MULTI-MEDIA TEACHING METHODS

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Projected visuals have become one of the most effective tools in communicating ideas to people. In education, the need to make more use of visual aids increase as the need to improve communication methods increases. Visual presentations can easily be improved and at the same time made more interesting and informative.

Several methods of visual presentation are open to the instructor — audio-tutorial, wide-screen, multiple-screen and/or multiple-images. All of these methods have proven to be effective in developing concepts and in maintaining student interest (1,2,3,4,5,6).

The audio-tutorial system places the emphasis on the individual student's learning ability (4,6). It is designed for independent study with the aid of several to many learning events integrated into a meaningful sequence. Consequently, the slow learner has the opportunity to repeat the process as many times as necessary while the fast learner can move along more rapidly and without delay. Traditionally, the learning experience takes place in a booth (carrel) equipped with a projector, tape deck and many other aids needed for that lesson or exercise.

A modification of the audio-tutorial booth system is a portable system that a student can take to any room that has facilities for projection. The portable system offers a more economical approach to the booth audio-tutorial method. It is also advantageous where space for booths is limited or nonexistent.

Wide screen presentations generally refer to a projection screen wider than tall. The Eastman Kodak Company (1) recommendations are for a 1:2 or 1:3 screen height to screen width ratio for best results. It should be emphasized that wide screen projection employs the standard one-projector, one-image system. Since the image is on the screen for a relatively short period of time, in most instances, a discontinuous train of concentration develops in the viewer. This can be overcome by dividing the projected image in half or thirds and then showing each progressively. Image divisions of this type also offer a greater flexibility through the progressive addition of material. Of course, all of these progressive additions can be effectively handled by using projectors with automatic short slide-changing time cycles or with dissolve controls.

Multi-screen and multi-image presentation denotes the use of two or more screens or images at one time using normally proportioned screens or images. The number of screens and/or images being shown will depend upon presentation requirements and physical limitations of the room. In any event, image size should be in proportion to the size of the audience. Tape recorded music or sound effects may be cued in at appropriate times while "live" commentary is delivered if desired. Such sound effects usually require a second person stationed near the projectors to start or stop the sound effects. Of course, sophisticated techniques are available to dovetail live and recorded sound effects into a synchronized presentation.

The simplest form of the multi-screen or multi-image system is the use of two projectors for either front or rear projection. The basic multi-screen system utilizes two projectors which may be advanced or reversed independently or together and two screens. Control is obtained by using two remote controls taped back-to-back and held in one hand or through a control panel mounted on the podium. In the basic multi-image system two projectors, a dissolve control unit, and one screen is used. However, the two-simultaneous-image advantage is lost and each image is seen for a relatively short period of time.

From the basic two projector multi-screen system, one can add as many projectors, dissolve units and screens as desirable. The number of units added are limited only by space limitations imposed by the room and/or audience. In addition, movie projectors and overhead projectors can be added as desired or needed. Generally speaking the number of projectors and screens are equal. However, one can develop a multi-screen presentation by using three screens, six projectors and three dissolve units. It should be emphasized that a programmer is necessary once the system is synchronized with sound, or a movie projector is added, or more than two slide projectors are used.

Multi-media projection systems have the advantage of greater flexibility in presentation techniques and images that are in front of the viewer for a longer period of time (1,2,3). It is also much easier to make comparisons between events or situations (2,3,5). Such comparison presentation permits strong associations to be forged between practical and theoretical concepts. Details concerning a technique or concept are often more easily seen and noted by students than by conventional demonstrations.

Obviously multi-media systems are not without problems or pitfalls. The foremost problem is that students may find it difficult to take notes in a darkened room. However, a series of

prepared handouts covering the lecture and/or laboratory can help alleviate the problem. The detail of the handouts should be adequate to cover the subject, yet allow the student to concentrate on the subject matter being presented (2,3,5). A second disadvantages is the time needed to plan, prepare, and set up each presentation (1,2,3,5). Artwork, slides, and diagrams need to be planned for each individual presentation. Once the artwork is made and arranged into a sequence, the program can be used over again and the time involved is only that which is required to maintain or add to the presentation.

Generally speaking multi-media methods have been well received by viewers. They are systems that organize and present material more effectively. They provide a means by which the instructor can concentrate on the presentation of material rather than take precious time to draw or illustrate on the blackboard. While it is exhausting; it is fun to do. It is certainly an exciting and challenging method of instruction.

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TEACHING PLANT PROPAGATION BY VIDEO TAPE

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For 1 year now we have had portable color video-tape capability in our teaching program at Purdue. Television has been used in horticulture, food science and landscape architecture courses and has been very well received by the students.

A major problem in the laboratory and field with large groups is that many often cannot satisfactorily observe demonstrations. We have found that with close-up television everyone can see equally well and, in addition, individuals have the op-