

## SOME USES OF VISUAL AIDS IN THE ARMY

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Perhaps the most conspicuous educational feature of the Army's training program is the widespread use of visual aids. Most of these aids, the film strip, the motion picture, etc., had already been employed successfully in our schools. But it remained for the Army to demonstrate how widely they could be applied and how efficient they could prove in an educational program seeking rapid mastery of certain skills. It should be pointed out that in the Army's training program the objectives are quite definite. These clearly defined aims have made it possible to develop and appraise visual aids with relative ease. Educators will be increasingly impressed by the Army's outstandingly successful experience with visual aids.

Many other training aids have also been employed to advantage by the Army. For example, recordings have been widely used. However, the conspicuous success and appeal of the visual aid make it of special interest to the educator. In this paper the writer will limit his discussion to the following visual aids: (1) the film strip; (2) the instructional film; (3) comics, cartoons, and pictures; (4) graphic portfolios; (5) maps; (6) actual objects and models.

Many of the illustrations in this paper will be drawn from the use of visual aids in a training program designed for functionally illiterate and non-English-speaking men. In Special Training Units, such men are provided academic and military training which helps them develop sufficient literacy skill, arithmetic ability, and orientation in military subjects to be able to proceed successfully with regular basic military training. The training cycle is planned not to exceed twelve weeks, although an occasional man is permitted to remain sixteen weeks. The average length of the training period is eight weeks. Eighteen hours per week are devoted to academic instruction and thirty hours to military training.

To aid in the accomplishment of the mission of special training, the Special Training Branch, Military Training Division, Army Service Forces Headquarters,<sup>1</sup> has devised and made available special materials of instruction; e.g., *The Army Reader*, *Army Arithmetic*, a weekly and a monthly publication, and guides for the instructors. A more complete description of the program of Special Training Units has been presented elsewhere.<sup>2</sup>

Academic and military instruction is related closely in Special Training Units. Lessons designed to improve reading skill, language usage, and arithmetic ability generally deal with Army problems or situations. Specialized vocabularies are devised for military subjects and appropriate exercises are arranged so that the academic and military presentations are coordinated.

The use of visual aids has greatly accelerated the learning process in Special Training Units. Illiterate and non-English-speaking men now attain academic proficiency sufficient to proceed in the Army in the surprisingly short period of eight weeks. Over 90 per cent of the trainees succeed in making the critical scores required on objective tests in this period of time.

#### The Film Strip

In Special Training Units widespread use is made of the film strip. A film strip is a continuous series of still pictures, charts, or diagrams, prepared on 35 mm. safety film. Speed of projection is controlled by the instructor or his assistant. Any frame in a film strip can be held on the screen until the class has mastered its contents; and any frame or series of frames may be reviewed as many times as necessary.

<sup>1</sup> This was formerly the Development and Special Training Section, Training Branch, Adjutant General's Office.

<sup>2</sup> Paul A. Witty and Samuel Goldberg, "The Army's Training Program for Illiterate, Non-English Speaking, and Educationally Retarded Men," *Elementary English Review* (December 1943), pp. 306-311.

Paul A. Witty and Samuel Goldberg, "The Use of Visual Aids in Special Training Units in the Army," *Journal of Educational Psychology* (February 1944), pp. 82-90.

The following film strips have been developed to meet the needs of men in Special Training Units: "A Soldier's General Orders"; "Military Discipline and Courtesy"; "How to Wear Your Uniform"; "The Story of Private Pete," for aiding in the acquisition of a basic stock of sight words; "Introduction to Numbers," for introducing the vocabulary, symbols, and group concepts of arithmetic; "Introduction to Language," two film strips, one for teaching nouns and the other for presenting verbs and prepositions; and "The World," for introducing geographic vocabulary and concepts.

Motivation of each film strip is carefully planned. In some film strips situations which the soldier has previously encountered in civilian life are employed. For example, in introducing "How to Wear Your Uniform," several frames are given over to the presentation of civilians in uniform; e.g., policemen, firemen, and football players. In "Military Discipline and Courtesy," introductory frames show men tipping their hats to ladies, helping their neighbors fix their cars, and in other ways demonstrating courtesy. In other film strips the motivating frames deal with familiar and interesting Army situations.

Each film strip is logically organized to meet the needs of the men and the objectives of training. The language is simple and direct. Frames are not cluttered with detail or irrelevant material. Opportunity is provided for repetition and review. And correlation of military and academic subject matter is achieved.

Of great value to the teacher is an *Illustrated Instructor's Reference* which has been issued for each film strip. The *Reference* states the purpose of the strip; indicates general teaching procedures to be followed; and contains specific suggestions for presenting every frame. The picture in each frame is reproduced in the *Reference*. Under each picture are teaching suggestions. Thus, the instructor can preview the film strip while preparing his lesson.

All of these film strips will be of interest to educators. However, FS 12-5, "The Story of Private Pete," should prove especially pro-

vocative. It presents about fifty words in a related episode. These words are among the most frequently used words in camp. They are also the words which the men need to recognize in order to read the first parts of the *Army Reader* and to converse and write simply. Thus, this film strip has a "readiness" or preparatory function. It is also useful in remedial work.

"The Story of Private Pete" is made up of four series of frames dealing with early experiences in camp: (1) Private Pete and His Uniform, frames 2 to 12; (2) Private Pete Looks at His Camp, frames 13 to 22; (3) Private Pete Eats His Dinner, frames 23 to 33; (4) Private Pete Goes to Bed, frames 34 to 44.

Each of the above series consists of approximately ten frames which present an over-all picture of a camp scene, and several breakdowns of this scene with attention centered on certain objects labeled with single words. The largest number of new words on any frame is three. About eight frames are used to introduce the words in each series. Then another frame is employed to present the words and the objects for which they stand in a new setting. There are no labels on this frame. Still another frame follows in which the new words are printed in a column on the side. In the picture the objects for which these words stand can readily be identified. Two summary frames contain a printed story in which the words of the series are used in a meaningful sequence. This presentation is consistent with the way people normally learn language. Moreover, it offers the student a challenging, highly interesting experience with language.

The *Instructor's Reference* for FS 12-5 contains:

1. General principles and suggestions for teaching vocabulary by associating words with a variety of objects and experiences
2. Specific suggestions for using the film strip in Special Training Units
3. An exact reproduction of each frame in the strip, followed by appropriate comments and suggestions
4. A test for measuring the student's acquisition of the 46 words used in the film strip

It is at once clear that the value of the film strip depends in large measure upon the way in which it is used. If used judiciously, the film strip may prove more effective than other methods of introducing words.

Two other film strips, FS 12-7 and FS 12-8, "Introduction to Language," are available to extend the presentation in "The Story of Private Pete." They introduce 46 other nouns, 31 verbs, and 12 prepositions. These film strips are designed to offer additional help to men who are learning to speak English and to other students who experience difficulty in acquiring a working vocabulary.

#### The Instructional Film

The use of training films constitutes a regular part of military instruction. The men in Special Training Units are shown various motion pictures. Some of these deal with orientation, personal hygiene, organization of the Army, military discipline and courtesy, and related topics. A number of training films are shown at the Reception Center before the men come to Special Training Units. Others are introduced at appropriate periods throughout the training cycle.

Illiterate and non-English-speaking men often find themselves confused by films shown to them at Reception Centers and in the early stages of their training. The dialogue is frequently too difficult and the action in some of the films proceeds at too rapid a pace. Accordingly, a number of precautions have been taken to make sure that the men in Special Training Units are prepared to profit from seeing films. The showing of each film is planned so as to coincide with the emphasis given each topic in the instructional program. Moreover, the instructor prepares the men for seeing a film by suggesting items or points to be looked for, by defining some of the difficult words, and by discussing each topic to be presented. A test is frequently used to check the students' understanding after they have seen a film.

### Cartoons, Comics, and Pictures

It is well known that the comics have wide appeal among children and adults. The writer of this article made several studies a few years ago of the extent to which comics were read by children and young people. In one study, several thousand children in grades IV, V, and VI were interviewed or given questionnaires. Interest in the comics was found to be general and consistent from grade to grade. The average number of comic magazines read was about fifteen in each of the grades; four of these were read regularly; and four and one half, often. Comic strips also were generally read; twenty-six was the average number reported. Of these, about fifteen were read regularly; and five, often.<sup>3</sup>

In the seventh and eighth grades interest in the comics continued.<sup>4</sup> Children here were attracted somewhat less frequently to the comic magazines, although many of the favorites of the middle grades were still read. However, interest in the comic strip was maintained with the same intensity as in the lower grades.

In the high school there was a decrease in the reading of comic books. The average number read fell to about five, with a steady decrease from grades IX to XII. Despite this sharp decrease, it is fitting to point out that this form of reading held high rank. In fact, the comic magazines constituted at least one fourth of the total number of magazines read by the high-school students included in the investigations.

Among these high-school pupils there was great interest in the comic strip. The average number of comic strips read was about eighteen; of these, more than nine were read regularly. This average remained constant from grades IX through XII.

It has been observed also that adults frequently read and enjoy the

<sup>3</sup> Paul Witty, "Children's Interest in the Comics," *Journal of Experimental Education* (December 1941), and "Reading the Comics—A Comparative Study," *ibid.*

<sup>4</sup> Paul Witty, E. Smith, and A. Coomer, "Reading the Comics in Grades VII and VIII," *Journal of Educational Psychology* (March 1942).

comics. Accordingly, comic strips have been employed to present certain facts or information in the Army. It was believed that the men would be greatly interested in this type of presentation. Thus, the monthly magazine, *Our War*, contains a cartoon or comic strip as one of its regular features. The writer has repeatedly questioned men in Special Training Units about their attitude toward this strip. They report that it is their favorite part of the magazine. This strip relates the experiences of "Private Pete" and his friend, "Daffy." Issues have dealt with the following topics: Christmas in Camp, Pete Goes Home, Marksman Pete, and Pete Meets Gas.

#### Pictures and Graphic Portfolios

*Our War* makes extensive use of pictures. Picture pages appear as a regular feature of this magazine. There have been picture pages on the following subjects: Army Christmas; How Airplanes Are Made; Weapons in the Making; Chemical Warfare Weapons; and Women in the War.

Other publications, designed especially for Special Training Units, also use pictures. *Newsmap-Special Edition*, a weekly publication which presents the news of the war on all fronts, is richly illustrated with pictures and maps. *Your Job in the Army*, a pamphlet which contains simple accounts of Army jobs for which Special Training Unit men become qualified, includes pictures and sketches to portray the nature of each job.

Still photographs have been used in many other ways. One of the most effective is the graphic portfolio. Graphic portfolios consist of a series of display panels about three-by-four feet in size; they present certain facts or operations in black and white and color. Used in presenting a subject such as "Rifle Marksmanship" or "Defense Against Chemical Attack," they serve to clarify and emphasize important points. On one side of each panel there is a large picture which is clearly marked, colored, or labeled. On the other side instructions are printed so that the teacher may check himself and be

sure that no important point is overlooked. The portfolio is used indoors and on the field.

### Maps

In the *Newsmap-Special Edition*, maps are employed to help the men locate and follow the various fronts on which military action is taking place. Every issue of *Our War* also contains a map page. For example, in one issue the map page dealt with "Neighbors Around the World." A polaroid type of map was used to show distances by air from certain points across the North Pole. At the bottom of the map there were pictures of a Fiji Islander, a Chinaman, an Eskimo, a Russian, an Indian, and a Brazilian. In the accompanying text questions such as these appeared: "Which man lives nearest to us?" and "Which man lives farthest away?" Two other recent issues contained maps of Canada and Mexico, the accompanying stories entitled, "Our Good Northern Neighbor" and "A Good Southern Neighbor." These pictorial maps disclosed the location of minerals, forests, and furs in Canada. In Mexico the places providing minerals, cattle, rubber, coffee, and bananas were shown by appropriate drawings.

### Actual Objects and Models

Special Training Units have utilized appropriate objects or models for instructional purposes. For example, in the subject, "Defense Against Air Attack," it is necessary for the men to learn to identify the more prominent American and enemy planes. One Special Training Unit made a set of models of American planes to illustrate the relationships of wings, engines, fuselages, and tails. In other training units models of tanks, mortars, and other weapons have been utilized to advantage.

Sand tables and topographic models have been provided to present an over-all representation of an area. Valleys, streams, elevations, and roads are shown, and buildings and different types of military equipment are placed correctly.



### Comments

Army training, whether basic, technical, or specialized, is organized realistically. Instructors have their objectives clearly in mind. Hence they are able to select and use the teaching methods by which different types of materials can be most effectively taught. An indispensable adjunct in promoting rapid learning is the visual aid. Its value has been clearly demonstrated in Special Training Units.

Visual aids will appeal strongly to many educators. Through their use, the effectiveness of instruction in public schools may be greatly improved. There are, however, some dangers in their widespread utilization. Because of their appeal, they may be employed with too little consideration of their applicability in certain situations. It is to be hoped that the selection and use of visual aids will be made with a careful regard for the purposes they are to serve and their place in the total program of education. The careful consideration which the Army has given to these factors has been responsible to a considerable extent for the highly successful results that have been obtained through the use of visual aids.

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