

Confidence in Media Utilization — Does the Instructional Approach Make a Difference?

Ronald K. Bass and Wellington C. Morton

This is the report of a study conducted at the University of North Florida to ascertain if confidence in using media equipment and materials varies with the instructional approach utilized to present instruction.

Background

Prominent instructional design programs (Designing Effective Instruction, 1970; Teacher competency development systems, 1973; Criterion referenced instruction, 1974; Learning systems design, 1974) champion, as one of the essential elements of instructional design, the inclusion of interactive instruction (instruction which requires that students "do something" during the teaching/learning process).

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Although it would seem obvious that interactive instruction or "hands-on" experience, would have a significant positive influence on students' confidence on the tasks being taught, there is not a large body of literature investigating this instructional approach. Smith and others (1973) paper on the improvement of instruction concluded that one must have "appropriate learning experience for the attainment of the objectives" (p. 4). Gagne (1970), Popham (1970), Coates (1966), all indicate that learning can be significantly effected by the choice of presentation method.

Harkell (1975) assessed relationships be-

tween instructional procedures and students' classroom perception and found statistically significant differences in understanding of concepts, attitudes toward the subject matter, and interest in subject. In addition, Harkell states the need to "empirically determine which combination of lecture, discussion, highly-structured, loosely structured or direct-indirect oriented teaching produces optimum student growth..." (p. 3).

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Soar (1966) and Castaneda (1965) indicate that student attitude and/or anxiety significantly affect learning.

Stiltner (1973) examined the difference of responses of students involved in group teaching techniques and those who were not. A major point of interest noted was lecture methods promoted unequal distribution of power in the classroom resulting in psychological withdrawal of the student, and this implies a reduced learning rate. Stahl (1976) identified and defined skills associated for the improvement of student learning. In examining the range of teaching methods from formal lecture to open discussion/commentary, he states that "teacher commentary is one of the pivotal periods of time in a classroom instructional episode" (p. 4). During the commentary period, when the teacher is clarifying information, and providing a lesson set, greater learning takes place. A parallel in the present study to the commentary period would be a "hands-on" laboratory period during which the instructor clarifies and provides the lesson set for

Figure 1. QUESTIONNAIRE

Check the category that best describes your background.

SECTION I Code _____

Sex: male female

Age: 25 or under 26-35 years 36-45 years 46 and older

Educational Attainment: Associate Degree (or 60 semester hours)
 Bachelor Degree (or 120 semester hours)
 other

SECTION II

This section contains a list of general statements which are intended to measure your perceptions of educational media. You are requested to indicate the degree to which you agree or disagree with each statement on the scale beside each statement. The scale appears as follows:

(strongly disagree) 1 2 3 4 5 (strongly agree)

If you believe a statement definitely reflects your belief you should circle numeral 5. If you are undecided, you should circle numeral 3, and so on.

Strongly disagree	1	2	3	4	5	Strongly agree	
	1	2	3	4	5		If an outstanding instructional film was available in my subject area, I would obtain a projector, thread and operate it for my class.
	1	2	3	4	5		If an outstanding film strip was available in my subject area, I would obtain a projector and operate it for my class.
	1	2	3	4	5		If an outstanding slide presentation was available in my subject area, I would obtain a slide projector, load and sequence the slides and operate it for my class.
	1	2	3	4	5		If an outstanding recorded audio tape was available in my subject area, I would obtain a tape player and operate it for my class.
	1	2	3	4	5		If an outstanding transparency was available in my subject area, I would obtain an overhead projector, and operate it for my class.
	1	2	3	4	5		If an outstanding video tape was available in my subject area, I would obtain a video tape player, thread and operate it for my class.
	1	2	3	4	5		If the preparation of transparencies would significantly enhance my instruction in class, I would produce and present the transparency.
	1	2	3	4	5		If the preparation of a video tape would significantly enhance my instruction in class, I would produce and present the video tape program.
	1	2	3	4	5		If the preparation of an audio recording would significantly enhance my instruction in class, I would produce and present the audio tape recording.
	1	2	3	4	5		If the preparation of ditto materials would significantly enhance my instruction in class, I would produce these handouts for students.
	1	2	3	4	5		If the preparation of display materials would significantly enhance my instruction in class, I would produce these materials for observation.

Ronald K. Bass is an Associate Professor in the College of Dentistry at the University of Florida.

Wellington C. Morton is an Assistant Professor of Education at the University of North Florida.

the accomplishment of the manipulative audiovisual skills.

"Interactive instruction is an essential element of instructional design."

The major hypothesis of this study was that student confidence and attitudes toward the utilization of media would be enhanced by "hands-on", or interactive, instruction.

The subjects for this study were 134 students enrolled in a teacher education program at the University of North Florida, Jacksonville, Florida.

The students were randomly assigned to one of two groups. The control group was instructed using a straight forward lecture demonstration approach. Students took notes and discussed each presentation (piece of equipment or constructed material with the instructor). The experimental group covered the same amount of material but instruction was accomplished by assigning students to a piece of equipment on which they duplicated manipulative action or constructed the presented materials. Both the control and the experimental group were given a step-by-step, logical sequence presentation in how to operate each piece of equipment or how to construct each piece of instructional material. While the classroom control group observed and took notes on the presentation, the laboratory experimental group actually had to operate the equipment or construct the material at the same time the instructor made his presentation.

As stated earlier, this research sought to validate the belief that students who operated equipment or constructed materials in a laboratory using their manipulative skills would possess more positive attitudes toward audiovisual aids in their classroom.

After instruction in the two groups, an 11-item questionnaire designed to measure attitudes toward confidence in the 11 areas

of instruction identified in previous research as being the most utilized/produced audiovisual aids was administered to all 134 students. The questionnaire is reproduced in Figure 1.

The responses of the two groups were analyzed utilizing a T-test and the contention that "hands-on" or interactive instruction would produce more positive affective responses toward utilization of or production of educational media was supported in all cases.

The difference in attitudes toward operation of: 16 mm projectors, filmstrip projectors, 35 mm slide projectors, audiocassette recorders, overhead projectors, videocassette recorders were all significant beyond .0005 in favor of the "hands-on" group.

The difference in attitudes toward production of: overhead transparencies, videocassettes, audiocassettes, dittos, drymount presentations were all significant beyond .0005 for the "hands-on" group.

It thus appears, even though a literature search didn't support the contention, that the prominent instructional design programs cited earlier in this paper are entirely correct. Interactive instruction is an essential element of instructional design.

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In my Opinion

Why We Need a Canadian Educational Television Channel

Duane B. Starcher

Do we? We AMTEC members naturally think so, but how about the public? At a dinner party this spring, I was mousetrapped into a discussion with a friend over the relative benefits to the Province of the Newfoundland Symphony Orchestra (NSO). The NSO is an amateur orchestra under a professional conductor, bolstered by three full-time professional players, with another dozen or so under contract on a fee-for-service basis. Still and all, it remains a community orchestra, a collecting point for the student and amateur musicians of the area to display their musical skills and bring some live orchestral repertoire before the public.

My friend found little to praise in the orchestra, especially as it was at that time asking for public support through a fund drive, and he suggested that the best way to improve its quality would be to pay all its members, especially the amateurs, who would thereby practice more diligently and become better players. He felt that amateurs, by definition, brought too little personal incentive to play well and that an infusion of money would somehow improve their musicianship.

"It has always been difficult to clarify the processes of culture, or even to defend the processes of education, to those who are themselves not inclined to participate."

As our argument progressed, he finally allowed that Newfoundland really didn't need an orchestra anyway. Why did we not import the Toronto Symphony or the Montreal Symphony or the National Arts Centre Orchestra and scrap the whole impossible idea of marshalling an admittedly third- or fourth-rate orchestra far off the beaten cultural track? Whom were we kidding, anyway?

In other words, he became completely enmeshed in the standard confusion of regarding culture as product, as against also accepting culture as a process. Most consumers (and we are all consumers) — most consumers are indeed confused. It has always been difficult to clarify the processes of

culture, or even to defend the processes of education, to those who are themselves not inclined to participate. Too much of education has been taken over by the behaviourists, who prescribe simplified, step-by-step procedures, predict standard outcomes and quantify results and who believe that learning does not in fact take place unless it can be so quantified. This narrow definition of educational television is also enshrined in Canada's broadcasting laws, even though we no longer obey most of them.

"If excellence is our criterion, we should be limited only by what we can afford, not by its geographical location."

The public is far less confused about sports. They can tell the difference, and even their governments can tell the difference, between the Stanley Cup and the PARTICIPATION program. The federal authorities actually make commercials lauding the fact that physical activity can be its own reward and justification. But they are less certain about music and philosophy. And, as the federal government is not officially in the education business, the provinces reign supreme in separate confusion.

Quality in Product

So, if we do actually need a Canadian educational television network, what educational philosophy should it embody? Without sinking to nationalism, chauvinism or isolationism, I would like to parallel my friend's concern for quality in the products of culture. I agree that we should in Newfoundland hear the Toronto Symphony, the Montreal Symphony and the National Arts Centre Orchestra. But if quality of product is our main criterion, why don't we import instead the Philadelphia Orchestra, the London Symphony and the Berlin Philharmonic? They are not only infinitely superior to the Newfoundland Symphony, but are usually adjudged to be well ahead of Toronto, Montreal and Ottawa. If excellence is our criterion, we should be limited only by what we can afford, not by its geographical location. We should all buy Mercedes and

Duane B. Starcher is the Director of the Educational Television Centre at Memorial University of Newfoundland.