Media Manager's Column

Letting AV Media Work For You

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Abstract: Over the years. a great deal of research has been devoted to the study of the cost effectiveness of media. This article is on attempt to summarize some of the research as found in the books and articles listed in the references.

Seventy percent of the information reaching our brain comes through our eyes. "Since the brain reacts only to sensory perception, and since education is a mental process, it inevitably follows that the visual sense is by far the most effective channel ofcommunication. It is the 'supereyeway' over which the bulk of information travels to the mind" (Braselman, 1978). By contrast our ears have a sensory capacity of less than twenty percent and yet most teaching is geared to the aural rather than the visual sense.

The special characteristics of film or video, combining sight and sound, make it particularly valuable to the instructional process, if that process is to be both effective and efficient. Research into just how useful media could be began in the 1920s. In his review of media studies over the past sixty years, Donald Elyfound that the earliest research was concerned with the question "Does it work?" The next phase was "How well?," then "under what conditions ...?" on to "with what type of learners?" More recently the research has narrowed the field to "under 'X' conditions, does 'Y' type of learner achieve 'Z' results?"

After all these years of research, several conclusions seem possible:

> How the medium is *used* may be more important than the choice of medium.
> Learning seems to be more affected by what is delivered than by the delivery system.
> Most research indicates that the way media are used till determine the learning outcomes.
> ... it is the design of the software that can bring about consistently quality instruction rather than the medium used. (Software means subject matter, content, structure, not medium). (Ely, 1966)

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There has been no research to substantiate one medium being superior to another.

According to Molstad (1974), there is significant evidence to justify the following claims when instructional technology is carefully selected and used:

1) Significantly greater learning often results when media are integrated into the traditional instructional program;
2) Equal amounts of learning are often accomplished in significantly less time using instructional technology;
3) Multimedia instructional programs based upon a "systems approach" frequently facilitate student learning more effectively than traditional instruction; and
4) Multimedia and/or audio tutorial instructional programs are usually preferred by students when compared with traditional instruction.

Braselman adds that most studies have shown that the use of films greatly speeds up training (by 20 to 25%) without loss of training quality.

'There is a relatively substantial literature base dealing with the cost effectiveness of instructional technology" (Caffarella, 1977). However, according to Wilkinson (1983), 'The effectiveness of media is not founded in any variable that is inherent in the devices, but in how they are used. This implies that technology is a technique of designing instruction, rather than the more common perception of technology as machine."

Wilkinson goes on to describe three patterns of media use. The first one is the *additive approach* where a film or video is added to regular instruction, but is "not necessary for the achievement of basic instructional outcomes." The result is not cost effective. Unfortunately, according to *To Improve Learning: An Evaluation of Instructional Technology* (1970), a report to the U.S. President and Congress, "instructional technology is largely supplementary . . . (and) generally employed intermittently."

A second approach is the *integrated* one. Here, carefully selected materials are integrated into regular instruction and provide an essential element in that instruction. In this situation the teacher and the media are interdependent. There is significant increase in student achievement, and the result is cost effective.

Finally, in the *independent approach,* instruction is redesigned so that basic instructional outcomes are achieved through the active and passive interaction of students and instructional materials without the direct intervention of the teacher. There is a major initia1 cost to the school system, but this approach has the greatest potential for increasing the cost effectiveness of education.

In an article entitled *How to Involve Learners in Your Lectures,* Guild (1983) suggests eighteen different methods, but topping the listis "visual aids." Shecommentsthatwhile

deal with values, beliefs or attitudes. Attitudes are changed more significantly through the use of films than by any other method of instruction.

As has been said a number of times before, the way media are used is extremely important. Involvement is needed, both by the teacher and by the students. By delivering an oral introduction the teacher becomes part of the film experience. Use of questions both before and immediately after the screening, as well as showing the material a second time, can increase the amount of information learned.

While it can be seen that carefully selected and properly used media can be cost effective, from time to time barriers arise that need to be overcome. One of these is availability; effective use depends on adequate availability. In addition the media specialist can play an important role in helping teachers. In a 1981 study of twenty high schools in Wayne County, Michigan, it was discovered "that sixty-four percent of media specialists had never been in a classroom when media were used. Forty-one percent of the media specialists said they did not know how teachers actually used AV materials" (Day, 1987)

Studies indicate that teachers' attitudes towards media are influenced by the supervisor/principal, not by the media specialist. In fact the amount of support the teacher receives from the supervisor is an important factor in predisposing the teacher to use media. While all this is true, research also indicates that the media specialist is in the best position to be a catalyst, and act as a force for change. The specialist needs to go out of his/her way to make it as easy as possible for teachers to use media. This may mean getting rid of barriers to easy use, or it may mean going into the classroom to give the teacher a hand. Finally, training in selecting and using media is very important in developing in positive teacher attitudes towards media.

ACCELERATING USE OF MEDIA IN BUSINESS GOVERNMENT AND MEDICINE

The use of media in these fields started to accelerate in the sixties, and twenty years later it appears to be increasing at the rate of 20% per year (Thomas, 1980). A percentage breakdown of where media are used by business, government and medical organizations would look something like this:

Employee communications	10%
Management communications	10%
Marketing communications	10%
Continuing education and training	70%

Of these four areas, the fastest growing is management communications.

Why does business spend ever increasing amounts on media when educational spending seems to be in decline?

Two reasons: first, according to Thomas, economic analysis of communication cost effectiveness is the basis for making media decisions in most organizations. Some companies may spend in excess of two million dollars per year on video communications, hut this expenditure is more than made up in savings on education staff, travel, time spent in meetings, etc. One major company where equipment maintenance was a problem was able to cut costs by 1.6 million dollars through one program where media was an essential component.

Second, these organizations are communicating through AV media, not using film or video as an add-on to the educational process as happens in most school situations. For this reason they are using media in the most cost effective way possible and theeconomic benefits are obvious.

It seems obvious that AV media have the potential to save money for educational institutions just as they have proven to do so for business. But there are conditions, and here are some of the most important ones:

1) AV media must be integrated into the learning process and not just used as an add-on;
2) the teacher is the most important part of the "film experience," giving an oral introduction with questions before and after the showing;
3) media specialists need to take an active role in helping teachers make the best use of media; and
4) supervisor/principal support and encouragement are crucial if the media program is to become cost-effective.

Is it so surprising that audio-visual instruction can be such a powerful medium? These studies confirm what was expressed long ago in this Chinese. proverb:

"I hear and I forget, I see and I remember, I do and I understand."

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