TO DETERMINE WHETHER THE ARMED-FORCE METHODS OF INSTRUCTION AND CIVILIAN METHODS OF INSTRUCTION ARE SIMILAR OR DIFFERENT

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TO DETERMINE WHETHER THE ARMED-FORCE METHODS OF
INSTRUCTION AND CIVILIAN METHODS OF
INSTRUCTION ARE SIMILAR OR
DIFFERENT

THESIS

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By

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CHAPTER I

INTRODUCTION

Purpose of the Study

The purpose of this study is to determine whether the armed-force method of instruction and the civilian method of instruction are similar or different.

The civilian method of instruction has slowly changed during the last few decades. The armed-force method of instruction reflected these changes during the short period of training during the war. The writer, having taught in the Army Air Force Mechanical School, observed some of these changes. For example, in the early stages of the war-training period these technical schools were in their infancy. There were few audio-visual aids and instructors used most of the training time lecturing. By the end of the armed conflict, however, the method of instruction was improved by the extensive use of audio-visual aids, and "on-the-job-learning by doing."

The five basic steps of instruction emphasized in armed-force bulletins receive special emphasis in this study. They are as follows:
1. Preparation by the instructor.
2. Presentation.
3. Application.
4. Examination.
5. Discussion and critique.

It is with these five basic steps that the writer has endeavored to show the difference or similarity between the educational programs used in the armed forces and in the public schools.

Due to the fact that the materials to be taught and the objectives to be reached are so widely different, it is necessary that the techniques and objectives of these five steps be adapted to their appropriate uses.

The ultimate objectives of learning in the armed forces are combat and self-preservation; the objectives of learning in the public schools are varied to suit the needs of the individual.

Delimitations

This study deals with practices as recommended and not necessarily the ones used by the armed forces or by civilian schools.

This study deals with the methods of teaching from 1940 to 1946. Reference to earlier methods of teaching is used as a basis to clarify the methods used in this study.
Source of Data

The source of data is to be found in magazine articles, pamphlets, bulletins, editorials, books, and personal experience with the armed forces and with the public schools.

Some important publications are: Army Instruction, T. M. 21-250, War Department Technical Manual; Raleigh Schorling, "Implications of the Training Program of the Armed Forces for Civilian Education," Science Education, XXXI (March, 1947); and Paul Witty, "Implications of Army Education Program," Elementary English Review, XXII (December, 1945), 281-283. Also numerous bulletins issued by the Technical Training Command of the armed forces on education contained information which was helpful toward the formation of conclusions concerning the similarities and differences between the educational programs.

Many other publications were drawn on as shown by the bibliography. In addition, from personal experience as a civilian instructor in the Army and as a teacher in the public schools, the writer has been able to provide data on current plans and programs in execution.

Method of Procedure

The first step in this study was to make a survey of the literature pertaining to the problem. Much of this material gives the background to the study which is included in Chapters II and III.
The writer collected material from training commands of the armed forces and observed the educational training program of the Fort Worth Army Air Base. Information and bulletins were obtained from the officer in charge of the Troop Information and Educational Unit. Many articles written by educational research writers were found in educational and science research magazines.

Various books, bulletins, and pamphlets were available for study on the method of instruction used in the public schools.

Related Studies

During 1945 twenty-six graduate education students made a survey of seventeen Army installations. The purpose of the study is given by Raleigh Schorling as follows:

The group made a study of curriculum, materials, methods, and procedures used in the schools of the Armed Forces for the purpose of interpreting this experience in terms of constructive benefit to civilian education.¹

Schorling gives the recommendations so that schools may profit from the study:

The faculty of a school should have a standing committee on audio-visual aids.
A program for physical fitness should be included.
A more effective program for guidance should be included.
A more interesting and challenging school day should be arranged for the students.

¹Raleigh Schorling, "Implications of the Training Program of the Armed Forces for Civilian Education," Science Education, XXXI (March, 1947), 81.
Specific objectives should be included in the curriculum.
Better courses should be provided for a high fraction of the high school's population whose needs are not met in the traditional courses.\(^2\)

The idea is clearly expressed that our schools can profit by some of the direct relationships which are similar to the problems of the schools.

Twenty-six superintendents and principals from Michigan visited twenty Army and Navy camps in the East and South to interpret the armed-force method of teaching.

C. M. Horn gives a summary of the study made by the administrators:

Schools must provide better guidance services. Armed Forces used extensive audio-visual aids. Learning by doing must become a reality with the schools. Physical education needs overhauling in the schools. Improved selection and training of teachers is needed for the schools.\(^3\)

The study offers a lesson plan used by the armed forces which was observed in the different military installations:

Preparation by instructor
Explanation by instructor
Demonstration by instructor and assistant instructor
Application by the trainee
Examination to determine proficiency
Discussion to clear up any misunderstandings\(^4\)

The study concludes by suggesting that more money must

\(^{2}\)Ibid., p. 83.


\(^{4}\)Ibid., p. 48.
be provided for education to bring in good talent, and to keep the good talent that is already in the field. Administrators should take every opportunity possible to try to receive profit from the experiences of the armed forces.

In Robert Wilson's study of military methods of instruction are found twelve methods of instruction. They are given in brief form as follows:

By the use of aptitude tests and trained counselors each recruit was analyzed and placed in the field where he was most likely to succeed. The Army recognized the importance of sight learning and took advantage of the audio-visual aids program.

The Army utilized the "learning by doing" technique.

After the soldier gains an understanding of how it is done, mastery is achieved by the simple technique of constant repetition.

Military instructors corrected bad habits immediately.

The Army forced men to learn.

Commendation and recognition was emphasized in the Army.

Competitive spirit was encouraged.

The Army organized small classes.

The objective of the Army was combat.

Subject matter was analyzed and simplified.

The Army rated its instructors by a definite scale.

These methods of instruction are varied as to merit. Some appear outmoded, some harsh, but all are used to a great extent.

In Alonzo G. Grace's analysis, "Lessons for Civilian Education from the Armed Forces Training and Educational

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Programs," he gives a preview of the study made by the staff selected by the Director of the Commission on Implications of Armed Services Educational Programs.

The purpose of the study is to show the implications of the armed services training program.

The following shows a brief summary of the unfinished report:

There was very little development in the Armed Forces educational program unknown to educators. Armed services operated on trial and error. The military should profit from their own modifications.

Not counting large sums of money, there are many lessons in the Armed Services educational program for civilian education. New concepts of supervision and the need for instructional leadership are required in our schools and colleges. Administrative personnel should be given more time to direct and supervise the program.

There are more accidents in industry than in the Armed Forces.

There were thousands of women in the Armed Forces who proved their ability in leadership and technical skills. This shows that women should be given equal opportunity in developing technical skills.

There is a need for instructor and leadership training.

Vocational-technical education has an important place in our curriculum. 6

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CHAPTER II

ANALYSIS OF ARMED-FORCE METHODS OF INSTRUCTION IN ARMED-FORCE SCHOOLS AS FOUND IN ARMED-FORCE BULLETINS AND AVAILABLE LITERATURE

The purpose of this study is to show the method of instruction in the armed forces as found in military bulletins and available materials.

The entire educational program of the armed forces is standardized. A general educational program is organized in the educational service departments of the respective branches of the armed forces in Washington, D. C. This headquarters notifies the commanding officers of all training posts and outposts of the educational program to be used. The details of the program are usually left to the local service officers.

The first section of this chapter analyzes the material as it is found in Army bulletins, pamphlets, and manuals. Specifically, the following material will discuss preparation by the instructor, methods used in presentation, techniques of applying information and skills, purposes and types of examinations, procedures in conducting discussions.
and critiques, techniques of supervision of instruction, and selection and construction of training aids. Figure 1 shows the stages of instruction in the armed-force training program.

Preparation

Careful planning is always the first step in efficient training. The instructor must analyze the specific procedures, skills, and information involved in teaching a student. He must organize materials so that basic ideas are adapted to the student's background and needs and the lessons are aimed at achieving specific objectives. He must present the content of a lesson so that learning is facilitated; the object of the lesson will determine the method to be used.\(^1\)

Instruction, like tactical operations, is planned. A commander considers his mission, the terrain, the enemy's strength, the distance, the time of day, and the climatic conditions. An officer in charge of training studies all factors pertaining to the training situation before he can devise an effective instructional plan.

*Army Instruction Manual* T M 21-250 enumerates the basic steps of planning instruction as follows:

1. Mission (training objectives)
2. Essential subjects (relative)
3. Time
4. Equipment and facilities
5. Instructional personnel
6. Local conditions
   a. Climate
   b. Terrain
7. Existing state of training

\(^1\) *Army Instruction, T M 21-250, War Department, p. 7.*
Fig. 1. -- Stages of instruction in armed-force training program (from Army Instruction, T M 21-250, War Department, p. 4).
8. Organization for training
9. Obstacles
   a. Administration
   b. Physical
   c. Human
   d. Decision
   e. Result of effective planning in instruction is readily apparent
   f. Instructional reference material

In the selection of material for instruction, the training directives are stated in terms of what is to be taught, the objectives are practical, and the job analyzed. "In making a job analysis all the essential procedures, facts, and principles of the particular job under construction are studied."3

The job analysis chart as shown on the following page can be used for each subject of a course.

In organizing materials every course can be divided into several subjects. Each subject is divided into subdivisions which are called job assignments. A lesson is a teaching segment of a job assignment devoted to the attainment of one specific objective. As the final step in organizing the course, a master list of the subjects is prepared. The instructor will then have a complete picture of the course. Note the lesson plan forms shown in Figures 3 and 4.

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3Army Instruction, T. M. 21-250, War Department, p. 12.
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**Fig. 21-250, Job analysis chart for each subject of a course (from Army Instruction).**
"Good teaching depends to a large extent upon careful planning."  

A good lesson plan has unity, contains new materials, is reasonable in scope, and is planned in terms of training conditions. Every lesson falls into four steps: presentation, application, examination, and discussion.

Materials are arranged in sequence in such a manner that the learner can easily grasp the point of view. "Subjects termed 'dry' are usually considered so because they are arranged logically with little regard for student interest or background."

A lesson plan procedure chart is shown in Figure 3, while a lesson plan form appears in Figure 4.

Presentation

There are five methods used in presenting subject matter. They are as follows:

1. Lecture
2. Direct discussion
3. Illustration
4. Demonstration
5. Expediting learning

The first part of the class period is given over to the instructional phase known as the introduction, in which the

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Fig. 3. -- Lesson plan procedure for armed-force training program (from Army Instruction, T. M. 21-250, War Department, p. 19).
LESSON TITLE: __________________________________________

COURSE: ________________________ INSTRUCTOR: ________________________

SUBJECT: ________________________ DATE: ________________________ HOUR: ________________________

JOB ASSIGNMENT: ________________________

LESSON OBJECTIVE: ________________________

TRAINING AIDS: ________________________

REFERENCES: ________________________

TIME REQUIRED: ________________________

I. PRESENTATION: ________________________

INTRODUCTION: (Method_______ Time required)____________________

EXPLANATION and/or DEMONSTRATION: (Method__________

Time required)____________________

II. APPLICATION: (Method__________ Time required)____________________

III. EXAMINATION: (Method__________ Time required)____________________

IV. DISCUSSION: (Method__________ Time required)____________________

Fig. 4. -- Lesson plan form for armed-force training program (from Army Instruction, T. M. 21-250, War Department, p. 24).
interest of the student is aroused, the lesson objective made clear, and the lesson related to what the student already knows. Each method of teaching is discussed in the following paragraphs.

The lecture method is the most common form of instruction used because it presents many new ideas in a short time, it can be given to large groups, it provides basic material, it provides effective introductions to direct discussions, it gives direction for demonstrations, and it summarizes material rapidly.

Lectures are supplemented by discussions, illustrations, and demonstrations to insure the process of learning. "Lectures, however, when properly used, will speed up instruction to a marked degree, will clarify points not previously understood, and will provide summaries."

The direct-discussion method, sometimes called the conference, gives the students opportunity to participate by asking questions and by answering those of the instructor. The chief difference between the lecture and the discussion is the large degree of student participation in the latter. Discussions may be used in all types of lessons.

The purposes of a discussion are as follows:

1. To supplement lectures, shop or field exercises, and assignments by asking the students specific questions to determine whether they understand:
   a. What they are to do
   b. Why they are to do it

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6 Ibid., p. 57.
c. When they are to do it
d. Where they are to do it
e. How they are to do it

2. To prepare students for the application of doctrines or procedures to specific situations

3. To sum up and clarify the important points developed in previous instructional steps

4. To introduce new materials and set the stage for subsequent work

The discussion method increases the student interest and stimulates thinking in the subject through participation in the class. This provides opportunity for expression of student attitudes; it reveals student weaknesses and strengths. Often personal experiences related to the subject can be contributed from class members.

The success of this discussion depends upon careful planning of the procedure. The instructor prepares the principal questions, problems, and teaching points in advance. He guides the discussion toward the objective of the lesson. Every student participates in the discussion in order that he may think out what he has been taught. At the end of the discussion the important points covered and the principal conclusions established are summarized.

Illustrating lectures and discussions through the use of blackboards, diagrams, maps, charts, pictures, films, objects, models, and sand tables is one of the most effective ways of presenting new materials to a class.

One usually remembers things that he has seen rather than what he has only heard about. Almost every lecture or

7Ibid., p. 58.  
8Ibid., p. 64.
discussion can be improved by using visual illustrations which are carefully selected according to the lesson plan. Illustrations are explained and discussed so that the student can see and hear about the subject matter. If more than one illustration is used during a lesson, the relationship of one to the other needs to be pointed out. The illustrations must be simple and clear enough for the slowest student to understand.

For example, in teaching the care of the rifle, the instructor will find it expedient to have an actual rifle before the class as well as diagrams revealing the mechanism. He may also show a training film. The diagram and film will be many times more meaningful if the corresponding parts on the actual rifle are pointed out.9

The instructor must know his subject matter in order to know when each illustration will be of most help to the student. Use the illustration at the point in the lesson when the student will gain most from seeing it. A few well chosen examples will tend to make the facts forcible and permanent; whereas too many illustrations will confuse the students' minds.

Demonstration is another method of presentation. The purpose of a demonstration is to show how things are done, and to show them in such a way that the student will learn the procedure and operation. Demonstrations are used whenever possible in teaching the operation and function of

9Ibid.
tools, equipment, and weapons; operations involved in technical work; operations of units under combat conditions; and pertaining to the application of skills and principles to specific situations and problems.

Demonstrations are always preceded by an explanation and are followed by applications and examinations. The student must thoroughly understand the operation of the demonstration as it is performed. If necessary, the demonstration can be divided into smaller separate operations, but the sequence must be clarified. Short demonstrations are more effective than long ones. These should be given as the need arises. If a very long period of time lapses between the demonstration and the application, the student will probably not be as able to apply his learning.

Expediting learning is another method of presentation. There are many techniques that the instructor uses to hasten learning. He knows that he is working with men and not with machines. He must know them well, be able to gain their confidence and cooperation, and train them so that they will be good soldiers voluntarily and not through force imposed by superiors. An Army leader can best attain this objective by being fair, firm, and friendly. The alert instructor uses many personal and social motives and incentives in promoting student interest and learning. These motives are the desires, urges, or wants which drive a man to action; incentives are such things as social approval,
praise and prestige, increase in pay or rank, and rewards.

Self-preservation is a normal impulse and most Army training has that objective. However, a soldier thinks of his unit as well as of himself; he is interested in keeping his unit intact.

The use of competition is sometimes effective in improving performance, especially when each man competes with his own performance, and when group competition is provided in which a man knows that by improving he will help his unit.

Self-consciousness often prevents the development of interest. Sometimes this can be overcome by making the men feel "at home" in the class, by making them a part of their new situation, and by explaining what is expected of them.

The use of equipment for demonstration, illustration, and application will heighten interest. The instructor uses all available and suitable teaching aids and is able to construct useful charts, models, and similar materials.

Learning should be facilitated by setting the stage, administering the class, handling the men, emphasizing repeatedly the important points, utilizing praise and recognition as motivating devices, and maintaining a calm, patient, and understanding attitude.\(^\text{10}\)

Application

Application is learning by doing. It is that stage of instruction in which the students put into practice the

\(^\text{10}\)Ibid., p. 166.
procedures and ideas previously taught.

There are two types of application used in the Army: individual performance, used in basic and technical training; and team performance, emphasized in logistical, tactical, and advanced technical training for situations where units operate together.

Preparation and planning are just as important for application as for any other method of instruction. The instructor determines when the application is to be used, what facilities and space are necessary, and how long a period of time is required. He has all of his materials, such as those visual aids, film strips, or films that he will use in conducting the explanations and demonstrations that may be required. A list of reference materials to which students can be referred is to be handy for use. The men apply their learning as soon as they understand the basic operations of a procedure. The amount of practice depends upon the kind of material, the stage of training, and the length of time available for instruction. When the men are applying their techniques to their problem, the instructor acts as a supervisor. He circulates among his men to be sure that each one understands what he is to do, and he helps those who are having trouble. The student masters every detail of this application before he takes up a new subject. If a subject is not understood and a student asks a question, the instructor avoids using sarcasm
or ridicule.

There is a difference in the procedures used when skills are taught and when problems are solved. Skills and operations are taught systematically and never left for the student to discover. Emphasis is on speed and accuracy, but the student must keep his mind on the operation or procedure he is learning rather than on the quality of work.

The solution of the problem is treated by stressing thought and reasoning.

In solving problems, the students should be required to plan their work, to outline the facts and information that will be required, to list the basic principles involved, and to combine all these factors in making the required decision. The problems must be practical, challenging, and within the powers of the students. They should be similar to the types of problems the men will face in the field.\textsuperscript{11}

Competition is an effective motivating force for the stage of instruction. The students can compete with their past records, with standards the supervisor sets up, or with each other.

The cooperation of individuals in accomplishing a group mission is the major objective of team performance. Only through practice in working on field, supply, and personal problems can this goal be attained. The training is continuous, gradually increasing in complexity, always with the emphasis on the type of problems the men will face in the field.

\textsuperscript{11}\textit{Ibid.}, p. 95.
Some type of presentation must precede the team performance to enable the men to know exactly what they are to do. After each student has learned his part, they practice together to learn proper timing, correct positions and procedures, and an appreciation or understanding of the part each man plays in the team operation.

In choosing a problem, the plans are checked for:

a. Necessary preparation
b. Preliminary instructions or orders
c. Technique of execution
d. Critique summarizing the application

The problems should be clearly related to field operations. The earlier problems require the application of only a few principles or procedures. More of the fundamental ideas and procedures are added to each successive team performance or problem. The climax is a field maneuver lasting for several days.

A problem is chosen in terms of the equipment and the available terrain. The limitations of the terrain can be supplemented to a certain extent by the use of sand-table exercises. Every experience is to be realistic. Only those materials normally available to the individual soldier or unit under combat conditions are used in the problem. Even the simplest team performance requires the time of several men, and this time is to be well used. The instructor does not stop a procedure or operation unless an error occurs

that causes the men to learn incorrect procedures or habits.

Examination

Extensive use of tests and examinations is made in the armed forces from the time of induction until the trainee is placed in a position for which he is capable.

A test or examination is any device that is used to evaluate student performance. Tests may be used to estimate the degree of skill or amount of information a student has acquired, or to indicate his aptitudes, attitudes, abilities, and personality characteristics.\(^{13}\)

Several approaches to the measurement of an individual's interests have been attempted. Questionnaires and rating scales have commonly been used for this purpose. These devices have the merit of permitting a direct approach to the measurement of individual interests.\(^{14}\)

Tests used most frequently in the Army may be classified as to the purpose they serve: selection or aptitude tests, in which the skills or knowledge of the students is used as a standard for selecting personnel for training; and achievement tests, used to measure the degree to which each student has mastered the material taught.

Diagnostic testing of intelligence and concept formation is concerned with achievements and relationships between achievements; from the specific impairments or superiorities of different functions indicated by them.\(^{15}\)

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\(^{13}\)Ibid., p. 111.

\(^{14}\)F. B. Davis, The A A F Qualifying Examination, p. 75.

The tests will indicate specific gaps or strong points in the students' learning. They may also measure the instructional efficiency.

Tests are classified according to their forms. Oral question-and-answer examinations are used in nearly every lesson.

The student records his answer in writing when a written test is used. Written tests are classified into two main forms, essay and objective questions. The objective tests are divided into true-false, cluster true-false, multiple choice, completion, enumeration or listing, matching, identification, and situation questions. These are supplemented by performance tests and observations.

Performance tests are the most direct method of measuring the ability of the student to do a job. The student performs an operation and is graded on the quality of work as well as on speed and accuracy, and general skills.

In observation tests an instructor or observer uses check lists, rating forms, and interviews to obtain a more complete picture of the students' performance. Such qualities as interests, work habits, adaptability, and leadership are evaluated by observing students in different military situations.

Testing is used to:

1. Evaluate the student's learning.
2. Insure fairer standards of evaluation.
3. Discover gaps in student learning.
4. Aid learning.
5. Evaluate and improve instruction.

The instructor is responsible for the development of the short examinations given at the end of each lesson or job assignment, but the officer in charge will supervise the construction of subject and course tests.

Discussion and Critique

A discussion and critique is really a lecture or a directed discussion. It follows the application or examination and is the final stage of instruction. It gives a clear picture of what has been taught and clarifies any part of the lesson which is not entirely understood. If a discussion or critique follows an examination, it contains the reasons for the answers to the test questions and provides a chance for students to offer their own suggestions.

The critique which follows an applicatory exercise indicates the various acceptable solutions; it does not give the impression that there is only one correct way of solving a problem. A critique is planned as carefully as any other stage of training. The instructor considers the progress that he expects his men to gain. In the early period of training, he emphasizes accuracy of performance. In the last stages of training, he emphasizes team cooperation, coordination of movements and operations, and both
speed and accuracy of performance.

Whether the instructor uses lecture or directed discussion, the explanation should be planned in terms of three definite steps:
   a. An introduction giving an overall view of the lesson or problem
   b. A discussion of the strong or weak points
   c. A brief summary which emphasizes the fundamental points of the lesson or problem

The discussion following the performance or operation is conducted in the same place as the training if possible. If the area is noisy, the men should be taken to a quiet place for the critique.

A few minutes spent in transporting the troops to a desirable location is well worth-while in terms of student attention and interest.

Supervision

Supervision is to help the students make the best use of the means and time available for the accomplishment of a training mission. "Supervision is that phase of training management which insures efficiency of training."17

In order to be an efficient supervisor, the officer in charge needs to be an excellent instructor, a capable administrator, and a leader. He directs his activities so as to help the instructors under his supervision do the best work possible. Friendliness, fairness, and firmness are

16 Army Instruction, T. M. 21-250, War Department, p. 169.
17 Ibid., p. 173.
essential characteristics of both a good supervisor and instructor.

The selection of instructors in the Army is very important, because highly developed skills and techniques are taught. The qualified instructors are obtained by selection and classification and by adequate training. An Army instructor must be a teacher, a specialist, a leader, and a soldier.

The personnel officer, with the help of various officers in charge of training, selects the instructors. These instructors are chosen because of their experiences, achievements, and abilities.

These men are sent to schools for training in instructional methods. A brief course is taught so that the prospective instructors will have a fundamental understanding of Army teaching procedures.

Emphasis is given to:

a. The role and importance of the instructor in the Army
b. The preparation required for teaching a lesson
c. The introductory step in presentation
d. Presenting a lesson using the techniques of:
   1. Explanation
   2. Demonstration
e. Planning and directing the application of materials learned
f. Developing and using examinations
g. Conducting a critique
h. Developing and using training aids
i. Securing and using textbooks and instructional materials
j. Understanding the student as a learner

\[\text{Ibid.}, \ p. 179.\]
The men being trained as instructors are given opportunities to observe expert Army instructors conducting their classes. They are given a list of the important points to be observed in the teaching. Each student observes the instruction and fills out a rating form summarizing his observations in a brief report. These reports are turned in at the beginning of the discussion which follows the observation.

After the student instructor has completed the short course and has observed several classes, he is ready to begin his teaching assignment under supervision. This supervised teaching is the final check on instructor training.

The instructor is closely checked by the supervisor or officer in charge. This keeps the instructor "on his toes" because he never knows just when the supervisor will visit the classroom. There are two types of visits: the daily visit which is for only a few minutes, and the supervision of the entire class period. The supervisor enters the classroom unannounced and inconspicuously. In general, he does not take part in the classroom activities. If the instructor knows the subject matter well, there will be few if any mistakes. If the teacher is new or does not know the subject matter, the supervisor will add a comment to explain any undiscussed point of the lesson. Under no circumstances does a supervisor take over the class or reprimand
an instructor before his men.

The supervisor keeps a record of his visits to the class. Then he is able to discuss any point with the instructor. In this conference, the instructor is told of his strong and weak points and how he is to improve his work.

If the officer in charge of training has an inefficient instructor on his staff who fails to improve after several conferences, he is assigned to duties more suited to his abilities. "The officer in charge can improve instruction by utilizing properly the personnel and facilities and by trying out new ideas and techniques."19

Training Aids

Training aids include actual objects, models, sand tables, training films, film strips, lantern slides, sound equipment, photographs, maps, charts, posters, cartoons and illustrations used in instruction (See pers. 77-84 and 87, F M 21-5, F M 21-6, F M 21-7, and F S 7-75.)20

No lesson is complete without training aids. Each type has advantages and limitations and serves some purpose better than others. Often many of them can be used in combinations.

The commander is responsible for the procurement and development of training aids for the instructional staff. But it is the responsibility of each instructor to make certain that the aids needed will be available and ready for class use.

19Ibid., p. 190. 20Ibid., p. 195.
In the following paragraphs, each aid is briefly discussed as to types and uses.

Some of the actual object aids used are tanks, motor vehicles, rifles, mortars, and gas masks, and in many cases, switchboards. These objects provide essential contacts with Army equipment. In order to speed the students' understanding of how the object functions, a model of some mechanism, mounted on a vertical board and with the different parts clearly differentiated by color, is used to explain the operation principles to a large group of students more rapidly. It must be remembered that no single type of training aid is sufficient for the great majority of lessons.

Models have a variety of uses. Some of the most important are to substitute for the actual object which is difficult to get or to use in a teaching situation, to show or explain the operating principles of a complex mechanism, to give a complete view of a structure or a process, and to give preliminary practice in a skill or to determine aptitude for learning.

A model should be --

a. A convincing representation of the actual object
b. Of suitable size for teaching purposes
c. Durable in construction
d. Convenient to handle²¹

Imagination, ingenuity, and skill are needed in order

²¹Ibid., p. 200.
to construct models and to discover those phases of teaching in which models are to be used. Many models are easily built from scrap materials ordinarily thrown away. Because each type of working model involves special problems, no general suggestion can be made except that skillful execution and accuracy are necessary.

Maps show areas and distances graphically and at a reduced scale so that they can be readily understood. An aerial photograph can show the size and location of important features of topography in a combat area designed for study and is essential in planning offensive and defensive tactics. "In military training, maps are essential to illustrate tactical and logistical principles, formations, and maneuvers."

Reading of maps is discussed in FM 21-25 and 21-26 and is presented visually in TF 5-12 and FS 5-1. The instructor who uses maps in his teaching is to be familiar with these materials.

Maps or charts are hung on the bulletin board or on the front wall of the classroom. They are to be easily seen by each student.

There are several types of maps:

1. Large maps can be drawn or displayed on cardboard and placed on walls of the classroom.

\[22\text{Ibid.}, \text{p. 206.}\]
2. Small maps are very handy for students to place in their notebooks for further reference.

3. Maps are often projected from film strips.

4. Relief maps can be constructed from some durable material and kept for further use, or temporary ones can be modeled on sand tables.

5. Globes are the only accurate means of presenting the relative sizes and locations of large areas of the earth's surface.

An effective map should be simple, visible, legible, and accurate. It should be drawn with care and with attention to its appearance and design.

The opaque projector is used to project maps, photographs, diagrams, or other non-transparent pictorial materials. A projected picture image is often copied for use as a chart.

Charts are visual representations of situations, facts, or objects for summarizing, for making comparisons, or for showing developments and quantities. The drawings should express the thought so clearly that only a few words or figures are necessary. "Charts and diagrams of enlarged details or sections of complex mechanisms frequently tell the story more vividly than the actual object."23 T F 7-295 demonstrates the use of "strip-tease" charts. These charts are covered with strips of paper so arranged that at the

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23 *Instructor's Guide, F M 21-100, War Department, Figs. 4, 13, 14, 28, 73.*
proper time in the lesson the instructor can remove one strip of paper, thereby exposing the pertinent point. This focuses attention on one important part at a time. The instructor draws temporary charts on the blackboard.

The most common types of charts are defined below:

1. The table chart is used in many kinds of numerical and statistical tabulations showing a great many facts in orderly form.

2. The organization and flow chart shows how the parts of an organization are related to one another.

3. The bar chart gives a visual comparison of quantities. It is made up of a series of bars of different lengths in proportion to the quantities they represent.

4. The area diagram shows relative quantities by means of differences in the size of areas representing the quantities.

5. The line graph is a curve or line drawn on a system coordinated on a grid, with each line of the grid designating a unit of time or value.

6. The pictorial chart shows objects or quantities by means of pictorial symbols.

The officer in charge of the training aids will have a complete list of those charts available at the training center. He will get information on those charts that can be procured.
Illustrations make a definite contribution to any training program. The illustrations are to be both humorous and serious.

Human-interest posters are quite valuable in military training. The placement and arrangement of posters is very important.

Posters are most useful when hung in mess halls, barracks, post exchanges, and recreation centers. Displayed in such places, they offer an efficient means of insuring that students will continue to learn the fundamentals of military practices even when they are not undergoing formal instruction.\(^{24}\)

A humorous story enlivens a discussion or lecture. Humorous cartoons are a means of motivating students through appealing to their sense of humor. They attract and hold the students' attention while a major point in a lesson is explained.

Illustrative drawings often bring realism and variety better than verbal description. Illustrations that are large enough to be seen are placed on the wall; smaller ones are projected on a screen. Soldiers are proud of good paintings or drawings of military life.

These visual aids are to be related to the training program, must tell their story clearly and forcibly, and should be well designed and colorful.

The use of training films and film strips as instructional expedients in Army training programs has brought about many improvements in teaching procedures.

\(^{24}\)Army Instruction, T M 21-250, War Department, p. 219.
Their use has made it possible to teach in the classroom many phases of military training which otherwise would require extensive equipment, special situations, lengthy rehearsals, and considerably more time. Procedures can be demonstrated at normal speed or in slow motion so that every member of the audience can see exactly what is taking place.\(^{25}\)

Films are always to be chosen so they will be an important step in attaining the objective. They are to be used when they will help with the training situation better than any other device or method.

Additional printed training aids can be prepared under the direction of the training officer. These may be sheets of directions or information, illustrative materials for walls or bulletin boards, or duplicated bulletins. These aids should be illustrated as fully as the need requires. Lifelike situations should be impersonated as far as practicable.

**Literacy Training**

The objective of the literacy training program in the armed forces is to train the men to read and write basic English, so that they will be able to interpret orders. "This program aims to develop abilities which will enable men to read and understand simple materials encountered in everyday life."\(^{26}\) The skills taught are usually those emphasized in the first four grades of American public schools.


\(^{26}\) Instructor's Guide and Lesson Plans for Literacy Training, E M 162, War Department, p. 1.
The program gives attention to the basic skills in reading, spelling, arithmetic, and elements of handwriting.

Several instructional books and workbooks have been developed for use in this program. They are as follows:

Meet Private Pete, E M 160, is the basic textbook around which the entire program is organized. Learning to Read, E M 160, is a workbook to be used with the basic reading text.

Arithmetic for Every Day Life, E M 163, is a textbook which presents and develops the concepts and skills in arithmetic which the adult needs in solving simple problems met in civilian life.

Instructor's Guide and Lesson Plans, E M 162, includes all suggestions, recommendations, and lesson plans for the literacy program.

Flash cards are designed to aid the student in acquiring a basic sight vocabulary.27

Every soldier who needs to learn to read and write is enrolled in this program. These men may be located by their commanding officers or by the various tests they have taken.

The schedule for training these men is brief and comprehensive. Three hours per day is devoted to reading and arithmetic; this work is divided into two four-week courses in both subjects. The first course provides work of the primary grade level, while the advanced course uses the type of materials usually presented in the intermediate grades. Two hours per day is devoted to reading and one to arithmetic. Two hours daily is used for physical education and military training. One hour per day is left free for electives such as shop work or other technical courses.

27Ibid., p. 1.
Good teaching depends to a large extent upon careful planning.

The efficient use of available time requires a careful analysis of each lesson. Without careful lesson planning, the value of the instruction received will never be commensurate with the time used. 28

For an example of the development and use of instructional materials, the textbook, *Meet Private Pete*, EM 160, may be used. The central character is Private Pete, but other typical soldiers are with him. This reader is divided into four parts. Part I presents these men throughout their last day in camp. Part II tells about their activities on shipboard. Part III relates experiences the men have in New York City and other large towns on their way home. Part IV tells about Private Pete being at home. It is through these four parts that the vocabulary of every-day life finds expression.

As the story continues throughout the textbook the vocabulary in the sentence structure is increased in complexity, pictures and other illustrations are used less frequently, and more reading material permits the use and development of the more complex reading skills.

There are about 1,400 words used in *Meet Private Pete*. Level I uses 283 different words; on Levels II, III, and IV there are 312, 394, and 411, respectively.

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These words are presented first on flash cards for recognition and then on the blackboard for further study in spelling and writing. The emphasis is upon the recognition and meaning of each word as it is used in the text.

Forty lesson plans have been made. The following steps are employed in each lesson:

1. Reading the textbook and studying the illustrations.
2. Using flash cards and other devices for introducing new words.
3. Using the textbook.29

Repetition of old words is used in connection with the reader, workbooks, and flash cards. Additional cards are used, including the various forms of some of these words. Students must proceed rapidly if they are to acquire a vocabulary sufficient for practical use. Efforts have been made to provide the necessary repetition and reviews to insure their mastery and retention.

Armed Force School Regulations

The necessity of school regulations in the armed-force schools is imperative. In considering the great number of men who are trained simultaneously, it is easy to understand the difficulties encountered. It is necessary that each man be informed as to his exact duties, and warned that he will encounter disciplinary action if he does not perform his duties as a soldier.

29Instructor's Guide and Lesson Plans for Literacy Training, EM 162, War Department, p. 25.
Circulars and school memorandums are made available to the soldier as often as it is necessary to inform him of his duties and bring him up to date on changes so he may adjust himself to the Army post and school routine.

Quoting from Circular Number 10-1, published by the Academic Department, AAFTS, Sheppard Field, Texas, June 5, 1942, we find the following regulations:

Conduct: a. Attendance -- Attendance check will be made by the group instructor of each class. He will check the squadrons as to the cause of absences. There will be no absence from class for reasons other than sickness except in cases of emergency, and these only upon application through the Senior Instructors to the director of the Technical Training. Weekend passes or cross country flights will not be made without the approval of the Director, which officer will not approve such requests when there appears to be any doubt as to the probability of the student being able to return at the time specified in the request. Passes for students contemplating return after 11:00 P. M. of the night preceding a school day will not be approved except in case of emergency. Absences from the Post for periods in excess of twenty-four (24) hours, even over holidays, must be covered by a pass.

b. Punctuality -- Punctuality is a military duty. Tardiness on the part of the student will be made the subject of disciplinary action. Due to the limited period available for instruction and the extent of the subject matter to be covered, all the students will be punctual in their attendance at class. Any student absent from class roll call will immediately, upon arrival, report to his instructor.

c. Absences -- Students absent [from class] for three or more consecutive days will be transferred to "Awaiting Further Instructions" status. If reassigned to school upon their return to duty, they will be enrolled in the next class, entering the phase of instruction in which their attendance was below requirements, unless, in the opinion of the Division Director concerned, their school standing
is such that they can readily make up the lost time, in which case they will be re-enrolled in their original class. Students reassigned to the Department from "Awaiting Further Instructions" or returning from emergency pass or furlough will report to the Personnel Sergeant, Academic Department. Students answering sick call will determine definitely and without misunderstanding by inquiring of the Medical Officer to whom they reported, whether or not they will return to duty, and will act accordingly. If they are instructed to remain in the barracks, they will obtain a written statement from the Medical Officer. Every student will have knowledge of proper procedure from regulations and from squadrons.

d. Class Room Discipline -- At all times, while in the school, students will conduct themselves in a quiet, attentive, and military manner. Instructions issued by either civilian or enlisted instructors carry the full import of direct orders of the Director of Technical Training, and will be respected as such. Students will report for class in such mental and physical condition that they may take the best advantage of instruction being given. Any student creating a disturbance in class, or who is for any reason in no condition to receive instruction, will be reported by his instructor through channels to the Director of Technical Training, who will recommend appropriate disciplinary action. No time during school hours will be devoted to personal affairs.

e. Studying -- All students will devote themselves to their lessons by close attention in class room and laboratory and diligent application, so that the most may be gained from the course in which they have been privileged to enroll. Too much stress cannot be laid upon the opportunity offered by this school to enlisted men desirous of increasing their technical knowledge along the lines of skilled material. If any student should have difficulty in meeting the scholastic standards after having made a conscientious effort to master the subject, he will consult the Senior Instructor for advice. All instructors will make every effort to aid in such cases. Students making failing grades will be required to attend the mandatory study period provided in each organization.

f. Marching -- Students will be marched to and from school as a military formation and in a military manner. Instructors will march students to and from
mess. Class leaders will march students to and from barracks areas. In each case, the march commander will be held responsible for the discipline of the marching column. In case of fire or disorder, instructors will be in charge. Students are advised that they are in a military school, to be conducted as such, and will conduct themselves accordingly.

g. Smoking -- Smoking in school hangars, laboratories, shops, class rooms, lavatories and hallways is prohibited.30

Armed-force Method of Instruction as Found in Available Literature

The purpose of this study is to show the method of instruction in the armed forces as found in available literature.

Is there a "G. I." method? Raleigh Schorling answers this question as quoted:

No, in the sense that there is little in the training program which has not been advocated time and again in professional literature and practiced by teachers and administrators in civilian schools in one place or another.

The answer is yes, in the sense that there is a general pattern or method which is official in the Army and widely practiced by instructors in the Armed Forces.31

The educational program of the armed forces started out in its infancy at the beginning of World War II. The trial-and-error method was employed to improve the techniques of instruction which resulted in many radical changes. The program was gradually streamlined to train personnel most

30 Circular Number 10-1, Academic Department, AAFTS, Sheppard Field, Texas, June 5, 1942, pp. 1-2.

31 Schorling, op. cit., p. 83.
effectively in the shortest period of time.

The armed services, educators, and industry cooperated to bring together outstanding men who were specialists and well trained with experience in their own field, to set in motion the greatest army in history. They improved ability and aptitude tests, expanded them, and put them to work sectioning men to the right jobs. They condensed the subject matter of outstanding textbooks to get the essential facts needed for training the men.

The most important steps in determining a man's assignment in the Armed Forces were his abilities and the military needs. Personal choice was sacrificed in the fast program of building the Armed Forces.32

The teachers are given ample time to prepare for the small classes of which they have charge.

The Armed Forces limited their classes to the smallest number consistent with availability of materials and instructors. It was deemed more effective to conduct four classes of twenty-five members each with four mediocre instructors than to conduct one class of one hundred with an expert instructor.33

Assistant instructors were employed so the class could be reduced to a smaller size. The teachers have an abundance of materials, especially learning aids with which to provide realism. They prepare the minds of the student for the new subject matter before the subject is introduced.


The objective of learning is always combat. The instructor prudently emphasizes this object when introducing a new subject. The student sees a reason for learning and the instructor furnishes the situation or knowledge. These teachers are constantly supervised to make sure that they are putting forth their greatest effort toward carrying out their part of the definite program. They are rated by the proficiency of their students in the field. If the students perform their maneuvers correctly, the instructor is commended. If the student performs his task incorrectly, the instructor is corrected or eliminated, that is, if it is found to be the instructor's responsibility.

Robert Wilson shows as follows how instructors are rated:

The Army rated its instructors. Perhaps the rating scale would not be approved by critical educators. Once again the yardstick was merely results. If the troops performed correctly in tests, maneuvers, or on the battle field, then the instruction was correct. Instructors despised the examinations and the examiners; they cried, "Unfair," "Prejudice," and "Impractical," and incompetents were fired. But desired results were achieved.34

In the presentation phase of instruction, the training program was simplified to prevent waste through careful planning.

Raleigh Schorling gives his conception of the methods used in presenting the subject matter:

34Wilson, op. cit., p. 176.
Brief lectures, talks, demonstrations, illustrations, conferences, and discussions made the instruction unique in that the teacher proceeded to provide experiences and subject matter to achieve specific goals in much the same definite manner that a flight engineer performed his mission. He knew where he was going and he knew what he was going to do when he got there. Finally, the presentation step was unique in that it represented a conscious effort to utilize sense experience through a learning aid especially designed to make the learning of a specific thing easier and more effective.35

The application may involve demonstration and drill in practical work simulating conditions in the field. The key phase is "learning by doing," and the techniques in addition to individual student performance and group performance often include coach and pupil method. The Army borrowed the "learning by doing" technique from progressive educators and applied it to all phases of training. Lectures are held to a minimum. After the soldier gains an understanding of the method of procedure for accomplishing a task, mastery is achieved by the simple method of constant repetition, a teaching method that does not meet the approval of modern educators.

Correct habits are encouraged from the very beginning of military instruction. The instructors make corrections as soon as mistakes are made, thus never allowing wrong habits to persist for even a short space of time. By this method less time is required for the correction of faulty habits. The error of one individual or one small unit is

35Schorling, op. cit., p. 86.
discussed in the presence of others, so that they will profit from this example. Quoting from Robert Wilson:

An entire regiment would be halted on its maneuver problem, errors pointed out, and the problem started over. Also, the error of one soldier or one small unit was discussed in the presence of all.36

Forced learning is used by the armed forces because of the short time allowed in the training period. Robert Wilson gives a short interpretation of forced learning:

The Army forced men to learn. The emergency did not permit them to wait patiently for a pupil to say, "Now I am ready, teach me." A trainee was told what to learn. If he balked, if he appeared apathetic, or if he protested the subject matter was beyond his capacities, he was not coaxed or soothe, or allowed to fritter in fluffy subjects. He was given punishment -- punishment in the form of extra training, fatigue duties, and withholding of privileges. He learned soon enough.37

The armed services give recognition for a job well done, and rewards by commendation and privileges. Initiative and effort are constantly publicized as desirable traits, and men who have these outstanding qualities are promoted to assume responsibilities.

Competitive spirit is a valuable technique of the armed services for encouraging effort and the desire to learn. They go to the extent of encouraging the soldier to boast that he and his regiment are the best.

Audio-visual aids are pressed into service so that men can learn quickly, learn with all their senses, and learn

36 Wilson, op. cit., p. 175. 37 Ibid., p. 176.
more through each sense. All these experiments are combined into a compact training system and set in motion. Although the results are revolutionary, the audio-visual educational system as used by the armed forces contains little that is new. Most of its elements such as films to explain the workings of intricate machinery and recordings for language instruction have been standardized in classrooms for years, though never employed to a degree remotely approaching their use in the armed forces today. The Army recognized early the effectiveness of sight learning and took advantage of this quick, painless way to the fullest extent.

C. M. Horn gives statistics on the use of training aids as follows:

Tests show students learn thirty-five percent more in a given time and remember fifty-five percent longer when training aids are used. Research shows students learn eighty-five percent with eyes, ten percent with ears.38

Whatever is to be mastered is to be learned in its natural setting, or in a situation that is staged as close to the real situation as possible. The development of audio-visual aids which provide realistic learning situations consists of:

Films (movies and slide films -- both sound and silent), two dimensional graphic devices (photographs, posters, cartoons, diagrams, scale drawings, maps, charts, graphic portfolios, etc.), three dimensional

38 C. M. Horn, "Interpreting G. I. Education," School Executive, LXV (November, 1945), 49.
objects (models, mock-ups [39], sand tables, dioramas, terrain models, real objects, etc.), auditory aids (phonograph records, devices simulating sound, etc.), special devices (mock-up of a pilot's compartment, Link Trainer, model topography, classrooms, miniature planetarium, globe with blackboard surfaces, pinball machine, etc.), printed materials (books, manuals, bulletins, pamphlets, periodicals, etc.).

Posters, cartoons, slogans, and suggestive illustrative materials are placed on the walls of classrooms to help impress the main ideas of the unit being taught. If the correct method is still not clearly established in the learners' minds by the use of these audio-visual aids, it is then demonstrated by trained crews.

The Army utilizes "functional" materials and methods of instruction. These materials grow out of the experiences of the men, and are designed to parallel their needs whenever possible. They test their acquisitions through practical and varied applications.

Paul Witty names three tests and gives their uses:

The objective test the Army used, enabled the men to be placed effectively.  
Check tests were used for guidance.  
End tests were used to ascertain the soldier's readiness of assignment to a specific job or his needs for further training. [41]

The review and critique method is used to clarify all remaining questions through conferences, review sessions, questions and answers, and demonstration of right and wrong

[39] "Mock-up" -- a mechanical object or device used as an aid in teaching.

[40] Schorling, op. cit., p. 85.

procedures, and to devote a brief part of the period in which instructors and students point out what is wrong and what is right.

The training of illiterates by the armed forces is successful in that these men are taught the essentials of reading and writing in a very short period of time. Paul Witty says:

Surveys have shown that one man in seven in the United States (13.5 percent) is functionally illiterate.

Illiterates were taught rapidly. This accomplishment offers a striking example of the value of a highly motivated "functional" program of education.42

The technique of teaching a foreign language is divided into simple steps. The class listens to a phonograph as a child listens to his first words. Each student has a guidebook to compare the written version with what the speaker says. In this way, the student can obtain a double mental impression. After a few minutes' work with the records, the teacher asks the student simple questions. All discussions are in the foreign tongue. In ten to twenty hours of work the basic words and phrases are learned, and the students are thinking not in terms of translation but in the language itself.

Summary

The Army program has demonstrated the capacity of the

42 Ibid., p. 283.
masses for learning, and it has renewed our faith in education. A tremendously effective job in training has been accomplished in a very short period of time. Courses have been streamlined and geared to job analysis, programs have been accelerated, and learning has been speeded up. In streamlining the teaching, the armed forces have corrected many of the time-honored but questionable educational practices of placing all students in the same class regardless of their aptitudes and intellects.

The Army and Navy developed their training-aids programs that are so strikingly similar without much cooperative planning. It is significant through its implication that each agency of armed force was compelled under the pressure of time to find more effective ways to teach the things that had to be taught in a short period of time. The basic assumption underlying training aids is that learning and clear understanding stem from sense experiences. Whatever is to be mastered is to be learned in its natural setting, or in a situation as close to the real situation as possible.

The spirit that dominated our war effort can be summed up in the Army slogan, "The impossible we do at once; the miraculous takes a little longer."
<table>
<thead>
<tr>
<th>Wrightstone's Traditional Practices</th>
<th>Armed-force Practices</th>
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<tbody>
<tr>
<td>1. Used a restricted form of social life in the classroom.</td>
<td>1. Uses a restricted form of social life as the trainee's experiences.</td>
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<tr>
<td>2. Used the theory that the quickest and most thorough method of learning the subject matter was to allot a certain portion of the school day to instruction in separate subjects.</td>
<td>2. Uses the theory that the quickest and most thorough method of learning the subject matter is to allot a certain portion of the school day to instruction in separate subjects.</td>
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<tr>
<td>3. Disregarded the student's interests in organizing the courses of study.</td>
<td>3. Disregards the student's interests in organizing the courses of study.</td>
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<td>4. Were concerned with teaching subject matter.</td>
<td>4. It is concerned with teaching subject matter and skills.</td>
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<tr>
<td>5. Taught conventional subjects to acquire social progress.</td>
<td>5. Teaches the trainee a subject so that he will be able to perform a direct task.</td>
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<tr>
<th>Wrightstone's New Practices</th>
<th>Military Methods</th>
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<tr>
<td>1. Has a democratic form of social life in the classroom.</td>
<td>1. Has a restricted form of social life in the classroom.</td>
</tr>
<tr>
<td>2. Has a flexible curriculum to fit the needs of individual students.</td>
<td>2. Has a definite curriculum to teach subject matter.</td>
</tr>
<tr>
<td>3. Stresses the dynamic organismal-environmental concept of learning.</td>
<td>3. Uses the mechanistic stimulus-response concept.</td>
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<tr>
<td>4. Promotes interests and powers by stimulation of practical activities.</td>
<td>4. Promotes interests and powers by stimulation of practical activities.</td>
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</table>
Wrightstone's New Practices  
5. Tends toward incorporating the practice of intelligent living.  
6. Incorporates realistic problems and creative solutions.  

Military Methods  
5. Tends toward mastery of specific facts.  
6. Incorporates realistic problems and creative solutions.  

The armed-force methods of instruction are similar to the traditional methods of instruction. Both methods use a restricted form of social life in the classroom, and are concerned in teaching subject matter. Individual interests are ignored and it is assumed that all students have the same problems.

The armed forces by necessity formulated their objectives toward victory, so they prepared a definite procedure for solving a given problem. The military compelled men to learn due to the short period of time for training.

Discipline and drill were enforced so that large groups of men could be controlled as one unit, and directed by a central command.
CHAPTER III

ANALYSIS OF METHODS OF INSTRUCTION IN CIVILIAN SCHOOLS

The purpose of this chapter is to summarize methods of teaching in the civilian schools.

The five outstanding methods of teaching that have been used during the last five decades are:

1. The Herbartian five formal steps (1900-1920).
2. The problem (1920-1930).
3. The project (1920-1930).

No theory of method has completely monopolized the field at any one time, and the periods of popularity and decline for each of the five theories are fairly well equalized. This indicates that the picture of progress in educative method is similar to that in other fields of gradual progressive development.

The Herbartian Five Formal Steps

During the latter part of the nineteenth century the great German philosopher, Herbart, stressed the four essentials in the learning process: "clear apprehension by the
pupil of each individual fact; association or comparison of the facts; systematizing and classification of the facts into concepts; 'method' or the application of the knowledge learned. 1

Leading educators of the nineteenth century brought the familiar divisions into general use. The five steps are defined as follows:

1. **Preparation.** Preparing the pupils' minds for the reception of the new lesson, arousing interest and purpose.

2. **Presentation.** Setting forth or presenting the facts of the new lesson. This was done entirely by the teacher before textbooks were available for students, but later was supplemented by the text.

3. **Association or comparison.** Relating new ideas to those already in the mind of the pupil. This should be directed to well-associated and systematized knowledge.

4. **Generalization or abstraction.** Deriving the abstract or general notion from the concrete particulars, stating the general principle in the specific terms, and relating it to previously acquired knowledge.

5. **Application.** Making use of this knowledge; applying the general principle to a practical situation. 2

These basic methods of teaching serve as the foundation for the newer methods of teaching which are used in our schools at the present time.

**The Problem Method of Teaching**

The outstanding feature of the problem method is the

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1 Johann Frederick Herbert, *Outline of Educational Doctrine*, p. 55.

degree of objective attitude which can be aroused from the subjective attitude which must be its preliminary. When students have a problem, they will find materials which will aid in the solution of the problem.

This psychology is based on the nervous system. This nervous system consists of a series of five elements, sense organs, sensory nerve, brain, motor nerve, and muscle. A complete act involves all five. Reflex and instinctive acts do not require thinking. Habitual acts may dispense with thinking. New situations however cannot be met by reflex, instinctive, or habitual reactions. The new problem requires thought for its solution. The brain suspends the activity of the series of the five elements until the right action is thought out. Once thought out, the series is restored and the act follows. If the right result follows, the problem is solved. But it takes a complete act to get a complete experience. Only the complete experience can test the value of the thought. That is why we learn by doing. The problem, therefore, calls for a new form of action, and thinking is the means of establishing this new form of action.3

The problem method was designed to develop within the pupil the ability to do critical thinking.

The Project Method

The problem method too often left an activity in the abstract stage.

Stevenson says that the project method is "a problematic act carried to completion in its natural setting."4

Miller says, "Education is a process of continuous

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4J. A. Stevenson, The Project Method of Teaching, p. 43.
interaction between child and curriculum."

In the project method the role of the teacher is a varied one. He is leader, chairman, judge, adviser, sympathetic listener, chief performer, examiner, guide, or friend, as the occasion may require. The teacher often finds it necessary to keep the student active in the right direction by opening new fields of interest, which will keep the student's interest intact.

A thoroughly motivated problem is not a project. The problem may be solved in thought only, while the project requires the completion of some objective piece of work based upon a problem or a series of problems. The difference is that the problem solution may end in thought, while the project can end only with the successful completion of an objective unit of work.

The Unit Method

Since the modern methods of teaching were becoming more scientific, a need was developed to restrict the scope of the project method, which was too broad to fit the needs of a changing curriculum.

Morrison wrote:

The teaching problem hangs upon the selection of the unit, upon the critical insight which distinguishes the teaching unit from more topical collections of incidents and masses of historical material which

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5Irving E. Miller, *Education for the Needs of Life*, p. 47.
cannot be focused upon any particular understanding.\textsuperscript{6}

The unit method did not replace the former methods but built upon them, by enlarging on their objectives. The unit method of teaching encourages the student to take the problem-solving attitude. This serves as a challenge to the pupil. This situation is activated by orientation which promotes discussion and questions. This stimulated interest determines the individual pupil's tasks. The directed-study period is the working-out section where pupils use the laboratory technique. The teacher acts as a guide and helper in directing the study of each pupil. All the individual projects culminate for an emerging unity.

Smith explains that the learning situation, to be true to the ideal of integrated sequence, must meet the following conditions:

1. It must revolve about the problems which are germane to youth.
2. It must be concerned with vital and crucial aspects of the world in which youth is learning to live.
3. It must call for dynamic and creative behavior on the part of the learner.\textsuperscript{7}

In every school task, intellectual, emotional, and volitional processes play a part, each being necessarily involved; hence methods of instruction that ignore any one of them lack vitality and the normal reality of life.

\textsuperscript{6}Henry C. Morrison, The Practice of Teaching in the Secondary School, p. 189.

Miller says:

Education is becoming more and more thoroughly committed to the idea that its function is to minister to the growing needs of children rather than compel them to learn bodies of fact selected for them wholly from the adult point of view.\(^8\)

The teacher is compelled to keep in mind the individual pupil's needs and growth when the pupil is directed or influenced from unit to unit of work. It is possible for the teacher to defeat his own purpose if the units do not have interest sequence and fail to cause pupil motivation.

Creative Learning and Teaching

"The purpose of the creative learning is to inject new life into the inadequate methods."\(^9\)

The principles of creative learning and teaching have exerted a powerful influence in shaping trends in methods for the past several years. Educators have come to realize that educational opportunity and integrated units in the modern activity program are not sufficient to meet the demand of growth in pupils. Rather, pupils should be identified with their unit activities so that creative attitudes shall result.

Creative learning faces the future rather than the past. It is a continued and steady process of growth. The results of the creative method are not the finished product

\(^8\)Irving E. Miller, *op. cit.*, p. 83.

\(^9\)Harry Lloyd Miller, *Creative Learning and Teaching*, p. 6.
of the pupil, but the subject changes wrought in his life experiences.

The creative method bridges the gap between education as it is and education as it should be in this scientific and creative age.

Creative work as a method of teaching and learning may be successfully undertaken in any school subject in which unit procedures are applicable. As each method of teaching follows a definite pattern of successive steps, so does the creative method follow four stages: preparation, incubating or extension, illumination or inspiration, and verification.

The unit method involves not only the organization of the materials, but also the method of presenting them to the pupils, and evaluating the degree to which the outcomes were achieved. Various techniques of teaching may be employed, but most teachers use some form of the laboratory technique. The first phase involves an overview or orientation of the entire unit. The pupil gathers his material on the basis of a common research pattern followed by every attempt to discover a cause or effect. In the second stage, the pupil elaborates, under the experienced watchcare of the teacher as guide, the raw material gleaned in the previous stage. In the third stage, the pupil catches gleams of light which indicate the ultimate direction the
creative process will take. Quite often a considerable period of time for maturing must elapse to bring this about. In the fourth and final stage, the pupil subjects the evidence of his originality to a systematic reasoning process. This culminating activity is designed to unite all the phases into a unified whole, and thus proves whether the student has crowned his imaginative efforts.

Bent and Kronenberg say:

Units should be organized around some nucleus which becomes the point of view, central theme, or center of interest. After the central theme is determined, activities are selected which advance or make a contribution to it, regardless of the conventional division of the subject matter in which it belongs.10

A general outline for developing a course of study as given by Smith, Stanley, and Hughes is quoted below:

I. Introductory statement
   1. Grade level intended
   2. Status; required, elective
   3. Time allotment
   4. Suggested individual and group differentiations
   5. Suggested general procedures for effecting interrelationships with other areas

II. Proposed contributions to the educational program
   1. General education objectives
   2. Specific school objectives

III. Units of work
   1. Contributions of each unit to the objective
   2. Suggested procedures for each unit
   3. Suggested time allotments for each unit
   4. Materials of instruction for each unit
      a. Basic content
      b. Supplementary materials
      c. Interpretative materials
      d. Collateral sources

5. Suggested individual and group differentiation for each unit
6. Specific procedures for interrelationships with other units
7. Variety of sequence of units
8. Suggested motivational procedures for each unit

IV. Suggested means for evaluation
1. The measurement of pupil progress and development
2. The appraisal of the effectiveness of the unit from the point of view of the teacher (to be completed by the teacher as a report to the production committee)
   a. Pupil accomplishments and failures
   b. Relation to individual pupil interests and needs
   c. Adequacy of time allotment
   d. Suitability of grade or group placement
   e. Relation to previous units in course of study
   f. Changes recommended

The school curriculum is organized into two divisions: the subject curriculum and the experience curriculum. The subject curriculum is made up of subjects taught in our schools. The experience curriculum is made up of the life experiences, activated by pupil interest; hence each student obtains a more adequate understanding of the social culture and of group life. The purpose of the schools is to correlate and unify the subject and experience curriculums so that they will be closely related to individual life experiences.

L. Thomas Hopkins gives the characteristic differences in emphasis between the subject and experience curriculums:

M. M. Smith, L. L. Stanley, and C. L. Hughes, Junior High School Education, pp. 221-222.
Subject Curriculum

1. Centered in subjects.
2. Emphasis upon teaching subject matter.
3. Subject matter selected and organized before the teaching situation.
4. Controlled by the teacher or someone representing authority external to the learning situation.
5. Emphasis upon teaching facts, imparting information, acquiring knowledge for its own sake or for possible future use.
6. Emphasis upon teaching specific habits and skills as separate and isolated aspects of learning.
7. Emphasis upon improving the method of teaching subject matter of specific subjects.
8. Emphasis upon uniformity of exposures to learning situations and in so far as possible uniformity of learning results.
9. Education as conforming to the patterns set by the curriculum and its various associated instruments.

Experience Curriculum

1. Centered in learners.
2. Emphasis upon promoting the all-around growth of learners.
3. Subject matter selected and organized cooperatively by all learners during the learning situation.
4. Controlled and directed cooperatively by learners (pupils, teachers, parents, supervisors, principals, and others) in the learning situation.
5. Emphasis upon meanings which will function immediately in improving living.
6. Emphasis upon building habits and skills as integral parts of larger experiences.
7. Emphasis upon understanding and improving through use the process of learning.
8. Emphasis upon variability in exposures to learning situations and variability in the results expected and achieved.
9. Education as aiding each child to build a socially creative individuality.
Subject Curriculum | Experience Curriculum
---|---
10. Education considered as schooling. | 10. Education considered as a continuous intelligent process of growth.\textsuperscript{12}

Hopkins gives strategic suggestions concerning the implications of the curriculum:

1. The curriculum must be concerned with aiding individuals to improve their life and living.
2. The test of improvement lies in the integrating effect upon behavior.
3. The center of improvement is in the process of interacting within which lie the evolving ends and means.
4. The process should lead to action increasingly based upon critical thinking.
5. All learning is essentially creative experiencing in which the learner, under guidance, evolves goals, formulates and executes plans, evaluates results, and incorporates accepted learning into his value and attitude system to act with and upon in subsequent experiences.
6. The refinement of meanings, values, and attitudes is essential to increasingly intelligent behavior.
7. Meanings, values, and attitudes are best developed, tested, and refined in the matrix of social reality.
8. Social situations which an individual is unable for any reasons to act upon intelligently become psychological unrealities and tend toward disintegrating behavior.
9. Study is managing a situation better to deal with it more intelligently.
10. Since life is changing and individuals are growing in ability to manage it, a curriculum cannot be fixed in advance, but must be as flexible as possible as in intelligent living.
11. Each individual must find the curriculum a means of aiding him to meet with increasing satisfaction his biological, social, and self needs; otherwise thwarting emotions imimical to integrative behavior will result.
12. The curriculum of each individual must be kept at all times within the potentialities of his inherited nerve and endocrine mechanisms.

13. Adults must grapple more vigorously and thoughtfully with all aspects of the culture in order to change the conditions which prevent the growth of intelligent behavior of children. The experience should be shared by children whenever, wherever, and to such degree as will promote their integration.

14. In all behavior, the organism acts as a whole to serve ends of the whole.

15. All organic behavior is purposive; all conscious behavior is purposeful. The stimulus value of a situation is not inherent in the situation, but in the relationship between it and the satisfaction of a purposeful goal.

16. Effort implies strain toward an end. It increases with the purposefulness of the goal and decreases with the purposelessness of the goal.

17. Success is continuing more intelligently the process of interactive adjusting.

The fusion of courses in the development of courses of study is popular in many of our schools. The term "fusion" is usually referred to as correlation, integration, activities, projects, units, themes, and the like. The process of fusion has greater frequency in intermediate grades and can also be found in the junior high school level. It appears almost exclusively in the social-studies and science areas.

Hopkins gives a summary concerning fusion as described by Wilson as follows:

1. Only such material as has direct value in developing in pupils intelligent understandings and tolerant, cooperative appreciations fitting them to engage in the activities of the life of the time shall be taught.

2. Selected subject-matter in the social studies must be organized in units of experience,

psychologically appealing and learnable, and corresponding as closely as possible to life situations.

3. Traditional subject boundaries shall be ignored in the construction of the social-science curriculum; subject fields not only fail to achieve the purposes of education but interfere with the selection and organization of a curriculum which will achieve these purposes. The current problem rather than the subject fact is the heart of a functional unit.\textsuperscript{14}

The necessity for planning the daily lesson is imperative. Schorling gives seven suggestions that are used in a good lesson plan:

1. Purpose: Formulate (a) the teacher’s (b) the pupil’s
2. Activities: Include (a) the procedures employed (b) the blocks of subject-matter
3. Time budget: State the approximate time you expect to devote to each phase of the lesson
4. Illustrations: Be sure to include a sufficient number
5. Questions: State a few questions that determine and unify the activities
6. Assignments: Make it clear and specific
7. Appraisal: Guide the pupil to a realistic self-appraisal\textsuperscript{15}

Units are divided into subject-matter units and experience units. The subject-matter units pertain to the subjects as they are organized into units. The experience units lie in integration which the individual accomplishes for himself in relation to his environment through the experience.

L. Thomas Hopkins gives the characteristics of a subject-

\textsuperscript{14}\textit{Ibid.}, p. 205.

\textsuperscript{15}Raleigh Schorling, \textit{Student Teaching}, p. 102.
matter unit:

1. The unit is prepared in advance of teaching it, or in advance of learning the subject-matter by pupils.
2. The subject-matter of a subject unit is always prepared in retrospect.
3. The subject-matter selected is usually organized from the simple to the complex.
4. Subject-matter units are taught in a relatively short time.
5. Subject-matter units are usually centered in the past.
6. Adults who make subject-matter units usually rely upon books as the resource for teaching and learning.
7. The teacher controls the process, materials, methods, sequence, and final results.
8. The teacher knows the end to be achieved before he begins to teach the unit.
9. The subject-matter units usually close with a backward look.
10. The subject-matter unit is based upon the additive conception of learning.\(^\text{16}\)

Hopkins likewise gives the characteristics of an experience unit:

1. An experience unit begins with a felt need of an individual or group of individuals.
2. The viewpoint in the experience unit is that of a group of individuals facing a situation, not looking back upon a situation which has already been lived through.
3. In an experience unit the stuff of experience is selected and organized in the process of living in the experience or as the pupils and teacher live through the experience together.
4. An experience unit cuts across subject lines.
5. An experience unit is characterized by a great variety of types of activities of learners.
6. An experience unit is centered in the present, since it always begins with a present need of individuals.
7. In an experience unit there are no fixed learnings which are required of anyone.

\(^{16}\) Hopkins, Interaction: the Democratic Process, pp. 245-249.
8. In the experience unit there is no fixed-in-advance, standardized method of measurement or evaluation.

9. The experience unit reveals new needs to be met and new interests to be explored.

10. The experience unit is organized around the developing purposes of pupils.

11. An experience unit is always written after the experience.

12. An experience unit usually closes with a forward rather than a backward look.

13. The experience unit is based upon the integrative conception of learning.\textsuperscript{17}

In coordinating experience processes with subject-matter units, the individual learner must be taken into consideration in relation to the subject matter to be used.

L. Thomas Hopkins gives suggestions for combining experience processes in subject-matter units:

1. Plan the entire unit cooperatively with the pupils.

2. Use the pupil's needs, purposes, interests, questions, or problems as a basis for study rather than the problems or topics given in the unit.

3. Develop the sequence within the unit through critical evaluation with the pupils of what they have done and what they think is important to study within the time limits allowed for the unit.

4. Use as many resources as possible for learning.

5. Help each pupil find in the unit something which gives him genuine pleasure and satisfaction even though wide individual differences may result.

6. Have pupils cooperatively delegate genuine responsibility to members of the group and hold them accountable.

7. Help the pupils become conscious of the process of learning as they use it in their cooperative planning in this and subsequent units.

8. To build continuously the quality of cooperative interaction, or keep constantly alert for the improvement of human relationships.

\textsuperscript{17}\textit{Ibid.}, pp. 261-269.
9. Aid the pupils to evaluate the unit by selecting the learnings which they wish to keep and designating those which they believe to be relatively slight in value.

10. Check with the pupils the learnings they have accepted with a list of those expected or given as minimum essentials in the unit.\(^{18}\)

The subject matter and activities are selected and organized into teaching units which determine the experiences pupils have under the direction of the school. The next consideration is the orderly arrangement of the units, the care and selection of core materials, the grade-level placement, and the scheduling of all activities.

Bent and Kronenberg give a clear view of the core curriculum as follows:

In order to meet the integrating function of education, some units, activities, and experiences are selected which all pupils should experience. These, when grouped, are known as the core curriculum. The basis for selecting these are the cardinal principles and functions of education broken down into unit experiences all pupils should have. Guiding principles for selecting core curricular content are:

I. On the basis of aims:
   1. Health, physical education, and safety.
   2. Command of fundamental principles of reading, writing, speaking, and arithmetic.
   3. Citizenship training involving civic duties and responsibilities, respect for law and order in an organized society, and an understanding and appreciation of democratic institutions.
   4. Worthy home membership involving family relationships and responsibilities; consumption of utilities; food, and clothing; saving; investing; spending the family income; and making home repairs.

\(^{18}\)Ibid., pp. 269-270.
5. Ethical character involving a sense of moral responsibility, development of ethical standards, ability to determine right from wrong, and the ability to regulate conduct.

II. On the basis of functions:
   1. Integration: Materials should be selected on the basis of unifying and integrating or giving all a certain basic common culture.
   2. Exploration: Pupils should have contact with the various fields of learning. Tryout courses and introductory courses giving an overview of entire fields should be provided.
   3. Proseudeutic: There should be sequential arrangement of units in order that continuity will be maintained and basic skills for subsequent courses will be properly placed.\(^{19}\)

The student should be allowed to select elective courses related to his interests after he has fulfilled the core-curriculum requirements. These elective courses will lead the student into special fields, and by proper guidance the student can cultivate his vocational field, whereby he will be qualified to earn his living among a competitive society.

Motivation is a fundamental step in lesson planning. Student interest is important in attracting the student to the unit. Then the student will make an effort on his part.

Schorling says that pupils will be more interested in the tasks if the lesson is so planned as to provide for the following:

\(^{19}\)Bent and Kronenberg, \textit{op. cit.}, pp. 468-469.
1. Pupil purposing
2. Problem solving
3. Laboratory technique
4. Adjustment to individual differences
5. Variety of procedures
6. Wide participation
7. Sense experiencing
8. Reconstruction of experiences
9. Awareness of success

The stimulation of interest will be spontaneous if there is active student participation.

Crawford points out the integrative implications:

If we want education to function, it is best to start with the present needs, or problems or changes to be made and go from these to the facts, information, data, principles, theories, and abstractions that are needed for guidance in the particular case. If a problem is used as a starting point, information and data will be pulled in as needed; and pulled in from a variety of sources, subjects, fields, and areas of human experience. Thus a truly functional education begins with a job to be done instead of a fact to be known. It attempts to make changes in children rather than to impart knowledge. It seeks to solve difficulties instead of to use information.

The following excerpt reflects the best in creative methods:

No upper limit for any pupil working within the general circle, is a phrase we need to get into action and attach to it a teaching verb that will have no equivocal meaning. No pupil is held back on account of another; no pupil is rushed forward for the purpose of covering ground. Each works in every wholesome way up to his best capacity. Pupils are not segregated; their work is constantly integrated.

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20Schorling, Student Teaching, p. 115.
21Claude C. Crawford, How to Teach, p. 426.
22Harry Lloyd Miller, op. cit., p. 6.
Yoakam and Simpson point out the significant educational outcomes of the creative method:

The most significant outcome of creative endeavor is not to be found alone in the finished product of the endeavor, but rather in the many abilities acquired in producing that product and in the satisfaction derived from the activity. In other words, children develop expert skill through successful practice in creating something. They learn to plan, to compose, to initiate, to undertake, to organize, in fact to develop all those important abilities involved in creative production. The pure enjoyment which children obtain from creating something, even though it be a picture of their teacher, is often a great stimulus to activities of a similar character.\(^\text{23}\)

Our educational system is in the power of tradition and academic prejudice, which have dominated our methodology for so long.

More money is being put into our educational systems; consequently the people are going to expect more for their money. The people are beginning to realize more and more the need of their children's being trained to live in a complex social order in which they seem to be maladjusted.

The process of pupil participation is the motivating force of our modern schools. There are seven characteristics that seem to stand forth clearly on examination of forward-looking work by teachers. The first and most inclusive is the effort to achieve democracy. The other six have to do with needs, the learning process, and methods of

work. They are: use of scientific method, release of creativity, recognition of change as a constant factor in living, individualization, socialization, and organization through a problem approach.

First, democracy, whose purpose is the maximum development of all. This purpose is served when everyone concerned -- faculty, administrators, pupils, and parents -- has an opportunity to share in planning, work, and evaluation.

We turn in the second place to the use of scientific method, so that the hypotheses of both teacher and pupils will be based on all available evidence.

Third, creativity. The development of consciously stated purpose, the use of every resource, especially every human resource available, the unleashing of enthusiasm -- these are characteristics of the artistic or creative approach to life. Planning and work done in this way depend fundamentally upon the attitude of the teacher and the relationship between the teacher and pupil.

Fourth, recognition of change as a constant factor. Only when the school alters units of study, emphases, materials of learning, and method of work from year to year, from group to group, from person to person can it claim to have made concrete its realization that change is eternal.

Fifth, individualization. Through opportunity for students to make choices based on their actual interests, through close attention to the strength and weakness of each member of the class, and through opportunity for each to take a constructive part in his own education, first things are put first.

Sixth, socialization. Only through growing experience can genuine development be made toward the end that human beings recognize the difficulties and uses of mutual dependence. This requires opportunity in the classroom for small groups and for the class as a whole to work together. Through the socializing process of working as a group, of thinking things out together at the start and of evaluating together at the end, come some of the values so woefully needed and so woefully lacking in adult life as it is now lived.

Seventh, the problem approach. The development of a self-critical and self-improving society will succeed or fail according to the skill of people in
that society in discovering what its major problems are and how to deal with them. Thus in the classroom, for the social group there constituted and for each individual in it, that process of education is valuable in which the constant attempt is made to seek the most important problem and the most important aspects of that problem. The very fact that it is so hard to recognize what is the real problem, the fact that when the problem is defined the hardest part of the battle is over, will scarcely be recognized by pupils unless they experience the struggles which come when they must set forth their own problems and apply to them the best thinking of which they are capable. 24

Since no blueprint can be used in teaching, the teacher resorts to general guideposts which indicate directions that have been found good.

An outline analysis of the new curriculum of the Fort Worth Public Schools, which has been in force for the past six years, follows:

It is imperative that the school experience of the child be conceived and planned upon the basis of according due attention to fundamental factors and their relationships.

1. The maturing child living in a dynamic community
   a. Purposes
   b. Interests
   c. Abilities
   d. Needs

2. Necessary processes
   a. Thinking
   b. Feeling
   c. Acting
      (1) Cooperating
      (2) Utilizing a meaningful perspective of the contemporary world

3. Groups of significant ideas
   a. Democracy
   b. Interdependence
   c. Change
   d. Values
   e. Adaptation
   f. Control over nature
   g. Shifting population

24 H. H. Giles, Teacher-Pupil Planning, pp. 72-78.
4. Situations grouped in significant functions
   a. Production  f. Achieving mental
   b. Distribution  and physical health
   and consumption  g. Recreation
   c. Communication  h. Experiencing and
   and transportation  expressing the
   d. Worshiping  i. Learning
   e. Controlling

5. Areas in which the situations are met
   a. Home
   b. School
   c. Community

Since the mind works essentially according to two principles,

(1) Response to an external stimulus, and (2) response to an internal stimulus, the process generally known as association of ideas, it follows that there should be two types of teaching and of teacher, (1) the stimulative, and (2) the associative or reflective. In general, both these types will be found combined in a single personality, but in varying proportion.

The teacher must realize that what is good for one student is not necessarily good for the others. It is necessary to use the psychological approach in determining the interests of individuals, how fast they learn, how much initiative they have, and how much guidance they need. The lesson will be developed with the idea of making it as practical as possible for each individual.

Percival R. Cole says:

25 "A Brief Descriptive Summary of the Curriculum Revision Program in the Fort Worth Public Schools" (mimeographed bulletin).

Lessons which mainly involve action fall into two types, those in which the action is expressive, illustrative or intended to stimulate thought; and those in which it should be reduced to the mechanical plane of habit and skill. . . . A single action may be sufficient for expression; repeated action is necessary for skill.\textsuperscript{27}

Figures 5 and 6 are intended to express, respectively, the purpose, process, and result desired in fostering pupil participation, and the relation of types and sub-types of lessons and units of teaching procedure.

The method of procedure that arouses the pupils to the consciousness of their needs and the worth-whileness of specific things to be achieved will be fruitful of effort. Miller's interpretation is very clear:

Motivation is a much more fundamental concept than interest for our pedagogy. It cuts much deeper. It carries with it none of the implication of making things easy for pupils which is so often read into the doctrine of interest. In fact, we recognize the truth that out of life the things that are of most worth are secured only at the cost of the struggle and hard effort. It is this strenuous effort in the work of the school that we desire, the effort that achieves. That is why we emphasize motivation; the highest forms of effort follow freely in response to ideas of relevancy and worth. Drudgery is not morally or intellectually profitable. It is work and the joy of achievement that count in real life.\textsuperscript{28}

The instincts, natural tendencies, and inherited capacities of children are the primary sources of motivation. The child is governed by these relating factors which cannot

\textsuperscript{27}\textit{Ibid.}, p. 62.

\textsuperscript{28}Irving Elgar Miller, \textit{Education for the Needs of Life}, p. 239.
<table>
<thead>
<tr>
<th>Purpose</th>
<th>Process</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum development of all</td>
<td>By participation. At its best, agreement through understanding of all, not majority rule. Freedom and responsibility proportionate to the need and ability.</td>
<td>Democracy</td>
</tr>
<tr>
<td>Development of hypotheses based on evidence</td>
<td>By survey of actual background and needs to decide direction, limitations, choices, evaluations.</td>
<td>Scientific method</td>
</tr>
<tr>
<td>Development of a pattern for living</td>
<td>By providing a natural learning situation and many avenues of learning and expression.</td>
<td>Creativity</td>
</tr>
<tr>
<td>Development of security through ideas, not things</td>
<td>By recognizing differences from year to year, group to group, person to person, and building on them and the expectation of further change; no stopping point.</td>
<td>Change</td>
</tr>
<tr>
<td>To put first things first</td>
<td>Through choices based on actual interests.</td>
<td>Individualization</td>
</tr>
<tr>
<td>Development based on interdependence -- only when all are well off is anyone well off</td>
<td>Through whole group thinking and working together</td>
<td>Socialization</td>
</tr>
<tr>
<td>Development of a self-critical, self-improving society</td>
<td>Definition of the problem (half the battle), constant use of criteria, self-evaluation</td>
<td>Problem approach</td>
</tr>
</tbody>
</table>

**Fig. 5.** Summary of Purpose, Process, and Result Desired in Fostering Pupil Participation (from Giles, *Teacher-Pupil Planning*, p. 79).
Fig. 6. -- Diagram of practical lessons (from Cole, *The Method and Technique of Teaching*, p. 63).

be changed materially. It is these basic factors which determine the ultimate direction in which the individual child is motivated. All of the children's problems are kept as individual as possible, while dealing with the individual in a group.
MacConnell and Melby quote the following statement of objectives as worked out by a staff committee in close collaboration with students and teachers:

I. Reflective and critical thinking
   A. Learning to plan
   B. Learning to solve problems -- the scientific approach
   C. Learning to evaluate and develop a scale of values (tastes and appreciations, etc.)

II. Basic skills in learning and in expression
   A. Skills in learning
      1. Finding and gathering material
      2. Solution and organization of material
      3. Encouraging basic language, number, and expression skills
      4. Encouraging the art of listening
   B. Skills in expression
      1. Speaking
      2. Writing
      3. Tools, manual and artistic expression
      4. Dramatics, body action, use of prepared illustrative material, etc.
      5. Awareness of the needs, desires, interests and capacity of an audience

III. Social adjustment
   A. Learning to work together in a group on a common project, each contributing a share
   B. Learning to make common decisions concerning common problems. Not by compromise, but by consensus -- the democratic process
   C. Learning to respect the rights of others
   D. Personal poise and self-reliance
   E. Adjustment to current social acceptances and situations

IV. Subject mastery
   A. Understanding modern life
   B. Study the past to explain the present; i.e., backgrounds, understandings, appreciations

In any evolving school program the objectives will change as the program develops. The main objective should be toward

the training of students for a democratic life.

In the organization of the curriculum and the development of "units," Badger and Brim, authors of the book, The Changing Curriculum, have this to say:

Since education is conceived as a continuous process of growing so one may react intelligently to situations, it takes place best through activity in actual situations. The children in our school have grown accustomed to speak of these large activities as units of study. We have found that there are certain types of units which are well adapted to various age levels, but within this range there are a variety of units which may be studied, any of which yield the values and accomplish the purpose established.\(^{30}\)

Badger and Brim organized a set of criteria for evaluating purposeful units of study such as they proposed in their book. Here are the criteria decided upon by the staff:

1. Has the problem arisen because of particular interests, questions, needs, or experiences of the children in the group? (Various experiences may be arranged by the teacher to stimulate such interests and questions if there are none in evidence in the group.)

2. Is the study appropriate for the maturity level of the group being considered?
   a. Is this the time at which they would get sufficient value out of it, or are there certain values inherent in this study which might make it preferable for a later period of the child's school life?
   b. Is this study within the learner's ability so that it prevents discouragement, yet has possibilities for challenging the best efforts of the group and of each individual?
   c. Are there other study possibilities which would be more meaningful to the children and at the same time equally interesting to them if there were experiences presented which would stimulate this interest?

d. Has the group had previous experiences which make a suitable background for this study?

3. Does this problem provide possibilities for challenging the child's thought (and action when possible) to the extent that such experiences as the following become a necessary and integral part of the child's daily living?
   a. Will it furnish situations necessitating planning, evaluating, sharing, assuming responsibility, cooperation, making decisions, sensing and solving problems and other such abilities necessary for successful living?
   b. Will it bring to the forefront fundamental social issues of significant to the children?
   c. Will it provide varied and repeated problem situations through which the child may gain academic skills adequate to cope with his ever-increasing needs?
   d. Will it provide situations which will call for a reorganization of varied interwoven subjects in which a way as to eliminate compartmentalization?
   e. Will it provide gripping ideas for thought and discussion and through such discussion and thought extend the horizon of the child's experience?
   f. Will it give opportunity for initiative, emotional release, and satisfaction through creative and scientific thought and expression?

4. Is it possible to provide such of the following as are necessary for this study?
   b. Opportunity for trips.
   c. Materials for first-hand experiences, such as making paper, or churning butter, or threshing wheat.
   d. Materials for plastic and graphic arts, sciences, music, or other kinds of expression which will make the work more meaningful. 31

If a unit fulfills these criteria, it will be a socializing influence as well as an influence toward wholesome personal integration which is the great purpose of education.

31 Ibid., pp. 265-266.
The educational program is based upon scientific understanding of the child as a growing organism and upon an intelligent understanding of the larger social issues which not only play a part in the growth of the individual but of which the growing individual must become conscious.

Badger and Brim stress social action and group cooperation as follows:

Within the school much emphasis is put upon social action, group cooperation in the solution of problems, and isolation and examination of the problems basic to successful group action. Children are constantly helped to see that planning makes for better group living and that group living extends and enriches individual living.\textsuperscript{32}

The planning process for the development of social action and group cooperation rests upon the assumption that educational planning must begin with the teachers who are aware of the important issues in educational theory and of the social purpose of education -- the creation of a social order based upon intelligent thinking. The process of planning must be continually improved and bettered for child motivation toward this social order.

Many schools which use the unit plan incorporate the graph which shows each individual pupil his evidence of progress toward the fulfillment of finishing the unit of work.

Figure 7 shows a pupil's graph covering a month's work. The twenty spaces, five for each week, make provision for

\textsuperscript{32}Ibid., p. 275.
<table>
<thead>
<tr>
<th>Class</th>
<th>Home Room</th>
<th>Goal</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>4th Week</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>3rd Week</td>
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<td></td>
<td></td>
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<tr>
<td>2nd Week</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>1st Week</td>
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<td>Subject</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Test</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Fig. 7. -- Pupil progress graph, used with the unit plan (from T. H. Briggs and M. B. Hillegras, The Classroom Teachers, p. 95).

twenty units in each subject. When a pupil has proved to his teacher that he has met the requirements of one or more units, a line is drawn from the bottom up through the spaces corresponding to the units completed and is usually dated
and initialed by the teacher. Each teacher has a similar graph, the lines of which run horizontally, each with twenty-unit divisions, on which are the names of the entire class group. On this he also records the achievements of each pupil tested. This laboratory chart thus shows at a glance the progress of all the members of the group.33

It is claimed that most pupils acquire the habit of budgeting their time systematically, although individuals may have quite different methods of distributing their time, and that the willful laggard tends to improve his ways under the stimulus of the novel procedure.34

Discipline

There are three types of discipline that our public school teachers should take into consideration while working with maladjusted children: constructive, preventive, and remedial. In the constructive phase the teacher does constructive work before disciplinary difficulties arise. The curriculum needs to be adjusted so that it will cause a stimulated attraction and increase the interest of the student and guide him away from detractive elements. It is also common for the school to take into consideration the home life of the student so that a profitable adjustment can be made. In the preventive phase the teacher uses foresight in preventing potential discipline problems from developing. In some cases the seating arrangement has to be

33 T. H. Briggs and M. B. Hillegras, The Classroom Teacher, p. 95.
34 Ibid., p. 96.
taken into consideration so that the mischievous spirit of some students can be curbed. In the remedial disciplinary treatment the teacher corrects disciplinary problems that are active. When a student's stimulated drives are blocked, he resorts to some other measure in order to satisfy his desires. Clinical techniques are advised for student adjustment where possible. In serious cases where students are punished, the punishment should not be looked upon as an end in itself, but as a means of aiding the student toward normal adjustment in his society.

Schorling enumerates remedial treatment for serious types of misbehavior:

1. Isolate the offender from other pupils between the time of the offense and the settlement.
2. It is often wise to let the offender "mediate" for an hour or so before talking with him.
3. Be perfectly frank with a pupil.
4. If property has been damaged, a willingness to pay for it, to restore it, or repair it is usually sufficient.
5. Never force apologies.
6. Do not hurry in decisions regarding the punishment itself.
7. When the case is settled, drop it.
8. Do not publicize offenses and treatment of them before the student body.
9. An earnest appeal to the opinion of the class is often effective in stopping types of misbehavior that are difficult to investigate.
10. A visit to the home is often effective.
11. Classroom teachers should never use the weapon of suspension or expulsion.
12. Do not make an issue of something that is trivial.
13. The problem that looms like a mountain of disaster at the end of a tired day often decreases to a molehill significance after a refreshing period of rest.35

35 Schorling, Student Teaching, pp. 60-61.
It is the problem of the teacher to keep the respect of the students. This can be accomplished by keeping a friendly but professional attitude at all times.

The drill method of instruction is frowned upon by many educators, but it is used by many of our schools. Schorling gives ten practical methods to be used as guides in the drill method of teaching:

1. Drill must follow understanding.
2. For drill to be effective, the pupil should have a desire to learn the thing practical.
3. Drill, to be effective, must be individual.
4. A drill exercise must be specific.
5. In general there should be much practice of a few skills rather than a little practice on each of many skills.
6. A drill exercise may well be serviced by a scoring technique so that the pupil may watch his daily growth.
7. The practice should be staged so that the pupil will realize the pleasurable outcomes of achievement.
8. Only right practice makes for perfection.
9. Drill material should make possible the diagnosis of individual disabilities.
10. Practice should be distributed in diminishing amounts and at increasing intervals.36

During the last few decades industry and colleges have noted that pupils leaving our schools have not mastered the fundamentals in writing, speaking, reading, and computing. It is necessary that the human mind be subjected to repetition before it is able to retain some things. It is recognized that drill and repetition are misused in many cases.

36 Ibid., pp. 180-184.
Democracy in Education
The schools work toward evolving the individual's hazy viewpoint of democracy so that he will have a free open mind and can make fair decisions. The individual's right to think is unchallenged and unhindered, if his native abilities are guided and stimulated in the right direction during the process of development.

The democratic ideals by which we live must be protected. Democratic ideals must begin with each individual, and then the force of democracy will perpetuate itself as a result of its own momentum. Each individual's inherent right to have a part in his government is unquestionable. Our government depends upon each individual to voice his viewpoints on political and social issues. Without the support of the people our democratic type of government would perish.

As a result of our schools' awakening to the importance of each citizen's having a clear knowledge of the fundamental principles of democracy, the curricula of our public schools have been expanded to include these principles.

Increased importance of democracy is illustrated by the following:

Democracy as a Great Social Faith
First, the individual human being is of surpassing worth.
Second, the earth and human culture belong to all men.
Third, men can and should rule themselves.
Fourth, the human mind can be trusted and should be set free.
Fifth, the method of peace is superior to that of war.
Sixth, racial, cultural, and political minorities should be tolerated, respected, and valued.

What Are the Loyalties of Free Men?
First, to himself as a human being of dignity and worth.
Second, to the principles of human equality and brotherhood.
Third, to the process of untrammelled discussion, criticism, and group decision.
Fourth, to the ideal of honesty, fair-mindedness, and scientific spirit in the conduct of this process.
Fifth, to the ideal of respect for and appreciation of talent, training, character, and excellence in all fields of socially useful endeavor.
Sixth, to the obligation and the right to work.
Seventh, to the supremacy of the common good.
Eighth, to the obligation to be socially informed and intelligent.

What Are the Patterns of Social Knowledge?
First, to have knowledge of the nature of man in society.
Second, he has knowledge of the history of mankind.
Third, he has knowledge of the long struggle to liberate the human mind and civilize the human heart.
Fourth, he has knowledge of the nature of the present crisis.
Fifth, he has knowledge of the weaknesses of American democracy.
Sixth, he has knowledge of the promises, the methods, and the achievements of the totalitarian movements.
Seventh, he has knowledge of the resources, achievements, and promises of American Democracy.
What Deficiencies Prevent Democratic Discipline?

First, misunderstanding of the nature of democracy.  Second, ignorance of social realities.  Third, lethargy and indifference regarding the general welfare.  Fourth, devotion to individual success.  Fifth, susceptibility to demagoguery.  Sixth, absence of common loyalties.  Seventh, weakness of democratic loyalties.  Eighth, undemocratic practices and dispositions inherited from the past.

The discipline of democracy is the discipline of free men.

The discipline of free men cannot be achieved by subjecting the young for a period of years to the regime of slaves.  Neither can it be achieved by allowing the young to follow their own impulses and take over the process of education.  It can be achieved only by living for years according to the ways of democracy, by rendering an active devotion to the articles of the democratic faith, by striving to make the values and purposes of democracy prevail in the world, by doing all of these things under the guidance of the knowledge, insight, and understanding necessary for free men.  That this involves a highly complex and difficult process of learning is obvious.  It requires a school environment and a school life organized deliberately to give boys and girls experience in democratic living -- a school environment and a school life from which the obstacles to the achievement of democratic principles are removed.  Above all, it requires the influence of a teacher who in his activities in both school and community practices the discipline of a free man.

The Broad Contours of Democratic Education

First, democratic education is devoted to the realization of the democratic faith.  Second, it is marked by integrity and honesty in all relations.  Third, it is sensitive and responsive to the changing conditions of life.  Fourth, it is independent of the passions and narrowly partisan struggles of the moment.
Fifth, it is sensitive and responsive to the changing hopes, ideals and problems of the people.
Sixth, it is free from the domination of private persons and groups.

To each party involved in the control of public education -- to government, to the teacher, and to the people, belong appropriate responsibilities and obligations.

**Responsibilities and Obligations of Government**

First, establish special authority for the general conduct of the public school.
Second, provide generous and sustained financial support of the educational undertaking.
Third, insure the broad, thorough and democratic training of the teacher.
Fourth, safeguard the integrity of the teacher.
Fifth, refuse deliberately to make full use of its own power over the school.

**Responsibilities and Obligations of the Teacher**

First, maintain a steadfast loyalty to the democratic faith.
Second, achieve and sustain high professional competence.
Third, participate actively and intelligently in shaping educational policy.
Fourth, establish and maintain a condition of mutual trust, understanding and sympathy with the people.

**Responsibilities and Obligations of the People**

First, to achieve a more adequate understanding of the nature of the democratic education.
Second, to guard public education against attacks.
Third, to establish and maintain a condition of mutual trust, understanding, and sympathy with the teacher.

If these were ordinary times, the exposition of the principles that should govern the control of democratic education could close at this point. But these are not ordinary times. Mankind is passing thru
one of the most critical ages of all history; human society is being shaken to its foundations, the social and political structure of the world is being transformed, inherited institutions are being altered, new doctrines and philosophies profoundly hostile to the idea of individual liberty are sweeping over the earth, the tide of despotism is rising among the nations; democracy is on the defensive everywhere. This situation calls for a general and swift moral awakening of the whole people -- for a realization that their dream of a society of free and equal men on the North American continent may be submerged for generations.

The crisis of democracy will continue in acute and threatening form until those conditions which have bred the totalitarian movements have been removed -- the instability of economic institutions, the failure to utilize in the common interest the advances of science and technology, the widespread sense of insecurity and uncertainty, the feeling of frustration among the youth, the fear of war and national aggression, the inequalities and injustices among classes and peoples, the severe discrepancies between the ideals and practices of democracy. To meet the current threat of the dictatorships from abroad and to remove the underlying conditions encouraging the growth of despotism at home will require a deep and sustained moral awakening on the part of the American people. From this awakening, government, the teacher, and the citizen should derive inspiration and unity of purpose in the control and direction of the entire educational undertaking.37

Summary

Due to our changing society, and a better understanding of the learning process in relation to the individual learner, the unit method of instruction has been expanded to include integrated and integrating individual controls of conduct such as understandings, appreciations, and attitudes, along with special abilities.

37Luther Gluck, "Papers on the Science of Administration" (mimeographed).
Burton gives two general procedures under which teacher-learning experiences may be organized:

The traditional assign-study-recite-test formula, and the functional unit. The subject-matter unit is a general organization standing between these. The traditional methods still dominate the field even though there is now voluminous evidence that overwhelmingly favors the new method.38

Each of the great educators such as Comenius, Locke, Rousseau, Pestalozzi, Herbert, Froebel, Thorndike, Morrison, and many others have contributed their respective shares to the advancement of education through its evolving stages.

Our democratic way of life as it exists in these modern times has influenced our scholastic program and the schools' aims, curricula, and instructional practices. The results of this influence as quoted from Burton are as follows:

First, many important improvements within the stereotype were achieved. Second, suggestions arose aimed not at the improvement of the assign-study-recite-test procedure and its details, but at the creation of basically different procedures. Both trends eventuated from our increased understanding of the learner and his learning process, clearer views of the nature and use of subject matter, and better insight into the role of the teacher.39

Burton gives Wrightstone's summary of principles underlying traditional practice (1900-1917):

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39 Ibid., p. 220.
1. The classroom is a restricted form of social life, and children's experiences are limited therein to academic lessons.

2. The quickest and most thorough method of learning lessons is to allot a certain portion of the school day to instruction in separate subjects, such as reading, phonics, word drill, language, arithmetic, history, geography, health, and stories.

3. Children's interests which do not conform to the set curriculum should be disregarded.

4. The real objectives of the classroom instruction consist to a major degree in the acquisition of the content matter of each subject.

5. Teaching the conventional subjects is the wisest method of achieving social progress.40

Burton likewise gives Wrightstone's summary of principles underlying the new practices (1917-present):

1. The classroom is a form of democratic social life and the children reconstruct their experiences therein.

2. These experiences grow from the children's social activities, and various parts of the newer type of curriculum are integrated around a central problem suggested by the children's social activities.

3. The organization of the curriculum for integration of pupil personality is paramount to traditional and formal organization of subject matter.

4. A dynamic organismal-environmental concept of learning is preferable to a mechanistic stimulus-response concept.

5. A pupil's interests are viewed as signs and symptoms of growing powers and abilities.

6. Interests and powers are developed by activities, and not alone by passive assimilation of knowledge.

7. A mastery of principles and practices of intelligent living is more important than memory of specific facts.

8. Each pupil's personality is inherently social in origin and character.

9. The true unit of educated experience is a realistic study of a problem and a cooperative creative solution.

40 Ibid., p. 222.
10. Education is the foundation upon which social progress and refinement are based, and consequently education must concern itself with vital problems in the world of both child and adult. 41

Integration is a word which designates intelligent behavior, and refers to the continuous, intelligent, and interactive adjustment. Each individual is born into an integrated social, economic, physical, and religious world which affects his environment. Each individual has to become adjusted to his environment by the process of education. Education is a progressive ongoing process, concerning the improvement of life and living. The school's educational viewpoint is toward purposeful, integrated, adjusted behavior within each individual. Hopkins summarizes the integrated principles that are characteristic behavior reactions in each individual:

1. Makes wide contact with the environment.
2. Approaches the ensuing disturbances or problems with confidence, courage, hope, optimism.
3. Collects, selects, and organizes material for the solution of these problems.
4. Draws relevant conclusions.
5. Puts into practice the conclusions in changed behavior.
6. Takes responsibility for the consequences of his behavior.
7. Uses feelings either as instruments or ends as compatible with the preservation of wholeness.
8. Organizes pertinent aspects of his successive experiences into logical order so that they are better available for use in subsequent experiences. 42

Hopkins lists some sharp contrasts which are known to

41 Ibid., p. 224. 42 Hopkins, Integration, pp. 2-3.
be characteristic behavior patterns of a disintegrated individual:

1. Moves with a narrow, increasingly circumscribed environment.
2. Attempts to escape the disturbances or problems which movement in such limited environment raises.
3. Meets only those disturbances from which there is no escape with a feeling of inferiority, inability to solve the problem, lack of confidence, and in many cases, with despair.
4. Collects materials for the solution of problems more emotionally than thoughtfully.
5. Organizes materials on the basis of feeling rather than intelligence.
6. Draws highly irrelevant conclusions with increasing frequency.
7. Reviews and modifies conclusions without the addition of new and pertinent data.
8. Acts with undue caution and restraint in translating his conclusions into overt behavior.
9. Accepts the consequences of his behavior unwillingly when the invalidity or irrelevancy of his conclusions has been established.
10. withdraws to a greater degree within his environment thus tending to escape more disturbances, and thereby building greater lack of confidence in himself to meet reality.
11. Finds an outlet for the presentation of his integrity in an imaginary world, thus developing a disassociation and disintegrating personality.43

The disintegrated individual attempts to escape his problems. When escape is restricted, he responds emotionally rather than uses logical thought, and thereby environmental adjustment is restricted by uncertain, hesitant, fearful responses.

In considering integrated behavior, we must think of the organism as a whole, since all parts of the organism are interacting.

43Ibid., pp. 3-4.
The individual tends to progress in the direction to satisfy his desires. The concern of the schools is to aid the student to satisfy these desires, by influencing his behavior toward better thinking and adjustment.

Hopkins gives a condensed summary of the truths of integration:

1. The human organism is so interconnected, interdependent, and integrated, that whatever happens to one part of it usually brings about correlative changes in other parts of the organism.

2. When we see or hear or otherwise experience anything, our experience is not a mechanical and fixed response corresponding to the isolated stimulus, but is dependent upon what the stimulus means to us, and that meaning grows out of an integration of the whole setting in time and space and out of our own state of organization about certain ends.

3. Learning represents improvement in the creation of appropriate meaningful responses to situations which are partly new and partly old, but conceived as wholes in relation to ends sought.

4. Memory is not reproduction of sensory stimuli, but a creation influenced by the whole previous experience and, to some extent, by present factors.

5. Habits, however much practiced, are subject to considerable modification when incorporated around different purposes.

6. Integration is not an achievement of the cortex, but occurs at subcortical levels and in simple organisms.

7. Integration is not essentially an achievement which has been learned. Early activities and responses to new situations show integration. Experience may modify, improve, or extend the integration.

8. Each behavior of a person represents an integration which has been influenced by many factors over his whole life period. It is seldom correct to attribute an action to a single experience or cause, whether recent or very early in life. People behave characteristically, sometimes more consistently than they realize.
9. Every person develops within a more or less integrated culture. The deep and pervasive conflicts within our interdependent culture reflect themselves in both social and individual maladjustments.\textsuperscript{44}

Wrightstone's Summary of Traditional and New Practices of Teaching Compared to Modern Methods of Teaching

<table>
<thead>
<tr>
<th>Wrightstone's Traditional Practices</th>
<th>Modern Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Had a restricted form of social life in the classroom.</td>
<td>1. Have a democratic form of social life in the classroom.</td>
</tr>
<tr>
<td>2. Ignored the social activities of the children.</td>
<td>2. Stress social activities which are centered around a central problem suggested by the children's social activities.</td>
</tr>
<tr>
<td>3. Used a rigid curriculum for teaching subject matter to students regardless of their interests.</td>
<td>3. Organize the curriculum to fit the needs of the individual.</td>
</tr>
<tr>
<td>4. Stressed the importance of individual subjects.</td>
<td>4. Stress the importance of integrated personality development.</td>
</tr>
<tr>
<td>6. Depended on passive assimilation of knowledge.</td>
<td>6. Develop interests and powers by activities.</td>
</tr>
<tr>
<td>7. Stressed the memory of specific facts.</td>
<td>7. Stress the importance of principles and practices of intelligent living.</td>
</tr>
</tbody>
</table>

\textsuperscript{44}Ibid., pp. 124-125.
Wrightstone's New Practices

1. Have a democratic form of social life in the classroom.

2. Have a flexible curriculum to fit the needs of individual interests.

3. Stress the dynamic organismal-environmental concept of learning.

4. Stimulate interests and powers by practical activities.

5. Incorporate the practice of intelligent living.

6. Incorporate realistic problems and creative solutions.

Modern Methods

1. The newer practices of modern education are based on the same principles as Wrightstone's newer practices.

2. The classroom is used as a democratic social background so the children can reconstruct their experiences through activities therein.

3. Actual life experiences are worked into the curriculum.

4. Child interest determines the nature of the course of study.

5. The practices of intelligent living are emphasized in the classroom.

6. The children live together in the classroom as they are expected to live together as adults.

The public schools have slowly changed their method of instruction. The old method dealt with the students as a group and stressed the memory of specific facts in individual fields. The new method has included the democratic form of social life in the classroom, and considers each student as an integrated individual who will function as an adult as he has been trained in the classroom.
CHAPTER IV

COMPARISON OF ARMED-FORCE METHODS OF INSTRUCTION WITH CIVILIAN METHODS OF INSTRUCTION

The purpose of this chapter is to give a comparison of the armed-force methods of instruction with civilian methods of instruction.

1. Public-school classrooms look different from the academic classrooms of the armed forces. Too many of our schools operate on the assumption that a subject in high school can be taught in any vacant room. The armed forces change this by providing films and gadgets and by covering the walls of the classrooms with posters, cartoons, etc. All of these drive home the main ideas of the unit that is being taught.

2. There is a fundamental difference between the objectives of civilian education and military training. The one, by necessity, is geared to victory; the other, by obligation, is geared to peace and citizenship. With the basic differences in the objectives of the two programs, there is nothing that suggests the need for the total or even partial reorganization of civilian education along military lines.
3. The armed forces have prepared a definite procedure for solving a given problem. The trainee masters this procedure step by step before he is allowed to perform the technical tasks. The public schools encourage a student to use his initiative in solving a problem.

4. After a soldier gains an understanding of how a job is done, mastery is achieved by the simple technique of constant repetition, regardless of the interest of the trainee, a teaching method frowned upon by modern educators as tedious, wasteful, and distasteful to the pupil. But the Army is not primarily concerned with pleasing the student.

5. In the armed-force schools, wrong habits are corrected immediately. The error of one soldier or one small unit is discussed in the presence of the group, so that all may profit by the mistake. Some psychologists would have us believe that such public criticism might threaten to warp the pupil's whole personality.

6. The armed-force schools tend toward forcing men to learn. A trainee is told what to learn. If he refuses, if he appears apathetic, or if he protests that the subject matter is beyond his capacities, he is not coaxed, or soothed, or allowed to choose simple subjects. He is given punishment in such a way that it serves as an incentive for him to learn. Our public schools deem it more important to
present the subject matter in such an interesting manner that it will be an attraction for the student to learn.

7. The armed forces had unlimited funds at their disposal in many cases. They concentrated on single courses and the classes were limited in size. Public school funds are limited. In too many cases the teacher is forced to work under the handicap of having too many pupils enrolled in the classes.

8. The use of recognition and commendation in both our civilian and military schools is somewhat similar. Initiative and effort are constantly publicized as desirable traits.

9. School teachers are advised today that the use of competitive spirit is an element in the classroom that threatens to breed individualism, unwarranted loyalties, and contempt for cooperation. But the Army found it a valuable technique for encouraging effort and the desire to learn.

10. The objective of learning in the armed-force schools is combat. The student sees a need for learning, and he works toward that goal. The objective of learning in our public schools is harder to convey to the pupil; therefore, in civilian schools, objectives of learning are often less definite.

11. The armed forces use a very intensive program of
testing and analyzing in order that each recruit can be placed in the field where he is most likely to succeed. The public schools, as a general rule, use only a limited amount of testing and analyzing in the placement of students according to their abilities and interests.

12. The Army rates its instructors regularly and by a definite scale. The public schools seldom rate their instructors and if they do, they rate them by various scales.

13. The literature on public schools upholds democracy as one of their foremost objectives. The military schools make little mention of teaching the democratic principles.

14. The public schools tend toward constructive discipline. The armed forces provide for discipline through force and pressure.

15. Both our civilian and military schools agree that the lecture method of presentation is not sufficient in presenting the subject matter. Instructors discover how to develop practical work from distinct and unalterable oral material when they are required to do so.

16. Both our civilian and military schools find that subject matter in most fields can be presented to small classes much more desirably, thoroughly, and successfully than to larger classes.

17. The armed forces use the five steps: preparation, presentation, application, examination, and discussion and critique. These steps are similar to the Herbartian five
formal steps, which are used as the basis for formulating methods of teaching in our public schools. However, the emphasis upon these formal steps has decreased in the better public schools, and emphasis is now placed more on unit organization, purpose, and reasoning processes.
CHAPTER V

CONCLUSIONS

There is a direct relationship between the traditional practices and the armed-force practices.

The military practices have not attained the progress that the new practices have included. This can be partly accounted for due to the different objectives and goals of accomplishment of the military and civilian schools.

The civilian schools deal with the students as individuals, and consider the human organism so interconnected that whatever happens to one part of it will affect the other parts of the organism.

One concludes that the armed forces are training men, not educating them. The big job of civilian schools is to teach students to think and to discipline their minds, so that they can adjust themselves in a social democracy. Society has three main standards by which each person's behaviors are examined and his character judged. They are custom, laws, and standards of evaluation. Custom means how the attitude of a particular group reacts to a given situation, which has been found to be acceptable and satisfactory, and has received its stamp of approval. In our
modern society laws are set up by the majority as acceptable guides. Each individual is supposed to be trained in behavior so that he will conform to these laws. The third standard of evaluation is the intelligent consideration of individual reaction to a situation. Each individual is expected to exercise logical judgment in arriving at standard conclusions. Thus the public schools attempt to train boys and girls so that they can conform to the social standards of living.

The armed-force training program begins where the civilian schools stop. Its job is to train the individual for a specific task.

The civilian schools have to employ the use of broad objectives, for they realize that what is good for one student is not necessarily good for the others.

Public schools cannot expect to provide motivation identical with that which was engendered in training military personnel during the war.

Much has been accomplished in our literature regarding public schools in providing for the growing and expanding understanding of child development in the planning of the curricula that recognize and utilize the student's interests, needs, and abilities. But the gap between our knowledge and our practice still is great.

Teachers might begin at once to check their own activities; perhaps by inquiring to what extent the basic
characteristics of the armed-force program described in this study are found in their own classrooms. After such an evaluation, they should seek ways of making their endeavor more meaningful and realistic.

We have reason to believe that many boys and girls are being denied the educational opportunities which are the privileges and the safeguards of an enlightened democracy.

Educational methods devised by the armed forces in training specialists for war are being studied by many of our educators. The armed-force method of teaching will be reflected in many of our courses, particularly in our vocational courses, since they are similar to the instructional program of the armed forces, both being technical in nature. Where technical training is the objective in industrial arts, the military methods of visual-aids mock-ups are certain to be a contribution. If learning through these processes is so efficient, some of the other public-school areas, such as social areas, need to investigate their particular possibilities of forming better attitudes through visual aids and other specialized techniques.
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