THE TREND TOWARD FUSION

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OF THE

SOCIAL SCIENCES WITH A UNIT OF WORK

ON OIL

TO BE TAUGHT IN SECONDARY SCHOOLS

BY THE FUSION UNIT METHOD

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THE TREND TOWARD FUSION OF THE SOCIAL SCIENCES 1939 WITH A UNIT OF WORK ON OIL TO BE TAUGHT IN SECONDARY SCHOOLS BY THE FUSION METHOD.

By

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Bachelor of Arts

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CHAPTER I

THE PROBLEM

Introduction. For a long time there has been a great amount of dissatisfaction with geography, civics, history and the other social studies as taught in our secondary schools. Educators have felt that a large percentage of the details of history is valuless, that much of formal, detailed teaching is equally worthless, and that altogether too large an amount of the old instruction in government never has carried over into constructive citizenship.

Those specialists who are engaged in social studies revision believe that school curriculum in a dynamic society needs constant inventory and readjustment. The curriculum of the social sciences tends to lag behind the society for which it is designed to be preparatory.

<u>Definition Of Terms</u>. As this is a problem on fusion, taught by the unit method, an explanation of the meaning of these terms and relating expressions should be beneficial. These definitions are taken from the works of well known specialists in the field of social studies.

"On the basis of the relation of the social sciences to each other at least four general schemes of organizing have arisen. Designating these in terms of the general principles embodied in each, one has the following categories:------



Isolation, Correlation, Concentration, and Unification.

Figure I

It will be noted that the word fusion is omitted here; an explanation is given later on by Tryon:

"Instead of using the words correlation and concentration to designate a set-up very similar to the one above, current advocates of curriculum reforms use the words 'integration' and 'fusion'. They do not deny that correlation is a fundamental aspect of their proposed reforms, but insist that the correlation that they practice is natural..... It will be observed that in Figure I in the example of concentration that the subject if history was made the center of gravity. In the scheme now frequently advocated under the words 'integration' and 'fusion', a unit of work, a problem, a project, a center of interest, or a unit of activity is usually made the basis for fusion or integration".

In distinguishing between the system of fusion and the

 Rollo M. Tryon, <u>The Social Studies As School Subjects</u>, p. 457. American Historical Association, Part XI, Report of the Commission, New York: C. Scribners Sons, 1935.

2. Ibid., p. 473.

other methods given, another quotation will be necessary.

"Those who use the word 'fusion' to designate the kind of unification they have in mind say that its significance as over against either correlation or concentration is that it looks forward to a unity in which the distinctive subject matter lines have disappeared. While the principles of correlation, integration, and concentration have been applied regardless of general subject matter fields, fusion has been advocated largely by those interested primarily in the social sciences. The subjects to which the fusion idea has been applied most frequently are history, geography, and civics."³

"As early as 1926 a published account of how fusion had succeeded in one school appeared. In commenting on the plan as he had observed it for two years the principal of this school remarked:

"This is not an attempt to correlate history, geography, and civics usually taught in these grades. Correlation, however skillfully worked out never fully obviates the disadvantages of the water-tight compartment idea of subject matter. The name 'fusion' implies something more than finding points of contact between different fields of knowledge. In this course of study certain desirable objectives and interests are introduced to the pupil and they are led to draw upon geography, history, or any other body of knowledge that may be necessary to develop the problems involved. Geography, history, and civics become not ends in themselves, but means to an end. The subject matter of these fields, therefore, has meaning to pupils because its relationship to a large unit of knowledge becomes evident."⁴

The unified curriculum in the secondary school unites, or integrates, several fields of study in an attempt to solve

3. Ibid., p. 476.

4. Ibid., p. 477.

the real problems of contemporary life faced by adolescents. Subject-matter walls are leveled, formal class schedules are cast aside, and information relevant to the problem in hand is drawn by pupil and teacher from all sources which offer contributions to the solution of the problem.

"The primary purpose of this departure in educational practice is to meet better some of the present needs of adolescents and their probable future needs by affording them meaningful experiences related to seven fundamental needs.... food, shelter, communication, mobility, cooperation, passing on our heritage, and mental and spiritual life."⁵

Unit. "A unit is a comprehensive, significant aspect of the environment or of an organized science, of an art, or of conduct, which being learned results in an adaptation in personality."⁶ Since so many wrong views and misunderstandings are had concerning a unit and what a unit is, we might consider another definition for a unit as given by an exponent of the unitary principle,--"A unit is a comprehensive and significant aspect of some field of knowledge that, when mastered proves an adaptative step in the adjustment of the individual."⁷

- 5. J. G. Umstattå, <u>Secondary</u> <u>School Teaching</u>, p. 64. Boston: Ginn and Co., 1937.
- 6. Henry C. Morrison, <u>The Practice of Teaching In the Sec-</u> ondary <u>Schools</u>, pp. 25-26. Chicago: University of Chicago press.
- 7. Professor W. T. Smith quoted in R. B. Weaver and H. C. Hill, <u>United States History by Units</u>, p. 7.

"The central fact of the unit idea is that content should be studied as complete, meaningful wholes rather than isolated or unrelated lessons or bits. This central fact applies whether the content is an experience, such as building a radio, or whether it is a topic, such as the Industrial Revolution. Content based upon the experiences and activities of the children and content drawn entirely from books can alike be handled best in unified wholes, or units which are well rounded and meaningful to the pupil. This is equally true of content derived from any combination made up of varying proportions of pupil activity, teacher experiences, and printed material."⁸

"When we speak of a 'Fusion' unit, it is said that the term implies a breakdown of subject boundaries and the selection of material fields to achieve the objectives which have been set up. Fusion has been used as a term to identify a unique type of unit which cannot be called by any subject name, such as history, geography, etc. The view points of the special subjects are abolished..... Another term that has been applied to this relational phase of planning and teaching subject-matter is correlation. Correlation is the process of utilizing relationships between relevant facts formerly divided between subjects, as a matter of organization, in order to bring the pupil into a complete understanding of the thing being taught.... If correlation is not fusion, it results in fusion, else it has no purpose or meaning.

"By integration, is meant when speaking of courses of study, a working together of materials of instruction from several fields, in order to present to the student an intelligible whole instead of only a part.....It cannot recognize the limitations and present boundary lines of subject-matter. It is a fusing process in both planning and teaching."⁹

 J. G. Umstattå, <u>Secondary School Teaching</u>, p. 130. Boston: Ginn and Co., 1937.

9. Jesse L. Ward, "The Earmarks Of A Unit", Education, Vol. 56, pp. 631-632.

CHAPTER II

WHAT ARE THE SOCIAL SCIENCES?

The social sciences take as their province the entire range of human history, from earliest times down to the latest moment, and the widest reaches of contemporary society, from the life and customs of the most remote peoples to the social practices and cultural possessions of the immediate neighborhood.

"The social sciences thus embrace the traditional disciplines which are concerned directly with man and society, including history, economics, politics, sociology, geography, anthropology, and psychology. Each of these disciplines possess an intrinsic nature and a care of substantial data and influences and yet all are intimately inter-related in their several approaches to a common goal--the knowledge of man and society".¹⁰

"Social science subjects are those whose subject matter relates directly to organization and development of human society and to man as a member of a social group".¹¹ The subjects listed by the State Department of Education as social science subjects are: Oklahoma History, English History, General History, Ancient and Medieval History, Problems of

Social Science Study And Teaching, American Historical Association, Commission on Social Studies, part XVI, Conclusions, p. 6. C. Scribner's Sons, 1934.

^{11.} Arthur W. Dunn, Secretary of Commission of Social Studies, National Education Report of 1916.

Democracy, Sociology, Economics, Advanced Civics, and Psychology. Little attention is given to psychology since it is not recommended as a regular subject except in the larger schools.

THE NEED FOR FUSION

In America there is a tendency toward a closely integrated society in which the possible forms of economic, political and social life are many and varied. Modern civilization no longer permits its members to live as separate individuals, but they must be prepared to live as intelligent members of a group. whether that group be the family, community, city, nation, or the world at large. Our chief problem to-day is no longer to adjust ourselves to a well defined system but to a change. "The most striking trend in American life to-day," say the commission on social studies, "and one which has gradually become more discernible over a fairly long period. is a two-fold tendency toward the closer physical unification of the nation and the ever-closer integration and interdependence of all branches of economy, social activity, and culture -- cumulative evidence supports the conclusion that in the United States as in other countries, the age of individualism and laissez-faire in economy and government is closing and a new age of collectivism is emerging". 12

This study is founded on the belief that the present conventional courses in history, civics, economics, and other social science subjects are failing to achieve as adequately as possible the great aims of the social studies. It is true

National Education Association, Department of Superintendence, Fourteenth Yearbook, <u>The Social Studies</u>, p. 9. Washington, D. C.: National Education Association, Department of Superintendence, 1936.

that in the present-day courses children are acquainted with many of the main facts of life, but there is evidence that these facts would mean much more and would be retained longer if they were presented in their relationship with life situation and other courses.

Every topic of instruction in the social sciences, if concerned with actuality, contains at least six elements: Physical location, occurence, (at some point of time), action by human beings, relationship to other happenings (economic, political, social), relationship to other ideas, and application of life situations.

"It is evident that a better understanding of two events will ensue if they are studied in relationship to each other. If other related events are studied in relation to those two a still better understanding will result. The tendency today, therefore, in teaching the social studies is not to teach isolated events, but wherever possible to show the relationship of events, especially in connection with their affinity to larger movements".

The old lecture and textbook methods of teaching are fast going into discard. Pupil activities and experiences through the channels of some laboratory methods of instruction are replacing the teacher activities of the former time. Pupil activity finds expression through oral reports, field trips,

13. Ibid., p. 14.

and group discussions. A conscious attempt has been made in this unit to fuse valuable elements from individualized instruction: the socialized recitation, the project method and the laboratory plan. The atmosphere of the elassroom should be one of democracy and industry. The maps, charts, bulletin boards, and reading tables are designed to make the classroom a veritable workshop. Under the daily lesson and recitation system, pupils too often learn lessons rather than history. Nothing can be accomplished so long as we hold threats of examinations, tests, and passing over the student's head as the sole means to make him read history. If materials are made presentable, readable, and workable, the student will enjoy doing it and will be more likely to do it of his own volition. The crime of telling the student to read the assignment carefully for tomorrow--he will be tested on it, should be done away with completely.

History might become functional if it were more interestingly written; there must be interpretation instead of mere catologuing the "facts" of the past; there must be a broadening of history's subject matter from political and military affairs to the whole economic, social, and cultural human world, and a synthesis of history's methods with those of the other sciences.

"Teachers should get away from the idea that all students must do certain things at certain times, for example having an eleventh grade student in literature read certain prescribed pieces of literature whether that is his interests or not.

"In this method the classroom would be more of a laboratory and the teacher more of a guide and less of a dictator".¹⁴

The purpose of social sciences is to help prepare the younger generation for life in a changing economic society which is a complex industrial society, that places intelligence above force in achieving social ends.

"The program of social science instruction should not be organized as a separate and isolated division of the curriculum but rather should be closely integrated with other activities and subjects so that the entire curriculum of the school may constitute a unified attack upon the complicated problem of life in contemporary society".¹⁵

Laboratory procedure in instruction in the social studies in which conferences and study, tables and equipment replace the formalized question and answer recitations and formal classroom procedure, seems to be slowly finding a place in progressive high schools.

Harry J. Hartley, in the November, 1928, number of Pennsylvania School Journal, describes "The Laboratory and Unit Method in Social Studies as Used in Donora High School". The chief features of the plan are: movable furniture and equipment, duplicate copies of several textbooks and reference books, shelves and compartments labelled according to units in the

^{14.} W. M. Wrinkle, The New High School in the Making, p. 30. New York: American Book Co., 1938.

^{15.} American Historical Association, Commission on Social Studies, part XVI, Conclusions, <u>Social Science Study</u> and <u>Teaching</u>, p. 48. C. Scribners sons, 1934.

course of study, manila folders for the filing of fugitive materials, equipment for visual instruction, instruction sheets for each unit of every course, and a technique of instruction involving several steps as pupils proceed in the study of the unit. The writer cites the following merits of the laboratory procedure: improved study habits, greater pupil activity, provisions for individual differences, more accessible materials for study, better surroundings for study, natural group organization for study, more independent study, and attention focussed on the subject, rather than on the textbook.

Osbourn¹⁶ in his studies on history finds that we are putting too much stress on things of unimportance and too little stress on other things of just as much importance. He analyzed a group of American History textbooks and found that 33 1/3 \$ of the space was given over to the civil and revolutionary wars alone. Is this period of seventeen years one half as important as the rest of our period of American History? He seems to think not. He also shows that the majority of history students do a minimum amount of thinking and a great amount of memorizing.

If we as teachers, continue to ask a student to do a job just because it is our assignment, we will fail pitifully inour objectives. Any of the methods of teaching social science will fail if we do not keep them alive--if we do not know

^{16.} W. J. Osbourn, Are We Making Good At History Teaching? Bloomington, Illinois: Public School Publishing Co., 1926.

what we are driving at.

"The reports of the American History Association Committees on the study of history in the schools, in 1899 and 1912, could be summarized as follows: Teach as much history as you possibly can and teach it in chronological order, starting with a year of ancient history.

"The reasons for importing all these largely meaningless and promptly forgotten 'facts', when any conscious reasons were given, were: 'A mental discipline' theory identical with that advanced for latin and mathematics; moral and religious 'lessons'; 'patriotism', in a sense that was contradicted by the aim of the elimination of international prejudices; and training in the use of leisure. This last was probably the most fruitless, because most history teaching in this period simply caused the student to feel unkindly at the very word 'history' the rest of his life"."

Instead of a pouring-in process or rote memorization in history with the boredom and dislike which accompanies it, the student should master the facts of history in their significant relations. Unless he is learning to trace movements, to see institutions in the process of development, with some appreciation of the underlying forces, then he might better spend his time on some other subjects.

The program of social science instruction should not be organized as a separate and isolated part of the curriculum, but rather should be closely integrated with other activities and subjects so that the entire curriculum of the school may put up a united front to the complicated problem of life in contemporary society.

Probably the person who did more to destroy history's

17. W. E. Bean, "The Future of Teaching History", Social Studies Magazine, November, 1938, p. 291. monopoly of the study of society was John Dewey in his educational philosophy. In it he insists that education should correspond with the realities of the twentieth century, industralized, democratic society; that not only should education prepare young people specifically for life in that society, but that it should actually be 'real life' in the meantime. Furthermore Dewey maintained that the learning process could be effective in the first place only if the material learned was closely related to the students own experiences, interests, and desires.

"In a real sense the schools are an integral part of American life. To think of them as institutions set apart and detached from contact with the living world is to give them the characteristics of unreality, to take away in large part their usefulness, and to diminish their appeal to the young. The loss arising from this detachment will affect all schools; it will be especially noticeable and injurious in secondary schools; which deal with boys and girls at a time of life when they aspire to become identified as intimately as possible with the world about them. Wherever schools are detached from reality, withdrawal of pupils to enter economic pursuits and to come 18 in contact with actual life activities must be expected".

J. Wayne Wrightstone¹⁹ made an objective study of two groups of students. One of the groups had been taught under the old chronological system of history teaching, the other had been taught by the unit or topical plan, starting with contemporary problems and traveling 'backward'. The tests

National Education Association, Department of Superintendence, Sixth Yearbook, <u>The Development of the High</u> <u>School Curriculum</u>, p. 41. Washington, D. C.,: National Education Association, Department of Superintendence, 1928.

J. Wayne Wrightstone, <u>An Appraisal of Newer Practices in</u> <u>Selected Public Schools</u>, p. 78. New York: Teachers College, Columbia University, 1936.

given show that anything is better learned when its meaning is clearly and concretely understood through a relation with the pupils' personal experience and interests. Such factors as teacher ability and salary, size of class and intelligence, age and socio-economic background of pupils having been made equal, Wrightstone found that the classes under the newer, fusion method actually retained as much of the factual material of American History, much more of European History, and still more of Senior High School Civics than those under the older system.

"It must not be assumed that the fusion program is without serious opposition. In the average social studies classroom, with an average teacher, the system offers unlimited possibilities of confusion and sheer waste. This confusion arises from several causes, one of the most serious of these is the unwillingness of the colleges, particularly the history departments, to adjust their courses to the 'social studies' trend. Because of this the secondary teacher finds a serious shortage of contemporary materials, and no suitable up-to-date textbooks. As a result the 'fusion' teacher too often has to grope his way with unexplored and inadequate materials.

"Another reason for the chaos which might arise in the unit system is found in the history professors themselves. There is a kind of feud between the college professors of the social sciences and the secondary schools. If the college historian loses, his subject will be ignored in the secondary schools, with 'history' losing its identity in the 'social studies'. If the secondary teacher loses, he will receive no cooperation and sympathy from college professors". 20

20. W. E. Bean; "Future of Teaching History", Social Studies Magazine, Vol. 14, p. 294.

<u>REVIEW OF RELATED INVESTIGATIONS</u> Experiments In Fusion.²¹

This is a scientific investigation brought about by the great value of the Harold Rugg's social studies textbooks in comparison with the traditional type of textbooks. This investigation, carried on by a testing program, indicates in some measure the relative achievement of pupils who have studied the two types of textbooks. The purpose of the research was to ascertain the mental equipment of the two groups and then to compare the two, and by doing this to discover which of the two methods given above was the most satisfactory.

In giving a critique of this study it will be interesting and necessary to outline the method and procedure used. In carrying out this testing program one hundred and thirty-nine eighth grade pupils were chosen from two similar junior high schools. In the Woodrow Wilson school the Rugg's fused course was used for the first time while in the Harrison Township school the straight history and geography courses had been studied. The teachers of these two groups had similar qualifications; teaching loads about the same; classes approximately the same size; they each taught forty to fifty minute periods and had eight classes a day. The equipment for the classes of the two schools was about the same.

^{21.} McQuirk, Alice B., A Study of The Achievement of Pupils Who Studied The Harold Rugg's Fused Course in Social Studies As Compared With Those Who Studied Separate History And Geography Courses. Ma. Theses, 1933, Indiana State Teachers College, Terre Haute, Indiana.

Intelligence tests were given so that the two groups could be paired mentally. Standardized tests were selected in history and geography but the test given in social studies was composed by the author of the study, assisted by Professor Ramsey of the Indiana State Teachers College. There had been no standardized test devised for the fused course in social studies. All tests were objective and the social studies test was the problem type.

It was found that all differences in scores were in favor of the Township group, except in the social studies and they were slightly in favor of the Woodrow Wilson group. The critical ratio, found from the social studies course, was 1.8 and indicated that there were eighty-nine chances in one hundred the Woodrow Wilson students would rate higher in social studies if the tests were given under the same conditions.

"This study, when all limiting factors are considered, furnishes no conclusive evidence as to the superiority of either curriculum over the other".²²

In the two groups there was a difference in the relation between intelligence and performance. This was probably due to the different type of textbooks, teaching methods, and teaching personalities.

One drawback to the study was that the Rugg fused course in social science had just been introduced in Woodrow Wilson and it was new both to the students and to the teachers. Also,

22. Ibid., p. 72.

the Harrison Township method of teaching might not be classified as the old traditional method of teaching as it was much modified. These teachers usually made out a unit of work for a period of time and with the aid of many references and much equipment this procedure would come near to the socialized recitation method. In other words, they used the directed study in such a way that present day problems were linked with the textbook material. The author's opinion was that these Township teachers were far in advance of the textbook. There is no doubt that this helped the Township students to rate higher on the tests than they ordinarily would have.

In conclusion there are certain evident limitations that must be put upon this research problem:

1. Previously the Woodrow Wilson junior high school had not taught the fused course.

2. The Harold Rugg's textbooks were new and therefore probably difficult for junior high school pupils.

3. Comparisons in the study were made on the basis of one set of measures only; that is, the testing program was not carried out with other groups and there were not any standard norms with which they could be compared.

4. There was the impossibility of equating the minor variables in the two groups.

<u>Comparative Gains Made By Classes Using Fused And Divided</u> Content.²³ This study was undertaken in an effort to determine

Wood, Chester W.; Comparative Gains Made By Classes Using Fused And Divided Content In Twelfth Grade Social Science, Ma. Thesis, 1936, State University of Iowa, Iowa City, Iowa.

the effectiveness of two plans of social science instruction as used in the senior year of high school. The method used was to teach one class Problems Of American Democracy and the following year to teach a second group Sociology, Economics, and Government, the time for these being divided into three twelve week periods. In this set-up facts could be drawn from all three social studies fields and considered in relation to the study of important national questions, while the specific information in the problems text regarding each of the three subject fields would not be so detailed or extensive.

There were two classes taught under each group with twenty-six students in each class, making fifty-two in each group. These groups were taking the work as a required course and no attempt was made to choose or select the students in any way. Students who registered in the courses were the ones accepted. There was no division of pupils according to ability and no mention was made of any experimentation. All tests were made a part of the regular class work.

The pupils were given a battery of standard objectives tests in September and again in June to determine the class progress in nine months. The difference in the critical ratio of the two groups was not great enough to indicate a marked superiority of instruction for one group over the other. On each test the gain in mean score made by the divided group exceeds the gain in mean score made by the problems groups.

The results of the study cast doubts as to the efficiency of certain groups of tests (the Westly Tests In Social Terms).

They seemed to test the general brightness more than knowledge of subject matter. Indications were that the "ceiling" in these tests was too low and the tests were weighted in favor of government and minimize economics. In both the fused and the divided group the highest score made on the September testing was sixty-nine and the highest score made in June was seventy-four. It may be that the ceiling was too low on all tests, or that the courses might have been geared so that the poorer would be relatively more stimulated than the superior group. Again, the textbooks or reading material may have been somewhat on the elementary side tending to favor the poorer students and failing to give adequate stimulation to the better students. All the tests except the Iowa Economics showed a higher correlation with the Terman test of mental ability than is usually expected of performance tests.

It seems that this study is none too reliable as has been pointed out previously. Briefly, some of the drawbacks to the study are:

1. The problems group was taught, more or less, by the textbook method and the true method of teaching under the fused system was not carried out.

2. The students in the groups were not paired according to mental ability. Those who wanted to be enrolled in the course were the ones tested. The mentality of one group might have been superior to the other group.

3. The author of the study says that the tests used might not have been perfectly satisfactory.

4. He also states that he might have been a better teacher under one type than the other.

5. The equipment used in class study was not listed, which, if their equipment was very different, would have reacted negatively.

6. There were numerous minor variables which could not be made equitable.

7. The correlation between the Terman test and the other tests was higher than is usually expected.

8. The students in government would remember the most from their eighth and ninth grade courses in Civics and

Citizenship.

"Experiment In A Long Beach School. One of these recent studies was completed by Zora Gridley during the school year of 1930-31 in one of the junior high schools of Long Beach, Galifornia. In this study, English and the social studies were used as a combined course in an experimental class. During the completion of the units. the generous cooperation of the other departments of the school assisted in the successful results obtained. The three units involved a study of Community Life Within the students' experiences, and orientation unit considering sportsmanship, school life, and social gatherings, and a unit on the westward movement involving the development of transportation and peoneering; all of which revolved around relating social science topics in the classroom. The project method was used in completing these particular units. The social studies course of study for the Long Beach city schools was used as a basis for this experiment. Results were secured after successive tests involving the New Stanford Achievement Tests were administered at various periods during the procedure. The results of the tests were compared and presented in chart form for the thesis. The final scores indicated that a great gain was made in points scored by the experimental group. Such a test was indicative of the progress made in factual content, but such a test does not pretend to measure the improvement in the social objectives or character traits. These elements in child growth were given consideration in the present experiment as well as those pertaining to factual content. In the Long Beach Study a heterogeneous group was employed

and the program was largely of an activity nature. The accomplishments of course, varied greatly according to ability. The originality and creative ability of the class was encouraged and committee work was used where it was justified".24

An Experiment in Correlation.²⁵ This study by Frances Wilson, which involves the use of correlation, consisted of a series of three experiments in correlating the junior high school subjects with the social studies in one of the Los Angeles junior high schools. The first had very little relationship to this study and is omitted here. The second and third experiments were conducted by the scientific process of critically analyzing and comparing the results of teaching two similar groups and were presented consecutively. This study was carried on by correlating general science, homemaking, and woodshop with the social studies on projects over ten week periods. This involved two groups of students of similar levels of intelligence. The students had the same teachers in all other subjects allowing for a careful check of their performance relative to the experimental procedure. The control group followed the plan for their other subject as outlined in the regular course of study of the Los Angeles city schools, accomplishing the maximum amount of work. The experimental group was given the minimum essentials as outlined in the regular course of study, and supplemented by

^{24.} Quoted in Gerald Calhoun, An Experiment In Integrating The Social Studies In The Ninth Grade Level of a Cosmopolitan High School. Thesis, 1934, University of S. Calif.

^{25.} Wilson, Frances; The Correlation of School Subjects With The Social Studies. Thesis, 1934, University of S. Calif.

correlations with the social studies. Whenever it was possible to substitute work correlated with the social studies for regular work, it was done. "The results of these experiments showed an increased interest in history, English, and art, an improved ability in English expression, previously undiscovered creative ability, and a more scientific attitude toward learning".²⁶

This is a very thorough investigation but a few drawbacks to the experiment should be pointed out:

1. The periods over which the projects were taught did not seem to be long enough to say whether there had been better progress made under one system than the other.

2. The control group, following the regular course of study, seemed to have as great an advantage as the experimental group had.

3. Both groups were taught by the project and the socialized recitation methods.

4. However, the experimental group advanced more rapidly than the control group.

5. The comparison of results seemed to be very accurate, showing that the experimental group had begun to use their creative ability and had developed a more scientific attitude toward the solving of their problems.

26. Ibid., footnote 25.

<u>An Experiment In Integration</u>.²⁷ This experiment was confined to the ninth grade level of a four year senior high school, extending through the school year of 1935-34 and consisting of three experimental classes enrolled in the integrated course, known as Social Living. One class was a low mentality group while the other two were superior groups. This particular course combined the work of the usual first year English and World History classes. The schedule of the school called for one-hour periods. The class period for the superior group was made two hours long by combining these one-hour periods with a five minute rest period between classes. The lower group also had a two hour period but at the end of the first hour they had thirty minutes of Physical Education then came back to resume their work for another hour. Credit was given for both English and World History at the end of the term.

Intelligence tests were first given then tests were given for reading ability and command of English fundamentals. With this as a basis, it was possible to measure the effects in growth and development along the lines of interest, vocations, social view-points, school citizenship and home membership participation, as well as factual content in the classwork.

Since this was a new idea in teaching in this school, the teachers met weekly throughout the year to outline plans for

^{27.} Calhoun, Gerald Adams; An Experiment In Integrating The Social Studies In The Ninth Grade Level of A Cosmopolitan High School. Thesis, 1934, University of Southern California.

procedure and to have a "round-table" discussion of problems.

In the physical setting no unusual room equipment was used. Two different classrooms were employed; one was large with movable chairs, room for dramatization and construction work; the other was a smaller, converted science room.

In the procedure case histories or questionnaires were made on every student of each group for the purpose of determining pupil interests, hobbies, habits, and special abilities. This was for the purpose of selecting topics on the various units and a definite attempt was made to satisfy as may interests as possible. Socialization was not given prime consideration in making up the course of study, so the arrangement for socialization was made by the use of outside activities. Some of these were home work, use of the radio, social dancing, use of motion pictures, and one day either for the music or social dancing period. This still left seven periods within the class room.

Certain problems confronted the author of the experiment the most serious being the lack of an adequate foundation guide or text, however, the teachers were well trained in a variety of activities and had a sound knowledge of teaching techniques.

There were two aims set up. The first was to determine whether in the integrated classes the children showed a greater interest in their work and an acceptable progress in the factual content. Four tests were given throughout the year to determine the progress in content. The integrated procedure could not be compared with the more traditional departmental

idea because the same students had not participated under both procedures. The estimate of interest was left up to the experts who had taught the same materials under both systems. The second aim was to set up a list of social objectives and note the individual growth in these respects during the semesters work. In measuring the growth here there were no means of measuring by which such qualities could be objectively determined. It was, therefore, necessary to rely on the teachers' estimates of growth from the children under their control. This was done by recording an estimate of the pupils in representative social objectives at the beginning of the semester. After this a record of each pupil was made, it was returned and at the end of the semester the same teachers again made a record of the same pupils' qualities. The comparative results were used for recording two estimates. The teachers rated the pupils on a scale ranging from 1 to 5. With the 1 rating representing the best accomplishment and the 5 rating signifying the lowest. The tables showed that the most significant progress was made in Social Interests, Vocational Interests, and Cultural Interests.

In this experiment so much depended upon the personal element that it would be almost impossible to have a completely controlled experiment, yet all things considered, it seems to be very reliable. It is doubtful if differences in organization and procedure will ever offset differences in teachers. During the year of the experiment there was a marked decrease in problems of discipline according to the author.

There was adequate provision for every level of ability in the division of work; the more industrious group taking the leadership and the lower group were willing contributors.

"As a result of this varied integrated program an increased interest in the importance of history, English, art, music, social and civic responsibilities was noticed".²⁸

A summary of this experiment may be given by enumerating these points:

1. The teachers, who were inexperienced, met each week to outline plans for procedure.

2. The qualities of the pupils were rated by the teacher; there were no means by which these qualities could be measured objectively.

3. It seems that to much depends upon the personal element for the experiment to be any too reliable.

4. The organization of the classes could not have been synonymous, due to the differences in teachers.

5. The minor variables could not be controlled.

6. The procedure used was satisfactory and was carried out with thought and precision.

28. Ibid.

BLACK GOLD

By Jennie Harris Oliver.

Where shafts bite deep in a home hillside And wounded earth in its flame has died, The trees are tattered and seem to be A-drip with black dew, endlessly. The children's play-house has lost its way In dismal ooze and sullied clay. The grass is shriveled in clots of grime; And flowers strangled in sheets of slime. Like soot, upon coal, is the mossy stone; Oil dabbled, the nest where a bird has flown; And even the stream in its shaley bed Bears glistening ink, where it once was red.

On this spot--pallid--without a bloom--Tanks squat like gnomes in a world of gloom; Through veins of iron is pumping away Old forrests' blood in its rich decay, The trucks crawl out; new roads cut deep. Where the buried trails of old creams sleep A woman sees through the sting of tears A murky flood on the pride of years; But the man beholds; with exultant eyes, New fortunes make and new cities rise!

For it is the law that earth shall give--The past must die, that the present live! So derricks stand upon ruin's wall, And black gold flows for the good of all.

CHAPTER III

A FUSION UNIT ON OIL

I. Objectives:

- To lead the pupils to a better understanding of our industrial civilization and to act wisely upon the knowledge and understanding by discovering the importance of oil, it's conservation and distribution.
- To show the effects of oil development on the community.
- To show the great need for the conservation of the world's natural resources.
- To give the ability to use tools of various kinds, such as maps, graphs, encyclopedias, and other books of reference.
- To develop the ability to collect, organize, and utilize significant social data in order to form sound conclusions.
- 6. To stimulate interest in the conservation of our natural resources, using oil as an example.
- II. Orientation Talk By Teacher.
 - 1. The importance of oil
 - 2. Why we should study oil.
 - 3. Oklahoma without oil.

III. (A) The Approach.

- 1. History tells the way things have happened.
- 2. Geography deals with the place element -- environment.
- 3. Sociology tells of the social relationships of man.

- Economics deals with men's relations with one enother in the satisfaction of wants.
- Civics emphasizes relationship as giving attention to personal conduct--citizenship.
- Newspapers, magazines, radios, movies, and plays, are vitalizing in the study of citizenship in the making.

(B) These six approaches to the study should be kept uppermost in the mind's of the students throughout the study of the unit.

- IV. How to Study The Unit.
 - "1. Read the guide sheet over to get the main ideas.
 - 2. Look up all new words you come across in the unit.
 - 3. Locate the unfamiliar places on the map.
 - 4. Use pronouncing index for proper nouns.
 - 5. Find topic sentence of each paragraph.
 - 6. Get a good view of the whole unit.
 - 7. Use the given questions.
 - 8. Tell in your own words the chief points.
 - 9. Can you find any relation in this material and what you knew previously? Can you make any comparisons?
 - 10. Look for cause and effect.
 - 11. Look for the significance of events.
 - Look for applications in every day life situations of what you are learning.
 - 13. Think the topic through.
 - 14. Summarize the chief points in brief notes to be
used in the review.

- 15. Feel free to have conferences with your teacher at anytime".
- V. Directions To Students.
 - Examine carefully the introduction, objectives, and detailed outline of the unit.
 - 2. Read the chapters in the text that have to do with the unit.
 - 3. Take down notes as the unit is presented.
 - 4. Take down important notes from your outside reading.
 - Hand in the weekly reading report on outside reading on Wednesday of each week.
 - Write up, briefly, the rough notes you took and hand them in at the close of the unit.
 - 7. If you want a "B" or "A" grade, work up the advanced assignments. Consult your teacher on this work.
 - 8. Review your written notes on the unit just before the test comes, at the close of the unit.

29. Historical Outlook, 19: 276-277, "How To Study".

VI. The Unit.

OIL: THE MOST IMPORTANT MINERAL RESOURCE OF OKLAHOMA.

- Topic I. How Oil Is Used.
 - I. Content:
 - (a) Machines.
 - (b) Industries.
 - (c) Engines.
 - (d) Lubrication.
 - (e) Minor uses.
 - II. Reading references:
 - (a) Thomas Read, Our Mineral Civilization.
 - (b) Raymond Bacon, The American Petroleum Industry.
 - (c) Gustav Egloff, Earth Oil, Chapter X.
 - (d) Arthur Pound, <u>Industrial America</u>, Chapter VII, pp. 127-145.
 - III. Leading questions:
 - (a) What would happen if our oil supply were to be suddenly cut off?
 - (b) Give the two main ways that machines use oil.
 - (c) How was machinery lubricated before oil came into prominence?
 - (d) What do we mean by "lubricating machinery"?
 - (e) Why must a machine be lubricated?
 - (f) How have petroleum products sped up transportation?
 - (g) How is the farmer helped by these products?
 - (h) What are the primary products of petroleum and what are their main uses?
 - (i) Is oil still used as medicine?

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IV. Class projects:

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- (a) Make a list of major uses of oil.
- (b) Make a list of minor uses.
- (c) Report on Chapter X of Gustav Egloff, "Earth Oil".
- V. Summary:
 - (a) Write a summary of this topic using, and organizing the leading material in the questions in part III.
- VI. Objective test.
- VII. Extra credit:
 - (a) Make a circle graph showing the leading uses for oil.
 - (b) Keep a list of the ways you have been assisted by the use of petroleum products during the study of this topic.
 - (c) Make a picture book showing many uses of oil.
 - (d) Write a paper on "What I think is the most important use of oil".

Topic 2. How Oil Is Pumped And Carried To Its Destination.

- I. Content:
 - (a) Locating oil.
 - (b) Drilling.
 1. Early drilling.
 2. The derrick.
 3. The gusher.
 4. A new well.
 - (c) Oil fields.
 - (d) Oil field workers and their jobs.

(e) Transportation.
1. Early methods.
2. Pipe lines.
3. Rails.
4. Truck.

- 5. Boat.
- (f) Storage.
 - 1. Natural depressions in the earth's surface.
 - 2. Steel tanks in cylindrical shapes.
 - 3. Concrete reservoirs.
 - 4. Aluminum tanks.
- II. Reading references:
 - (a) Raymond Bacon, The American Petroleum Industry. Chapter VI.
 - (b) H. C. George, Oil Well Completion And Operation.
 - (c) Luther C. Snider, <u>Oil Am Gas In The Mid-Conti-</u> <u>nent Field</u>, Chapters III and VII.
 - (d) Dorsey Hager, <u>Oil-field Practice</u>, Chapter III, IV, and VI.
 - (e) Gustav Egloff, Earth Oil, Chapters II, III, & VI.
 - (f) Samuel B. Pettengill, <u>Hot Oil: The Problem Of</u> <u>Petroleum</u>.
- III. Questions for discussion:
 - (a) Name several methods of storing oil.
 - (b) Which method is the oldest?
 - (c) Which one is the most satisfactory?
 - (d) Does oil evaporate?
 - (e) How is oil transported to foreign countries?
 - (f) How is the continuous flow of oil through the pipe lines regulated?
 - (g) There were two parallet struggles in the development of oil transportation. What were these?
 - (h) What is a "hot oil" line?
 - (i) Describe the earliest known methods of drilling for oil.
 - (j) When and why did the derrick come into use?
 - (k) Do oil workers today strive to bring in a gusher?

(1) What causes a gusher?

IV. Class project:

- (a) Draw a cross-section of the earth showing the rock formation down to the oil.
- (b) Sketch pictures of a derrick, a gusher, and any other objects which are used in old fields.
- (c) Trace the transportation of a tank of crude oil through the various processes.
- V. Summary:
 - (a) Write a short paper on the topic "What I have learned about the problem of pumping and transporting of oil from our classroom discussion and reading".
- VI. Objective test.
- VII. Extra credit:
 - (a) Write a report on "Earth Oil" by Gustav Egloff, pages 17-61.
 - (b) Construct a model oil derrick.
 - (c) Write a paper on the topic "How a new well is brought in".
 - (d) Tell how oil is carried long distances by pipe.

Topic 3. When Did Oil Become Important To Man.

- I. Content:
 - (a) We have not always had oil.
 - (b) Men did not at first use it as we do now.
 - (c) Oil and inventions.
 - (d) The importance of oil to man.
 - (e) Conservation of oil.
- II. Reading references:
 - (a) Tower, Sheldon, and Walters, The Story of Oil.

- (b) Raymond Bacon, The Petroleum Industry.
- (c) Gustav Egloff, Earth Oil, Chapter I.
- (d) Visual aid: "The evolution of the oil industry". Silent film, from The American Museum of Matural History, 77th St. and Central Park Way, N.Y.C., N.Y.
- (e) United States Federal Oil Conservation Board, <u>Oil</u> Conservation Through Interstate Agreement.
- III. Questions for Discussion:
 - (a) What was it that made oil so important to man?
 - (b) What was oil first used for?
 - (c) How long has man used oil as he does today?
 - (d) How long has man known about oil?
 - (e) When did oil become important to man?
 - (f) What inventions caused an increased production of oil products?
 - (g) What aid the Indians believe pertaining to the oil and how did they use it?
 - (h) Why is kerosene considered a by-product of the petroleum industry today?
 - IV. Class project:
 - (a) Make a list of the early uses of oil.
 - (b) Write an essay on "How modern inventions increased the importance of oil".
 - V. Summary:
 - (a) Write a short paper proving that the purpose of this topic has been achieved.
 - VI. Objective test.
- VII. Extra Credit:
 - (a) Prepare an oral report with outline on this subject "The story of oil and how it gained the importance which it has today".
 - (b) Prepare a small booklet showing how oil is so

important by every day uses.

(c) Tell how oil is important to you in your daily living.

Topic 4. The World's Oil Supply.

- I. Content:
 - (a) The world's distribution of oil.
 - (b) How is oil distributed among the continents.
 - (c) Distribution among countries.
 - (d) Distribution of oil among the states of the United States.
 - (e) A country without oil.
- II. Reading references:
 - (a) Erich W. Zimmerman, World Resources and Industries, Chapters VI and IX.
 - (b) Thomas F. Read, Our Mineral Civilization, Chapt. II.
 - (c) Harry F. Bain, Ores and Industries In The Far East.
 - (d) Raymond Bacon, The American Petroleum Industry, Chapters I and II.
 - (e) <u>National Geographic Magazine</u>, "Oil Treasures of Mexico", V. 19, pp. 803-806. "Nations Undeveloped Resources", V. 25, pp. 15-186.
- III. Leading questions for class discussion.
 - (a) Where are the largest cil fields of the world located?
 - (b) Which continent has the largest oil supple of the world? Which country? Which state?
 - (c) What per cent of the oil mined in the world is found in the United States?
 - (a) When did the United States begin to produce more oil than European countries?
 - (e) Where are the main oil fields of the United States?

- (f) Of what importance is a large oil supply to a country?
- IV. Class project:
 - (a) Make a graph of the amount of petroleum supplied by the various nations of the world.
 - (b) On a blank map of the United States shade in the oil deposits regions of this country.
 - V. Summary:
 - (a) Make a chart showing comparative production of oil among the nations, putting the nation that produces the most first, and ranging them down to the one that produces the least.
- VI. Objective test.
- VII. Extra credit:
 - (a) Shade in the oil deposit regions on maps of the various continents.
 - (b) Write a paper on "How a large oil supply makes for economic stability of a nation".
 - (c) Prepare a report on "The formation of oil".
 - (d) Make a display of the various kinds of oil and oil products.

Topic 5. Oil Fields Of The United States.

- I. Content:
 - (a) Location of oil regions.
 - (b) The most productive oil region.
 - (c) The rank of the various states in oil production.
 - (d) Location of various types of oil.
- II. Reading references:
 - (a) Raymond Bacon, The American Petroleum Industry. Chapters V and III.
 - (b) World Almanac.

- (c) Encyclopedia, "Petroleum--World Distribution".
- (d) "Stories of American Industries" from Superintendent of Documents, Washington, D. C., Price ten cents.
- (e) <u>National Geographic Magazine</u>, Oil Supply of the United States", V. 15, p. 186. "Oil Fields of Texas and California", V. 12, pp. 276-278.
- III. Leading questions:
 - (a) Where are the old fields of the United States?
 - (b) Where was oil first located? What state?
 - (c) How does Oklahoma rank in the production of oil?
 - (a) Which state leads in the production of oil?
 - (e) Is oil usually refined in the states that it is produced? Why?
 - (f) Where is the oldest oil field of the United States? Does it still produce oil?
 - IV. Class Projects:
 - (a) On a map of the United States shade in the oil regions.
 - (b) Continue to put clippings from newspapers and periodicals in your scrapbooks.
 - V. Summary:
 - (a) Be sure you know the location of the oil regions of the United States and can rank the states according to their ability to produce oil.
 - VI. Objective test:
- VII. Extra Credit:
 - (a) Make a cardboard bulletin on which you have made a graph showing the comparative oil in the states of the United States.
 - (b) Prepare an oral report on "The antiquity of oil". Chapter I of Earth Oil by Gustav Egloff.
 - (c) Tell of the recent disputes that the United States

has had with Mexico over American oil companies located in Mexico.

Topic 6. Oil In Oklahoma.

- I. Content:
 - (a) Location of oil fields in Oklahoma.
 - (b) Amount of production.
 - (c) Early oil springs.
 - (d) Oil and the Indians.
 - 1. Indians obtain oil lands.
 - The Indians have the last laugh.
 a. Government forcing Osages West.
 - b. Finally made to settle on apparently worthless lands.
 - c. The federal government finds itself giving rather than receiving.
 - (e) Effect of wealth on the Indians.
 - (f) Taking care of the wealth of the Indians.
 - (g) Oil vs. Cattle.
 1. Riches and the frontier.
 2. Business opportunities.
 - (h) Prominent oil men of Oklahoma.
 - (i) Oil accomplishments.
 l. Tulsa, Oklahoma.
 2. Oklahoma City, Oklahoma.
 3. Poor boys become famous.
 - (j) The first gas well.
 - (k) The first pipe line.
 - (1) Taxation of oil.
- II. Reading references:
 - (a) Lerona Morris, Oklahoma, Yesterday--Today--Tomorrow. pp. 120-126, 775-838.
 - (b) C. B. Glasscock, Then Came Oil. Chapters X to XXII, pp. 112-312.
 - (c) Tulsa World, The Magic Empire.

- (c) Victor Harlow, Oklahoma; Its Origin and Development.
- (f) Oklahoma History Society, Chronicles of Oklahoma. (Periodicals). Muriel H. Wright, "The First Oklahoma Oil", 4: 322-329.
- (g) Lockwood, Greene and Co., Inc., <u>Report On the</u> Natural Resources of Oklahoma.
- (h) Rex Harlow, Successful Oklahomans.
- (i) Kay County Gas Company, Kay County, Oklahoma.
- III. Questions For Class Discussion:
 - (a) Where are the old fields of Oklahoma located?
 - (b) What part of the oil of the World is furnished by Oklahoma? Of the Nation?
 - (c) Tell of the discovery of the first oil in Oklahoma.
 - (d) How did the Indians gain their oil lands?
 - (e) Why did the Indians have the "last laugh" on the United States?
 - (f) Which of the five civilized tribes benefited most? Why?
 - (g) What effect does wealth have on the Indians?
 - (h) How is their wealth taken care of?
 - (i) What effect did the development of oil have on the frontier?
 - (j) What is meant by the statement "oil vs. cattle"?
 - (k) Who were some of the leaders in promoting the development of oil?
 - (1) What effect does the taxation of oil have on its production?
 - IV. Class project:
 - (a) On a map of Oklahoma show the location of important oil deposits.
 - (b) Gather material for a current event lesson on

this topic.

- (c) If you have ever been to the State Capitol or have been through an oil district, write a descriptive theme about your impressions.
- V. Summary:
 - (a) Make a thorough outline of this topic using any materials that you have acquired.

VI. Objective test.

- VII. Extra credit:
 - (a) Report on Augusta Weaver, "Oklahoma Wildcat" or some other good historical novel about oil.
 - (b) Make a booklet in which you depict scenes of the oil industry of Oklahoma and label them as they apply to this topic.
 - (c) Tell what you think the effect would have been on Oklahoma if there had been no oil here.
 - (d) Write a paper on "The relation of oil to the Indians".

Topic 7. How Oil Field Workers Live and Work.

- I. Content:
 - (a) An oil boom town. (Seminole, Oklahoma.)
 - (b) Living conditions in an oil town.
 - (c) Hours of work.
 - (d) Ghost towns.
 - (e) Leisure time activities.
 - (f) Schools.
 - (g) Workers' homes.
- II. Reading references:
 - (a) C. B. Glasscock, Then Came Oil. Chapters XVIII, XX, and XXI.
 - (b) Kay County Gas Company, Kay County, Oklahoma.

- (c) Chronicles of Oklahoma. (Periodicals)
- (d) Lerona Morris, <u>Oklahoma</u>, <u>Yesterday--Today--</u> Tomorrow. pp. 775-838.
- (e) Clarence B. Douglas, The History of Tulsa, Oklahoma.
- III. Classroom discussion topics:
 - (a) What are "Ghost towns"?
 - (b) Why is lawlessness usually found in oil boom towns?
 - (c) Why is Tulsa called the "Oil Capital Of The World"?
 - (d) Are the hours of work for oil field laborers excessive?
 - (e) Do oil field workers have a labor union?
 - (f) Why do people say, "Oil boom towns are no place for children"?
 - (g) Why are the schools in the vicinity of oil fields usually more modern and better equipped?
 - (h) Describe a typical oil field laborer's house.
 - (i) Do they generally own their home?
 - IV. Class project:
 - (a) How would you spend your spare time if you lived in one of the "little gray houses" on an oil lease?
 - (b) Make a list of the types of jobs held by oil field workers.
 - (c) Write a descriptive theme on "An early oil boom town".
 - (d) Visit in an oil worker's home.
 - (e) Visit an oil field and see the men at work.
 - V. Summary:
 - (a) Prepare a list of five good questions, not including those in part III, that you would like discussed in class.
 - VI. Objective test.

VII. Extra credit:

- (a) Make a budget for a family of five: mother, father, daughter (14 years), and two sons (16 and 5), who have an income of \$175 per month.
- (b) Make a survey of the "Chronicles of Oklahoma" in the library and report on two articles with reference to this topic.
- (c) Write a narrative on "My experiences in an oil boom town".
- (d) Describe a trip through a refinery.

Topic 8. Oil Waste.

- I. Content:
 - (a) Oil will not last forever.
 - (b) Waste in the way oil is drilled.
 - (c) Waste in the use of oil.
 - (d) Waste in transportation.
 - (e) Waste in social benefit; taxation.
- II. Reading references:
 - (a) United States Federal Oil Conservation Board, <u>Oil</u> Conservation Through Inter-national Agreement.
 - (b) Raymond Bacon, The American Petroleum Industry. Chapter IX.
 - (c) Luther C. Snider, <u>Petroleum Shortage and Its</u> <u>Alleviation.</u>
 - (d) <u>National Geographic Magazine</u>, "Where the world gets its oil: But where will our children get it when our wells cease to blow". V. 37, pp. 181-202.
 - (e) Almon E. Parkins, <u>Our Natural Resources And</u> Their Conservation.
 - (f) Encyclopedia Britannica.
- III. Leading questions for class discussion:

- (a) Why have the American people been so negligent in conserving their resources?
- (b) What can be done to prevent our oil supply from diminishing so rapidly?
- (c) Why will our oil supply not last forever? Is not oil being formed all the time?
- (d) Much of the waste of oil comes in the manner that we use it. Explain.
- (e) How is oil wasted through transportation?
- (f) What, in your opinion, is the method by which the greatest amount of oil is wasted?
- (g) How can much of the waste be avoided?
- (h) Should we be saving in the use of oil?
- (i) How is oil wasted during the process of drilling?
- (j) Does the amount of oil wasted by gushers ever cause the well to become a "white elephant"?
- (k) What do we mean by "Waste in terms of social benefit?"
- IV. Class project:
 - (a) Make a list of the ways oil is wasted and give a remedy for as many of them as you can.
 - (b) Come to class prepared for a round-table discussion of "Oil wastes and how they may be avoided".
 - (c) Tell how you are able to help in reducing oil waste.
 - V. Summary:
 - (a) List the reference material that you have used in the studying of this topic with a brief statement concerning their content.
- VI. Objective test.
- VII. Extra credit:
 - (a) Report on Raymond Bacon, <u>The American Petroleum</u> <u>Industry</u>. Chapter X.

- (b) Make a bar graph showing approximately the amount of oil wasted in the past year. You can obtain the statistics needed in the references given in part II.
- (c) Write out a solution to the problem of how oil can be made to serve society better.
- (d) Write a report on "Taxation and oil".

Topic 9. Substitutes For Oil.

- I. Content:
 - (a) Coal.
 - (b) Water Power.
 - (c) Peat.
 - (d) Possibility of sun energy.
- II. Reading references:*
 - (a) Erich Zimmerman, World Resources And Industries.
 - (b) Almon E. Parkins, <u>Our</u> <u>National Resources</u> <u>And</u> Their Conservation.
 - (c) "Stories Of American Industries", Superintendent of Documents, Washington, D. C.
 - (d) Encyclopedias.
 - (e) World Book.
 - (f) Samuel Pettengill, <u>Hot Oil</u>, Chapter 4, pp. 19-28. "The Pinch Hitters".
- III. Questions for discussion:
 - (a) If our petroleum supply should disappear is there any means by which we could obtain the necessary petroleum products to run our automobiles?
 - (b) Why is petroleum preferred as a fuel?

^{*}It is to be assumed that the references listed in the following outline will be available for use by the students.

- (c) If the petroleum supply should disappear would our industries suffer to a great extent?
- (d) Would it affect us, personally, very much?
- (e) What experiments have been carried on in determining the use of energy from the sun?
- (f) Do you think it will ever be plausible to use sun energy? Why?
- (g) Will our coal supply last forever?
- (h) Why is oil preferable to coal for many uses?
- (i) What is Peat?
- (j) Might we someday have to depend on peat for energy?
- IV. Class projects:
 - (a) Make a list of the main things that each of those resources in part I are used for.
 - (b) Choosing one of the resources listed in part I as the most important, tell shy you think so.
 - (c) Complete all booklets, scrapbooks, and outside materials and prepare them to be graded.
- V. Summary:
 - (a) Using the references and any other material that you have obtained in relation to this topic, make an outline to show that you have it fixed definitely in your mind.
- VI. Objective test:*
- VII. Extra credit:
 - (a) Find all the material that you can that has reference to the using of sun energy and fix it in outline form giving a list of references.

^{*} The method of grading and testing is described and explained thoroughly in Chapter IV. No test is given here as an illustration because they must be made by the teacher to fit the type of students to be taught.

- (b) Compare the uses and amount of oil used with the uses and amount of the substitutes (part I) used.
- (c) Prepare an oral report on "How we can delay the use of substitutes for oil".
- (a) Bring to class clippings or other material to show what substitutes we have for oil here in Oklahoma.

Topic 10. The Desirability Of The Social Control Of Oil.

- I. Content:
 - (a) The forgotten man--the consumer.
 - (b) A policy toward imports.
 - (c) Stabilization of the oil industry.
 - (d) Petroleum as a basis of national security.
 - (e) The benefits received by a person living in an oil state.
 - (f) Distribution of wealth by the petroleum industries among the workers and associates.
 - (g) The dependence of many cities upon the production of oil and gas.
 - (h) Profits of the oil industry.
 - (i) Maintaining employment in the oil industry.
 - (j) Beneficiaries of this new wealth.
 - 1. Farmers and landowners by royalties, bonuses, and rentals.
 - 2. The employees by salaries and wages paid by the industry.
 - 3. State and local governments by taxes.
 - 4. Merchants who deal in equipment, materials, and supplies.
 - (k) Adapting ourselves to the march of technical progress.
 - (1) Imperialism, growing out of oil and other mammoth industries.
 - 1. Over centralizing the oil industry.
 - 2. Overbuilding our cities.

3. Drafting man-power for parasitical jobs.

- (m) Putting the industries to the advantage of all. 1. Socialization of the "machinery of production".
 - 2. Decentralization of industries.
 - Put locally run industries into the communities.
- II. Reading References:
 - (a) Samuel B. Pettengill, <u>Hot Oil: The Problem of</u> Petroleum, Chapters I, V, VI, VII, and X.
 - (b) Oil and Gas Journal, The Oil Industries Answer Today.
 - (c) Papers prepared by the Mid-Continent Oil and Gas Association, Tulsa, Oklahoma: "The Oil Industry A Stabilizing Influence in Oklahoma". "The Growth and Prosperity of the Southern States Depends Upon the Petroleum Industry". "Oklahoma Is The Nations Most Prominent Oil State".
 - (d) The Daily Oklahoman, Oklahoma City, December 4, 1938, "Ten Years of Oil: Mudhogs Millions".
- III. Questions For Discussion:
 - (a) With the growth of the oil industry in Oklahoma, what changes have taken place in the communities where it was first discovered?
 - (b) Has the oil industry debased our farms and farmers here in Oklahoma?
 - (c) What is meant by "Oil-Imperialism"?
 - (a) What social effect does this have on the people?
 - (e) How might the socialization of the industries be brought about?
 - (f) What changes could be expected in our economic organizations if the advanced tools of modern science were applied functionally--distinct from finance and industry?
 - 1. Would large oil companies be dissolved?
 - 2. Would there be a movement from the great cities?
 - 3. Would it cause any saving in oil and other resources?

- (g) What is your conception of "social control of oil production"?
- (h) In what ways might this benefit you?
- (i) How is new capital brought into the state by the oil industry?
- (j) Give your opinion of this statement: "The development of the oil industry in the state has been the predominant factor in transforming Oklahoma from a sparsely settled prairie country into one of the wealthiest and most progressive states."
- (k) How does the oil industry help to maintain the state and its people?
- (1) What policy should we adopt toward the importation of oil?
- (m) Is the oil industry one of enormous profits?
- IV. Class Projects:
 - (a) Collect material for a current event lesson on the relation of the oil industry to your own social life.
 - (b) Prepare a report on the subject "How the social control of the oil industry would affect me".
 - (c) Prepare an outline for a talk on "taxation and the oil industry".
- V. Summary:
 - (a) As a summary of this topic organize your notes and prepare ten good questions for discussion in class.
- VI. Objective Test.

VII. Extra Credit:

- (a) Write a paper on "The advantages or disadvantages in living in an oil state".
- (b) Prepare a bibliography of magazine articles pertaining to this topic.
- (c) Make a small booklet of current events that you can find relating to this topic.

(d) Make a complete outline of the work in this topic with references, notations, etc.

PRESENTATION OF UNIT

<u>Procedure</u>. In the teaching of this unit it would be well to note that the plan of procedure which the author is presenting follows closely--with some moderation--the five steps of procedure as given by Morrison.³⁰ These steps are:

- Exploration--To find what the pupils already know. This may be oral discussion, new type tests, or the like.
- Presentation--This is a preview given by the teacher, touching the high points of the unit to be undertaken by the pupils. If this has not been clear a representation must be given. Next comes the most important of all steps:
- 3. The Assimilation--During this time the pupils study and assimilate the necessary material. They are supervised during this period of study by the teacher. In fact the classroom becomes a laboratory where the pupils are free to move about for books, consult one another on various problems, consult the teacher, use maps, bulletin boards, and other aids. When the work as given to the pupils on the mimeographed sheets is checked, those who fail must go back and work on their weak points.
- 4. Organization--Each pupil is required to write a logical outline, the content of which shows that he has a thorough knowledge of the unit.
- 5. Recitation--One pupil may be called upon to present the unit to the class as did the teacher at the outset, or several students may be called upon to give floor talks, the remainder of the class taking written recitations on the unit.

Check List For The Unit. 31 After reviewing several checks

- 30. Henry C. Morrison, The Practice of Teaching In the Secondary Schools, pp. 182. Chicago: University of Chicago press, 1926.
- 31. Gray, Arthur D. "A Check List For Units In History", The Social Studies Magazine, V. 29, pp. 115-116.

- I. Objectives:
 - 1. Are the objectives clearly and definitely stated?
 - 2. Do the specific objectives of the unit contribute to a realization of the general objectives of social science?
 - 3. Are the objectives attainable?
- II. Understandings:
 - Does the unit organization provide for a series of definite understandings?
 - 2. Does the unit provide for understandings, rather than for knowledge of isolated facts?
 - Is due attention given to events, to conditions, to institutions, and to persons?
- III. Organization:
 - 1. Does the name of the unit tell what is to be emphasized in teaching it?
 - 2. Is the name of the unit coordinate in form and content with the other units of the course?
 - 3. Is the unit coherent?
 - IV. Bibliographical material:
 - 1. Is reference made to parallel texts?
 - 2. Is reference made to collateral material which is graded to the pupils' capabilities?
 - 3. Is reference made to high grade illustrative fiction material?
 - V. Personages:
 - 1. Is provision made for attention to the contribution of great men and women to that phase of history?
 - 2. Is provision made for further biographical and inspirational study of these men and women?

- VI. Time element.
 - 1. Is provision made for attention to important events, with dates?
 - 2. Is provision made for definite contributions to an understanding of time relationships?
- VII. Geographical element.
 - Does the unit place proper emphasis on the importance of geography?
 - 2. Is provision made for sufficient map study for the pupils to gain an understanding of geographical factors?
- VIII. Tests.
 - Do the tests test for understandings, or facts which lead to understandings, rather than facts for facts' sake?
 - 2. Are the tests, whether essay or new type, sufficiently objective so that the teacher's personal viewpoints can be eliminated from the scoring?
 - 3. Are the tests reliable and comprehensive?

Materials of Instruction.

- (A) Textbooks.
- (B) Collateral sources.
 - 1. Library books.
 - 2. Magazines -- that may be taken home and used by the students.
 - 3. Periodicals.
 - 4. Newspapers -- weekly publications on varied grade levels and the "dailies".
 - 5. Motion pictures -- by special arrangement with the local theatre if the school has not the necessary equipment.
 - 6. Charts--from state and national governments as well as the student constructed type.
 - Bulletin board exhibits -- cartoons, clippings, pictures, and poems.

General Procedure In Introducing A Unit. "The pedogogical test of a unit--is that it must be a comprehensive and significant aspect of the environment or of an organized science, capable of being understood rather than capable merely of being remembered".

<u>The Introduction</u>. The introduction is intended to furnish the means by which a class may acquire a broad and general, although possibly somewhat superficial acquaintance with the problem-field as a whole and thus provide a period of orientation. A series of questions and a list of titles for general reading are to be given to assist in an overview of the entire field, which should be concerned mainly with the conditions of affairs as they are today. In chapter III the entire part down to the real body of the unit is given over to the introduction.

In the first part of the presentation the principal themes and problems of the new unit are brought out. No set form is recommended. The formal 'lecture' should be avoided if possible. Sometimes the overview will be given by informal talks; sometimes the question and answer method predominates. No matter which system is the one started upon, one must remember that it is the interest of the student which is the point to be gained.

Henry C. Morrison, The Practice of Teaching in the Secondary Schools, p. 178. Chicago: University of Chicago press, 1926.

In giving the introduction the first requisites of, on the part of the teacher, should be a lively enthusiasm and understanding of the forces in operation--to tell just enough of the story to quicken the interest of the pupils. The success can be measured by the active interest of the students and the lively discussions which follow.

In addition to this a mimeographed guide sheet should be furnished each pupil. The sheet should contain an introductory or orighting paragraph intended to, in as few words as possible, give him a bird's-eye view of the ground to be covered. This guide sheet also contains an outline of the entire unit and a detailed assignment of what must be done to complete each part of it. After the orientation talk and the problem or guide sheets have been handed out the pupils are then ready to proceed to their solution. As the unit follows no single textbook and as their nature is such that reference reading is helpful it will be necessary for each pupil to use more than one book. Hence the number of references given for the students use. Reference books, maps, charts, and other necessary equipment should be available in the classroom.

<u>Class Discussion</u>. Following a period of directed laboratory work, varying in length with the length of the topic being studied, pupils come together for a socialized discussion of their problems. Pupils rather than the teacher ask the questions and in most cases answer them. The time is devoted to a discussion of the problems on the topic which are especially interesting or especially perplexing to the

pupil. Sometimes following and sometimes as a part of the general discussion, individual pupils or groups of pupils give reports on projects that they have completed. Following the general discussion, voluntary contributions are made by individual pupils on news items of current interest read by them either in newspapers, or magazines. Voluntary reading for pleasure is always encouraged.

<u>Time Apportionment</u>. A class group may be allowed such time on the unit as is required for all pupils to complete the minimum amount of work. A given percentage of pupils completing the unit may be the signal for closing work. In any case, all pupils must be encouraged to work to the highest level during the alloted time. Since the assignment is made in written form in advance for the entire unit, and contains written guides to study, the teacher would be free after the first presentation of the unit to the group to give his time to the direction of individual pupils who work through the assignment at their own rate.

Another reason for not definitely specifying the amount of time to be devoted to the unit is that the backgrounds and abilities of pupils and manners of handling the materials by the teachers vary so greatly. Under these circumstances a rigid schedule of progress for all classes would be unwise. It is suggested that a maximum of from six to nine weeks be allowed. It should be remembered that the first few lessons are for survey and not for a detailed study.

Maps, Biographies, Fiction, Cartoons: As work progresses

on the unit, additional individual tasks will be assigned to the students, that is, if they do not have some special research which they are interested in and wish to do. This assignment of special topic research may be on any phase of the unit and be in most any form. The forms generally chosen are: Map work, biographies, reports on fiction, analyzing or drawing cartoons or the construction of graphs and charts. Of course, each student must do some of each of these, but he should be interested enough in a certain one of them to organize material to be presented at class discussion.

A list of books both fiction and non-fiction relative to the unit being studied is given to each student. He is encouraged to do extensive reading on the subject being studied, but he is by no means confined to this list. Written and occasional oral reports are given supplementing the material in the unit.

Students especially gifted in drawing are interested in cartoons. These cartoons and drawings may be posted on the bulletin boards to arouse the class enthusiasm and interest.

Checking Up On The Work Done.

1. At a given interval short quizzes should be given upon the material of the unit. (Part VI in chapter III)

2. From time to time notebooks are to be examined-each student is to feel free at any time to come to his instructor and discuss the work with him.

3. The same plan should be carried out with regard to newspaper clippings, cartoons, biographies or whatever his

problem might be.

4. Written reports are to be handed in at the completion of each unit. (Part V in the unit -- "Summary"). Marks are to be given for this and for oral discussion with the teacher.

5. All special work is to be marked and also discussed with the individual pupil.

6. Students would either do the maximum, average, or minimum amount of work.

7. An occasional current event test.

A final test to be given over the entire unit. 8.

At the end of each main topic a short quiz should be given consisting of questions taken from the guide sheet. (parts VI in chapter III). At the completion of the unit a comprehensive examination is to be given. The examination should consist of several parts:

- 1. Objective Type. a. True--False b. Completion

 - c. Multiple Choice
 - d. Matching
 - e. Vocabulary
- A few essay type questions to 2. test the pupils understanding of the unit.

3. Probably a map question.

Pupils will be held responsible for important current events and other important materials presented in class. An addition to the occasional current event test, questions and important current events and happenings should be included in the final test over the unit.

Other Activities Which Grow Out Of The Unit. Other activities which grow out of the regular classroom work through instruction designed to inspire, challenge, encourage individual participation to the highest possible level of ability by:

- 1. Special reports.
- 2. Debates.
- Class discussion in charge of chairman, who motivates the discussion by means of a list of questions which has been prepared beforehand. These questions are on assigned reading matter.
- 4. Construction of maps and graphs.
- 5. Notebooks with newspaper articles and pictorial illustrations. These may be individual or group projects.
- 6. Articles brought in by students for exhibition.
- 7. Dramatization.
- 8. Visits to places of interest. Oil derricks, refineries and the like.
- 9. Motion pictures.
- 10. Talks by the class by people who are associated with the subject about which the students are studying.
- 11. Bulletin board. In charge of a student or groups of students delegated by the class, illustrations by articles of current interest being furnished by members of the class. Have a "cartoon corner".
- 12. Stereoscopic views and slides.
- 13. Blackboard drawings by the students, depicting scenes of interest.
- 14. Outline maps to be filled in with various data: Location of oil fields, refineries, etc.
- 15. Current events day, once a week.
- 16. Civic trips. The class plans the trip and a committee makes all necessary arrangements.

SUMMARY.

In presenting this investigation the author has tried to show that the modern trend in social sciences to-day is approaching a fusion of all distinct subject-matter fields. This was done by studying a number of experiments which were carried on by advocates of the fused plan and by quotations from such men as Tryon, Rugg, Knowlton, and Bining who have diligently studied the trends of the social studies, taken cognizance of the facts which they have discovered and become emminent specialists in this field. In addition to the studies of research on the fused plan experiments by advocates of closely related plans such as integration and correlation have been introduced for the enlightenment of the reader.

In chapter three of the report is given a fusion unit on oil which is included to show how, under the fused system, such a unit would be devoid of any definite or specific subject-matter fields, but in the place of those subjects, there would be a unit of fused material. This unit is designed so that it might be worked into real life situations which concern the students who are studying it.

Although the unit is built specifically for use in the schools of Oklahoma, it could be adopted for use in other states.

CHAPTER V.

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