

TWO TYPES OF HISTORY MATERIAL AND
RESULTS IN SEVENTH GRADE.

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Two Types of History Material and Results in Seventh Grade.

Chapter I.

The Problem and Its Scope.

The purpose of this study was to investigate the question whether the subject of history in the junior high school will produce better results when taught transversely as in traditional courses, or longitudinally with detailed episodes, and a wealth of maps, graphs, and other illustrated material. To be more specific, "Should history be taught by straight chronological narrative arranged by periods (transversely) or by tracing directly to the present day the development of a particular activity or group of activities (longitudinally)" (1).

The study reported here was conducted in the training school of the Colorado State Teachers College at Greeley, during the school year of 1923-24 by the training-teacher of junior high school social science. The study was limited to a history class in the seventh grade. The two types of organization of history material employed in this experiment are represented by Beard and Bagley in *The History of the American People* and by the Rugg, Rugg and Schweppe's *Social Science Pamphlets*.

The writer was unable to find comparable material from the same authors which could be used in such an experiment with grades eight and nine.

(1) Rugg, Rugg and Schweppe - *A Proposed Social Science Course for the Junior High School*. Twenty Second Yearbook, Part II.

The number of children used in the investigation was determined by the size of the seventh grade history class, and the conclusions are necessarily conditioned by the small number of pupils involved in this study. There were 24 pupils (10 boys and 14 girls) enrolled in the class, but only 19 of them remained throughout the period of the experiment, which was a little more than 8 months.

The essential differences in the treatment of the subject matter in the two texts selected for use in the experiment are explained by the authors in each case when they give the motives which dominated the content and arrangement of their material. These writers agree that social efficiency is the principal aim in the teaching of history, but their techniques in attempting to secure results are quite different.

Beard and Bagley ⁽²⁾ claim that children should be prepared for citizenship through an understanding of the ideals, institutions, achievements and problems of our country; that no mere almanac of facts, dates and names, no matter how exhaustive or how presented, can accomplish this purpose; that it can be done only by teaching boys and girls to think of events and issues of the living present in the light of their historical past, by giving them, above all, a sense of historical continuity. Throughout their text, Beard and Bagley endeavor to connect the powerful currents of American life with the issues of the present.

In carrying out their ideals, they have selected those striking

(2) Beard and Bagley - History of the American People. (Foreword).

features of American history which bear upon and help to explain our own age. The whole is conceived of as a vital, moving story with certain very definite and fundamental acts and scenes. In this way they seek to give the book that unity which comes from such a controlling purpose. They further state that in the execution of this plan the whole field of American history has been divided into periods and topics. Each of these fundamentals was broken up into its essential parts.

Famous events or time - honored stories were used only when they could be adjusted to the unity so planned.

The topical method of treatment has taken precedence over the purely chronological method. The authors claim that one striking advantage of this type of treatment is to bring forcibly to the attention of the students the essential features of each historical period.

By this organization Beard and Bagley⁽³⁾ attempted to present the achievements, traditions and ideals of the past so that the students of to-day may be prepared to cope with the problems of to-morrow.

As a result of this method of treatment they claim that students will not get the impression that the people of this country during one particular period were necessarily influenced by one event alone.

Rugg, Rugg, and Schweppe,⁽⁴⁾ the authors of the other history material used in the study, have attempted to construct curriculum

(3) Beard and Bagley - History of the American People.

(4) Rugg, Rugg and Schweppe - The Social Science Pamphlets.

materials that will prepare young people for intelligent participation in the complex and changing life of the present time, their hypothesis being that the traditional courses and the older methods have proved inadequate to meet the imperative demands of contemporary life.

The designers of this course claim that existing courses do not adequately treat the pressing economical, social and international problems of the day; that they do not furnish rich interpretative backgrounds; that they are not organized to give thorough practice in reflective thought; that the present division of the social studies into separate subjects - history, geography, civics, etc. hampers both pupils and teacher in understanding how people live together in a complicated and fragile industrial society; finally, that the social science instruction is dominated by reading about rather than by participation in life activities.

To overcome these defects the authors of the Social Science Pamphlets are constructing their material on a new basis. The outstanding features of the course according to Rugg, Rugg and Schweppe⁽⁵⁾ are as follows:

1. "Preparation of the pupils for intelligent cooperation in solving the big and insistent problems of life.
2. "Every major topic included in the course is of established social value to the rank and file of the people.
3. "Each topic and sub-topic is illustrated by vivid life episodes

(5) Rugg, Rugg and Schweppe - The Social Science Pamphlets.

and by a wealth of maps, graphs, and pictorial material far in excess of their present use in text-books.

4. "Reading materials and the exercises are organized to stimulate analysis and reasoning.

5. "One problem or topic, or at most one restricted group of problems and topics is considered definitely and thoroughly at one time. Each pamphlet and each section is organized around one central theme.

6. "History of only one set of related topics is traced at one time.

7. "Sharp contrasts are employed frequently for effective presentation. One era, one condition, one stage of a movement is sharply contrasted with another and especially with the familiar order of things.

8. "Pupil activity and social cooperation are required and stimulated through exercises of many kinds."

In making a closer comparison of the two types of organization, the writer outlined the outstanding differences in the two texts as follows:

(1) training for citizenship; and (2) treatment of the subject matter.

The marked differences as found are as follows:

1. Training for Citizenship.

- a. Beard and Bagley - Preparation for future citizenship by learning to interpret present issues in the light of their historical past. Getting, above all, a sense of historical continuity.
- b. Rugg, Rugg and Schweppe - Preparation for present citizenship duties by intelligent participation in life activities.

2. Treatment of the subject matter.

- a. Beard and Bagley - History is treated transversely, or by periods. In each period all topics are combined so as to make one continuous story. Details are used only when they contribute to the unity of the whole.
- b. Rugg, Rugg and Schweppe - History is organized around fundamental themes, that is, longitudinally instead of by periods. Each movement or condition is considered as an integral whole from the beginning to the present.

Method of Procedure.

To obtain accurate results it was necessary not only to form two divisions of equivalent groups but it was also essential that neither of the groups be shown any favoritism in regard to class room equipment, instruction, or supervision. As this experiment was conducted in a teacher training institution, several factors entered into the situation which would not be encountered in the average school room. To make this clearer it will be necessary to describe the type of school where the experiment was made, noticing particularly the change in the organization which was made to provide identical conditions for the two sections.

The author of the study was the training teacher of junior high school history. The work of the training teacher was to supervise the actual practice teaching work of those college students who were doing classroom teaching. To be more specific, in the junior high

school social science work the training teacher supervised the work of six classes - two of which met during the same hour, but in different rooms. Each class had a student teacher (sometimes there were two) who had charge of the class for one hour a day for one quarter. The school year is divided into four quarters. Three of these quarters make up the regular school year. The fourth quarter is the work of the summer session. Only the first three quarters of the school year were used in this study as the personnel of the summer school is not the same as that of the regular school year.

To make the results from the two groups in this experiment comparable it was necessary to make some changes in the regular administration of the two sections. Since the beginning seventh grade class was chosen for the study, and then divided into equivalent groups, there were three seventh grade classes instead of the usual two. Two of these were beginning classes and one was an advanced class. Although the number of classes was increased, the number of rooms available remained the same. That is, the three classes had to be taught in two rooms. But to prevent either group from being benefited by listening to the classwork of the other, the two sections were kept in separate rooms at all times except when the tests were given.

Much of the classroom work was done by student-teachers, and as some were perhaps more efficient than others, to avoid the possibility that either of these classes have an advantage over the other due to a superior teacher, the student-teachers of the two divisions changed classes at the middle of each quarter.

Since the work of the training-teacher is not only to supervise but also to do practical classroom teaching, it was necessary that she teach both groups an equal number of times and distribute the teaching equally throughout the year. A careful record was kept of the number of lessons and the type of lessons taught in order that both groups receive similar instruction.

The training-teacher administered all tests. No student-teacher was ever present during a test period, nor did she ever see a copy of the Experimental Test in History either before or after the test was given. This prevented any student-teacher, having these points in mind, drilling her class in preparation for the test.

As the results in this study were to be measured largely by the amount of progress of the two groups to be determined by the use of the experimental test in history, the same experimental test was given three times, (1) at the beginning of the experiment; (2) about the middle of the period in which this investigation was made; and (3) near the close of the school year.

It may be expected that practice due to repeated tests will effect later test results. In a study made by Katherine Graves⁽⁶⁾ some interesting conclusions were reached as to the effect of drilling on subject matter as shown by test results. She found that direct coaching on the material of the tests was extremely effective, and that

(6) Graves, Katherine - Specialized Training in Tests for General Intelligence. Teachers College University Contribution to Education, No. 143.

indirect coaching, or training in work similar to the material of the tests, was also effective, but to a much smaller degree.

The writer feels that the repetition of the experimental test in history had no real significance in determining the difference in the progress of achievement of the two sections, as the test was administered to both divisions an equal number of times and always to the two groups at the same time.

Equivalent Group Formation.

According to McCall⁽⁷⁾ equivalent groups must be equal in their "possibilities for growth in the trait in question. They should be so equal in growth potential or possibilities that they will show an equal mean change and an equal variability among the changes of the individual subjects in each group, provided all groups are placed under an identical factor." He further states that equivalent group formation does not mean that all subjects participating in the experiment be equal, but that all the groups participating be equivalent. He assumes that by this technique the rate of growth in the trait in question will be proportional to intelligence except for the differing effects of the two experimental factors.

Although this method of forming equivalent-groups has its merits, it also has its weaknesses. Franzen⁽⁸⁾ made a study showing the correlation of each of fourteen tests with chronological age, data

(7) McCall - How to Experiment, p. 62.

(8) Franzen, Raymond - Statistical Issues. Journal of Educational Psychology. September, 1924.

being 97 ninth grade children. He found that in different mental tests "mental age" means different things even when the authors were attempting to measure the same human qualities. He states that for any one to say that a child with a mental age of ten may obtain a reading age of ten he must be positive "that both tests correlate alike with age and that the correlation between the tests is very high when reading is at a maximum." He feels that it is important to know the mental age, the reading age, and the arithmetic age of a child, but the mistake is made in assuming that the same score results in the different tests means the same degree of excellence.

In his article, "Method of Selecting Superior or Gifted Children", Baldwin T. Bird⁽⁹⁾ says that although he considers the accomplishment quotient method for determining the achievement of pupils a step forward, he considers it a serious assumption for any one to state definitely that the scores in achievement in one scale are identical with the scores in achievement in another scale when the two scales are constructed by two different people for different purposes. He also feels that accomplishment may be affected by other factors, such as health, training, attitude, application and maturity. In addition to these one must consider that it has never been established that accomplishment should equal endowment.

The class which was employed in this investigation was divided into two sections. The division was made on the basis of the pupils' accomplishment quotients, using the technique as given by William McCall

(9) Twenty Third Yearbook, Part II, 1924.

in How to Experiment in Education. The accomplishment quotients used for this division were determined from the National Intelligence test and the Thorndike-McCall Reading Test scores.

The reading age of the pupil and his T score are found in tables prepared for the purpose for each score in this reading test. The same score is translated into a T score and the T score into its corresponding reading age. As, for example, T score 54 has a reading age of 161.

The reading quotient may be found by dividing the reading age of a pupil by his chronological age. The reading quotient is regarded as 100 % for the normal child and proportionately above or below for the child who scores higher or lower respectively than the norm for his age.

The accomplishment quotient, as used in this study, is the result found by dividing the reading age by the mental age. This quotient is intended to show what the child has accomplished educationally as compared with what he is capable of accomplishing. (10)

The groups might have been more nearly homogeneous than they were had the accomplishment ratio been determined by making a composite score of several subject tests, as for example, using tests in arithmetic, reading, and geography.

The equivalent-group divisions, as determined by the accomplishment quotients, gave two sections, with twelve students each. One group contained 6 boys and 6 girls, the other 4 boys and 8 girls. The means in the accomplishment quotients of the two divisions varied by

.6 of a point. Although the range of the two groups was 96 to 126 and 87 to 122 respectively, the interquartile ranges of the two distributions were practically the same.

On the following pages will be found the score results of the two tests which were used to determine the accomplishment quotient for each child used in the experiment. Table I lists the scores made by each child in the National Intelligence Test with their corresponding mental ages. The intelligence quotient was determined by dividing the mental age by the chronological age. Tables II and III show the equivalent-group divisions as determined by the accomplishment quotients.

Table I. Scores obtained as a result of administering the National Intelligence Test to the seventh grade history class. The intelligence quotient was determined by dividing the mental age in months by the chronological age in months.

Chronological Age in Months	Pupils' Names	Total Score	Mental Age in Years	Mental Age in Months	Intelligence Quotient
159	G.B.	134	14-7	175	110
158	D.B.	115	12-11	155	98
190	W.B.	61	9-0	106	57
161	N.C.	119	13-2	158	99
173	D.D.	124	13-6	162	94
140	N.F.	136	15-6	186	132
162	E.F.	105	12-2	146	90
155	H.H.	131	14-7	175	113
148	H.H.	129	14-2	170	119
166	I.J.	82	10-11	131	79
156	B.K.	128	13-11	167	107
151	E.L.	124	13-6	162	107
148	B.Mo.	159	15-6	186	125
171	E.Mo.	25	8-6	102	60
161	W.M.	76	10-6	126	78
146	A.M.	104	12-2	146	100
139	M.M.	104	12-2	146	105
133	E.M.	158	15-6	186	140
133	C.P.	136	15-6	186	140

Table I. (Continued).

Chronological Age in Months	Pupils' Names	Total Score	Mental Age in Years	Mental Age in Months	Intelligence Quotient
152	L.S.	131	14-2	170	110
163	R.S.	77	10-7	127	78
157	M.S.	110	12-7	151	125
148	V.S.	141	15-6	186	125
154	R.T.	131	14-2	170	110

Table II. Score results on the Thorndike-McCall Reading Test for Group I, showing the accomplishment quotient as determined by dividing the reading age by the mental age.

Group I.

Chronological Age in Months	Pupils' Names	Total Score	Reading Age	Reading Quotient	Accomplishment Quotient
133	E.M.	67	198	149	106
148	E.M.	67	198	133	106
148	V.S.	60	178	120	96
155	H.H.	63	186	120	106
159	G.B.	58	172	109	98
139	M.M.	60	178	128	122
161	N.C.	51	152	94	96
166	I.J.	50	150	90	114
163	R.S.	54	161	99	126
190	W.B.	36	110	68	101
161	W.M.	45	155	84	107
156	B.K.	58	172	110	103
				Median	106
				Mean	106.6

Table III. Score results on the Thorndike-McCall Reading Test for Group II, showing the accomplishment quotient as determined by dividing the reading age by the mental age.

Group II.

Chronological Age in Months	Pupils' Names	Total Score	Reading Age	Reading Quotient	Accomplishment Quotient
140	N.F.	54	161	116	87
133	C.P.	67	198	149	107
148	H.H.	67	198	133	116
152	L.S.	58	172	113	101
154	R.T.	60	178	115	105
151	E.L.	67	198	131	122
146	A.M.	50	150	103	103
158	D.B.	60	178	112	115
157	M.S.	55	164	104	109
162	E.F.	45	135	83	92
171	E.M.	37	113	66	110
173	D.D.	58	172	99	106
				Median	106.5
				Mean	106

Constructing the Experimental Test in History.

In constructing the experimental test in history, the author of this investigation made a comparison of the two texts which were representative of the two types of organization which were to be studied. The object was to find material that was discussed by the authors of both texts. It was found that the three pamphlets by Rugg, Rugg and Schweppe, "The Westward Movement and Growth of Transportation", "The Mechanical Conquest of America" and "America's March Toward Democracy", covered much of the same material as that discussed in the first 430 pages of Beard and Bagley, "The History of the American People."

The author of this study made detailed outlines of both sets of materials. Each outline included not only the principal topics and big movements in history, but each was so subdivided as to cover all events, dates and personages which were mentioned in either text. By a process of elimination, comparison, and selection a test was made from the material which was common to both. The test covered that part of American history which deals with the discovery, exploration and settlement of America, the Revolutionary War, the formation of the Republic and the administrations up to the beginning of the Civil War.

Valuable criticisms and suggestions on this test were received from several men to whom it was submitted, including Earle U. Rugg and W. D. Armentrout, both of Colorado State Teachers College, and Raymond A. Schwegler, Acting Dean of the School of Education of the University of Kansas. These suggestions and criticisms were used by the writer

in revising the test. In its final form the experimental test in history consisted of the following types of exercises, (1) forty true-false statements; (2) a series of fifteen events to be arranged chronologically; (3) ten statements involving association of persons and events; (4) completion; and (5) cause and effect.

This test which will be designated in this study as the Experimental Test in History is given in full on the following pages:

11. ___ Our first colony - Virginia - was started by an English commercial company.
12. ___ Early passenger trains did not provide for the comfort of passengers.
13. ___ The Embargo Act of 1807 proved that we could not live without trade with foreign countries.
14. ___ The struggle of the French and English for the control of America in the 1700's centered around the mouth of the Mississippi River.
15. ___ There were no people in England that sympathized with the Americans in the Revolutionary War.
16. ___ Inventors have always been able to finance their own inventions.
17. ___ Panics are closely related to periods of speculation and over investment.
18. ___ The Abolitionists were those who were willing to compromise on the slavery issue.
19. ___ The town meeting of New England was a great training school of democracy.
20. ___ As the frontier moved westward, towns, cities and "civilization" followed close behind.
21. ___ The Federalists, 1790-1814, were men drawn from the humbler occupations and from the farms.
22. ___ The success of democracy does not depend upon the education of the masses of the people.

23. ___ The Southerners prior to 1860 became wealthy chiefly from trade and ocean commerce.
24. ___ The Puritans in Massachusetts allowed religious freedom to all the inhabitants of the colony.
25. ___ Jackson was responsible for a decrease in the power of the President and for an increase in the power of Congress.
26. ___ No example of political union can be found before the Revolutionary war.
27. ___ The interests of the Southern planters and the northern merchants were identical with those of the people living in the "back country".
28. ___ The American westward movement was chiefly the work of immigrants.
29. ___ Cornwallis was defeated by the Americans at Yorktown.
30. ___ We have not denied to any one within our country the rights of free speech, free press and free assemblage.
31. ___ Jefferson Davis was president of the United States during the Civil War.
32. ___ Jackson appointed men to government positions because they were trained and experienced in the work these jobs required.
33. ___ Cyrus McCormick invented the reaper.
34. ___ The fugitive Slave Laws were successfully enforced.
35. ___ The Indians opposed the French traders and welcomed the English settlers.

36. ___ Hamilton championed a strong, aristocratic national government.
37. ___ Rivers were used very much by Americans in travel westward.
38. ___ Jackson abolished the United States bank because he believed it to be a monopoly.
39. ___ Canal owners welcomed the building of railroads.
40. ___ One way of changing our government is through amendments to the constitution.

II. Arrange these events in the order in which they occurred by putting a "1" before the event that occurred first, a "2" before the event that occurred second, and so on until you have a "15" before the event that occurred last.

- _____ Purchase of Florida.
- _____ Discovery of Gold in California.
- _____ Settlement of Jamestown.
- _____ Discovery of America.
- _____ Building of the Erie Canal.
- _____ Declaration of Independence.
- _____ Adoption of the United States Constitution.
- _____ Compromise of 1850.
- _____ Purchase of Louisiana.
- _____ War with Mexico.
- _____ The Second War with England.
- _____ Invention of electric telegraph.
- _____ Monroe Doctrine.
- _____ Washington inaugurated.
- _____ Missouri Compromise.

III. Write the name of the person having to do with:

1. The Kansas-Nebraska Act _____
2. Louisiana Purchase _____
3. Settlement of Georgia _____
4. The "Spoils System" _____
5. Compromise of 1850 _____
6. Discovery of Pacific Ocean _____
7. Invention of Steamboat _____
8. King of England during Revolutionary
War _____
9. Founded the colony of Rhode Island _____
10. Author of pamphlet entitled "Common
Sense" _____

IV. Write in the B column from what country we got the territory and in the C column how we obtained it, that is, whether by conquest, treaty, purchase, annexation.

A. <u>Territories Ac-</u> <u>quired.</u>	B. <u>Countries Ac-</u> <u>quired from.</u>	C. <u>How Obtained?</u> (<u>Conquest, Treaty,</u> <u>Purchase or An-</u> <u>nexation</u>)
---	--	--

- | | | |
|--------------------|-------|--|
| 1. Oregon | <hr/> | |
| 2. California, New | <hr/> | |
| Mexico, and | <hr/> | |
| Arizona | <hr/> | |
| 3. Florida | <hr/> | |
| 4. Louisiana | <hr/> | |
| 5. Texas | <hr/> | |

V. The following ten events are related to each other by cause and effect. In group I place a "1" before the event that occurred first; a "2" before the event that followed as a result of this; a "3" before the next result and so on until all five are numbered.

Do the same with group II.

Group I.

Writ of Assistance.

The Stamp Act.

Navigation Laws and Acts of Trade.

Smuggling.

The "Sons of Liberty".

Group II.

The Boston Massacre.

The Stamp Act Congress.

The Townsend Act.

Appointing of Committee of Correspondence.

Repeal of the Stamp Act.

Literature on Related Investigations.

The methods pursued by others in trying to solve problems of a somewhat similar nature in this field have been chiefly along the three lines of (1) determining the aims of history teaching; (2) selecting the content or subject matter; and (3) employing scientific methods of testing the results.

Several interesting and helpful investigations have been made which indicate some of the accepted aims of history teaching.

H. H. Gold⁽¹¹⁾ made a study "to discover the extent to which the printed courses of study reflected the reports of the various committees of the National Education Association and of the American Historical Association and to find out something regarding the prevalent methods of instruction". The material upon which he based his conclusions was obtained from several sources, (1) An examination of 242 of the most recent courses of study from 236 cities distributed over 41 states; (2) all the available textbooks used in high schools throughout the country; and (3) from answers to a questionnaire that had been sent to teachers of history. Several conclusions were made by Mr. Gold, but the one of interest to the writer was that the answers to the questionnaire showed many subordinate aims, with the central aim that of citizenship training.

A later study of a somewhat similar nature was made by Leonard V. Koos⁽¹²⁾. A questionnaire containing a list of "aims" for the teaching

(11) School Review, Vol. 25, 1915. pp. 88-100, 187-195, 274-282.

(12) Koos, Leonard V. - The Administration of Secondary School Units, 1917.

of American history was sent out to teachers of this subject. 104 teachers from 14 states responded. The aim, "to promote good citizenship" was the one most frequently mentioned.

Although we have but few investigations attempting to determine what are the generally accepted aims of history teaching, we find the idea of social efficiency is advocated by many of our present day social science investigators. In the Twenty Second Yearbook of the National Society for the Study of Education, Part II, which deals entirely with social studies, Frank M. McMurray in his critical appraisalment of proposed reorganizations as presented by the various writers for this issue of the yearbook, says, "These writers are together in declaring citizenship as the aim. According to them only such facts should be taught as have a reasonably evident relation to conduct".

Until other investigations have been made and other conclusions have been reached, curriculum makers in general will, no doubt, base their course of study for the social sciences on the generally accepted aim of social efficiency in citizenship.

Curriculum makers are concerned with selecting that content material and method of presentation which will best accomplish the desired result. Bobbitt⁽¹³⁾ says, "We should recognize frankly that every textbook of citizenship training that we now have is built, not on facts as to the activities of the good citizen, but on the working hypothesis of the writer. Every course of study drawn up

(13) Bobbitt, Franklin - How to Make a Curriculum.

by practical superintendents, principals and teachers is built upon their working hypothesis and not upon a survey of ascertained facts. There never has been such a survey made. We have not yet the technique for making it."

Walter S. Monroe⁽¹⁴⁾ says, "Scientific curriculum construction is a slow process. So far, we have only fragmentary studies in this field, and many do not appear to be highly reliable." Along the same line we have the following expression from Frank M. McMurray,⁽¹⁵⁾ "Interest in the method of procedure marks one of our greatest advances in education in recent years. For generations we have been making curricula; and it has been so easy a task that any one could attempt it, and any one has. Now at last we are inquiring how it ought to be done. The Scientific Method was a very late discovery in the history of the race."

As to current methods of changing the curriculum, Rugg⁽¹⁶⁾ says, "A more scientific procedure is possible through the systematic inventory of current practices and theories, the critical construction of hypotheses on the basis of it, and the use of objective analysis and experiment."

A number of studies have been made by research workers to

(14) Monroe, Walter S. - Making a Course of Study, Educational Research Circular No. 35. University of Illinois Bulletin, 1925.

(15) Twenty Second Yearbook of the National Society for the Study of Education, Part II, p. 293.

(16) Rugg, Harold O. - Foreword in the Twenty Second Yearbook, Part II.

determine topics or problems which should be used in the social science curriculum. A few of the outstanding attempts will be given here.

Washburne⁽¹⁷⁾ made a study for the purpose of determining basic facts needed in history and geography by means of analyses of newspapers and magazines. For this investigation he used four literary periodicals, five popular fiction periodicals, five news periodicals and four newspapers. These were so selected that the periodicals covered almost every month of every year from 1905 to 1922. By this method seasonal weighting of items was avoided, as was also the purely transitory material. Over 81,000 allusions to historical or geographical facts were found. He assumed that the facts frequently alluded to in periodicals must be taught if children are to read intelligently.

B. B. Bassett⁽¹⁸⁾ gives the method he employed in trying to determine by an analysis of political platforms, "what are the most significant and most persistent problems of the American people which seek solution through the machinery of government." Political platforms were made the basis for the selection of these problems, on the theory "that these platforms would reflect the issues of the day". The following platforms of political parties were analyzed: The national platforms of all political parties since the first National convention in 1832; State platforms in non-presidential years from 1889 on, so far as

(17) Washburne, Carleton W. - Basic Facts in History and Geography, Superintendence Third Yearbook, 1925.

(18) Bassett, B. B. - The Content of the Course of Study in Civics, Ph. D. Dissertation on file in the Library of the State University of Iowa. Summarized in Department of Superintendence Third Yearbook, 1925.

they deal with National issues; all of the platforms of major parties for 1910; platforms of major parties in certain selected states, namely, California, Indiana, and New York, since 1850; all platforms of the parties in Iowa since 1889; and the platforms of parties in one Southern state.

He found certain topics that were of vital importance in earlier times are mentioned less frequently during the later years. Certain questions as those dealing with labor, corporations, and foreign relations are stressed more during recent years than they were formerly. This study leads him to conclude that, to a certain extent, it is possible to get the "trend or relative emphasis to various topics from which it is possible to predict somewhat generally the problems of the next generation".

Another study that suggests a possible method of determining problems of contemporary society was made by Walter D. Cocking⁽¹⁹⁾ in working out his master's thesis at the University of Iowa. His problem was "to show what the laymen regard as the topics that should be emphasized in the teaching of citizenship". He attempted to get opinions from men and women in all classes of society. More than 1800 people were involved in the study. The responses to his inquiry showed 4728 different suggestions as to what should be emphasized in the teaching of history. Some were too indefinite to be of much value, while others gave specific points to be taught, such as duty to vote, public health and payment of taxes.

(19) Discussed in Department of Superintendence Third Yearbook.

The studies mentioned here do not cover the whole field of attempted investigations in selection of subject material, but these may indicate the types of scientific research that have been made to solve the question of curriculum revision in the social studies.

For measuring the achievement of pupils in history, educational scales have been made available. Some of these have been fairly well standardized. In referring to his standardized history scales, Marvin J. Van Wagenen⁽²⁰⁾ says, "Educational scales, such as the present series of American History Scales, have been perfected and simplified during the past few years until they have acquired the definiteness of the yardstick for measuring height and the simplicity of the ordinary standardized test in the using." Although this may be a somewhat exaggerated statement, there is no doubt but that with the best of objective tests, one is enabled to score and mark various types of history exercises with more precision than is possible when using subjective teachers' tests.

One may say then that there is a somewhat general agreement as to the aims of history teaching and that some progress has been made in the construction of standardized history tests, but that in the field of selection and organization of subject matter and the method of presenting it, there is still considerable disagreement.

(20) Van Wagenen, Marvin J. - American History Scales, Manual of Directions Teachers College Bulletin, Oct. 20, 1923.

Chapter II.

Analysis and Interpretation of Data.

For measuring the progress of the pupils in history the following tests were used: (1) An experimental test in history, which was made by the author of this study; (2) the Van Wageningen American History information Scale F₂; (3) the Van Wageningen American History Information Thought Scale R. Division 2; and (4) the Harlan Test of Information in American History. The scores on these tests are tabulated on the following pages.

Table IV. Scores on the Experimental Test in History for Group I.

Experimental factor for Group I was based on Beard and Bagley's History of the American People.

Group I (Using Beard and Bagley).

Pupils' Names	Points Scored			No. Points Gained		
	Initial Test	Intermed-iate Test	Final Test	C ₁	C ₂	C ₃
E.M.	15	38	54	23	16	39
B.No.	19	40	57	21	17	38
V.S.	19	33	48	14	15	29
H.H.	16	32	40	16	8	24
G.B.	25	39	52	14	13	27
M.M.	33	51	59	18	8	26
N.C.	20	30	39	10	9	19
I.J.	23	28	36	5	8	13
R.S.	25	35	47	10	12	22
Mean No. of points scored	21.6	36.2	48			
Mean No. of points gained				15.1	11.2	26.3

Under "points scored" are listed the scores on the Experimental Test in History which was given (1) at the beginning of the study; (2) near the middle of the experimental period; and (3) near the close of the year.

"Number points gained" refers to gain in points on Experimental Test in History. C₁ means points gained between initial and intermediate tests. C₂ means points gained between intermediate and final tests. C₃ means points gained between initial and final tests.

Table V. Scores on the Experimental Test in History for Group II.

Experimental factor for Group II was based on the Rugg, Rugg and Schweppe Social Science Pamphlets.

Group II (Using Rugg, Rugg and Schweppe).

Pupils' Names	Points Scored			No. Points Gained		
	Initial Test	Intermed-iate Test	Final Test	C ₄	C ₅	C ₆
N.F.	24	36	49	12	13	25
C.P.	38	46	79	8	33	41
H.H.	13	27	43	14	16	30
L.S.	18	31	43	13	12	25
R.T.	22	33	45	11	12	23
E.L.	34	58	63	24	5	29
D.B.	18	32	34	14	2	16
M.S.	24	37	37	13	0	13
E.F.	20	31	39	11	8	19
D.D.	20	41	42	21	1	22
Mean No. of points scored	23.1	39.2	47.4			
Mean No. of points gained				14.1	10.2	24.3

Under "points scored" are listed the scores on the Experimental Test in History which was given (1) at the beginning of the study; (2) near the middle of the experimental period; and (3) near the close of the year.

"Number points gained" refers to gain in points on Experimental Test in History. C₄ means points gained between initial and intermediate tests. C₅ equals points gained between intermediate and final tests. C₆ equals points gained between initial and final tests.

Table VI. Comparison of Results in Experimental Test in History.

Group	Mean number of points scored on initial test	Mean number of points scored on intermediate test	Mean number of points scored on final test	Mean number of points gained between initial test and intermediate tests	Mean number of points gained between intermediate and final tests	Mean number of points gained between initial test and final tests
I	21.6	36.2	48	15.1	11.2	26.3
II	23.1	37.2	47.4	14.1	10.2	24.3

In the initial test the average for Group II was 1.3 points higher than for Group I.

Group I had a final average of two points more than Group II.

The author of the study felt that it would be unwise to base conclusions entirely on one test; therefore, in addition to the Experimental Test in History, three standardized tests were given: The Van Wageningen American History Information Scale F₂, The Van Wageningen American History Thought Scale R. Division 2, and the Harlan Test of Information. These tests were administered once, and that was at the close of the experiment. The results of these tests are given here:

Table VII. Scores in Van Wageningen American History Information Scale F₂ made by Group I.

Group I (Using Beard and Bagley).

Pupils' Names	Age		No. of Errors			Uncor- rected	Score 1st cor- rected	Final
	Yrs.	Mos.	<u>I</u>	<u>II</u>	<u>III</u>			
E. M.	11	7	2	6 $\frac{1}{2}$	7	88	79 $\frac{1}{2}$	76 $\frac{1}{2}$
B. Mc.	12	0	2 $\frac{1}{2}$	5 $\frac{1}{2}$	6 $\frac{1}{2}$	89	81	80
V. S.	12	10	4	4 $\frac{1}{2}$	5	92	83 $\frac{1}{2}$	81
H. H.	12	5	5 $\frac{1}{2}$	8 $\frac{1}{2}$	10	83	69	65
G. B.	13	0	5	3 $\frac{1}{2}$	6	90	81 $\frac{1}{2}$	79 $\frac{1}{2}$
M. M.	12	1	2	4 $\frac{1}{2}$	6	90	83 $\frac{1}{2}$	82 $\frac{1}{2}$
N. C.	13	11	4 $\frac{1}{2}$	9	9 $\frac{1}{2}$	83 $\frac{1}{2}$	70	67
I. J.	14	4	6	2	8 $\frac{1}{2}$	83 $\frac{1}{2}$	77 $\frac{1}{2}$	72 $\frac{1}{2}$
R. S.	14	2	7	5 $\frac{1}{2}$	9 $\frac{1}{2}$	83 $\frac{1}{2}$	71	64
Mean								74.4
Median								78.5

Table VIII. Scores in Van Wageningen American History Information

Scale F₂ made by Group II.

Group II (Using Rugg, Rugg and Schweppe).

Pupils' Names	Age		No. of Errors			Uncor- rected	Score 1st cor- rected	Final
	Yrs.	Mos.	Divis. I	Divis. II	Divis. III			
N.F.	12	5	5½	5½	10	83	72	68
C.P.	11	7	6½	5½	8	86	74	68
H.H.	13	11	4	8	8½	85½	73½	71
L.S.	13	2	4	6½	9½	83½	73	71½
R.T.	13	6	4	8½	7½	87	74½	72
E.L.	13	1	2½	1	6½	89	85½	85
D.B.	13	4	5½	8	9½	83½	70	66
M.S.	13	8	5½	5½	9½	83½	72½	68½
E.F.	14	1	5	7	8½	85½	73½	70
D.D.	14	11	4½	6½	9	84½	73½	70½
Mean								71.1
Median								70.5

Tentative Norms for
Information Scale F₂
Grade 7

N. Y. City		Minnesota City	
Boys	Girls	Boys	Girls
81	74	70	68

Table IX. Scores in Van Wagenen American History Thought Scale R,
Division 2 made by Group I.

Group I (Using Beard and Bagley).

<u>Pupils'</u> <u>Names</u>	<u>Age</u>		<u>No. of Errors</u>			<u>Uncor-</u> <u>rected</u>	<u>Score</u> <u>1st cor-</u> <u>rected</u>	<u>Final</u>
	<u>Yrs.</u>	<u>Mos.</u>	<u>Divis.</u> <u>I</u>	<u>Divis.</u> <u>II</u>	<u>Divis.</u> <u>III</u>			
E. M.	11	7	2	2½	5	93½	89	88
B. Mo.	12	0	½	½	4	96½	95	95
V. S.	12	10	0	1	5	93½	89½	87½
H. H.	12	5	4	5½	7	89½	80	77½
G. B.	13	0	2½	2	2	103	99½	98½
M. M.	12	1	4	6	5	93½	83½	81
N. C.	13	11	6	5½	9	86	74½	69½
I. J.	14	4	7½	3½	8½	87	76	69
R. S.	14	2	4	4	8½	87	79	76½
<hr/>								
Mean								82.5
<hr/>								
Median								81.
<hr/>								

Table X. Scores in Van Wagenen American History Thought Scale R.

Division 2 made by Group II.

Group II (Using Rugg, Rugg and Schweppe).

Pupils' Names	Age		No. of Errors			Uncoor- rected	Score 1st cor- rected	Final
	Yrs.	Mos.	Divis.	Divis.	Divis.			
			I	II	III			
N.F.	12	5	7	3½	4½	95	85½	78½
C.P.	11	7	1	½	2½	101	99½	99½
H.H.	13	11	4	4½	7	89½	81	78
L.S.	12	2	4	3½	7½	88½	81	78½
R.T.	13	6	2	5½	6½	90½	83	82
E.L.	13	1	2	4	7	89½	83½	82½
D.B.	13	4	5	8½	9½	86	72½	69
M.S.	13	8	5	5½	9	86	85½	82
E.F.	14	1	3	7½	8	87½	77½	75
D.D.	14	11	3	5	7	89½	81½	80
Mean								80.95
Median								79.

Tentative Norms
for Thought Scale.

N. Y. City		Minnesota City	
Boys	Girls	Boys	Girls
82	76	80	80

Table XI. Scores in Harlan's Test of Information in American History
made by Group I.

Group I (Using Beard and Bagley).

<u>Pupils' Names</u>	<u>Score</u>
E.M.	67
B.Mc.	74
V.S.	40
H.H.	47
G.B.	62
M.M.	85
N.C.	42
I.J.	26
R.S.	48
Mean	57.9
Median	48.

Table XII. Scores in Harlan's Test of Information in American History
made by Group II.

Group II (Using Rugg, Rugg and Schweppe).

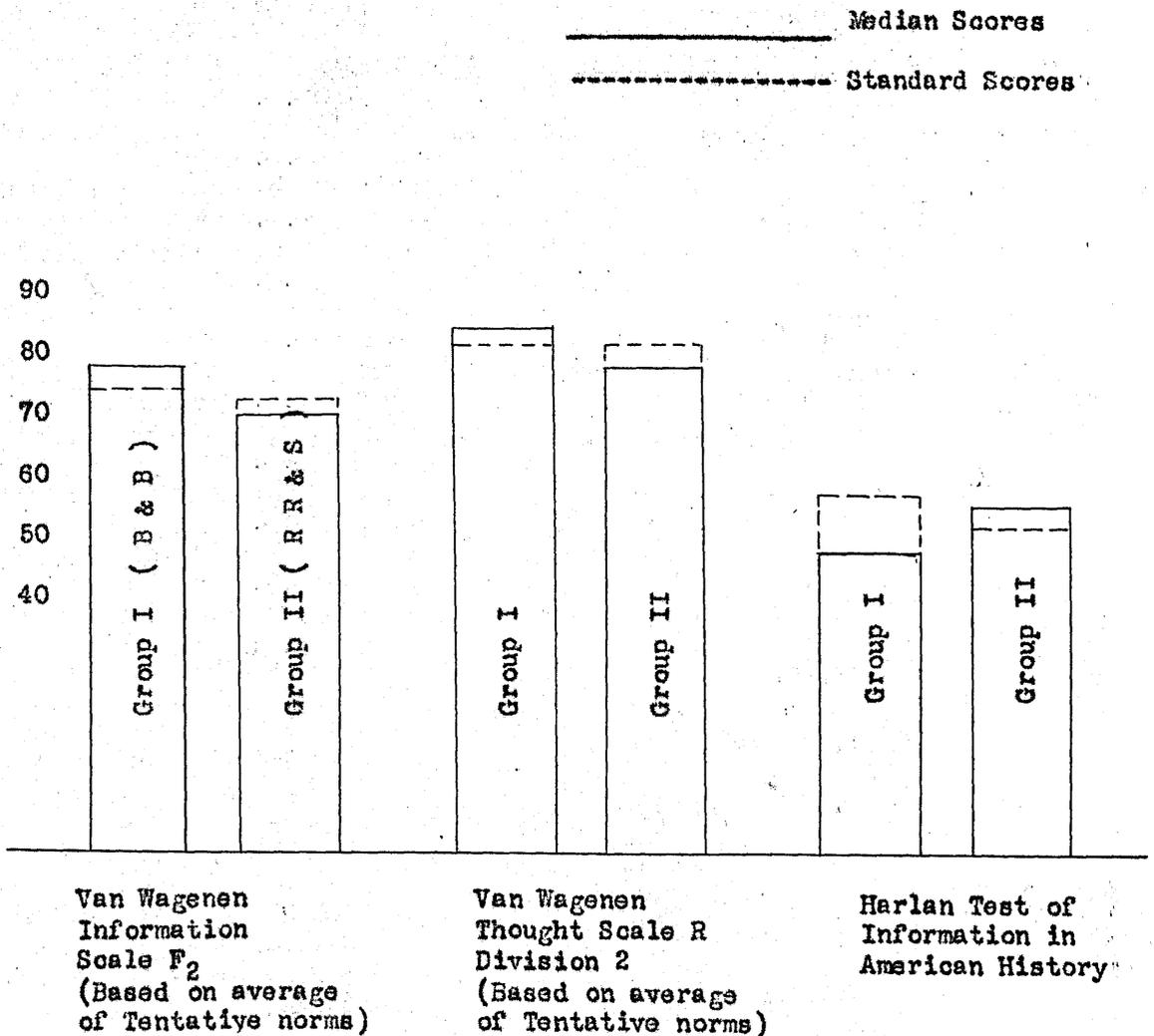
<u>Pupils' Names</u>	<u>Score</u>
N.F.	56
C.P.	58
H.H.	51
L.S.	58
R.T.	51
E.L.	76
D.B.	54
M.S.	38
E.F.	43
D.D.	56
	Mean 51.1
	Median 55.

Harlan

Median scores
for end of year test
7th grade = 56

These tests show that Group I scored higher than Group II in both of the Van Wagenen Tests, and lower in the Harlan Test. This is shown more clearly by a graphical comparison of the scores of Group I and Group II with the standard scores for each test.

Table XIII. Median History Scores Compared with Standards.



In summarizing this material the total results can be shown more clearly by a brief tabulation which takes into consideration the median of the accomplishment quotients and the medians of the scores on all tests for both groups:

Table XIV. Comparison of the two groups on all tests at the close of the experiment.

	Median of accomplishment quotient	Median No. of points gained on Experimental Test in History	Median on Van Wagenen Am. History Information Scale	Median on Van Wagenen Thought Scale	Median on Harlan Test of Information
Group I					
(Beard and Bagley)	106	26	78.5	81	48
Group II					
(Rugg, Rugg & Schweppe)	106.5	24	70.5	79	55

Since the two groups varied as to their median of the accomplishment quotient and their average number of points gained, the question arose as to whether the difference in the two averages was significant. This was determined by the following method of measuring reliability.

$$\begin{array}{l} \text{Standard Deviation} \\ \text{or} \\ \text{Sigma} \end{array} = \sqrt{\frac{\text{Sum of Deviations Squared}}{\text{Number of Deviations}}}$$

Standard deviation or sigma is a measure of variability of a frequency distribution.

Group	S.D. or Sigma
I	7.922
II	7.538

The probable error, or P. E. is a measure of variability such that half the cases lie within the P. E. distance measured each way from the central tendency, if the distribution is symmetrical.

$$\text{P. E.} = 0.6745 \times \text{Sigma}$$

Group	P. E.
I	5.346
II	5.084

If P. E. (Ave. of I) be the Probable Error of the average of Group I and P. E. (Ave. of II) the corresponding measure for Group II, the following will give the P. E. of the difference of the averages.

$$\begin{aligned} \text{P. E. of Difference of Averages} &= \sqrt{\text{P. E. (Ave. of I)} - \text{P. E. (Ave. of II)}} \\ \text{P. E. of Difference of Averages} &= \sqrt{(5.346)^2 - (5.084)^2} = 7.42 \end{aligned}$$

To measure the reliability of the Difference between Averages it is

necessary to calculate the Critical Ratio. Let X equal the Average gain of points for Group I; let Y equal the Average gain of points for Group II. Then:

$$\text{Critical Ratio} = \frac{X - Y}{\text{P.E. of Dif. of Averages.}}$$

$$\text{Critical Ratio} = \frac{26.3 - 24.3}{7.42} = \frac{2}{7.42} = .269$$

"The accepted standard for the undoubted significance of an obtained difference between averages is that the number obtained shall be at least three times as great as the P. E. of that difference. When the difference is exactly three times its P. E. the chances are a trifle less than 1 to 45 that the true difference can be as small as zero."⁽²¹⁾

The critical ratio in this study has a value of only .269 which is much less than three times the P. E. of the difference. Since this is true the conclusion is that the difference in these averages is not significant.

Another question arose in the mind of the investigator, and that was as to the possible effect of attendance upon school achievement.

The two groups were compared as to actual days in attendance. From this, attendance ratios were found by dividing the total number of days the pupil had attended school by the total number of days the school had been in session for the same period. The results are given below:

(21) These formulas were worked out according to the technique used by J. R. McGaughy in *The Fiscal Administration of City School Systems*. The report was reviewed and presented by the Educational Finance Inquiry Commission.

Table XIV.

Attendance Record.

Group I (Beard and Bagley).

<u>Pupils'</u> <u>Names</u>	<u>Accomplishment</u> <u>Quotient</u>	<u>Attendance</u> <u>Ratio</u>	<u>Increase in points</u> <u>in Experimental</u> <u>History Test.</u>
E. M.	106	89.3	39
B. Mo.	106	96	38
V. S.	96	95.3	29
H. H.	106	100	24
G. B.	98	98.6	27
M. M.	122	90.6	26
N. C.	96	90	19
I. J.	114	96.6	13
R. S.	126	80	22
Median	106		26
Ave. of Attendance Ratio		92.9	

Table XV.

Attendance Record.

Group II (Rugg, Rugg and Schweppe)

<u>Pupils'</u> <u>Names</u>	<u>Accomplishment</u> <u>Quotient</u>	<u>Attendance</u> <u>Ratio</u>	<u>Increase in points</u> <u>in Experimental</u> <u>History Test.</u>
N.F.	87	96.6	25
C.P.	107	93.3	41
H.H.	116	95.3	30
L.S.	101	100	25
R.T.	105	100	23
E.L.	122	100	29
D.B.	115	98	16
M.S.	109	97.3	13
E.F.	92	97.3	19
D.D.	106	90.6	22
Median	106.5		24
Ave. of Attendance Ratio		96.7	

Explanation of Tables XIV and XV.

The range of the attendance ratio and the averages of the attendance ratios were

<u>Group</u>	<u>Range</u>	<u>Ave. of Attendance Ratios</u>
I	80 % to 100 %	92.9
II	90.6 % to 100 %	96.7

Although Group II had the higher average attendance ratio and the slightly higher median of accomplishment quotient, the results of three tests out of the four were in favor of Group I. Evidently it was not the actual days of attendance that caused any difference in results.

In a study of the effect of attendance on school achievement Amos W. Glad⁽²²⁾ found that the relation between intelligence and school attendance for the 585 pupils considered in his investigation was close to zero; that school achievement scores in these one-teacher schools did not vary in any subject directly as the attendance varied in the different grades.

His conclusion, based on that study was that as regards instruction results, that other factors were more influential than mere attendance of pupils.

Another study of a similar nature was made by Charles W. Odell

(22) Glad, Amos W. - The Relation of Rural School Attendance to School Achievement. Master's Thesis (1925) University of Kansas.

of the Bureau of Educational Research, University of Illinois. Mr. Odell⁽²³⁾ says, "In the whole attendance seems to be a factor conditioning achievement but not so weighty a matter as many would have believed. Summing up the evidence from a large number of cases it appeared, (1) that the per cent of time which a pupil attends school has a rather definite effect upon his achievement age at the period under consideration; (2) that it has practically no effect upon his actual increase in achievement age unless his attendance record is very poor, in which case it lessens it for the same semester and increases it for the following one; and (3) that it is fairly closely related to his average school work for the same semester and somewhat less so to that for the following one."

These two studies help to verify the conclusion that the results in this study were not affected to any noticeable degree by actual days of attendance.

In this study the experimenter observed that pupils with high I.Q.'s did not have proportionately high A.Q.'s. Several investigations⁽²⁴⁾ that have been made for the purpose of finding out the relation between intelligence and accomplishment have shown similar conclusions. These writers seem to agree that "Roughly speaking, the A.Q.'s of 100 or more are made by pupils having I.Q.'s of 100 or less and the A.Q.'s of less than 100 are made by pupils having I.Q.'s of 100 or more" and that "since the

(23) Odell, Charles W. - The Effect of Attendance Upon School Achievement. Educational Research Bulletin No. 16, University of Illinois, 1923.

(24) McPhail, H. - Correlation Between A.Q. and I.Q. School and Society, Nov. 18, 1922.

accomplishment of a pupil is in terms of his own capacity, the bright pupil does not have to work up to his full capacity in order to attain the grade standards, while the dull child must do so. Under present school conditions it is the dull child who receives special help from the teacher while the bright child is left to himself."⁽²⁵⁾

The conclusions deduced from this study were based on a consideration of certain factors which may have qualified the results.

1. The limited number of cases involved.
2. The brief period of time in which this experiment was conducted.
3. The inadequate library facilities.
4. The factual type of the Experimental Test in History, as it did not test the ability to "solve problems; determine principal points; draw generalizations and conclusions; and make summaries."⁽²⁶⁾

Final Conclusion.

The results obtained through this comparative study by the equivalent-group method fail to show that either group did distinctly better work than the other.

(25) Madsen, I. N. - Intelligence and Accomplishment. Educational Administration and Supervision, Jan. 1923.

(26) Rugg, Rugg and Schweppe - A Proposed Social Science Course for the Junior High School, Twenty-Second Yearbook, Part II.

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