</tr>
<tr>
<td>Inculcation of observation and independence</td>
<td>50</td>
</tr>
<tr>
<td><strong>IV. Value of Method</strong></td>
<td>200</td>
</tr>
<tr>
<td>Arrangement</td>
<td>125</td>
</tr>
<tr>
<td>Opportunities for application</td>
<td>75</td>
</tr>
</tbody>
</table>

Although this type of score card does make it possible to obtain a consensus of many judgments on numerically weighted items, it may be easily seen that these values having been pre-determined are at best arbitrarily assigned. The result being that a final impartial analysis is necessary in order to make a definite decision upon the textbook to be chosen.

During this decade, many score cards were prepared, all similar to those illustrated, basing their evaluations mainly on the following items: Mechanical make-up, author's background, accuracy of subject matter, vocabulary, teachers' aids, pupil exercises and illustrations. All score cards were prepared because a need was felt for some kind of a measuring device to apply when endeavoring to choose one textbook from a variety of books offered.

There have been many arguments both for and against the use of score cards. These have been summed up by Dr. C. R. Maxwell for the Thirtieth Yearbook of the National Society for the Study of Education.
The following are a few of his reasons for using a score card:

... The selection of textbooks presents a technical problem, the study of which should represent a scientific procedure where the elements of chance are reduced to a minimum. The score card gives an opportunity to set up criteria as a basis for the analysis of the textbook. Unless such criteria are set up, the objectives of the school system may be lost sight of in the selection. Score cards present a convenient means for checking different elements that must be considered if a textbook is fully to realize its purposes. ... Analysis of a book without a guide is analogous to sailing without a compass. If one selects a satisfactory textbook without a guide to assist in his analysis, he may select a good textbook to meet the educational objectives of his school system; but if he does, it will be mere chance. A score card used in examining books tends to remove the personal element in judgment. The more objective the score card, the less tendency for subjective judgment to enter into the examination. Without a guide and without careful comparative ratings, one's judgment of the content of a book may be very faulty. ...  

Criticisms against the use of the score card with explanations by Dr. Maxwell are as follows:

The statement is sometimes made that we do not have justifiable criteria for the formulation of a score card. This is an extreme statement which represents an attitude of mind that one always finds on the part of critics when attempts are made to improve techniques in any field. The earlier attempts to formulate score cards called attention to pertinent factors that should be considered in the analysis of textbooks. The score cards aided greatly in overcoming the tendency to use such unjustifiable criteria as have been mentioned earlier and stimulated further attack upon the problem.

Score cards have also been criticized on the basis that criteria used represented in many instances merely the judgment of an individual and for this

reason they had no scientific justification. A tabulation of the items used in twelve score cards indicates that there is considerable truth in this criticism. In these twelve score cards 160 different items are found. However, in fifty per cent of the items there was practically unanimous agreement, showing that these items have considerable validity -- judged by their use by those who have given much thought to the problem.

In several score cards that have been published, weighted items have been used. The criticism has frequently been made that such weighted elements have little or no scientific validity because they have represented only individual opinions of the formulator, not opinions secured from a large group. But a large number of opinions would have little weight -- it is a question of quality rather than of quantity. It is true that only a few published score cards have been carefully weighted by experts, and that we have little evidence of their value based on wide use.

Score cards have also been criticized because they have been formulated by publishers to insure the selection of their own product. Our most progressive publishing companies have been much interested in the technique for the formulation of score cards, but the number of score cards that have been circulated by publishers to insure the selection of their own books is comparatively small. Certain publishers, at least, are hoping that a good score card would result in careful unbiased judgment in weighing a textbook, so that political influence, local prejudice, and snap judgment would no longer play a part. Publishers have undoubtedly called the attention of school officials to the use that has been made of score cards and also to individual score cards that have resulted in the selection of a particular text. This is a legitimate procedure, and any textbook company is justified in calling to the attention of examiners any scientific techniques that have been used in the selection of textbooks.\textsuperscript{1/}

\textbf{Sampling techniques.} -- Paralleling the development of the score card as a device for evaluating reading materials has been that of the technique of sampling the vocabulary of school textbooks as a means of determining whether or not they were suitable for the grade in which

\textsuperscript{1/} Ibid. p. 150-151.
they were placed.

B. R. Buckingham 1/ in his editorial, "The Textbook and Its Vocabulary," brings sharply to our attention the fact that the textbook has too many large words which are beyond the understanding of children. He points out that the "overambitious vocabulary" is not the whole difficulty but rather the index to it.

It is entirely true that the vocabulary of a textbook should contain a certain rather large number of new words. No doubt many of these should be of a technical character - technical, that is, to the subject in question.... It should be just as much a part of the author's business to know the technical, semi-technical, and literary words.... as it is for him to know the facts of his subject matter. When these words are known it then becomes possible to provide for their gradual introduction, their frequent initial repetition, and their recurrence in later pages of the text. It is impossible to estimate how great an advance in the mastery of a subject might arise from a skillful - that is from a truly psychological blending and repeating of verbal matter. ....

He proceeds to suggest that there should be both a subject matter specialist and an educational specialist on the authorial staff of every school text: the first to furnish the logical, scientific, scholarly point of view; the second to interpret it and rewrite it in a vocabulary understandable to and suitable for the child for whose grade it is intended.

One of the first studies of vocabulary difficulty using the sampling technique was undertaken by Bertha A. 1/

Lively and S. L. Pressey. Their study was the result of a minor investigation regarding the number of technical words in a certain junior high school science book.

The method finally adopted consisted of obtaining a sampling of one thousand words throughout the text. They obtained the sample by taking one line per page from enough pages evenly distributed throughout the book to make the thousand words. Once the word count was procured, the total number of different words in the thousand was first noted. This was called "vocabulary range." The next step was to look these words up in the Thorndike "Word Book" and find and assign the index number for each. Those words which did not appear in the Thorndike list were given an index number of zero. These words with the zero valuation were taken to indicate the size of the technical vocabulary. The weighted median index number was finally calculated, which is simply the median index number with the zero value words counted twice. Result, the higher the median index number the easier the vocabulary. Sixteen different types of reading material were examined in this manner and from each two samplings of one thousand words were taken in order to determine the reliability of the method. In the authors' opinion "the method seems fairly


reliable." From this study three findings were obtained, "(a) range of vocabulary, (b) size of highly technical vocabulary (zero value words) and (c) the weighted median index number."

Another study using the sampling technique was made by F. D. Keboch, 1/ Superintendent of Schools, Aspinwall, Pennsylvania. He made his study on the variability of word difficulty as a result of many complaints from his teachers of American history in the seventh grade that, "the pupils have difficulty in reading and understanding certain textbooks in the subject." He chose five textbooks used in the schools under his jurisdiction and subjected them to a word count. He took every fifth page until he had a total of forty-five full pages from each book. In this sampling he tabulated all the words and their frequencies and then compared them with the lists given in the Thorndike Word Book, classifying each word according to the designations given in the Thorndike list. He then eliminated all words found within the first five thousand words in the Thorndike list because, "Dr. Thorndike when interviewed was of the opinion that the words within this group were entirely familiar to seventh grade pupils!" From the words not eliminated he computed the arithmetical mean, the standard deviation, and the coefficient of dispersion which is the standard deviation divided by the mean. Those books

with the highest standard deviation and the highest coefficient of dispersion he decided were the most difficult. As to those words not found in the Thorndike list, Mr. Keboch submitted them to six competent judges with directions to mark each G if it seemed to be of general usefulness, H if it were useful in history in the seventh grade and with an interrogation mark if it was of "doubtful service in the seventh grade." He then computed an index of uselessness of the vocabulary of each book tested, by dividing the total number of times the interrogation mark was found in the result of rating by all judges by the total number of words not found in Thorndike's Word Book.

H. H. Remmers and A. Grant \(^1\) engaged in an investigation of vocabulary difficulties with the following two-fold purpose in mind: "(1) to measure the vocabulary burden of secondary mathematics textbooks, and (2) to determine the reliability of measurement in the methods employed."

Their method began very similarly to the earlier Lively and Pressey \(^2\) study. They obtained a thousand word sampling by securing words from a designated line of a number of pages evenly distributed throughout the book. All of the different words were then listed alphabetically and their frequencies noted, which gave the vocabulary


\(^2\) Lively and Pressey, op. cit.
range. These words were then looked up in the Thorndike Word List and given the index number designated there. All the words which did not appear in the Thorndike list were then listed and assigned a value of zero. These were considered as the highly technical part of the vocabulary. They then computed the median index number which is merely a numerical index of the book's vocabulary difficulty.

"Evidently the lower the index number the more difficult the book."1/ So far this method has differed from the Lively and Pressey method solely in that the words with a zero valuation were only counted once.

A second sampling was made from each book using different pages as a means of comparing the two counts. They also computed the probable error of the counts both for the vocabulary range and the zero words. This was done by using the formula: 

\[ P. E. = 0.6745 \sqrt{\frac{PQ}{N}} \]

in which \( N \) is the number of words (1000) \( P \) is the number of different words and \( Q \) the number of different words subtracted from the number of words. This resulted in the following hypothesis: "One book was considered to have a more difficult vocabulary than the other if the ratio of the difference in the number of zero words to their P. E. difference was more than 3.0."2/

1/ Remmers and Grant, loc. cit.

In 1926 Carleton Washburne and Mabel Vogel decided that an objective method for determining the suitability of reading materials used by children in the classrooms was needed by all teachers. They therefore laid the foundation for such a study by providing ballots to thirty-six thousand seven hundred fifty widely scattered children, who reported on all the books which they had read during the previous year. The results of these ballots when tabulated made up the *Winnetka Graded Book List*.¹/

From this book list one hundred fifty-two books were chosen for the present study.²/ A group of twenty volunteer teachers examined these books for "every conceivable element of difficulty which might influence grade placement."

The following are the elements upon which the examination was based:

1. Vocabulary difficulty (according to the Lively and Pressey technique).³/
   a. Number of different words occurring in a sampling of one thousand words.
   b. Median index number (based on Thorndike's indexed word list)⁴/ of a thousand word sampling.
   c. Number of words in a thousand word sampling not occurring in Thorndike's list.


³/ Bertha A. Lively and S. L. Pressey op. cit.

⁴/ E. L. Thorndike op. cit.
2. Sentence structure of seventy-five sample sentences.
   a. Sentence use - declarative, exclamatory, imperative and interrogative.
   b. Sentence form - simple, complex, compound and complex-compound.
   c. Dependent clauses - noun, adjective, and adverbial.
   d. Phrases - adjective, adverbial, infinitive, and participial.

3. Parts of speech occurring in a sampling of one thousand words - nouns (common and proper, abstract and concrete), pronouns, verbs (action and non-action, transitive and intransitive), infinitives, participles, gerunds, adjectives (sensory and non-sensory), articles, adverbs, prepositions, conjunctions, interjections and expletives.

4. Paragraph construction
   a. Number of sentences and words per paragraph of conversation and non-conversation.
   b. Percentage of seventy-five sentences containing conversation.

5. General structure
   a. Number of words to a line, number of lines to a book, and number of words to a book.
   b. Length of chapters

6. Physical make-up
   a. Weight
   b. Size of type
   c. Length of line
   d. Distance between lines

After all the elements were tabulated and counted for each book, each element was graphed to determine whether there was a definite rise or fall from grade to grade. Those elements showing the most definite rise or fall from grade to grade were chosen for further study and the others were cast aside.

Ten elements were chosen which correlated as little as possible with one another but as highly as possible with the median reading score of the children who read and
enjoyed the books measured.

Various combinations of the ten elements were tried and a series of multiple correlations found. The best multiple correlation (.845), combining four elements, was made the basis of a regression equation which predicts with a high degree of reliability the reading score necessary for the reading and understanding of any given book. ....

The elements which have a multiple correlation of .845 are as follows: number of different words occurring in a sampling of one thousand words, \( X_2 \), number of prepositions (including duplicates) occurring in a one thousand word sampling \( X_3 \), number of words (including duplicates) in a one thousand word sampling not occurring in Thorndike's list \( X_4 \), and the number of simple sentences in seventy-five sample sentences \( X_5 \).

The following technique was derived from the study, which may be used by any teacher who wishes to discover the grade placement of her reading materials.

1. Make a sampling of one thousand words from the book as follows:
   a. Determine the number of pages in the book.
   b. Determine the number of words per line by counting the number of words in ten lines scattered through the book and dividing by ten.
   c. Divide one thousand (the number of words needed) by the number of words per line .... obtaining the number of pages from which sample lines are to be chosen.
   d. Divide the number of pages in the book by the number of pages from which the sample lines are to be chosen. The quotient gives the pages from which the sample lines will be taken. If for example the quotient was 3.2 the sample lines would be taken from every third page.
   e. Copy on a separate card every word from the top line (or any given line) of every page to be sampled. Put a p in the corner of each card containing a word used as a preposition.
   f. After copying the words from a given line on the number of pages estimated in c, count the cards. If there is not an even thousand discard any excess, or add cards by copying words from additional lines until an exact thousand is reached.
g. Arrange cards in strictly alphabetical order so that all duplicates of any given word come together. Eliminate all duplicate cards, writing the total number of such cards on the one card that remains.

2. Count the cards after the duplicates have been eliminated, thus obtaining the number of different words in a thousand. Call this number $X_2$.

3. Count the total number of prepositions in the thousand words. If the preposition "in" for example occurs fifteen times, it should count as fifteen prepositions. Record the total number of prepositions as $X_3$.

4. Check each word card with Thorndike's word list. Count the total number of words including duplicates, which do not occur in Thorndike's list. Record the total number of words not included in Thorndike's list as $X_4$.

5. Make a sampling of seventy-five sentences from the book as follows:
   a. Count the total number of pages in the book, excluding picture pages.
   b. Divide the number of pages in the book by 75 to determine which pages must be chosen.
   c. Tabulate as simple or not simple the first complete sentence on every page to be sampled. A simple sentence is defined as one in which there are no dependent or co-ordinate clauses; it therefore contains only one subject and one predicate.

6. Count the number of simple sentences in the seventy-five sentences sampled. Record this number as $X_5$.

7. Apply the following regression equation to the data, $X_1$ being the reading score; $X_2$ the number of different words in one thousand; $X_3$ the number of prepositions in one thousand words; $X_4$ the number of uncommon words in one thousand, and $X_5$ the number of simple sentences in seventy-five:

$$X_1 = .065X_2 + .101X_3 + .604X_4 - .411X_5 + 17.43$$

The answer to the equation will be the score on the paragraph meaning section of the Stanford Achievement Test necessary for reading the book measured.
By observing the grade-score table on the Stanford Achievement Test the answer may be further translated into reading grade.

A unique technique is that reported by Lewerenz. He compared the number of different words which began with each letter of the alphabet in a given sample selection with the number which appeared under the same letter in Webster's Elementary School Dictionary. The results of his study led him to select the five letters W, H, E, I and E as "critical letters" that is, those which indicate the reading difficulty of the sample and hence of the book. He based this selection on his discovery that in easy material words beginning with W, H and E were numerous, while words beginning with I and E were comparatively rare; and that in difficult material these conditions were reversed.

In these studies of sampling techniques many rather ingenious formulae have been developed for determining the vocabulary difficulty of a textbook and thereby its grade placement.

It has been said however that a sampling technique can never be as accurate as a complete word count and is employed only on the grounds of being practicable and expedient. Despite this fact though this method has been severely criticized by Mr. E. W. Dolch in the following statement:

Textbooks are not and cannot be homogeneous.... no section of the book can fairly represent all sections. To overcome this difficulty the method of


sampling selects lines at regular intervals throughout. This runs into even greater inaccuracy. The sample is then not a piece of reading matter, but a succession of disconnected bits. It fails to represent the text because it cannot possibly show the factor of repetition of words. No matter how careful an author was to repeat his statements, it would make no difference in such a sampling, because a single line on a page does not show what precedes or follows it, and another line, five pages on, or even on the next page will almost certainly contain different material. Occasional whole pages might form a better sample, but still not a representative one for the same reason. In fact, the conditions of language and style in writing are such that no study of pieces can truly represent the whole.

**Complete word count techniques.**—In view of these facts expressed so tersely by Dolch, some studies have been made in which complete or practically complete word counts were used.

Orlando W. Stephenson faced with the problem of enlarging the vocabulary of the pupils in his social studies class to enable them to better understand and appreciate newspaper and magazine material, employed the help of several high school teachers and more than forty seniors and graduate students of the University of Michigan. These investigators examined the indexes of ten textbooks in the socialized studies (history, geography and civics) for secondary-schools, and listed all the words and expressions with which in their opinions the pupils should become familiar. After completing the first list four more persons searched the texts for additional words or expressions which may have been previously overlooked. To this second list were

added several words which twelve experienced teachers in civics had found frequent occasion to use in their own classes. The final or master list was taken by twenty investigators each of whom real one-half of one of the ten selected textbooks and tabulated the number of times each word or expression appeared in all of the texts together.

To check the accuracy of the count and to determine the probable error, twenty words were selected at random from the master list and the appearance of each was carefully counted in all the books. The results of this recount indicated the original counts to be approximately fourteen per cent too low; therefore to rectify this error fourteen per cent was added to the total frequency of each word on the master list.

C. G. Shambaugh 1/ made a complete word count of five widely used history textbooks, (1) to measure the vocabulary difficulty in high school textbooks and (2) to discover to what extent the content is suited to the needs and capacities of the ninth grade student.

He arranged his entire list of words found, in alphabetical order and tabulated their frequencies both to show the number of times a word appeared in one text as well as its total frequency in all five texts. He compared his results both with the Ayres 2/ list of one thousand familiar words.


and with the Thorndike 1/ list of ten thousand words. Then he computed the percentage of frequency (1) of all the words which appeared in each text and also in the Ayres list; (2) of all the words found in each text which were also in the Thorndike list but not in the Ayres list; (3) of all the words not found in the Thorndike list and (4) of the total number of different words not found in the Thorndike list.

He concluded that the vocabulary in ancient-history texts offers a great deal of difficulty to the ninth-grade student as more than half of the uncommon words do not appear in any one text more than once, therefore giving the student no opportunity to become familiar with them.

He also decided from his careful reading of the material that the content of some of the texts had little connection with the life or interests of the average ninth-grade student.

The selection of textbooks.-- Before concluding this first decade it might be well to state the current practices observed in the United States for the selection of textbooks. These have been summarized by Frank A. Jensen in the Thirtieth Yearbook of the National Society for the Study of Education. 2/

1. Practice in cities of a population between 25,000 and 250,000 indicates that the city usually operates as a unit in the selection of instructional material and has full power to select its own textbooks.

2. The authority for selecting textbooks rests legally upon the city board of education.

1/ E. L. Thorndike op. cit.
3. The board of education almost invariably delegates this authority to the superintendent of schools, but holds his recommendation subject to its (commonly perfunctory) approval.

4. The superintendent of schools calls upon his assistants, the actual users of textbooks, to advise him on the problem of selecting textbooks.

5. The advisers to the superintendent of schools are usually organized as a committee.

6. The superintendent of schools, who is responsible for the selection of textbooks and makes recommendations to the board of education, appoints the members of the textbook committee.

7. A distribution of membership in a textbook committee in keeping with practice in city schools and the opinion of city superintendents would comprise about 50 per cent teachers, 25 per cent principals, 15 per cent supervisors, and 10 per cent superintendent's staff. The board of education is rarely represented.

8. Large textbook committees are not practical; the effective committee has from three to seven members.

9. The efficient textbook committee is an open committee—open both to school people and to publishers' representatives.

10. Textbook committees are in most cases temporary; they cease to exist after they have solved their problems and made their reports.

11. The reports of the textbook committee are regarded as being only recommendations to the superintendent of schools, but the recommendations are usually followed.

12. The superintendent of schools, in appointing the committee, generally states its problem. The committee, however, sets up its own standards of evaluation for the instructional material considered.

1930 to 1939

Improved criteria for selecting reading materials.--Whereas the first section of this chapter dealt with the
origin and development of methods of evaluating reading materials so this section will show how they have been improved and refined.

Very similar to Dr. Maxwell's six "broad underlying principles" are the following ten points which Dr. Guy M. Whipple in 1930 suggested that all textbook committees observe when selecting new reading materials:

1. Suitable content - The committee should have in mind the objectives to be attained in the teaching of the subject and then ask themselves if the book will accomplish these and be a superior book as well.

2. Suitable presentation - Besides checking the vocabulary the committee should note whether provision is made for introducing new words and they should also take into consideration that the "style of the sentence is just as important as the words in it."

3. Suitable teaching aids - The inclusion of maps, charts, illustrations, reviews, questions, and other aids are valuable, but they should be examined carefully to be certain that they are pertinent.

4. Reputation of author - The committee should always endeavor to find out who wrote the textbook. Many books are practically rewritten in the editorial room of the publishing house. Again authors grow old and their places must be

1/ C. R. Maxwell, op. cit. p. 48
taken by younger writers. It is unfortunate that many new
and good books are often cast aside because no member of
the committee has heard of the author.

5. Reputation of publisher - "This is often a better
guarantee of the value of a book than the reputation of the
author."

6. Suitable format - The selection committee should
satisfy itself that the binding, type, paper and other
factors of format are durable and legible but otherwise
should not concern itself too much with this item.

7. Local prejudice - This point might refer to any
sectional feeling which the context of the textbook might
stir up. For example, the attitude of some southern towns
toward a history book which favored the North in its treat-
ment of the Civil War. Each textbook committee would have to
handle this item according to its own local situation.

8. Up-to-dateness on fads - For example, the question
"Is the book planned along the Unit Idea?" may merely mean,
"Has the heading, chapter, been changed to unit?" The
committee should be satisfied if the book correlates with real
life situations and meets the felt needs of the community.

9. The copyright date - Selection committees should be
influenced by a new copyright date only when the book deals
with subject matter in which important advances have been
recently made.

10. Usefulness of score cards - A score card may help to
keep certain points before the committee, and also it enables them to record and compare their judgments. While on the other hand a score card may give an appearance of exactitude when it is not present nor wanted.

Similar to these also are the "18 Criteria for Choosing New Textbooks" proposed by Leland B. Jacobs 1/ in 1937.

1. Authorship
   1. What training and experience has the author had that qualify him to write this particular book?
   2. Does the author's point of view best serve the present needs?

2. Curriculum Needs
   Conformity with both the trends of progressive educational theory and the philosophy of the local school system is important in choosing new teaching materials.
   1. What purposes or objectives are recognized in this book?
   2. Is the relationship between avowed objectives and the choice and arrangement of subject matter consistently and definitely established and maintained?
   3. Is the material organized in keeping with present progressive concepts of learning?
   4. Does the material included give adequate consideration to fundamental social aspects of the educative process?

3. Adaptation to Children's Use
   1. Is the material so written that it meets the needs and interests of children in an engaging and appealing manner?
   2. Is the material well adapted to provide for individual differences among children and classes?
   3. Does the arrangement of the various units promote consistent and integrated thought development, study habits, and growth in power to solve problems among children?

4. Adaptation to Teachers' Use
   1. Is the material arranged in convenient units for teaching?

2. Is the subject matter presented in a sequence that is psychologically sound?
3. Do all the suggested related activities, study helps, and suggested readings possess a high degree of utility?
4. Can this material be efficiently adapted to individual and community interests and needs?

5. Format
1. Is the general appearance of the book artistic and appealing to children?
2. Is the book a convenient size?
3. Is the durability of the book insured by high quality materials and workmanship?
4. Are the illustrative materials in the book attractive, artistic, authentic, and in sensible proportion with the other content of the book?
5. Are the hygienic standards—finish of paper, size of print, margins and page arrangement consistently high?

Score cards also flourished during this period. Many excellent ones were prepared in the following subjects:
composition,²/ science,³/ geography,⁴/ reading,⁴/ and history.⁵/

Mr. J. R. McKillop ⁶/ constructed a textbook scale

¹/ M. E. Marye, "Form For Rating Textbooks in English Composition Prepared for the Ninth and Tenth Grades," School Review (February 1930) 38: p. 124-137.
called "Book Review Form" which could be used in judging any type of text. He patterned it after an earlier one produced by John Guy Fowlkes.\(^1\) The main advancement of this scale over the earlier one is in the assigning of weights to the various elements, thereby reducing much of its subjectivity.

However the form which shall be reproduced here as typical of this period is one prepared for the evaluation of composition textbooks by the National Council of English Teachers under the chairmanship of Dora V. Smith.\(^2\)

This device was originally intended to be merely a series of statements, the most important ones starred. Then some teachers requested that it be given a slight numerical value, because in that way it would be of greater value to them. The following procedure was adopted:

1. Place a 3 on the line in front of each item to which you can answer an unqualified "yes" for the textbook under consideration.

2. Place a 0 before each question to which you must answer an unqualified "no."

3. If your answer is qualified but nearer "no" than "yes" put a 1 in front of the item.

4. If your answer is qualified but nearer "yes" than "no" put a 2 in front of the question.

5. Total your points within each of the sections indicated by the Roman numerals. These figures

\(^1\) John Guy Fowlkes, op. cit.

may then be compared with the ratings of other textbooks for the same section.

Check-list of Questions for Consideration
in the Selection of a Textbook in Composition

Total

I. The Viewpoint of the Textbook
   *A. Does the author recognize that composition is a social activity?
   *B. Does he recognize the uses of composition in everyday life?

II. The Author's Style
   A. Is the style stimulating, suggestive, vigorous?
   B. Is there sufficient concrete detail to develop general concepts?
   *C. Is the exposition clear, accurate and simple enough to be readily understood?
   *D. Is it suited to the age of child for whom it is intended?
   E. Does it address itself to the pupil?

III. Proportion and Organization
   A. Does the author give adequate attention to
      1. The motivation of expression?
      2. The stimulation of interests and ideas?
      3. The selection and organization of ideas?
      4. The development of power of expression?
      5. The habituation of correctness in speech and writing?
   *B. Does the author give to oral composition the proportion of time dictated by its prominence in the activities of everyday life?
   *C. Does he give to letter-writing the emphasis demanded by its practical importance in everyday life.
   D. Does the author stress the subordinate and contributory function of correctness in speech and writing in relation to the larger purpose of expression?
   E. Does the author organize his material into sectional divisions large enough to stimulate interest, to give perspective and to promote well rounded growth?
   *F. Does the author organize his material in such a way as to
      1. Care for pupils of varying abilities and interests within the same class?
      2. Make both teacher and pupil conscious of the ends toward which they are working?
and the degree of progress attained?

3. Provide for flexibility in adopting the assignments to the individual classroom situation?

IV. Motivation

*A. Does the author create in the pupil the desire to express himself?

*B. Does he identify the composition work of the classroom with the expressional activities of life both within and without school?

*C. Does he keep before the pupil the purpose of each activity in which he is asked to engage?

*D. Does the author stimulate observation and interest in a wide variety of subjects?

*E. Does he arouse the initiative and originality of the student?

**F. Does he emphasize the importance of thinking?

*G. Does he use the social purpose of composition to encourage not merely correct but clear, vigorous and interesting expression?

*H. Does he identify his composition activities with actual experience instead of merely setting up series of topics for "theme writing."

*I. Does he promote additional activities among superior pupils?

*J. Does he promote progress by offering numerous means of self-criticism:

1. By providing standards for the evaluation of one's own writing?

2. By offering bases of comparison with the work of others?

3. By furnishing means of comparison with earlier achievement?

*K. Does he throw the responsibility for progress upon the pupil himself?

V. Activities Proposed

A. General characteristics

1. Are the activities suggested by the author suitable and interesting to the grade for which they are recommended?

2. Are they representative of a wide range of experience and thought?

3. Are there projects suggested which allow for class, group and individual activity?

4. Are these projects timely, interest arousing and thought provoking?

5. Is sufficient direction given for the execution of these projects?

6. Are the tasks specific, not general?
7. Are the illustrations pertinent to the pupils' experience?

8. Does the book contain sufficient practice material for applying principles developed?

9. Are the practice materials so graded in difficulty as to be easily adaptable to the needs of groups and individuals of varying ability?

10. Does the book offer a wide range of choice in suggestions for assignments?

11. Does the author stimulate creative writing among pupils capable of more literary achievements?

12. Is there plentiful correlation of activities with those other subjects of study?

B. Does the text furnish adequate experience in the following language activities of everyday life:

- announcements, book reviewing, conversation, creative writing, current event discussion, debating, use of the dictionary, explaining or giving instructions, gathering and reporting information, informal discussion, interviewing, letter writing, use of magazine material, note taking, public discussion according to parliamentary form, reporting speeches or committee findings, speech making and story telling?

C. Does the author offer sufficient aids and devices for

1. Development of vocabulary and use of dictionary?

2. Development of feeling of phrasing?

3. Development of efficiency in sentence structure?

4. Selecting and organizing material before writing?

5. Outlining?

6. Development of well-rounded paragraphs?

7. Making of skilful transitions?

8. Effectiveness of beginning and ending?

VI. The Mechanics of Expression

A. Grammar

1. Is the grammatical material motivated by constant relation to actual language situations?

2. Does the author provide for measurement and stimulation of progress both for the individual and for the class?

3. Does he provide for individual diagnosis and remedial work?
#4. Is there large stress upon sentence sense and sentence structure with repeated review of the topic?

#5. Is the content chosen on the basis of function in accord with the findings of scientific investigations:
   a. With relatively large stress on points of difficulty as verb and pronoun?
   b. With recognition of points of debatable usage?
   c. With emphasis upon function not classification (i.e. Are classifications of adverbs into adverbs of degree, cause, manner omitted and the use of the adverb vs. the adjective stressed? Is power to express thought relationships with exactness made more important than ability to label sentences as compound or complex?)

#6. Is there ample provision for repeated drill upon a few specific points instead of inadequate drill upon many non-essentials?

7. Is the program cumulative with adequate provision throughout for review?

B. Capitalization and Punctuation

#1. Are the requirements limited to matters of usage in our own day as revealed by the report of the National Council of Teachers of English?

#2. Are distinctions between required and optional usage clearly made?

#3. Are ample drill materials provided?

4. Is the program cumulative allowing adequate provision for review?

5. Does the author provide for measurement and stimulation of progress both for the individual and for the class?

#6. Does he provide for individual diagnosis and remedial work?

7. Is there constant provision for the use of the skills mastered, in actual writing situations.

VII. Physical Format

A. Mechanical make-up

1. Is the textbook a good standard size, easily handled by the pupil? (i.e. roughly 5½ inches by 7½ inches.)

2. Is it easily opened and durable in binding?

3. Has the paper a non-gloss surface?

4. Is it heavy enough to insure that print on the obverse side shall not show through?
5. Are the margins wide enough to insure an uncrowded page?
6. Is the page well-spaced so as to emphasize outstanding points?
7. Are the lines not more than 30 mm. long?
8. Is the type dark, plain, and distinct — not less than ten point?

B. Attractiveness and effectiveness of form
1. Is the book attractive in appearance?
2. Has it appropriate and effective illustrations?
3. Has it graphic devices for aid in outlining, letter form, word derivations and others?
4. Are the chapter and section captions clear, brief, well spaced and interesting?
5. Has the book a usable index?
6. Has it a usable table of contents?
7. Has it a clear and impelling preface giving the purpose of the author and suggestions for use?

C. Does the copyright date (issued or revised) suggest that the book is recent enough to reflect modern tendencies in teaching? 1/

Improvement of the sampling technique.-- While the score cards were being improved by embodying in them specific rather than general pedagogical principles, additional studies were being made in determining grade placement by sampling, and older sampling techniques were being refined.

In 1930 George R. Johnson 2/ developed a method of determining the difficulty of reading matter by discovering the percentage of polysyllabic words in the selection. He states that a "random sampling of three thousand words has been found by experiment to yield a fairly reliable measure of difficulty of any book under consideration."

Another technique for determining vocabulary difficulty

1/ Dora V. Smith, op. cit.

was contributed by W. W. Patty and W. J. Painter 1/ in 1931.

They listed alphabetically and tabulated the frequencies of all the words in the third full line of each fifth page of the text under consideration, except where there were pages containing illustrations or other graphic material, in which case the next full page was used.

This list was then compared with Thorndike's 2/ list and the Thorndike index number was recorded for each word. The investigators then multiplied the index number by the frequency of the word. The product thus obtained was the weighted value of each word. They then computed the average-word-weighted value or arithmetic mean by dividing the total weighted values of all the words of the sample by the number of words in the sample. This was done so that a comparison of the average word difficulty of a number of books would be possible.

Finally they computed an index number for each book by dividing the average-word-weighted value by the range of words in the sample. This gave a ratio of the different words to the difficulty of the average word. They concluded that the greater the range, the smaller was the index number and therefore the greater the vocabulary burden of the book in question.

2/ E. L. Thorndike, op. cit.
Alfred S. Lewerenz ¹/ in 1931 published a chart which could be used to measure vocabulary difficulty, vocabulary diversity and interest, and from these obtain the grade placement of the material being evaluated.

On one side of the chart the five hundred most important words of the English language are arranged alphabetically with space for writing in other words.

A sample of one thousand words taken from the right end of the third line of nearly all of the printed pages being evaluated are either crossed out or written in on this form.

From this record one can easily obtain for each alphabetical group of words (1) the number crossed out in the five hundred word list, (2) the number of words written in and (3) the total number of words.²/

Directions on the other side of the chart explain how to obtain measures of vocabulary difficulty, diversity and interest from this data. A copy of this chart is contained in the appendix.

Mabel Vogel Morphett and Carleton Washburne ³/ continued research on formulae for evaluating children's reading materials after publishing a report on their first formula in 1928. Since then they included books for primary children into their measuring range, refined

¹/ Alfred S. Lewerenz, op. cit.
³/ Mabel Vogel and Carleton Washburne, op. cit.
their methods and eventually, "arrived at a more satisfactory and more useful formula and an easier technique for applying it."\(^1\)

The earlier formula had certain faults which were not realized until later.

First of all, it shed no clear light on the grading of books for use in Grades I and II. In the second place, it required a preposition count which, seemingly simple, proved in practice to be surprisingly difficult (many prepositions are very hard for anyone not an expert grammarian to identify). Third, there was no chart form to simplify the application of the formula, and the fact that any of the ten thousand commonest words were considered common made such a chart...impossible. Finally, the formula did not allow for the skewing due to a smaller number of ballots in the upper and the lower extremes of the original list and therefore rated primary books too high and eighth and ninth-grade books too low.\(^2\)

Taking these four faults into consideration, a new formula was prepared which consisted of the following three elements:

1. In a thousand words, from a systematic sampling of the book, how many different words are there?

2. Of this same thousand words, how many are not among the 1,500 commonest in the English language?

3. Out of seventy-five sentences, sampled systematically, how many are neither complex nor compound?

These are combined in a regression formula as follows:

Number of different words in 1,000 multiplied by \(0.00255\),
Plus number of different uncommon words in 1,000 multiplied by \(0.0458\),


\(^2\) Ibid. p. 357.
Plus a constant: \(1.294\),
Minus number of simple sentences in 75 multiplied by \(.037\),
Yields the grade of reading ability necessary for satisfactory reading of the book.\(^1\)

In order that the application of this formula might be made as easy as possible, a chart was devised, patterned somewhat after the Lewerenz chart.\(^2\).... On one side it contains the 1,500 commonest words in the English language, alphabetically arranged and with space after each for tallying the number of times it occurs. On the right-hand side of the same page, under letters of the alphabet, are blanks in which can be written the "uncommon" words found in a thousand-word sampling and a space to tally the frequency of occurrence of each of these. Below this list is a place to enter the number of different uncommon words and the number of different words, both of which are needed in the formula.

On the other side of the chart are detailed directions for the tallying of the words, telling what to do about derived forms and so on; detailed directions for selecting the sample words and sentences; detailed directions for recognizing simple sentences; .... There is also space in which to record, for the seventy-five sample sentences, whether each is simple or not simple in accordance with the definition given on the chart.

Blanks for copying in the totals of each of these elements, combined with the constant and the formula, are also provided on the same chart. The chart makes it possible for any person of ordinary intelligence to analyze any book and determine its grade placement.\(^3\)

A copy of this chart is contained in the appendix.

Gertrude Whipple's investigation of textbook selection....

In 1929 Gertrude Whipple \(^4\) of the Public Schools, Los Angeles, California, began a survey of the practices followed

\(^1\) Carleton Washburne and Mabel Vogel Morphett, op. cit. p. 359.

\(^2\) Alfred S. Lewerenz, loc. cit.

\(^3\) Carleton Washburne and Mabel Vogel Morphett, op. cit. p. 360-362.

in selecting books for Grades IV, V, and VI in cities with populations of thirty thousand and over, about which she reported in 1936.

She discovered that there were six types of procedures used:

1. Selection based on the opinion of all the staff members concerned with the book,
2. Unguided selection by the principal and teachers,
3. Guided selection by the principal and teachers,
4. Selection by central book committees,
5. Selection by central curriculum committees, and
6. Selection by central-staff members.

Unguided selection she learned was usually limited by the school budget but in all other respects the teachers were free to select according to their own judgment. In guided selection she found that central staff members introduce new books to principals and teachers, define specific needs, assist principals and teachers to evaluate their book supply, or confer with principals and teachers as they make their choices.

In surveying the methods of evaluating textbooks she decided that book selection is in a definite stage of trial and error. Of the schools responding to her survey practices varying from briefest consideration of books to elaborate analysis; from questionable to sound practices; and from altogether subjective to scientific steps in selection were reported. As a result the following conclusions were derived:

1/ Gertrude Shipple, op. cit. p. 665.
1. Many valuable methods of securing titles for examination are in use. However only a few cities employ systematic methods of handling samples and related information. Since many new books are published every year, the development and the use of systematic methods are essential to efficient selection.

2. The specific types of books needed are rarely determined before evaluating materials. The importance of determining needs is evident in view of the wide variations in pupil achievements in Grades IV, V and VI.

3. The standards of evaluation reported vary widely. They include highly objective items as well as items that are entirely subjective. The score cards range from brief lists of general items to elaborate scales containing carefully weighted standards. These findings show the need for developing additional objective standards for evaluating books.

4. Numerous methods of evaluation are in use. Some are concerned with the general merit of books and others with specific characteristics. Some provide for careful analysis of books and others for superficial inspection. It is evident that much scientific work remains to be done in this field.

5. Current practices fail to insure the selection of books adapted to specific teaching purposes. There is therefore need for careful analysis of the purposes which books should serve in fulfilling the aims of the course of study.

6. Few methods of determining recommendations were reported. Those described gave little information on specific techniques used.  

1939 to 1945

This period proved to be the least progressive of the three. In fact no noticeable advancement has been made in any of the techniques. It is true that additional score cards were prepared in the fields of mathematics 2/ and

1/ Gertrude Whipple, op. cit. p. 774-775.

science and one rating device was developed which could be used as a guide for selecting any type of textbook, but as a whole it could not be seen where these rating scales were any improvement over those produced during the last decade.

The "Guide for Textbook Analysis" which has been selected as representative of this period was prepared in 1941 by Willis O. Underwood, Assistant Professor of Education at the University of Colorado.

As a preliminary study he sent out 465 questionnaires to teachers inquiring about what criteria they used when evaluating textbooks; arranged for 264 personal interviews with members of textbook committees for the purpose of gathering the same information; and critically examined seven textbook score cards which had received sufficient


recognition to be published in educational journals.

From the combined criteria acquired, he formulated his "guide," which he suggests should be used as "directed study" to call to the examiner's mind points which should not be ignored when faced with the task of selecting textbooks.

A Guide for Textbook Analysis

I. Authorship

1. Training
2. Experience
3. Reputation
4. Authority
5. Participation in scientific investigations

II. Content and Organization

1. In harmony with educational aims
2. Teachable organization
3. Scientific basis for
4. Consistent point of view
5. Adequately covered field
6. Modern character of situations
7. Balance of content
8. Accuracy
9. Psychological approach
10. Organized around large themes
11. Tested in classroom
12. Correlated with other pupils
13. Meet needs of pupils
14. Meet needs of community
15. Sound sequence of material
16. Develop proper attitudes, habits and skills
17. Obsolete topics eliminated
18. Material not biased
19. Possible omission of material without destroying sequence
20. Organized within selections
21. Material suited to age of child (grade placement)
22. Adequate details
23. Correct standards and ideals in use of English

III. Vocabulary and Readability

1. Controlled vocabulary
2. Concepts on level of child
3. Style clear and lucid
4. Good sentence structure
5. Provision for vocabulary enrichment
IV. Method and Motivation

1. Interesting material
2. Activity program
3. Emphasis on thinking, creative work
4. Well illustrated
5. Develop general principles and major understandings

V. Teaching and Study Aids

1. Teachers' manuals and guides
2. Tests to accompany book
3. Testing program within book
4. Workbook to accompany book
5. Index
6. Appendix
7. Glossary
8. Table of contents
9. Summaries
10. Marginal notes
11. References
12. Maps, charts, tables, statistics
13. Reviews, (simple and cumulative)
14. Provision for individual differences
15. Questions, exercises and drills

VI. Mechanical Make-up

1. Print
2. Spacing of words and letters
3. Paper
4. Width of margins
5. Bindings
6. Shape
7. Washable backs
8. Attractiveness
9. Durability
10. Length of line
11. Page arrangement
12. Size of book

VII. Miscellaneous

1. Copyright date
2. Student opinions
3. Price
4. Fit course of study
5. Publisher
6. Opinion of others (number of adoptions)
It is the author's opinion that this "guide" should

eliminate the objections leveled against many score cards because it is not sponsored by any publishing house, it is not the opinion of one man or one group, and it is not weighted on the assumption that one set of weightings are equally applicable to every community in the United States. It does include contributions from a wide variety of teachers and supervisors in large and small schools in several states and it also includes the findings of groups who have produced recognized score cards.1/

As there were no further developments of either sampling or complete word count techniques, they shall not be mentioned further in this section.

However one interesting plan for teacher participation in the selection of textbooks was reported by Clara K. Sterk and Beatrice Purdy.2/ This plan was first proposed in Milwaukee where it was successfully carried out.

The "Committee of Rules" in Milwaukee in endeavoring to work out a plan for selection of textbooks were beset with the following problems:

(1) how to provide for a definite periodic re-examination of textbooks in use, by the teachers using them,
(2) how to provide for active participation by the classroom teachers in the selection of textbooks,
(3) how to provide ample time for the study and evaluation of textbooks to be considered for adoption by the teachers who are to use them, and
(4) how to provide publishers' representatives with an opportunity to present their books to teachers.2/

1/ Willis O. Underwood op. cit. p. 24


A committee representing teachers, principals and the superintendent was set up known as "Textbook Advisory Committee" consisting of fifteen members for a term of three years each. Their terms of office were so arranged that at the most there could be only seven new members inducted at one time.

This group sends out a questionnaire to each teacher in the system not later than the first of June each year, on which he may vote for or against the continuation of textbooks, the use of which may be legally discontinued at the end of the next current school year.

The Board of School Directors then specifies the subjects which shall be considered open for adoption, and a notice is sent to textbook representatives, who at a general meeting present the merits of their books to the teachers concerned. Before this meeting teachers have had ample time to examine sample copies of each book to be presented.

As all teachers are not capable of determining the needs for every subject, subject committees are selected to evaluate objectively all available textbooks in their subject and decide on not more than five of the most desirable books to be submitted to a vote of the teachers.

After the five textbooks have been determined for the teacher vote, the teachers vote directly for the textbooks which they believe meet most adequately the needs of the children....

The results of the votes are sent by each text-
book subject committee as a sealed report to the Board of School Directors, to be referred to the superintendent for his comments and to be sent by him to the Committee on Instruction for its recommendation to the Board of School Directors.

Final action on textbook adoption is then taken by the board of School Directors.\(^1\)

This program is set up to give:

1. A definite procedure for ascertaining which textbooks teachers would recommend for change.
2. A periodic re-examination (every five years) by teachers to determine the usability of each textbook.
3. A three month period in which to study and analyze textbooks to be voted on.
4. An objective analysis of each of five textbooks submitted by the textbook subject committee for the vote of the teachers.\(^2\)

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\(^1\) Clara K. Sterk and Beatrice Purdy, op. cit. p. 662.
\(^2\) Ibid. p. 664.
CHAPTER III
CONCLUSIONS

At the beginning of the twentieth century when devious practices were being resorted to in an attempt to sell inferior textbooks, such educators as C. R. Maxwell,1/ Alfred Lawrence Hall-Quest,2/ R. H. Franzen, F. B. Knight,3/ and E. M. Otis,4/ each resolved that something should be done.

Their solution to the problem took the form of score cards by which the books could be rated. A criticism which might be made of these early score cards is that they were too general.

When these score cards were published others were developed to remedy defects noticed in them. Some attempts were made to prepare a score card which would be adaptable to any type of textbook being selected and to any situation; while others were prepared to be used for specific subjects.

1/ C. R. Maxwell, loc. cit.
2/ Alfred Lawrence Hall-Quest, loc. cit.
in specific situations. In some weights were added to the elements involved so that a numerical score could be obtained. This was later considered to be more of a detriment than an advantage.

In the 1930s many score cards were prepared, all a vast improvement over the first ones, all embodying definite principles and endeavoring to meet the felt needs of the community, but all nevertheless very much at the same level of progressiveness.

Apparently whenever a situation arose in which it was necessary to evaluate textbooks, a special committee was formed which produced a scoring device to fit their own particular situation without referring to any previous studies made in this field.

It seems to be very obvious that a series of objective score cards should be prepared containing minimum standards essential for every subject taught and that these should be made available to all teachers, and others such as librarians who are in any way connected with the evaluation of reading materials.

To do this would require:

1. The gathering of all available score cards.
2. Distributing them to subject committees composed of representatives of all sections of the country.
3. Tabulation by each committee of the criteria found in the available score cards.
4. Formulation of a master score card for each subject by retaining all worthwhile criteria and adding new criteria which seems pertinent to a majority of the committee.

5. Publishing this series of master score cards which may be used to rate any text used in any subject from Grades I through XII.

6. Making this series of score cards available to all schools and to all publishers for either no or a very low cost.

7. Planning for meetings of the subject committees at least every five years to make changes or revisions in the score cards.

Other educators recognized a different problem in connection with the evaluation of reading materials. W. W. Patty, N. J. Painter,¹/ Alfred S. Lewerenz,²/ Carleton Washburne, Mabel Vogel Morphett,³/ and others felt that the vocabulary of the textbook must be suited to the reading level of the child to provide the best learning situation. They therefore made studies by taking samples of vocabulary and in some cases complete word counts of texts to arrive at their grade placement. The most complete

¹/ W. W. Patty and W. J. Painter, loc. cit.
²/ Alfred S. Lewerenz, loc. cit.
³/ Carleton Washburne and Mabel Vogel Morphett, loc. cit.
of these studies were made by Alfred Lewerenz, and Mabel Vogel Morphett and Carleton Washburne. They prepared charts and formulae, and by following their directions carefully any teacher may statistically find the grade placement of any of her texts.

If one of these formulae could be used in connection with the series of score cards previously referred to, so that for every subject taught there would be textbooks provided for four or five different reading levels it seems that the maximum teaching-learning situation would be attained.

The actual selection of textbooks has improved through the years in that at the present time teachers are being given more of an opportunity to recommend texts for their specific classroom situations than they were formerly.

A still better method would be to have in every city a textbook selection committee, trained in the use of score cards and vocabulary formulae, who would be informed on all of the latest developments in textbooks and could give all teachers expert advice whenever any situation arose in which it was needed.

This would put textbook selection and evaluation on a scientific basis and remove it from the haphazard, guess-work rut it is in today.
BIBLIOGRAPHY


Bray, W. J., "Selection of High School Science Textbooks," Science Education (October 1934) 18: p. 147-151. Presents a score card to be used in selecting science texts.


Committee Report, "East St. Louis Provides Teachers with An Outline for Picking Books," American School Board Journal (May 1929) 78: p. 160. Describes how a committee formed a score card and then used it to select textbooks in St. Louis.


Fowlkes, John Guy, Evaluating School Textbooks, Silver, Burdett and Company, Boston, Massachusetts, 1923. Presents one of the early forms for measuring textbooks.
Deals with the criteria of interest and comprehension as related to textbook selection.

Presents a check list to be used with geography texts.

Presents a comprehensive treatment of the textbook including its history and its present use.

Presents eighteen principles to have in mind when selecting texts.

Presents the results of a survey on methods of selecting textbooks. The summary is excellent.

Presents a polysyllabic technique for determining vocabulary difficulty.

Gives a sampling technique for determining the vocabulary difficulty of American History Texts.

Presents a check list to be used only for tenth grade social studies texts.

Gives directions for using the Lewerenz chart and discusses vocabulary difficulty, diversity and interest.


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*Winnetka Graded Book List*, American Library Association, Chicago, 1926. Presents a list of reading materials which have been graded through the use of the early Winnetka sampling formula.


Whipple, Gertrude, "Items Considered in Selecting Textbooks When Score Cards are Used," *Elementary School Journal* (May 1936) 36: p. 665-673. Presents a discussion of criteria found in many available score cards.

Whipple, Gertrude, "Items Considered in Selecting Textbooks When Score Cards Are Not Used," *Elementary School Journal* (June 1936) 36: p. 754-755. Presents a discussion of criteria considered when score cards are used to evaluate textbooks.


APPENDIX
COPY

Board of Education
of the
City of Los Angeles
Chamber of Commerce Building
Los Angeles 15, California

March 9, 1945

Miss Frances M. Buckley
14 Puritan Road
North Beverly, Massachusetts

Dear Miss Buckley:

In response to your letter of March 5, I am sending you, under separate cover, four evaluation sheets for use in connection with the vocabulary grade placement formula. Also included are copies of the supplementary directions and the interest word list.

As there is no charge for this material, I am returning to you your postal money order for one dollar.

Very truly yours,

Alfred S. Lewerenz
Supervisor
Educational Research and Guidance

ASL: CRT
Encl.
### WORD TABULATION SHEET

**VOCABULARY GRADE PLACEMENT FORMULA**

<table>
<thead>
<tr>
<th>Vocabulary Difficulty Grade Placement</th>
<th>Polysemic Word Grade Placement</th>
<th>Vocabulary Diversity Grade Placement</th>
<th>Vocabulary Mass Grade Placement</th>
<th>Vocabulary Interest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per Cent Interest Words</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Interest Word Rating**

*All words must be covered and printed on supplementary score sheet.*

<table>
<thead>
<tr>
<th>Word</th>
<th>Room</th>
<th>Show</th>
<th>White</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>white</td>
</tr>
</tbody>
</table>

Title: 
Author: 
Publisher: 
Place: 
Date: 
No. of Pages: 

Sampling made from the last words on the line on every page.

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Los Angeles City School District
Division of Vocational and Adult Education Research and Development
COPY

WINNETKA PUBLIC SCHOOLS

Winnetka -- Illinois

Carleton Washburne - Superintendent
S. R. Logan - Associate Superintendent

March 9, 1945

Frances M. Buckley
14 Puritan Road
North Beverly, Mass.

My dear Miss Buckley:

In answer to your letter of the 5th, we are herewith sending 4 copies of the Winnetka Chart for Determining Grade Placement of Children's Books and a printed article on Grade Placement of Children's Books. We are also enclosing 39½ in stamps, as the cost of the charts and postage amounts to only 61½.

Very truly yours,

E. Walker

Research Office

Enclosure
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