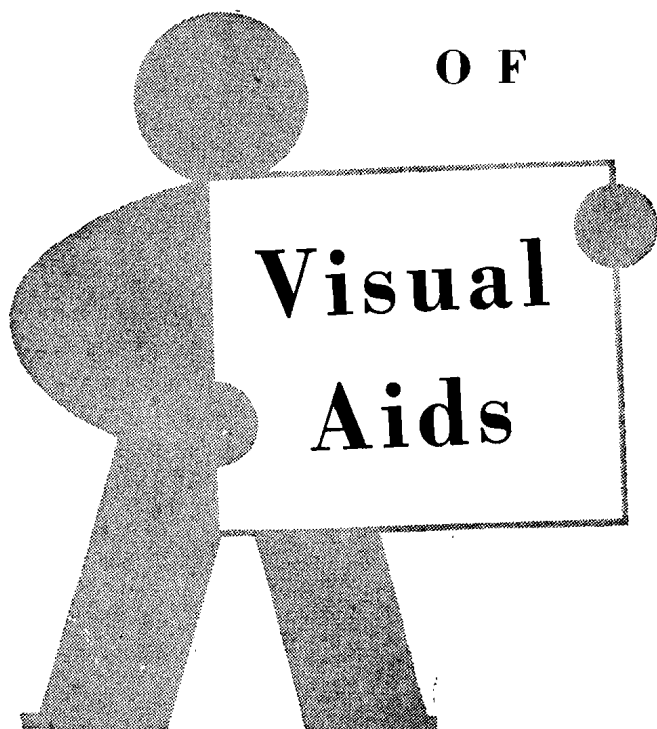# PREPARATION AND USE OF

VISUAL AIDS

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Visual

Aids

With Completely New Material
and Sources of Supply

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ART WORK by Bert Paul Kuhn

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Preface

THIS book is designed as a basic or supplementary text suitable as a course in the technique and methods used in the preparation and use of visual aids. In addition to instructor and teacher training courses, it is well adapted to merchandising, advertising, and sales promotion. It should be especially useful in industrial training programs.

Each chapter includes a brief, practical presentation of a visual aid and how to use it effectively. The book details how to use, how to prepare, and where to find these aids.

This text was prepared to meet the needs of a large number of people who can use visual aids in education and training; in all sorts of courses; in all levels of instruction; in industrial, business, social, church, and other activities where visual aids are effective in improving the performance and the presentation of the subject matter. The book is especially helpful to those engaged in related activities, such as advertising, photography, training, newspapers, national and trade associations, YMCA groups, boy scouts, and many committee and group activities.

The need for more effective instructional methods as well as the value of visual aids in personnel training, merchandising, and educational processes has been widely recognized. Visual aids are now universally used in combination with skillful instructors and are being adopted for use by a large and ever growing number of organizations. During the War, the United States Armed Forces found that the use of visual aids resulted in:

1. Gain of approximately 25 to 35 per cent in factual information.

2. An increase of approximately 35 per cent in retention of that information over that attained by the traditional methods of instruction. Even better results are now being reported in the field of merchandising, employee instruction, and job training.

K. B. H.

H. Q. P.

Introduction

VISUAL aids are essential to efficient instruction. Training films, film strips, blackboard illustrations, photographs, charts, models, and other devices enable an instructor to arouse and hold the attention of trainees in such a manner that learning is accomplished swiftly, efficiently, and thoroughly.

Visual devices are powerful tools in the hands of an efficient instructor. Words, both written and oral, are often inadequate to convey delicate meanings, understandings, and appreciations to the mind of the student. Pictorialization frequently succeeds when words fail. Since more people see alike than hear or read alike, the skillful use of training aids is essential to personnel trainers.

For example, the members of a class in textiles read a description of a certain fabric. The description in itself may be accurate, yet no two employees will retain the same mental pictures by reading the description. However, when the group can see and handle or work with the fabric, or view a motion picture showing the source of the material and how it is produced, their individual mental images will be quite similar and correspond closely with the actual facts the instructor wants to "get across." There are other examples of the advantage visual instruction has over the verbalism that often prevails in training classrooms.

The primary objective of personnel training is to turn out skilled, efficient workers. To develop "doing" skills, training designed to develop these skills must make provision for *showing the trainee how to perform.* The trainee obtains his ideas of how to perform in two ways: first, by watching a personal demonstration by the instructor; and second, by studying illustrations of how the skills are to be performed.

The personal-demonstration method is good if it is always practical or efficient; demonstrations through the medium of visual aids require much less preparation on the part of the instructor. The visual aid has the advantages of reality, animation, timing magnification, slow motion, and flexibility, all of which greatly enhance training procedures.

Skill is required to use training aids efficiently. The personnel trainer must use the right kind of training aid for his particular

subject. The material used must be simple so that the trainee can retain his grasp of the main essentials. He must use up-to-date visual aids at the right time and in the right way.

The instructor or personnel trainer regards visual aids as *aids* to good training. Such aids are not intended to displace good textbooks and good instructional techniques used successfully for generations. There is no substitute for personal instruction and follow-up. The use of training aids and devices cannot displace the rich personality and warmth of a competent instructor, nor any devices supplant the guided trainee's application, perspiration, and thinking.

Visual aids combined with good textbooks, and a competent instructor, form an unbeatable combination.

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CONTENTS

Motion Pictures

"ONE PICTURE is worth 10,000 words" is a time-honored generalization which may or may not be entirely accurate. Nevertheless, skillful use of pictures has resulted in highly successful training, which proves that teaching may be done much more effectively by pictures than by words alone.

A single picture is effective, but pictures presented in sequence have an accumulative effectiveness. When pictures are shown in sequence at the rate of twelve each second, they give the impression of motion or animation in the objects portrayed. If the sequence is arranged in the proper order and used in the correct manner, the pictures pack a terrific punch.

So that the most effective use may be made of motion pictures, certain information and skills must be made a part of the working kit of the individual who uses them for training purposes.

The necessary information and skills should be acquired in the following order of use:

1. Where to obtain appropriate films
2. How to use motion pictures
3. How to operate motion picture projectors
4. How to make a training motion picture
5. Content for a home-made film
6. "Do's" for using motion pictures in training

Where to Obtain Appropriate Films

Probably the most vexing question in the mind of the personnel trainer is "Where can I get appropriate or related training films

for my field?" Any personnel trainer or instructor can have a wealth of training films at his finger tips by securing one of the cata'ogues listed on pages 2 and 3.
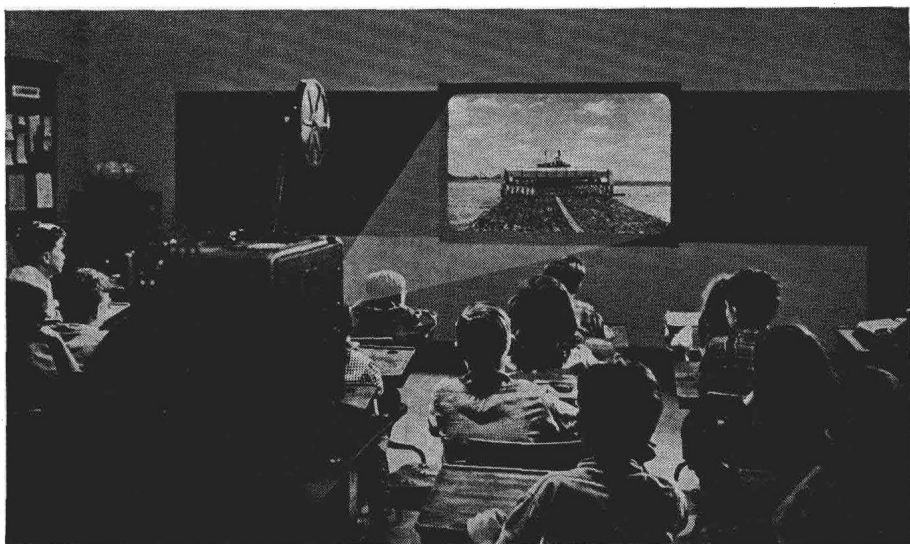
SELECTED EXPERIENCES IN THE CLASSROOM WITH MOTION PICTURES

The motion pictures referred to below are 16 mm. films, silent or sound, black-and-white or colored, and may be obtained (1) free, (2) for a small shipping charge, (3) on a nominal rental basis, or (4) by purchasing outright. All necessary information, including the nearest source, is included in the catalogues.

1. *Directories of 16 mm. Motion Picture Film Sources,* Bell & Howell Company, 1801-1815 Larchmont Avenue, Chicago, Ill.
   (*a*) Agriculture Directory, price—25¢
   (*b*) Geography, Travel, and Natural Resources Films, price—25¢
   (*c*) Medical and Dental Catalogue, price—50¢
   (*d*) Religious Film Sources, price—10¢
2. *Directory of Film Sources,* Victor Animatograph, Davenport, Iowa, price—50¢.
3. *General Electric Motion Pictures,* Visual Instruction Section, General Electric Company, Schenectady, N. Y.
4. *General Motors Film Catalogue,* General Motors Corporation, 1775 Broadway, New York, N. Y.
5. *U. S. Government Film Directory,* U. S. Office of Education, Federal Security Agency, Washington, D. C.
6. *U. S. Steel Corporation Subsidiaries Film Catalogue,* U. S. Steel Corporation Subsidiaries, 208 South La Salle Street, Chicago, Ill.
7. *Visual Aids for Retail Training,* Harry Q. Packer, Middlesex County Retail Training Bureau, Woodbridge, N. J., price—$1.00.

8. *Educational Film Catalog,* H. W. Wilson Company, 950 University Avenue, New York, N. Y., price—$2.00.

9. *1,000 and One—The Blue Book of Nontheatrical Films,* Educational Screen, 64 East Lake Street, Chicago, Illinois, price—$1.00.

10. *Educator's Guide to Free Films,* Educational Progress League, Randolph, Wisconsin, price—$3.00.

Subjects Covered in Film Catalogues

The following are only a few of the areas of subject matter covered in the above sources:

|	
Agriculture	Manufacturing
Art	Marketing
Astronomy	Mathematics
Botany	Medicine
Business	Merchandise Information
Chemistry	Military Training
Communications	Mining
Dairy	Nontextiles
Engineering	Personal Development
Executive Training	Philosophy
Farm Economics	Physics
Fine Arts	Religion
Fisheries	Retailing
Foreman Training	Salesmanship
Geography	Science
Geology	Secretarial Work
Guidance	Shorthand
Health	Sociology
History	Supervision
Home Economics	Teacher Training
Hotels	Textiles
Industrial Management	Transportation
Journalism	Typewriting
Languages	Vocational Training
Literature	Zoology

How to Use Motion Pictures

Select proper film. It is unfair to trainees to show a film merely to take up time: each presentation should have a definite training objective, which is usually to explain and clarify a specific job problem. The trainer instructor should check through his training plan, and place the date and title of his film in a visual aid column. Unless he has his own film library, he should order the film well in advance to assure delivery on time.

Check everything before showing film. Last-minute disturbances and hurried preparations do not contribute to an effective

motion picture projection. These distractions can be avoided by checking the following points:

1. *Preview training film.* This is a MUST in order to insure proper handling of a film. For future reference, it is also advisable to note briefly contents of the motion picture on file cards, including title, running time, type, and source. After the initial preview, it will only be necessary to check the file card before showing the film.
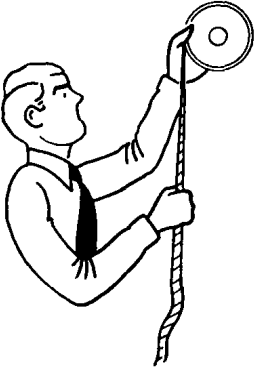
The instructor's manual and film guide, which accompany training films, usually give reviews of the content, tests on material, job-instructing technique, and suggestion for special followup problems.

2. *Set up projector and screen.* The projector and screen in a modern training room are either one complete unit or permanent fixtures. In most situations, however, it will be necessary to set up the projector and to focus the light on a screen. The distance between projector and screen will be determined by the number in the training group, type of screen, and shape of the room.
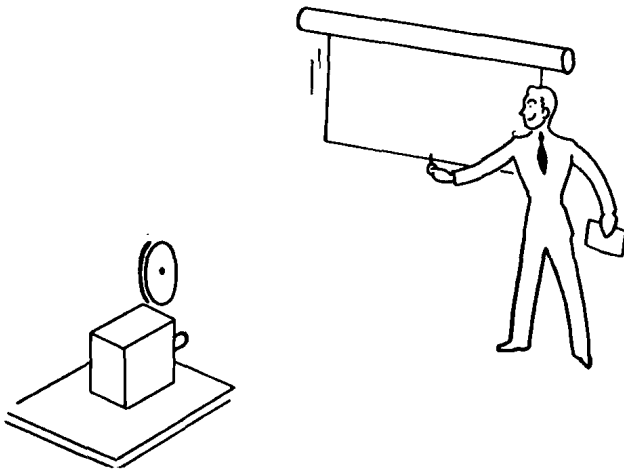
The projector should be placed on a 4-foot stand. If such a stand is not available, a table or any other steady support will serve the purpose. If using a sound film, attach the speaker to the projector and place the speaker up front, near the screen. Best results are obtained if the speaker is kept off the floor, upon a stand or table.

A screen so placed that the bottom is approximately at the eye level of the seated trainees provides the best vision. The portable-stand type has this feature built in the mechanism. However, when using the table- or roller-type, screen, this point should be kept in mind. When a screen is not available, use a large sheet of white paper or light-colored fiber board. An excellent home-made screen can be made by painting a wall or any other smooth surface with three coats of flat, white paint. Flat white reflects a better image than an aluminum-painted surface.

When a projector is used in an extremely large hall or auditorium, it may be necessary to increase the size of the projector lamp, and an auxiliary telescope lens may possibly be required. In most cases, these additions can be avoided by placing the projector close enough to utilize the full space of the screen. To provide a projector support in an auditorium having stationary seats, it will be necessary to build a simple fixture to rest on two seat backs.
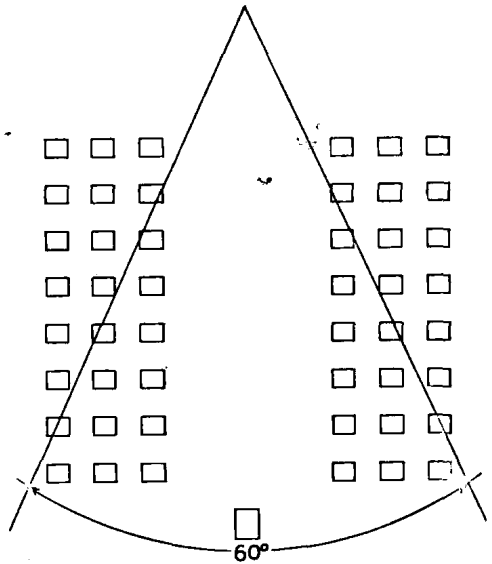
3. *Check seating arrangement.* A motion picture viewed outside of a 60-degree angle becomes distorted — therefore, it is advisable to confine all chairs within this space. If the chairs are permanent, request the trainees not to use seats outside this area. Also avoid using those chairs directly in front of the screen: an area of approximately six feet should be left vacant.

4. *Check lighting.* Unless you are using a single projector-screen unit or a shadow box, it is advisable to darken the room. If the situation requires the trainee to take special notes on the film, use the room lights instead of raising the window shades. Prevent light rays from shining directly on the trainee's face.

If the training room is not equipped with opaque shades, outside light may easily be excluded by using a simple home-made shade of inexpensive canvas or duck material. Opaque drapery material would be adequate, and would add to the attractiveness
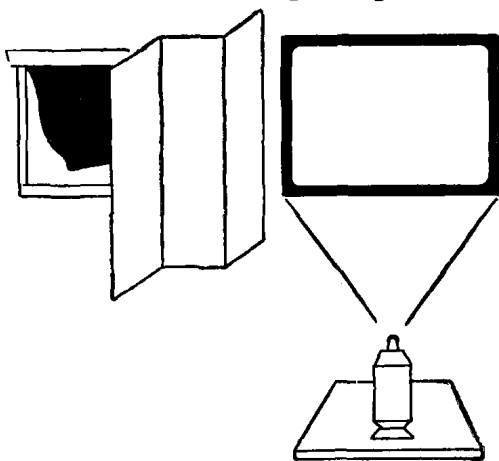
of the room. Windows spaced close together could be covered by drawing a single shade across the entire wall. Windows with large
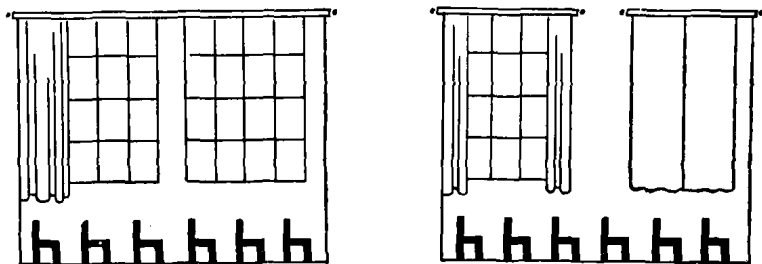
areas of wall space between them could be adequately darkened by hanging the material on individual curtain rods.
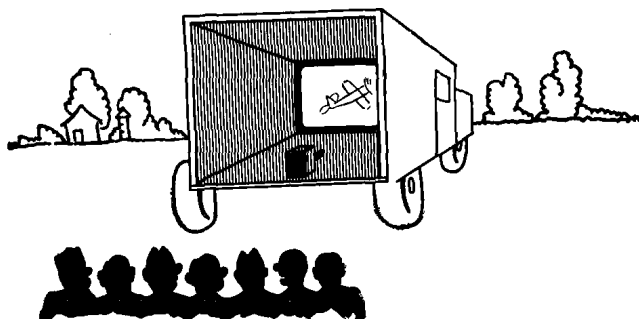
Outdoor meetings, in the plant yard or on a country field, may also utilize a motion picture presentation without waiting for nightfall, simply by placing the screen in a suitable shaded area. The inside of a covered truck would be excellent.


5. *Check ventilation.* A hot, stuffy, dark room induces sleep and drowsiness. Sacrifice complete darkness to avoid poor ventilation. In warm weather, use cardboard "dark room" ventilators, which are inexpensive and may be purchased at most local photography stores.

Room temperature over 72° or humidity above 50 per cent dulls alertness and affects learning adversely. Alleviate this situation with an ordinary electric fan or a small air-conditioning unit.

6. *Test projector.* Know your projector before attempting to use it. Films and projectors are expensive, extremely sensitive, and require special handling. Fumbling with a projector will prevent giving a smooth performance. Therefore, learn how to operate the machine before operating it during the training session.

Check the electric outlet for current when the room lights are turned off.

Insert film in projector and focus the image or title on the screen. Check the image for sharpness and centering. If necessary, rethread the projector and have everything ready so that it is merely necessary to turn off the room lights and start the projector.
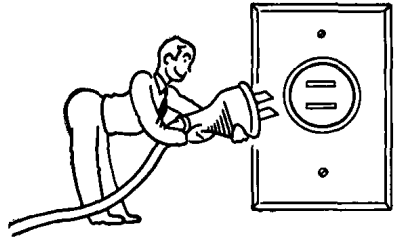
The stage is set and the store training meeting is about to begin. Follow your plan.

Presenting the motion picture. An otherwise excellent training film is worthless if it is not presented properly. A good instructor will lay a strong foundation for instruction by arousing the enthusiasm of the trainee and by presenting the film at the right moment. The following procedure will assure success.

1. *Prepare trainee.* Use the job approach when possible. Put the trainee at ease with a few carefully planned remarks about his job. Then, in a simple clear-cut manner, state the problem that is to be solved. Tell why the film is being shown, and above all, show the trainee how he will benefit by it. If the trainee realizes that his knowledge will be tested at the completion of the job problem, usually his interest will become more acute, his keenness of observation greater, and his ability to learn more effective.

2. *Present film and instruction.* Step by step, call the attention of the trainees to all important points in the film. Present each step briefly, clearly, and in the proper learning sequence. Your presentation should proceed in a direct path from what the trainee knows to what he does not know. Show the key points. Darken the room and project the film. Remember it is not necessary to use an entire training film. Use only that portion that pertains to the specific job problem.

3. *Apply training.* Apply the information immediately to specific problems, or as soon as possible after showing the film. Have

each trainee perform the task and explain each step. In all three categories of store problems—(1) manipulative skill, (2) factual information, and (3) attitude development—insist on appropriate terminology and correct timing.

4. *Test trainees.* Can the trainees perform the job? Can they apply the new information or use the new attitude? This is the only real test for effective training. In other words, "They can or they can't." If the job problem is a manipulative skill, test the trainees for performance and speed. If it is attitude development or factual information, use a simple test or quiz card. The quiz card shown in the illustration is very effective. The instructor reads questions of the objective type: true-false, completion, multiple choice, or matching. These questions may be answered by putting a hole or a mark in the proper space. The hole may be made by a pencil, a match, a nail, a finger-nail file, a hairpin, or any other convenient object. The cards may be scored by the trainee himself or students may exchange cards and score them.

(FRONT) (BACK)

5. *Review job problems.* All weaknesses, errors, or misunderstandings which were revealed by the quiz should be corrected immediately. Patiently restrain the impatience of each trainee. Reshow the film or part of the film that will clear up any misunderstandings. The final test is: Can the trainees perform the job