A comparison of the vitalized program with the textbook discussion method of teaching.

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A COMPARISON OF THE VITALIZED PROGRAM
WITH THE TEXTBOOK DISCUSSION METHOD
OF TEACHING

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A COMPARISON OF THE VITALIZED PROGRAM WITH THE TEXTBOOK DISCUSSION METHOD OF TEACHING

by

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INTRODUCTION
CHAPTER I
INTRODUCTION

Education Is Desirable in a Democracy—It is a generally accepted fact that America is education conscious. In this light statistics speak for themselves. Any country which spends $2,233,110,054\textsuperscript{1} in a single year (1938) for education falls into this category. As one can easily see we have accepted the policy of educating all of our youth, no matter what the cost, as the best means of maintaining and preserving our democratic way of life. Klapper states, "Education is the greatest function and the final safeguard of society and its organized form the state."\textsuperscript{2} If then we wish to preserve our democratic state, we should so organize education that each member may develop his personality primarily through activities designed for the well being of all his fellow members and of society as a whole.

Philosophy of Education—This then is our philosophy of education, "That all shall have an equal educational opportunity, and that the greatest happiness can accrue to all only when they are educated in so far as they have the ability."\textsuperscript{3}

\textsuperscript{1}World Almanac, New York World Telegram Page 550, 1941
\textsuperscript{3}Adams and Taylor, An Introduction to Education and The Teaching Process, Boston: The MacMillan Co., 1932, Page 575
Educational Objectives Are Necessary for Progress—
The desire to achieve or realize progress makes it necessary to formulate certain goals or objectives. It can easily be seen that educational objectives serve as guides in educational procedures. Few great pieces of work have ever been done unless the worker at first had in mind a definite goal to be reached. This can be seen in every phase of human progress from the construction of the smallest utensil to the tallest skyscraper. In formulating educational objectives the task is exceedingly difficult as we are not dealing with inanimate objects but with basic changes in human life. Nevertheless educational objectives are necessary if we wish to make progress, if we are to escape those experiences which are superfluous, or if we are to be stimulated to more intensive activity.

Objectives of Education—What objectives then will most effectively achieve the desired result? Many of our prominent educators have given answers to this question. Herbert Spencer\(^4\) one of the first to attempt a specific answer listed, (1) self preservation (health), (2) the earning of a living (vocational efficiency), (3) parent-hood, (4) better citizenship, (5) training for leisure.

\(^4\)Ibid, Page 576
Professor F. G. Bonser\textsuperscript{5} of Teachers College, Columbia University, mentions health, practical efficiency, citizenship, and recreation as the major goals. Professor David Snedden\textsuperscript{6} of Teachers College, Columbia University, prefers a fourfold division of educational activities, physical education, vocational education, social education, and cultural education. The most widely used and quoted of any list yet proposed is that called the "Cardinal Principles of Secondary Education"\textsuperscript{7} compiled by the National Educational Association. It proposes the following objectives:

- Health
- Command of the Fundamental Processes
- Worthy Home Membership
- Vocation
- Civic Education
- Worthy Use of Leisure
- Ethical Character

This latter list and the one upon which most curricula are based, is the one chosen as a standard for this study. After these objectives have been determined, it is essential to show their relationship to the curriculum.

\textsuperscript{5}Bonser, F. G., \textit{The Elementary School Curriculum}, Boston: The MacMillan Co., 1920, Pages 13-14

\textsuperscript{6}Snedden, David, \textit{Educational Application of Sociology}, New York: The Century Company, 1924, Page 73

\textsuperscript{7}Cardinal Principles of Secondary Education, United States Bureau of Education Bulletin, 1918, Number 35, Pages 11-14
Objectives Must Be Made Specific—It stands to reason that some portions of the curriculum more definitely affect the outcome of certain objectives. If the objectives are to be purposeful, they must be divided and subdivided until they specifically fit the subjects. Thus to teach the ideas of a good citizen one must know what they are. The cardinal principle of citizenship must be broken down into its component parts.

Objectives of the Social Studies—The principle of good citizenship is entirely too broad to have much practical meaning. Effective teaching demands a list of specific outcomes or goals in the social studies course that will lead to good citizenship.

Thus, one realizes a definite need for a plan which will list the desired outcomes of social studies and at the same time be an effective teaching tool. Too often the ordinary teacher is too much concerned with the facts of the lesson and loses all sight of the main objectives. A good plan of instruction should contain some provision for reaching the aims as well as teaching the subject matter. This does not mean that each school child should be reminded formally, day in and day out, that he should be a good citizen, that he should be patriotic, or that he should work independently. It does mean, however, that the teacher should so plan the lesson that the aims of the course are evolved from the points to be taught. With this
idea in mind, the acquisitions of subject matter brings about the development of habits, new attitudes of understanding, and appreciation, and the development of special abilities.

The following list expresses those abilities and skills, habits, and attitudes which, if used daily by the teacher in her preparation of the subject matter, should lead to the desired objective, the development of good citizenship.  

Abilities and Skills

1. To develop the ability to read intelligently in the field of the social studies.
2. To develop the ability to think clearly, to question intelligently and to evaluate material by relating it to previous experiences.
3. To develop skill in the use of maps, globes, and other graphic material.
4. To develop growth in the ability to use language and vocabulary effectively.
5. To develop the ability to use the library effectively.
6. To develop the ability to work independently.
7. To develop increasing ability to live cooperatively.
8. The ability to discriminate between facts and opinions.
9. To develop attitudes, knowledge and ideals of the democratic way of life.
10. To develop a well planned system of work.

Habits

1. Of reading newspapers and magazines in order to keep informed concerning current developments.
2. Of persistence in a given task.

--From a study conducted in Curriculum Construction at Massachusetts State College, 1939--
3. Of interpreting current events in the light of previous learning in the social studies.

4. Of the worthy use of leisure time.

Attitudes and Appreciations

1. To develop an appreciation of the achievements of other races and a tolerant attitude toward beliefs and customs differing from our own.

2. To develop an appreciation of the attainments of men and women whose contributions in the fields of art, literature, science, and government have made possible our present civilization.

3. To foster an appreciation of the basic problems of life which man has faced in the past, and must face in the future in the process of our ever-changing civilization.

4. To encourage an appreciation of the dignity of labor and a genuine respect for workers and their work.

5. To develop the beginnings of an intelligent patriotism.

6. To create an appreciation of the achievements of peace and the futility of war.

7. To develop an appreciation of man's social heritage.

One can break these divisions down still further, but good teaching will do that itself, for the importance of the teacher is still paramount in the classroom.

The Importance of the Teacher—It has been established that the main aim of any teaching is to reach certain objectives. The work of the teacher is essentially that of producing desirable and preventing undesirable changes in the human beings intrusted to her care. As the teacher herself is a variable factor,
a good teacher may be classed as one who produces the most desirable correct responses. "Teaching at the bottom is the giving or withholding of stimuli, that certain desired responses in human beings may be produced. By stimuli we understand all the means, words, gestures, books, directions, appliances, actions, urges, prohibitions— at the teacher's command; and by responses—actions, thoughts, emotions, interests, feelings— we mean all the changes the teacher effects in the life of the pupil." To qualify as a teacher under these conditions one must possess certain marked attributes. Fundamentally a good teacher should possess a love of learning, love of children, an intimate knowledge of child psychology, a well developed personality, a knowledge of the objectives of the subject, and the necessary training in subject matter and method that insures good teaching ability.

The Variety of Methods in Use Today—The history of education shows a variety of teaching methods which have been used at definite periods. Of these there have been many which have been discarded and many which have been added. Educational psychologists and teachers are constantly offering new methods for treatment of subject matter. The result is that today there is no universally accepted procedure for teaching any one subject. It would not be difficult to find in a single

school system a various assortment of teaching methods.

In use today are such methods as: (1) the textbook method, (2) the problem method, (3) the project method, (4) the progressive method, and (5) the vitalized program. These are only a few of the more widely used and accepted procedures which teachers are employing in the classrooms of our schools today. One may ask, "What are the differences in these methods?" In order to answer that question let us examine closely two of these prescribed methods.

The Textbook Method—America has shown a marked tendency for instruction through books rather than through the spoken word. This is chiefly accounted for by the conviction that the pupil should develop the ability to study independently. The textbook has been a dominant factor in the schools of the United States for more than a hundred years.

In early days the pupil learned the textbook, practically verbatim with little regard to content. This, in many cases, was the sum total of his education. Today the textbook still occupies a prominent part of a majority of the American classroom. As regards their use, many educators believe that textbooks in the hands of some teachers are too limited and do not allow the necessary experience for learning. They say, "This type of teaching is unintelligent, and requires but
a low level of pedagogical skill.¹⁰

This criticism is not true of all textbook teaching. In many cases it is not a meaningless handbook, nor the only source of information. Study in many cases is supplemented with various oral recitations, meaningful discussions, and collateral reading. Modern teachers have not been satisfied with even this type of program. They go still further and suggest a program embracing the use of a text with unlimited possibilities for elaboration.

The Vitalized Program--Such a method is the vitalized program. This procedure, in addition to use of the textbook, fosters the idea of the unlimited use of real life experiences and related material. It suggests many and various activities, such as: (1) the use of radio, (2) Visual Aids (still and moving pictures, graphs, charts, maps), (3) sources of concrete experience (objects, booklets, exhibits, museums, excursions, constructive activities, special speakers), (4) devices for stimulating the imagination, (graphic aids, imaginative writing, imaginary journeys, and dramatization).

The Problem--The contrast between the two methods is clear. In the textbook method we deal with formalism and limited educational experiences. In the vitalized program we socialize the curriculum and justify the subject matter we teach.

Now the question arises: Does the value of the "Vitalized Program" exceed the value of the "Textbook Procedure" as an effective teaching method? It is with this question that this study is concerned.
REVIEW OF LITERATURE
The Vitalized Program - A Part of the New Education--

In reviewing the literature, relative to the material of this study, I found very little information under the heading of the Vitalized Program. However, after close scrutiny and search, I found that educators seem to have little hesitancy in using varied analogous terms for classification of methods. Such terms as project method, frontier thinkers, fusion, the child-centered school, the socialized recitation, the unit mastery method, social learning, core curricula, and a host of others contain in various quantities the same material which is a part of the Vitalized Program. True, they vary in form, approach, and procedure, but, by and large, they follow the same general trend as that used in this study. For practical purposes, I am classifying all these programs into one heading and calling them a part of the "New Education."

Evolution of the New Education--This so called New Education did not immediately spring up over night, but is the result of the gradual evolution of the ideas of such men as Pestalozzi, Herbart, Frobel, Spencer, and Dewey, to mention a few. Paramount among these was Pestalozzi, who, at the beginning of the nineteenth century, told the world that "The principles of education were to be found in human nature, and that the child's physical, intellectual and moral capacities should
be trained. "10 He advocated industrial training along with training in subjects commonly taught in the schools and placed great stress on sense training. Subjects, the study of nature, and lessons from the pupils' daily experiences were to him as valuable as lessons found in books. His method emphasizing discovery on the part of the child led to an all-round development that previous methods of instruction had not reached.

These views did not receive immediate adoption or great popularity. In fact, very little progress was made in the transmission of the theory to practical application. However, the beginning of the 20th century marked the advent of more definite support of his recommendations. At this time John Dewey injected his theory of "Immediate empiricism" into the reform of education. This theory stated in fact, "Knowledge is activity, selecting purposes, employing the resources of experience, and not repeating its achievements of the day before, but out of its requirements of the past creating new requirements to meet the new demands of the new moment, the new hour, the new day, which calls forth its functions."11

Since the time of Dewey there has been a definite trend towards the socializing of education. Among the more
prominent of the leaders of this movement is Harold Rugg, Professor at Columbia University, whose idea of "The child-centered school" went to the extreme of making the child the center of the learning process. He, in short, proposed a program which left much of the responsibility of the curriculum to the discretion of the child.

I mention these leaders of education and their theories to show the basic changes that our system of education has experienced. For only when the philosophy of education has changed do we find that the method of instruction takes on decidedly new characteristics. From the ideas of these eminent educators, and the more recent entrants into the field, has come the New Education. It is, in brief, a program which provides for definite activities on the part of the child. In formulating such a program the teacher must use a variety of flexible methods to prevent the program from becoming rigid and fixed. Some of these methods are herewith discussed as they form an integral part of the Vitalized Program.

The School Journey--It is plain that the school is but one part of the local community, whose primary job is to prepare the children to live in that community. Only a negligible portion of community activities can be brought directly to the school. In most instances, the student must be taken to the activities. This is the function of the school journey.
A variety of names are applied to trips away from
the school, such as excursions, school journeys, field
trips, field exercises, visits, field work, pilgrimages,
and field study. The term most frequently used today is
the "school journey." These "school journeys" are not a
modern development. Kandel states: "Historically,
the school excursion may be connected with the wandering
and begging students of the Middle Ages. The distinct
educational value of travel was recognized by most writers
on education of the sixteenth and seventeenth centuries."

"A great impetus was given to school journeys by
Rousseau's philosophy of education with its emphasis on
teaching through nature. Pestalozzi, Froebel, Herbart,
and other German educators recognized the value of out-
of-door experiences, and under Professor Rein of Jena
University, these were made a definite part of the
German educational program in the nineteenth century."

Excursions have been growing in popularity in the
United States since the latter part of the nineteenth
century. Excursions have been demonstrated as a part of
the regular training in many of the normal schools and
teachers colleges for many years and are now recognized
as a valuable part of the program in most progressive

12 Kandel, I. L., "Excursion School" in Monroe, Paul, A
Cyclopedia of Education in Horn, Paul, Methods of
Instruction in the Social Studies, New York: Scribners,
1937, Page 404
13 Ibid, Pages 542-543
schools. However, they are not as commonly in use as they are in Europe. The principal explanation for this situation is probably due to a lack of appreciation of their value, and the difficulties of organization. "Many schools have found that it is not impossible to surmount these difficulties, and have used this procedure in the teaching of social studies claiming for them the following values:

1. They form a connecting link between the school and community and arouse public interest in the school.

2. They provide definite information from first-hand observation.

3. They arouse interest and vitalize school life and school problems.

4. They furnish common experiences for all children.

5. They develop worth-while attitudes and better understanding between teacher and students.

6. They develop a sympathetic understanding of the problems and social contributions of the various vocations."14

These values have been substantiated in part by control experiments. James A. Frazer of Teachers College, Columbia conducted a study of an excursion to Tennessee and Georgia by the members of the Lincoln School Senior Class in 1938. The group was composed of 20 boys and 25

girls. An information test was administered before and after the trip. Outcomes were measured as growths, losses, or changes. In summarizing his study, Frazer states, "The results justify the conclusion that the study excursion as an educational procedure is capable of producing outcomes other than gain in factual knowledge. At the same time they indicate that gain in information is probably the best single measure of all outcomes evaluated."

Henry C. Atyeo conducted two similar experiments on the school journey. He attempted to measure the increase in factual knowledge, the specific type of knowledge, and the increase in interest resulting from the use of an excursion technique in teaching units of Ancient History as compared with corresponding results of the class discussion method. In upholding the use of the school journey, Atyeo states: "Measurement of the differences in information acquired under the two methods shows that the superiority of the gain made by the excursion group in both experiments is sufficiently great to be statistically significant. An item analysis of 175 test items used in the experiment shows little difference in the kinds of information acquired by the excursion and by the discussion group. The findings of an interest questionnaire constructed for the experiment show that the excursion group has the greater increase in the desire to make further excursions; the

15Frazer, J. A., "Outcomes of a School Journey," Teachers College Record, February 1940, Pages 451-452
discussion group, in the desire to make further reading. The evidence available at the present time points in general to the higher value of the excursion, rather than to other methods with which it has been compared.  

Visual Aids—At times we find that language in depicting the meaning of social life is inadequate to provide proper expression. This is undoubtedly true, for when one uses words, one must operate within the bounds of the pupils' comprehension. As the pupils' world is narrow, it becomes necessary to supplement his experiences with every possible means. Among the most satisfactory are Visual Aids.

The term, Visual Aids, is very far reaching. It includes the use of such devices as drawings, photographs, slides, silent and sound motion pictures, charts, graphs, diagrams, models, and specimens.

"The use of Visual Aids is not a new development. Some of the earliest records left by prehistoric man are picture records, such as drawings in caves in France made by Cro-Magnon man many thousands of years ago. In primitive times the boys were taught to hunt and fish, and girls were taught to cook through observation and participation with the necessary language explanation. Such famous pioneers in education as Comenius, Rousseau, and Pestalozzi

16 Attyeo, Henry C., "The Excursion as a Teaching Technique," Teachers College Record, May 1939, Pages 737-739
emphasized the importance of Visual Aids."\textsuperscript{17} Although its origin is not recent, its popularity is of the moment. Its use is becoming more scientific. Where, in the past, the exposure of the pupil to this form of teaching was considered sufficient, the present procedure is based to a great extent on well-planned programs.

	extbf{Pictures}--These programs embrace the use of various types of still pictures. These include textbook illustrations, loose prints, stereographs, and lantern slides. In discussing the value of all types of pictures in general, one finds that the most common claim is that pictures make things clearer and more realistic, and that they help to arouse and maintain interest. This clarity and realism is extremely important to the young child because of his meager store of experience. In using pictures, teachers should not overemphasize their value. They should keep in mind that the value of pictures is conditioned not only by the skill with which they are selected and used but also by the quality of the pictures themselves.

	extbf{The Motion Picture}--The most popular of the Visual Aids at the present time seems to be the motion picture. The popularity of the motion picture theater has been transferred to the classroom. This popularity may be accounted for by several factors. Paramount among these

\textsuperscript{17}\textsc{Heiss, E. D., Osbourn, E. S., \\& Hoffman, C. W., Modern Methods and Materials for Teaching Science MacMillan Co., N. Y., 1940, Page 148}
are the increasing number of films which are becoming available from film libraries established by the state, federal, and foreign governments, private industrial corporations, universities, and private film companies. In conjunction with this development of film agencies have come numerous improvements in inexpensive projectors. These projectors, besides being capable of showing both silent and sound films, are extremely easy to operate. More and more teachers are turning to this method of teaching, not without just cause, for modern experimentation on the value of films in the classroom contends that this is an excellent technique. Horn lists a summary of the statistical results of the various studies in this field.

"1. Motion pictures, like other pictures, but to a superior degree, contribute materially to the accuracy, the richness, and the significance of students' concepts. This is particularly true of descriptive aspects. Places, people, events, and processes are made to seem more real.

2. As a consequence, thinking is made more effective, empty verbalism reduced, vocabulary increased, and language made more meaningful.

3. Learning is made more active; the imagination is stimulated; students write more, talk more, carry on more "projects", and ask more questions."
4. Interest is more easily aroused and maintained.
5. Voluntary reading is encouraged rather than discouraged.
6. A marked contribution is made to retention.
7. Children who are lacking in imagination, low in intelligence, or below the average in reading ability are helped especially.
8. The total desirable results, both direct and indirect, exceed those attained by any other media that were used in teaching the topics chosen for these various experiments. It is important to note, however, that the best results were obtained when the films were used in conjunction with other recognized methods of instruction.”

Experimental study of motion pictures in classroom instruction has been in evidence for the last three decades. One of the outstanding problems attacked since this early period was the instructional function in relation to the more traditional classroom procedures utilizing purely verbal instruction by means of textbook, supplementary reading, and so on. The value of the film for this purpose is summed up by Wood and Freeman in the statement that the films give the child clear-cut notions of the objects and actions in the world about him.

18 Horn, E., Methods of Instruction in the Social Studies, New York: Scribner's & Sons, 1937, Pages 373-375
Some studies made in the field of motion pictures have produced results not totally in favor of the program. In many cases they have indicated certain limitations of films. Mount\textsuperscript{20} contrasted the relative effect of the use of the film and the use of supplementary reading in high school physics. Both these teaching aids were used in addition to other Visual Aids. He found the greater gain of the film group to be very small in comparison with the average gain made by either the control or the supplementary reading groups. Results in general agreement with those reported by Mount were found by Cameron\textsuperscript{21} as pertaining to the lecture discussion method in contrast to the film method.

Pamphlets—Among the many phases of supplementary reading which elaborate the material of the textbook is the pamphlet. This source of information usually covers a special field or a special subject. In most cases they are available as the advertising material of commercial enterprises. They cover a host of subjects. Some of the more common are: fire prevention, health, insurance, and processes in manufacture.

\textsuperscript{20}Mount, J. M., "The Learning Value of Motion Pictures in High School Physics as Compared to the Use of Supplementary Textbooks," University of Washington, 1931, in Dale, Dunn, Hoban, & Sneider, Motion Pictures in Education, H. W. Wilson Co., 1938, Page 335

\textsuperscript{21}Cameron, Virgil E., "A Comparison between the Use of Motion Pictures and the Question-Discussion Method in Teaching High School Physics," University of Southern California, in Dale, Dunn, Hoban, & Sneider, Ibid, Page 336
In many cases these pamphlets can be used for additional extensive reading or as an essential part of the intensive reading of the classroom. In regard to the merits of these two types of reading, much has been written. The most elaborate experimental study, between intensive and extensive reading, is that by Good who compared:
(a) the effect of reading 200 pages versus 16 pages; (b) the effect of spending the same amount of time on three pages as upon one page; and (c) two readings of one page versus one reading. He concludes, on the basis of the measure used, that extensive reading brings superior results in terms of information, ability to solve problems, ability to outline, and the amount retained. He interprets his data, however, as suggesting that a combination of the textbook and collateral readings are better than either used alone.

Objects, Specimens, and Models—The New Education claims that in many teaching situations, many of the Visual Aids lack thoroughness and clearness in presentation of ideas. For example, the ideas as expressed through pictures do not contain a sufficient amount of detail for complete understanding. This has made it necessary for teachers to look elsewhere for material. They have found such additional material in the form of objects, specimens, and models.

Good, Carter V., The Supplementary Reading Assignment, Baltimore: Warwick and York, Inc., 1927
An object is the thing itself; for example, an animal, a flower, a thermometer, a motor, or any other thing which can be brought into the classroom. These are extremely valuable in teaching since, being a part of life, they provide the means for the correct concept of life.

A specimen is a sample or a portion of an object; for example, a metal, a branch from a tree, a piece of plastic, or a boll of cotton. Their value, however, is of lesser degree than that of the "object", since they are only a part of an object.

A model is a replica of something. It may be smaller, larger, or the same size as the object it imitates. A good example of a model is that of the heart, which is produced, usually much larger than normal size, by commercial companies for classroom use. These models, although helpful in teaching, probably are inferior as a teaching device as compared with the "object" or the "specimen."

Of these three teaching devices it is worthy to note that specimens for use in the classroom are becoming available in increasing numbers. This is due mainly to an increasing desire on the part of industrial concerns to distribute their advertising material through the media of the schools. In this regard one notes the increasing number of samples available to teachers. These samples or specimens in the hands of competent teachers may go far towards making the work more meaningful.
Outside Speakers—One of the main aims of the educational process has been to familiarize the pupils with the problems of their own community. It seems logical that no one understands these problems any better than the workers who constantly face them in everyday experiences. From this logic has come the idea of bringing into the classroom those members of the community who face these specific problems. As a teacher I have observed a positive action on the part of the pupils when such procedure has been followed. Interest, inquisitiveness, and the desire to learn is apparent. Again the pupil is in the presence of something real. The picture he receives is true, and the concept which he retains is practical.

The Radio--The educational possibilities of the radio were realized almost as soon as general broadcasting became an accomplished fact. Controlled experiments have been undertaken at various times in attempts to show the value of the radio in education. Findings from an experiment conducted by D. A. Worcester indicate that objectives relating to information must be in terms of large, general ideas rather than specific details, if they are to be achieved by broadcasting. The findings of another experiment conducted at the Harvard Psychological Laboratory show that factual material is somewhat more easily

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understood over the radio than abstract material.25

More and more progressive schools are turning to the radio as a means of vitalizing the school life of the pupil. Is it any wonder when experiments tend to show how valuable an aid it can be? As Leavitt states: "Experience with radio programs has demonstrated its value. Students obtain a better comprehension of vital present day problems. Discussion in the classroom is illuminated by information and points of view derived via radio."26

Present Position of the New Education—The foregoing paragraphs have dealt with the different forms of the New Education. Knowing what these forms are, it is interesting to note what proportions they have assumed in the schools of the country. It can safely be said that the proposition varies with the locality. This is only logical, for in a country as large as ours where there is no direct national control a wide variety of method is bound to result. It has on the whole been widely adopted in the past two decades. In some areas it has reached total adoption. In others a partial adoption has taken place. In still others it has been relegated to an inferior position. The question as to whether this form should be adopted has resulted in controversy. This contro-


versy waxes hot and cold and has been the source of much bickering among present prominent educators. Many comments have been forthcoming favoring the program, while many others have opposed its adoption.

Favorable Comment on the New Education—It is understood in the New Education that there is a definite trend towards purposeful pupil activity in the classroom. This criterion has been justified on the grounds that activity leads to more actual learning, more practical learning, and more spontaneous learning. There is much literature favoring this phase of the program. Klapper states that "Education today is coming to be regarded as participation in life. Real education results from meeting the challenge of a well planned series of problems taken from life. The pupil who serves as clerk behind the classroom stationery counter learns more addition and subtraction in one period than in a half dozen drill classes designed to prepare him for life's future demands in arithmetic. The best preparation for life is an active intelligent participation in the routines of life."27

The same idea is supported by Horn who writes: "Understanding is an active process. No matter how docilely receptive the student may be, he cannot be given ideas ready made; he must build them out of his experience. Pupils share

in setting up the problems and assume a large part of the responsibility of their solution. Ideas become growing rather than static things."28

The implication is made that the child, in order to gain the most from the educating process, should be confronted with the actual experiences of life or as close a substitute as is available. Previous sections of this study contain numerous reviews of experiments which have been carried out to prove just this point. From the claims of these experimenters, one gets the impression that in many instances this type of teaching has many distinct advantages over formalized reading and discussion. This being the case, it would seem that there would be a wholesale rush to such a form of teaching. Nothing, however, is further from the truth, for there are many teachers and educators who are opposed to this form of teaching.

Opposition to the New Education—From the report of the "Progressive Educational Association Commission on Secondary School Curricula" have come six definite objections to the activity program:

1. Subject matter contains a certain amount of formal content that cannot be acquired incidentally.

2. Most schools lack proper equipment.

3. Classes are too large.

28 Horn, Ernest, Methods of Instruction in the Social Studies, New York: Scribners, 1937, Pages 123-124
4. Interferes with business.
5. Inadequate teacher training for such a program.
6. Too many administrative difficulties.

This list is further supplemented with the arguments of Walter F. Fogg\(^{29}\) who lists the following objections:

1. The program is hard to control.
2. It is complicated to administer.
3. It emphasizes the development of the individual at the expense of the social being.
4. Project, supposedly a means to an end in many cases, becomes an end in itself.

These arguments are not uncommon, and they offer in themselves much opportunity for discourse. Many such discussions, written by administrators or teachers, are available in our educational magazines. Here is a sample of such an article written by a group of Colorado teachers: "The schools today are so overcrowded with new activities, that is, it becomes necessary to shirk the formal subjects of the school, and that the organization and methods of the school encourage too rapid coverage of subject matter, a condition resulting in a high degree of superficiality in reading and learning. In general the school is spending too much time in trying to educate the whole child, mentally, physically, socially, and emotionally."\(^{30}\)

\(^{29}\)Fogg, Walter F., "Project vs. Subject Matter," School and Society, (March 2, 1940), Page 276

\(^{30}\)"The New Education Needs Reforming," School and Society, April 6, 1940, Page 449
Summary—These arguments concerning the New Education, both pro and con, offer considerable opportunity for reflection. Although they seem both well founded and logical, neither provide a conclusive answer to the question of the value of this new form of teaching. Probably there never will be a completely satisfactory answer, for both sides. At the present time suffice it to say that there are definite indications of merit and inadequacy. Much research, which will require the cooperation of educators and teachers the country over, still remains to be completed.

The specific point of the New Education that interests me is that of the Vitalized Program. From the literature that I have reviewed I found very little research available concerning this type of combined program. It is my purpose to see if, by conducting a carefully planned study, I can discover the merits or shortcomings of this program.
OUTLINE OF THE PROBLEM
CHAPTER III
OUTLINE OF THE PROBLEM

This study is concerned with an attempt to discover the relative merits of a suggested "new" approach to the teaching of the Social Studies. In particular the problem is as follows:

(1) The Problem—What are the measurable outcomes of teaching Social Science to seventh grade pupils by means of a Vitalized Program as contrasted with the Textbook Discussion method?

(2) The Pupils--The pupils who were the subjects for this problem were members of three classes in Grade VII of the Agawam Junior-Senior High School. The school, located in Western Massachusetts, is run on the six-year plan, including grades VII through XII. The enrollment numbers about 800 pupils of various nationalities, outstanding of which are: Italian, Polish, French, English, and American. Scholastically the school has been rated high, and many of its students have been extremely successful upon further study in other institutions.

(3) The Materials--The materials used in connection with the experiment consist of the following:

b. Moving Pictures (See Appendix)
c. Field Trips
d. Outside Speakers
e. Charts, Graphs, and Newspapers
f. Special Reports by the Student—These were secured from sources other than the textbook, such as encyclopedias, and other texts.

g. Samples and Specimens

h. Still Pictures

i. Notebooks

j. Pamphlets and Advertising Literature

k. Teacher-Prepared Units (See Appendix)

l. Test constructed by teacher to evaluate the pupil's growth.

m. Henmon-Nelson Intelligence Test

(4) Procedure—The following procedure was used.

Before this study was undertaken as a teaching experiment, eight units of work, designated to cover a period of eight weeks, were drawn up. These units were prepared in two forms, one in the light of the ordinary Textbook-Discussion method, the other in the form of the Vitalized Program. The program embraced the use of the following units:

a. Men and Machines

b. Transportation

c. Communication

d. Schools

e. Triumphs of Science

f. Americans at Play

g. Fires

h. Preventing Disease and Accident
In conjunction with these units, careful preparation was made to secure adequate material for the Vitalized Program. Speakers were engaged, plans for visiting industrial establishments were made, moving pictures were borrowed, and many other materials acquired. The program, however, made allowance for the introduction of material contributed by the pupil.

The pupils were divided into three classes. One group was designated as the experimental group, and the other two classes were used as control groups. The pupils in the experimental group were then paired with pupils in the control groups on the basis of:

a. Intelligence quotient
b. Chronological age
c. School achievement

Before actual teaching got under way, a pre-test covering much of the material which was to be taught during the experiment, was administered to all pupils.

After the text was given, the following eight weeks were devoted to the actual use of the two plans in the classroom. The same material was covered in all groups, the experimental group being taught by the Vitalized Method, while the control groups were taught by the Textbook Discussion Method. This meant that the experimental group had available, in addition to the material of the textbook and classroom discussion, experiences provided
by the Vitalized Program. The control group had none of these extra experiences other than those they could accumulate on their own initiative.

After the teaching units had been completed, a final test was given to the pupils of the three groups. This text was the same as the pre-test.

The results of the two tests were compared. These results are found in Chapter V.

The reactions of the students to this type of teaching were obtained through a prepared questionnaire. These reactions were compiled and are found in Chapter VI.
THE RESULTS OF GROUPING
In this type of experimental study it becomes necessary to control all phases of the situation, other than the one under investigation. In Social Studies there appear to be many factors that may condition learning and which create various degrees of pupil success. These factors include such variables as intelligence, chronological age, and the pupil's school achievement. In addition there are various mechanical conditions which determine quantitative learning. These include (1) the length of the class period, (2) the time of day, (3) the size of the class, and (4) the ability of the teacher.

It, therefore, becomes necessary to show that these conditions are adequately controlled so that any gain by one group over the other will be due to the one variable, which in this case is the difference in teaching method. To insure that there was only one variable in this study, certain controls were established. This was done mainly by pairing the pupils on a basis of the outstanding variables. The results are shown in the following tables.

Results of the I. Q. Groupings—Success in Social Studies appears to be conditioned by intelligence. The test used was the Henmon-Nelson Test of Mental Ability.
The reliability of this test is .90. This reliability is usually considered sufficiently high for group pairing of this kind, and the test is frequently used for this purpose if other measures accompany it. The results of the pairings are shown in Table I.

### Table I

**The Intelligence Quotients of the Control and Experimental Groups**

<table>
<thead>
<tr>
<th>I.Q's.</th>
<th>Control</th>
<th>Experimental</th>
</tr>
</thead>
<tbody>
<tr>
<td>125</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>120</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>115</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>110</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>105</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>100</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>95</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>90</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>85</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>80</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Mean</td>
<td>106.5</td>
<td>106.5</td>
</tr>
<tr>
<td>SD</td>
<td>11.15</td>
<td>11.3</td>
</tr>
</tbody>
</table>

The results of the groupings of the I.Q's show that the means for the control and experimental groups
are identical and the variability approximately the same. Therefore, the groups in this testing program are of equal intelligence.

Results of School-Average Groupings—Although the criteria of marks is more or less an expression of a teacher's opinion, they are indicative of a pupil's ability. The results of the school achievement of the two groups is brought out in Table II.

**TABLE II**

THE SCHOOL ACHIEVEMENT OF THE CONTROL AND THE EXPERIMENTAL GROUPS

<table>
<thead>
<tr>
<th>School Achievement</th>
<th>Control</th>
<th>Experimental</th>
</tr>
</thead>
<tbody>
<tr>
<td>82-83</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>80-81</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>78-79</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>76-77</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>74-75</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>72-73</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>70-71</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>68-69</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

Mean  
77.6  77.1

Standard Deviation  
3.66  3.84
The results of the grouping of the students show that the pupils concerned in this study are practically the same in the matter of school achievement. The slight variation of one point in favor of the control group is not considered decisive in impairing the effectiveness of this study.

**Results of Chronological-Age Grouping**—Age is considered a vital point in the comprehension of knowledge. Table III shows the relation of the two groups in the matter of age.

### TABLE III

**THE CHRONOLOGICAL AGE OF THE CONTROL AND THE EXPERIMENTAL GROUPS**

<table>
<thead>
<tr>
<th>Ages</th>
<th>Control</th>
<th>Experimental</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.0 - 15.5</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>14.6 - 14.11</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>14.0 - 14.5</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>13.6 - 13.11</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>13.0 - 13.5</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>12.6 - 12.11</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>12.0 - 12.5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>11.6 - 11.11</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Mean</td>
<td>13.1</td>
<td>13.4</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>1.0</td>
<td>1.01</td>
</tr>
</tbody>
</table>
Table III shows that the ages of the two groups varies by but three months in favor of the experimental group. In the light of present studies this difference is considered slight.

**Control of Various Other Factors**—In this controlled experiment it is essential to eliminate all variables other than the three already considered. Outstanding among the other factors necessary for control is the teacher. In this study the teacher was the same for all groups. The author had the advantage of being able to act in this capacity. This factor resulted in an assurance that the study was conducted as planned. This was also true of many other factors.

The material used in this study was distinctly of two types. There was first that material, which has already been listed in Chapter III, that was designated as a part of the Vitalized Program. This was used exclusively with the experimental class. None of this material was available, through the media of the class period, for the pupils of the control groups. The control group had access to this extra information only to the extent that their own interest and environment made it available to them. On the other hand, a second set of material secured from the textbook was presented to the control group.

The time spent in the classroom is another factor which tends to sway the effectiveness of teaching. In
this respect the classes were practically equal. The following listing shows this factor:

- Control Group #1: 55 minutes
- Control Group #2: 45 minutes
- Experimental Group #3: 50 minutes

The fact that the control groups had periods of unequal length is offset by the fact that their average class period is the same as that of the experimental group. Thus, it is assumed that the groups are equal in regard to the time element.

Assignments are sometimes another source of inequality in determining the time factor in teaching. As can be seen by the set up of this study it was necessary, at times, for the experimental group to gather information outside the classroom. Whenever this situation arose, the control group was also given an outside assignment. The nature of this latter assignment was usually of the question-answer type with the answers found in the textbook. This procedure was followed faithfully and in the author's opinion the time spent on assignments was distributed equally between the three groups.

Many teachers and educational authorities claim that working with different size groups influences markedly the comprehension resulting from teaching. In examining the groups used as component parts of this study, one finds the following pupil distribution:
There is little to choose from in relationship to the size of the classes involved in the study. It is improbable that the variations are great enough to cause any great discrepancy in the validity of the experiment.

The time of day at which the three classes met was a factor which was impossible to control. The schedule of the school where the experiment was conducted was such that the classes were scheduled to meet at specific times which could not be interchanged. These times are listed below:

<table>
<thead>
<tr>
<th>Group</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control Group #1</td>
<td>9:05 - 10:00 A.M.</td>
</tr>
<tr>
<td>Control Group #2</td>
<td>11:00 - 11:45 A.M.</td>
</tr>
<tr>
<td>Experimental Group #3</td>
<td>2:00 - 2:50 P.M.</td>
</tr>
</tbody>
</table>

There is a feeling among teachers and educators that the early part of the day is the best time to learn. This being true, the time of class seems to favor the control groups as both meet in the morning when the pupil is supposedly fresher.

**Summary**—The foregoing analysis shows that practically all factors relative to this study are equal. Results of tabulated material and stated conditions seem to indicate the above statement is true. The only possible exception seems to be the time of day in which the classes meet. How much weight this condition carries
is questionable. Granted that it does exert some influence and this experiment proves favorable to the experimental group, it means that this factor has not been sufficient to overcome the other variable, that of the Vitalized Program.
RESULTS OF THE STUDY
As has been shown in Chapter IV, all elements relative to this experiment are controlled, except the one variable of difference in teaching techniques. One may wonder or ask the question: "What has the experiment shown?" It would be simple enough to answer this interrogation in words, but no study of this type is complete or authentic without statistical evidence to substantiate any conclusions or claims. With this point in mind statistics have been compiled in the following tables.

**Pre-Test**—What knowledge does each pupil possess relative to the subject matter before he or she is actually taught the facts of the course? In order to determine this statistically, a pre-test was given covering the subject matter in the field. This test consisted of 140 questions of the objective type. (See Appendix). The reason for giving such a test was to enable the author to compare the score of the first test with the score of a final test which was to be given at the completion of the teaching units some eight weeks later. In administering the test care was taken to see that each group received the same amount of time for each particular section. These times, planned in advance, were based on the author's own judgment. The results are found in Table IV.
Table IV shows that the mean of the control group is slightly higher than that of the experimental group. This higher mean seems to indicate that the control group has a greater knowledge of the factual content of the subject matter than does the experimental group. Of interest also is the much greater heterogeneity of the experimental class as shown by the relative standard deviations. So far as the pre-test is concerned the control groups had all the advantages.
Final Test—At the conclusion of the eight-weeks teaching period, the test which had been previously administered as the pre-test was given again to the students. This was considered an acceptable procedure as the students had not had any of the tests returned to them. There seems little likelihood that the questions were remembered. The results of the final test are shown in Table V.

### TABLE V
THE RESULTS OF THE FINAL TEST

<table>
<thead>
<tr>
<th>Scores</th>
<th>Control</th>
<th>Experimental</th>
</tr>
</thead>
<tbody>
<tr>
<td>120</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>115</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>110</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>105</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>100</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>95</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>90</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>85</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>80</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>75</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>70</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>65</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>60</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>55</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Mean</td>
<td>92</td>
<td>94</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>14</td>
<td>16.25</td>
</tr>
</tbody>
</table>
In comparing Table V with Table IV, one finds that the means for the two groups have undergone a relative change. Both of the groups have increased measurably over the pre-test scores. This indicates that the teaching was successful in registering a change. However, the change is greater in the experimental group. This group which started with a mean inferior to that of the control group by 3.2 has now surpassed the mean of the control group by .5 of a point. It is also interesting to note that the relative difference of variability in the classes has decreased markedly; due in large part to the fact that the textbook method increased the variability of the control groups.

Gains of the Two Groups—In order to determine the extent of gains made by the control and experimental groups, the differences between the scores of the two tests were taken. This step is of importance in that the facts secured by this procedure form the basis for the outstanding conclusions regarding this study. The results which were the direct outcome of this computation are shown in Table VI. They include the frequency of gains made by the two groups, along with the many different statistical standards obtained.
Table VI shows that the experimental group in this study had a mean gain slightly larger than did the control groups. The statistical computation, however, gives the
critical ratio of 1.26. Authorities agree\textsuperscript{31} that a critical ratio should be as great as 3.0 before one can say with certainty that the difference between the means is reliable; that is, that if the experiment were repeated, it would still show a gain for the experimental group. With a critical ratio of 1.26 we can say, therefore, that there is little evidence of superiority in favor of the Vitalized Program in the abilities measured by the tests which were used in evaluating the two methods.

The Two Control Classes--The question might be raised as to the difference in class time in the two control classes; one class being held for 45 minutes and the other for 55 minutes. Did this study show any gain for the longer class? Unfortunately, the small number of pupils in the two classes (16 in one and 14 in the other) creates a situation which is far from reliable for accurate conclusions. The facts derived were these:

1. The two classes scored approximately alike on the pre-test (means 51.9 and 52).

2. The longer period class was higher on the final test (means 92.9 and 86.7).

The question naturally arises as to whether the additional gain was due to the longer class period or to some other element. To check this, further facts were

discovered as follows:

1. The longer period class was slightly higher in intelligence (means 107.2 and 105.3).

2. The longer period class were considerably higher in school marks (means 79.5 and 75.8).

3. The longer period class were slightly higher in chronological age (means 13.2 and 13.0).

How much effect would these differences have on achievement in social studies? Obviously no answer can be given this question, and, therefore, no conclusion can be made regarding the question of the longer period and its effect on the study.
PUPIL REACTION
TO THE VITALIZED PROGRAM
On completion of the actual teaching connected with this program, the author administered a series of questions with the object of securing the pupils' reactions to the Vitalized Program. This questionnaire was given to all four classes of the Agawam Junior High School seventh grade. Although one of the groups had not actively participated in the experiment it was felt that the addition of the fourth group would give wider scope to the value of the questions without interfering with its purpose.

The questionnaire consisted of five questions and was administered to 123 pupils. The questions and the results are taken up in detail in the rest of this chapter.

**Question 1**—Of the following list of activities, which three do you prefer to have used in the classroom?

a. Moving Pictures  
b. Models and Specimens  
c. Field Trips  
d. Outside Speakers  
e. Flat Pictures  
f. Charts and Graphs  
g. Special Reports  
h. Special Notebooks  

Table VII shows the results of the pupils' answers to the question. The numbers on the chart indicate the
order of the activity according to the choice of each group.

TABLE VII
ANSWERS TO QUESTIONNAIRE

<table>
<thead>
<tr>
<th>Activity</th>
<th>Con. 1</th>
<th>Con. 2</th>
<th>Exp. 1</th>
<th>Exp. 2</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motion Pictures</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Field Trips</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Outside Speakers</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Mod's &amp; Specimens</td>
<td>4</td>
<td>5</td>
<td>3</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>Charts &amp; Graphs</td>
<td>7</td>
<td>6</td>
<td>7</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Special Reports</td>
<td>6</td>
<td>8</td>
<td>5</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>Special Notebooks</td>
<td>4</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Flat Pictures</td>
<td>8</td>
<td>7</td>
<td>8</td>
<td>7</td>
<td>8</td>
</tr>
</tbody>
</table>

It can be seen that the groups are in close agreement on the use of material. It is noteworthy to mention the popularity of Moving Pictures, Field Trips, and Outside Speakers. These three, in practically all cases, are the three top choices of the pupils. On the other score, the use of Flat Pictures is relegated to the last position. This is quite interesting in relation to their wide use and advocacy. It is probable that the very fact that they are used so widely and commonly makes them less interesting to the pupils and thus the reason for their position in last place.
**Question 2**--What is there about these activities which you think make them useful to you?

The following are a selection of some of the answers which were found in the questionnaires:

1. We learn more by seeing the things.

2. It is a change from the work we usually do.

3. Because what you see may be more important than what is printed in the book.

4. Because the things are easier to understand.

5. Outside speakers can tell us more facts than any book can give.

6. You see something different every time.

7. These methods are not as dull as studying our book all the time. It is more fun doing it this way.

8. On field trips you can learn about more than the specified thing.

9. Moving pictures are interesting because if you are studying about a country many miles away, you can actually see how people live.

10. Field trips are interesting, and if you see something of importance, it stands out in your mind.

11. Outside speakers are interesting because they can give us ideas and beliefs other than our own.

12. Because they illustrate the points more clearly.

13. Because they are more interesting than books.

From the preceding answers, one can see that the students feel that the methods which form a part of the
Vitalized Program offer opportunities not present in the ordinary textbook-discussion method. These opportunities consist of two distinct advantages; the provision for a more interesting program, and for more meaningful material.

Question 3—Which of the two methods listed below would you prefer to follow in your classes in Social Studies?

(A) The use of many different methods as described in Question 1.

(B) The use of the textbook followed by a discussion.

Answer: A. - 114

B. - 9

There can be little doubt as to which type of program the majority of the pupils prefer. Program (A) which fits the description of the Vitalized Program is much more popular than (B) which embodies the use of the Textbook-Discussion Method.

Question 4—Which of the following units did you enjoy the most?

a. Men and Machines
b. Transportation
c. Communication
d. Americans at Play
e. Fires
f. Schools
g. Preventing Disease and Accident
h. Triumphs of Science
Table VIII lists the answers secured from the preceding question. The numbers indicate the number of times a particular unit was chosen.

<table>
<thead>
<tr>
<th>Unit</th>
<th>Con. 1</th>
<th>Con. 2</th>
<th>Exp. 1</th>
<th>Extra</th>
</tr>
</thead>
<tbody>
<tr>
<td>Men &amp; Machines</td>
<td>4</td>
<td>6</td>
<td>3</td>
<td>0</td>
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<tr>
<td>Transportation</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Communication</td>
<td>1</td>
<td>3</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Amer. at Play</td>
<td>9</td>
<td>8</td>
<td>4</td>
<td>15</td>
</tr>
<tr>
<td>Fires</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Schools</td>
<td>3</td>
<td>0</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Pre. Dis. &amp; Acc.</td>
<td>2</td>
<td>3</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Triumphs of Sci.</td>
<td>2</td>
<td>5</td>
<td>6</td>
<td>2</td>
</tr>
</tbody>
</table>

From the above chart one can see that there seems to be an uneven distribution of choice among the three groups which were not controlled. The predominant choice in these three groups seems to be the subject, "Americans at Play." This choice is probably due to a distinct liking for the subject matter on the part of the pupils. There is no such indication on the part of the experimental group. Here one finds a very even distribution of choice. One wonders whether this type of distribution is due to the Vitalized Program's influence on interest.
Interest may be indicated by the pupils' reaction to method in relationship to the subject matter. Thus, the following question was inserted.

**Question 5**—Why did you find your selection of the unit named in question four of particular interest?

The answers to this query were particularly interesting. Of all those in the experimental group who gave a reason for their choice thirteen out of twenty-nine were interested because of the use of a particular method. On the other hand, out of the fifty-six members of the control groups, only two indicated a liking for a subject because of the use of a special method. This seems to indicate that the Vitalized Program has a definite influence on the interest created in a particular subject.

**Summary**—The questionnaire indicated that the use of the Vitalized Program is desired more by students than the Textbook-Discussion Method. It also indicates that a greater degree of interest is inculcated in the pupils with the use of this method.
CONCLUSIONS
CHAPTER VII

CONCLUSIONS

The question raised at the beginning of this study was, "What are the measurable outcomes of teaching Social Science to seventh-grade pupils by means of a Vitalized Program as contrasted with the Textbook-Discussion method?"

Conclusions

The material collected in this study lends itself to the following possible conclusions regarding the problem:

1. There is little evidence that either method is superior in the type of training measured by the test used.
2. There is evidence that the Vitalized Program is more interesting to the pupils.
3. There is evidence that the textbook method increases the range of individual differences in ability so far as mastery of factual material is concerned.

Discussion

From the above conclusions one might get the idea that the Vitalized Program holds little justification for its application in the classroom. However, there are certain indications apparent in the study that this is not so. It is quite possible that the test which was used in this study and which was factual in content did not measure the complete scope of the experiment. It is difficult to test for facts alone and hope to
measure all aspects of a teaching program. A factual test tends to favor the control groups in this experiment as facts are the main emphasis of the Textbook-Discussion method. On the other hand, the Vitalized Program’s emphasis, although basically factual, is constructed with the hope of creating fuller and more complete concepts. A test emphasizing this phase of questioning might prove a different result. It is significant to note that this type of test is claimed indirectly by one of the authorities quoted in this experiment (Horn, E., Chapter II, Page 19). He states that "thinking is more effective," that "language more meaningful," that "motion pictures contribute to the accuracy, richness, and significance of students' concepts." It seems logical if there were any tests which would measure these factors, they should have been employed in this experiment. The author of this study investigated the tests which would measure the more intangible outcomes of this field but was unsuccessful in his search.

There is also the possibility that the different character of the learning under the Vitalized Program might show different results if a delayed recall test was given at some future date.

There seems to be enough indication in this study that this experiment, involving the use of these two
different tests as has already been indicated. When this is done, it is possible that one might find he is in possession of more favorable statistics regarding the value of the Vitalized Program.

**Limitations**

Certain limitations have appeared during this study which should be taken into consideration before any further experimenting in this field is attempted. These are:

1. The Time Element. It may be noted that the two groups (control) had class periods which were of different duration. The question is raised as to whether the control group with the longer class period reached a fatigue point sooner than the class of shorter duration and thus impaired the effectiveness of the study.

2. The Time of Day. It is significant to indicate that the experimental group was in session during the last class period of the day. It is obvious that this group was more fatigued than the classes which met at an earlier hour. It is suggested that a rotation of the class periods might have eliminated any significance which this factor may have had on the study.

3. The Size of the Groups. The study embraced the use of only 30 pairs of pupils. A larger number participating actively in the study would probably have produced more significant results.

4. The Use of a Single Teacher. In this particular experiment both groups were taught by the same instructor. It is quite likely that a certain amount of personal bias for the favored program entered into the teaching. It is probable that the effectiveness of the experiment was interfered with in this respect. As to what extent and to how great a degree is unknown.
The use of two teachers with opposing interests, working interchangeably with the different groups might overcome this variable factor.

5. Factors Not Dealt With. There was not any testing carried on to determine the effect of the separate techniques in this program. Neither was there any investigation made of the scores as compared with the I. Q's chronological age and school achievement of the pupils.
APPENDIX
T. F. 1. The first kind of power used by man was probably the wind.

T. F. 2. Individuals who owned businesses in colonial times were against new inventions.

T. F. 3. The price of bread became more expensive because of the invention of the reaper.

T. F. 4. There are more farms today with electricity than there are farms without it.

T. F. 5. Patents can be secured through the state government.

T. F. 6. Practically all the great inventions which make possible rapid travel have been made in the last century.

T. F. 7. The largest commercial ships owned in the U. S. are the S. S. Manhattan and S. S. Washington.

T. F. 8. The United States government paid about $100,000,000 for the first railroad across the country although they did not own it.

T. F. 9. Most of the railroad companies of the U. S. in the past ten years have lost money.

T. F. 10. Flights by air are made every day across the Atlantic and Pacific in "Clipper Ships."

T. F. 11. Deaths from automobile accidents usually exceed 30,000 each year.

T. F. 12. The first book that was ever printed was the Bible.

T. F. 13. The chief source of money for newspaper owners comes through sales.

T. F. 14. It is possible to send pictures by wire.

T. F. 15. The United States Constitution guarantees the "freedom of the press."
T. F. 16. The first schools in New England were started because the religious leaders wanted the children to be able to read the Bible.

T. F. 17. The cost of education per pupil in Agawam is $108.

T. F. 18. An alloy is the combination of two or more metals.

T. F. 19. Perfumes can be made out of coal tar.

T. F. 20. It is possible to get fertilizer out of the air.
MULTIPLE CHOICE

1. The material used in Neon signs is (liquid, gas, air, electricity).

2. The formation of steel is the result of combining iron and (copper, zinc, carbon).

3. Rayon cloth is made out of (plant fibers, silk, rags).

4. The stratosphere is the (upper atmosphere, air over the ocean, a large balloon).

5. Agawam's water supply comes from (Cobble Mountain, Mill Pond, Springfield).

6. The greatest decline in the death rate was taken place among (adults, children, infants).

7. In 1935, (10,000, 26,000, 35,000, 43,000) people were killed by automobiles.

8. The greatest problem "fire" has caused, is its (use, control, menace).

9. Two modern cities that have been almost completely destroyed by fire were (New York, Chicago, San Francisco, Philadelphia, Memphis).

10. The greatest loss of property by fire is found in the country of (United States, England, Italy, France).

11. If each person were to pay for the cost of fires in the United States, they would each have to pay ($2 to $5), ($7 to $9), ($13 to $16).

12. Firemen now may wear (cotton, asbestos, rubber) clothing which will not burn.

13. Fire insurance is usually bought for a period of (1, 3, 9, 20) years.

14. (15, 34, 42, 65) per cent of all fires occur in dwelling homes.

15. The greatest cause of fires is from (carelessness, electricity, smokers, stoves).
16. Many fires are now prevented by installing a (detective, chemical, sprinkler) system in business buildings and factories.

17. The Town of Agawam spends approximately ($5,000, $10,000, $22,000) to fight fires each year.

18. (Chlorine, Sulphur, Arsenic) is sometimes put in reservoirs to get rid of bacteria.

19. Free medical attention is most commonly provided through (hospitals, clinics, churches).

20. Three recreational centers that are available to most people of Agawam are (Look Park, Forest Park, Robinson Park, Hot Springs Park, Sequoia Park, Carlsbad Caverns).
1. Two inventions that have aided in the preserving of foods are _______ and _______.

2. Electricity has made the housewife's task easier through the invention of _______ and _______.

3. _______ is many thin layers of glass glued together.

4. Most travel in colonial days was by _______.

5. The first great national road was the _______.

6. New York City became important as a commercial center with the building of the _______.

7. Two types of ships which the people of America became famous for were the _______ and _______.

8. The first successful steam locomotive was built in _______.

9. The rate of speed of the first railroad trains was _______ miles per hour.

10. The common man was able to do much more traveling with the invention of the _______.

11. Early man communicated at distance with others by means of _______ and _______.

12. The most modern instrument developed in the field of communication is _______.

13. The _______ is head of all the post offices in America.

14. The _______ has charge of the schools in Agawam.

15. _______ is used in the treatment of cancer.

16. _______ are germs which may cause many types of diseases.

17. An ancient city that was completely destroyed by fire was _______.

18. _______ is used in the treatment of cancer.

19. _______ are germs which may cause many types of diseases.
18. The town of Agawam has a fire department.

19. Sickness is more common and lasts longer among the class of Americans.

20. Three National Parks available in this area for recreation are , , and .
### Part I

<table>
<thead>
<tr>
<th>PERSON</th>
<th>NOTED FOR</th>
</tr>
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<tbody>
<tr>
<td>Robert Fulton</td>
<td>First American Locomotive</td>
</tr>
<tr>
<td>Stephenson</td>
<td>Steam Locomotive</td>
</tr>
<tr>
<td>Peter Cooper</td>
<td>Steam Boat</td>
</tr>
<tr>
<td>Sam Langley</td>
<td>Leader for Free Public Education in Massachusetts</td>
</tr>
<tr>
<td>Glenn Curtis</td>
<td>First Successful Air Flight</td>
</tr>
<tr>
<td>Admiral Byrd</td>
<td>Built first successful aeroplane</td>
</tr>
<tr>
<td>Wright Brothers</td>
<td>Helped rid milk of bacteria</td>
</tr>
<tr>
<td>Charles A. Lindbergh</td>
<td>Early American printer</td>
</tr>
<tr>
<td>Samuel Morse</td>
<td>Got rid of disease in Panama</td>
</tr>
<tr>
<td>Benjamin Franklin</td>
<td>Non-stop flight from N. Y. to Paris</td>
</tr>
<tr>
<td>Alexander G. Bell</td>
<td>Invented telephone</td>
</tr>
<tr>
<td>Marconi</td>
<td>Invented telegraph</td>
</tr>
<tr>
<td>Horace Mann</td>
<td>Leading astronomer</td>
</tr>
<tr>
<td>Louis Pasteur</td>
<td>Father of modern science</td>
</tr>
<tr>
<td>Galileo</td>
<td>Discovered law of gravity</td>
</tr>
<tr>
<td>Madame Curie</td>
<td>Early aeroplane builder</td>
</tr>
<tr>
<td>Isaac Newton</td>
<td>Explored North and South</td>
</tr>
<tr>
<td></td>
<td>Rode by aeroplane</td>
</tr>
<tr>
<td></td>
<td>Built first wireless</td>
</tr>
<tr>
<td></td>
<td>Discovered radium</td>
</tr>
<tr>
<td>Colonel Gorgas</td>
<td></td>
</tr>
<tr>
<td>Roger Bacon</td>
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### Part II

<table>
<thead>
<tr>
<th>INVENTORS</th>
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<tbody>
<tr>
<td>Cyrus McCormick</td>
<td>Cotton Gin</td>
</tr>
<tr>
<td>Elias Howe</td>
<td>Incandescent Light</td>
</tr>
<tr>
<td>John Watt</td>
<td>Reaper</td>
</tr>
<tr>
<td>Thomas A. Edison</td>
<td>Sewing Machine</td>
</tr>
<tr>
<td>Eli Whitney</td>
<td>Steam Engine</td>
</tr>
<tr>
<td>Samuel Crompton</td>
<td>Spinning Loom</td>
</tr>
</tbody>
</table>

### Part III

<table>
<thead>
<tr>
<th>SCHOOLS</th>
<th>IDENTIFICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dame Schools</td>
<td>Schools for Boys and Girls</td>
</tr>
<tr>
<td>Pauper Schools</td>
<td>Private Teachers in School</td>
</tr>
<tr>
<td>Co-educational Schools</td>
<td>Schools run by the women of the neighborhood</td>
</tr>
<tr>
<td>Tutorial Schools</td>
<td>Schools for the poor</td>
</tr>
</tbody>
</table>
MATERIAL WHICH WAS USED IN THE EXPERIMENT

Moving Pictures (10)

1. "Two Seconds from Cutting to Threshing"
   Subject: Machinery - International Harvester Co.

2. "Modern Electric Transit"
   Subject: Transportation - General Electric

3. "Queen of the Waves"
   Subject: Transportation - General Electric

4. "The Story of the Airship"
   Subject: Transportation - Goodyear Tire Co.

5. "The U. S. S. Akron"
   Subject: Science - Goodyear Tire Co.

6. "Romance of the Reaper"
   Subject: Machinery - International Harvester Co.

7. "Modern Education in the Beaverton Consolidated School"
   Subject: Schools - International Harvester Co.

8. "Life of Thomas A. Edison"
   Subject: Science - General Electric

9. "Our National Parks"
   Subject: Recreation - Ford Motor Co.

10. "Triumphs of Science"
    Subject: Science - General Electric

Field Trips (4)

1. Agawam Center Post Office

2. Agawam Woolen Mill

3. Springfield Sewer Disposal Plant

4. Agawam Center Fire Department

Booklets (4)

1. Steel Serves the Farmer

2. Aviation Stamp Booklet

3. The Railroad

4. Accidents
Special Speakers (4)

1. A person who had secured a patent
2. Chairman of School Committee
3. An old resident of Agawam relating the conditions in the average home 75 years ago
4. A fireman
SAMPLE OF TYPE OF UNITS USED IN THE STUDY
BY THE CLASS ACTIVE IN THE EXPERIMENT

Control Groups

Subject: Men and Machines

Time of Unit: One Week

Subject Matter:

I. Introductory discussion: Evolution of the different types of power and their early uses.

II. The use of power resources by the early American Colonists.

III. A survey of the early types of machines used in American industry.
   a. Spinning wheel
   b. Hand loom
   c. Steam engine

IV. Important mechanical developments in agriculture and its effect on our economic life.
   a. Flows
   b. Reaper
      1. Life of Cyrus McCormick
   c. Means of transportation and their effect on agriculture
   d. The binder
   e. The cradle

V. Preservation of foods.
   a. Development of means of refrigeration
      1. Ice boxes
      2. Refrigerators
b. The canning industry

c. The packing industry

VI. Inventions which improved living conditions

a. Sewing machine
   1. Life of Elias Howe

b. Washing machine

c. Vacuum cleaner

d. Electric iron

e. Gas and electrical appliances for cooking and heating

f. Comparison of living conditions in rural and urban areas.

VII. Development of a knowledge and appreciation of the increase in the number of inventions in last few years

a. Comparison of the number of inventions that have been accomplished in the past 50, 100, 200, and 300 years

b. Study of some of the outstanding inventions in the above mentioned periods

c. Effect of inventions on industry, employment, and our economic life

VIII. Protection of Inventors

a. Discussion of how a lack of means of protection for inventors resulted in retardation of inventions.

   1. Experience of Samuel Crompton in England with his Spinning Mule

   2. Experience of Eli Whitney in America with his Cotton Gin

b. Study of the evolution of the American Patent System

   1. Investigation of the number of patents issued in the period since the American Patent Law was put into effect
c. How a patent is secured.

Procedure:

The points to be taught in the above unit are to be evolved through the following means:

a. Reading the text, pages 22 - 48

b. A series of questions arranged to bring out the important facts of the unit

c. Discussion carried on by pupils under the active direction of the teacher

Experimental Group:

The experimental group will cover the same material as outlined previously for the control groups. The main difference will be found in the general procedure which is used in teaching the facts of the unit.

Procedure:

The procedure as evolved here embraces the use of all those methods previously mentioned. In addition, those devices which have already been described as a part of the Vitalized Program are also added. In this particular unit the following specific activities are provided.

1. A series of drawings showing evolution of power
   a. Wind-water-steam-electricity and the gas engine
   b. Early American industrial machinery

2. Use of Booklet on "Steel Serves the Farmer" which emphasizes evolution of farm equipment

3. Each child collects pictures from magazines or other sources showing mechanical developments for the home.
4. Special Reports by Pupils:

James Watt
Cyrus McCormick
Thomas A. Edison
The Canning Industry

Safety Glass
Elias Howe
Eli Whitney
Samuel Crompton

5. Examination of a Patent

a. Special Speaker—"How to Get a Patent," Harris

6. Visits to Agawam Woolen Mill

7. Moving Pictures

a. "Two Seconds from Cutting to Threshing"

b. "Romance of the Reaper"
ANNOTATED BIBLIOGRAPHY
ANOTATED BIBLIOGRAPHY

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Thesis approved by:

Albert W. Purvis

Philip H. Kendall

Harold W. Cary

Date May 1941