Educational Film Production in an Academic Training Program

By MERLYN C. HERRICK

At Indiana University, as at many other universities, educational film production serves as a laboratory for training students. Problems develop in trainee-assistant programs which are not found in commercial practice: crew members are inexperienced, scheduling around class and teaching assignments compounds problems. Yet quality productions are required to help finance the program. In such a laboratory, the educational film is defined, studied and tested as well as produced.

THE INCREASING USE of instructional films in education, has created major industries to produce both the films and the equipment to display them. A need has also developed for persons trained in the technical phases of film production and for persons trained in the more creative phases, in planning, writing, and editing.

Because of the very nature of educational motion pictures, it was logical for training, experimentation and research in the design and production of such films to become a part of the educational function of many colleges and universities. The result has been the establishment of film production units in many of these institutions. The purpose of this paper is to describe some of the many roles of the instructional motion picture in the educational process, and to investigate some of the problems typical of film production in an academic training program.

Definition and Use

The logical starting point for such a presentation is a definition of the *educational* motion picture. An educational film is first of all a communication device. Someone wishes to say something to someone else for a specific purpose. The audience for an educational film is well defined. The audience may be junior high school general science pupils, children in primary grade social studies, or perhaps the upper fourth of the pupils taking high school chemistry. An educational film has well-defined purposes: to modify behavior by providing facts and understandings and/or to change attitudes.

A fourth factor in defining the educational film is that it makes use of one or more of the unique characteristics of motion pictures. Through cinemicrography, all the pupils in a biology class can observe simultaneously a growing chick embryo. Photographed under controlled conditions, the best examples of this process can be studied by all members of a class and in thousands of classes.

Time lapse photography provides opportunity to study the actual growth of the embryo, a process otherwise available only through drawings or still pictures lacking the vitality of real-life motion pictures.

Slow-motion photography enables the viewer to observe events that normally occur too rapidly for perception by our senses.

Through motion pictures, history classes can join a family in 1820 as the past is re-created and the family moves westward from the New England to the Illinois wilderness. The camera enables pupils to observe events, people, and places perhaps thousands of miles from their classrooms.

One of the outstanding contributions of motion pictures to education is an ability to synthesize time, form and space. A chemistry student who uses an animated presentation of the highly abstract concept of covalent ionization may gain an understanding of that concept which might never have been achieved from books, lectures, or experiments. In a film on astronomy, animation can provide accurate as well as imaginative views of the sky which would have been very difficult to capture in any other way.

Utilizing these unique characteristics, motion pictures make outstanding contributions to education. The classroom teacher can have at hand a lecture by an outstanding modern philosopher, a scientific experiment requiring expensive or dangerous equipment, a reading or dramatic presentation by the most renowned artists, or the planning and guidance of distinguished teachers in presenting the day's lesson.

At the Indiana University Audio Visual Center, we use a sequence of production courses to train students in the theory and practice of educational film production. There are several termination points in the sequence to meet the needs of the many students who, as teachers, audio visual specialists, or administrators, are seeking various levels of proficiency in their training. Each year several students who are planning careers in which film production will be a major responsibility graduate from the complete production sequence and stay on as graduate assistants serving in an intern capacity. After having produced several short motion-picture projects in their classes, these students are ready to assist the professional staff in all phases of educational film production.

The role of the graduate assistant usually changes markedly during the two or three years of internship spent at the University. Working under a faculty advisor, the intern gains experience in planning, coordinating, shooting, and editing one of several documentary films produced each year for university departments and for state agencies. In this work the trainee receives whatever degree of supervision and guidance he may require for the successful completion of his project. While such productions provide lower technical standards with a correspondingly higher chance for success, they normally include problems with sync sound, unpredictable and varying exposure, lighting requirements, and an opportunity for practice in working with a production team.

Having cut his eyeteeth on a production in which a lower level of attainment can be tolerated, the intern becomes increasingly more useful as a responsible member of a production team. During the filming of full-fledged productions intended for the educational market, he will find himself serving as an assistant in lighting or sound, or as an assistant to the director or cameraman. After several such experiences, the trainee will usually be able to assume greater responsibility. He will soon be able to discharge satisfactorily any of the duties of cameraman, sound man, lighting man, or director, albeit under the watchful eye of the professional.

The third year of internship often combines the acquisition of an advanced degree, a near-professional level of competence in one or more phases of production, and a watchful eye on the job-listing grapevine.

Difficulties Encountered

An educational film production program which provides internship opportunities has both the problems com-

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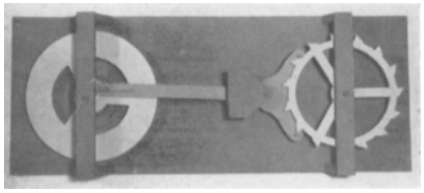

Fig. 1. Model clock escapement.

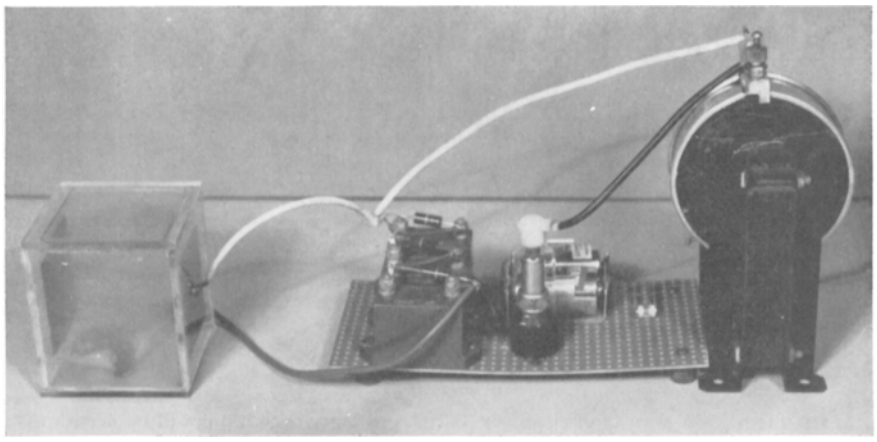

Fig. 2. Model smoke precipitator.

mon to all motion-picture production and problems unique to such a program. Obviously, the production crew is partly inexperienced. In a commercial organization the parallel would be a crew made up partly of apprentices. As a result, the production supervisor, along with any other professional members, must assume responsibility for the results of the efforts of his crew. In addition to the added responsibility for technical quality, the supervisor must keep a watchful eye on the time budget. Extra takes provide experience for interns, but they also add up to more man-days in the budget and take up the time of actors and consultants.

One of the unique problems in film production in an academic training program is that of scheduling crew time. Although graduate assistants receive a stipend for their services, they do not "work for" the production department in the usual sense. As students, they are enrolled in one or more classes, thus necessitating scheduling shooting time around those classes. This problem becomes particularly troublesome whenever a crew is made up for work on location.

Scheduling problems are not concerned wholly with student assistants. In an academic program, the professional members of the department are not only directors, cameramen, lighting men, editors, or sound men, as the case may be, they are also teachers. Production activities must take into consideration class commitments of the faculty as well as students. Every extended location-shooting trip must be coordinated by scheduling teaching commitments among the professional staff to free those who must go on location at a particular time.

While scheduling problems are most prominent during the shooting phase of film production, the same problems exist during planning, scripting and editing. While these problems may seem quite unnecessary to our colleagues whose orientations are purely commercial, it must be remembered that in the college or university training is usually the prime function. Production departments which have training as a major responsibility must consider such problems in planning budgets and release dates.

Another important aspect of production in an academic program is the necessity for recognizing the importance of inexpensive approaches to production problems. Every producer is limited by his budget, but many of our graduates find themselves in programs in which production budgets are almost nonexistent. The ingenuity of the student as well as that of the instructor is called upon to solve production problems in the simplest effective manner.

One example of the application of such ingenuity was a film depicting the characteristics of lightning. Shooting the scene could have been accomplished on an ordinary animation stand, but the desirability of smooth action and the need for a real spark supported the decision to build a special piece of apparatus. Using a simple device made of plywood, two-by-fours, weights, cord, and a small electric motor, a cloud was moved into position so that a lightning stroke could occur. The lightning itself was produced by a Tesla Coil, but could have been produced by a Wimhurst machine or a Van de Graf generator.

Students and instructors have combined talents to produce model clock mechanisms (Fig. 1), electric smoke precipitators (Fig. 2), model electrical transmission systems, and many other devices which have served to emphasize scientific principles with low-cost apparatus. Where cost has not been a factor, the model has been a choice based upon its educational value in the film. Much importance has been attached to the educational principle of starting with the child where he is, that is, using familiar objects to develop principles.

Advantages

It must not be concluded that educational film production in colleges and universities has only problems. There are certain advantages that accrue to the writer, the director-editor, to student crew members, and to the final audience itself. Colleges and universities represent concentrations of the world's leaders in all phases of thinking and research. Working in close cooperation with such men, the university film production department has a resource for guidance, for factual accuracy, and for alternative methods of presentation that are almost unavailable in any other atmosphere. When one of the leading geneticists, endocrinologists, psychologists, historians, or chemists has a vital interest in your production, you are assured of cooperation of the highest order.

Because the professional staff in an academic production facility must assume teaching as well as production responsibilities, a colleague relationship can be attained between members of the production department and members of the traditional college departments which results in mutually profitable experiences and, of greater importance, resulting in better educational films. To be able to work on a colleague basis with outstanding historians, scientists, philosophers, and the like means that emphasis must be placed upon the academic achievements of the professional staff. As a result of this emphasis, two-thirds of the professional production staff at the Audio-Visual Center have earned doctorates, and all, as responsible film producers, have won the respect of the other university faculty with whom they work.