

# Designing Instruction for Attitudinal Outcomes

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As early as 1931 Thurstone was able to demonstrate the impact of film on the attitudes of children. In this landmark study it was found that two films depicting the Chinese either favorably or unfavorably were capable of producing attitude changes in either a positive or negative direction. Since Thurstone's study there have been numerous experiments conducted that have evaluated some aspect of the relationship between instructional media and the attitude formation and change of students. Over two hundred of these experiments were reviewed by Simonson (1977; 1979; Simonson, Thies, & Burch, 1979). Generally, the results of those studies were not uniform enough to produce a single, definitive conclusion concerning the relationship between mediated instruction and attitudes. Results were often contradictory. However, there were a considerable number of studies in the literature where researchers were able to produce positive attitude results, similar to Thurstone's. In other words, educational researchers reported findings where instructional media was used to deliver messages, and desired or hypothesized attitudinal outcomes were produced.

While a review of the literature is not intended here, it is important for the instructional developer to be aware of the type and scope of positive relationships that have been reported to exist between mediated instruction and the attitudes of learners. This paper attempts to document procedures that were successful in experimental situations in producing desired attitudinal positions, and that would seem to be useful information for the instructional developer. These techniques will be supported by citing a sample of specific research studies where the procedure was suc-

cessfully validated. Naturally, the instructional developer should apply these recommendations skeptically. The very nature of educational research prohibits the development of conclusions about the learning process that can be universally applied. The following statements are intended as guidelines only, not laws or rules.

Obviously, most instruction is designed to produce cognitive outcomes. Attitude positions are usually of secondary importance when learning processes are developed. However, because attitudes are thought to be "predispositions to respond" those attitudinal positions that are related to instructional procedures or content might possibly be important to the instructional developer.

While a positive link between attitude and achievement has been identified by some (Simonson and Bullard, 1978; Simonson, 1977; Levy, 1973; Fenneman, 1973; Perry and Kopperman, 1973; and Greenwald, 1966, 1965; for example), most researchers have been reluctant to propose any cause and effect relationship between these two learner variables. Because the relationship between attitudes and achievement has been examined by many, with unclear conclusions often resulting, the reason for the instructional developer to be concerned with attitude positions resulting from instruction should not be based primarily on the impact of attitude on achievement. Rather, the development of a more favorable attitude toward instruction or subject area is a desirable end in itself. Fleming and Levie (1978) have provided additional reasons why the instructional developer should be interested in the attitudes of students. First, most teachers would agree that there are cases when it is legitimate, and important, to urge learners to accept the truth of certain ideas. In other words, to promote an attitudinal position. Second, as stated above, that while the relationship between attitudes and learning is unclear it seems to be common sense that students are more likely

to remember information, seek new ideas, and continue studying when they react favorably to an instructional method and certain content areas. Last, the instructional developer should be aware of procedures that are likely to influence attitudes in one direction or another so that bias can be reduced when inappropriate. Whatever the reason, attitudinal outcomes should be important considerations for the designer of instruction.

By applying these definitions and explanations researchers have attempted to evaluate the impact various instructional procedures have had on attitude formation and change.

#### Design Guidelines

Once the instructional developer has determined that a certain attitudinal outcome or attitude change is desirable, then there is a series of research-based

Relevance and realism were examined further by Croft, et al. (1969) and Donaldson (1976). Both reported that "live" messages were the most realistic to learners and were most effective in producing attitude changes toward intercollegiate athletics and the disabled. Found to be next most realistic and effective were television messages on these topics. Booth and Miller (1974) and Winn and Everett (1978) investigated the realism provided by pictures produced in color versus those only in black and white. They reported a relationship between the use of color, realism, and attitude formation.

Two additional studies provided interesting information on the correlation between realism and attitude change. McFarlane (1945) found that eight and nine year olds seemed most influenced attitudinally by "story" films rather than "nonstory" films. Ganschow (1970) also reported nonstatistically significant, but important, trends in a study on attitudes toward occupations. It was found that when an actor's ethnic group was the same as a viewer's the subject identified with the actor, thought the instruction was realistic, and scored higher on attitude-toward-actor's-occupation inventories.

While this sample of studies certainly provides far from conclusive support for Guideline #1, they do seem evidence enough to warrant consideration of this idea when attitude outcomes are desired.

*Guideline #2: Learners are persuaded, and react favorably, when mediated instruction includes the presentation of new information about the topic.*

Levonian's (1969, 1962, & 1963) studies lend support to the intent of this guideline. When the audience was surveyed about India, it was possible for the developer of the film to use this information to ascertain previous knowledge about India so that new information could be presented. This new information was included to support the attitude position desired by Levonian. Jouko (1972) reported similar results. It was found that the less preinstruction knowledge students had about a topic the more attitude change that was produced after an informational and persuasive lesson. In other words, there

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#### Attitude Defined

Attitude has been a difficult concept to adequately define, primarily because it has been defined by so many, but also because of its many lay uses and connotations. One of the earliest definitions of attitude was proposed by Thomas and Znaniecki (1918). They defined attitude as:

A mental and neural state of readiness, organized through experience, exerting a directive or dynamic influence upon the individual's response to all objects and situations with which it is related (Thomas and Znaniecki, 1918).

In other words, while attitudes are latent and not directly observable in themselves, they do act to organize, or to provide direction to, actions and behaviors that are observable. Also, attitudes vary in direction, either positive or negative; in degree, the amount of positiveness or negativeness; and in intensity, the amount of commitment with which a position is held (Fleming and Levie, 1978).

Additionally, attitudes have three components: affective, cognitive, and behavioral (Zimbardo and Ebbeson, 1970). The affective component is said to consist of a person's evaluation of, liking of, or emotional response to some object or person. The cognitive component is conceptualized as a person's beliefs about, or factual knowledge of, the object or person. The behavioral component involves the person's overt behavior directed toward the object or person.

procedures that can be considered, and if appropriate, applied, to promote the likelihood of producing certain attitudinal outcomes in learners. The six guidelines listed below are intended as recommendations for the instructional developer to consider during the design process. The reader is reminded that these guidelines are not to be considered prescriptions, rather they are recommendations.

*Guideline #1: Learners react favorably to mediated instruction that is realistic, relevant to them, and technically stimulating.*

Levonian (1960, 1962, & 1963) reported on a study that incorporated the use of a preproduction survey of the target audience to determine their attitudinal positions, among other things, about India. The results of this survey were used as input to the production of a persuasive film on India. Supposedly this approach made the resulting instruction more relevant and realistic to the audience, and this contributed to attitude changes. Tests of hypotheses indicated that desired attitude positions were produced in viewers of the film.

Seiler (1971) found that if persuasive messages were presented by media they were most effective if the visual channel supplemented the verbal through the use of technically relevant graphics or good quality "human-interest" photographs. Klapper (1958) also reported that highly visualized lessons were perceived as most realistic by learners and seemed most likely to produce desired attitudes.

was a negative relationship between preinstruction familiarity to topic and attitude change as a result of a persuasive communication.

A similar conclusion was proposed in a study by Knowlton and Hawes (1962). They correlated attitude with knowledge about a topic and found a positive relationship. In this study it was determined that knowledge about a topic was often a necessary prerequisite for a learner to have a positive attitude position toward the idea. Stated another way, new knowledge may need to be supplied when attitude changes are desired (e.g., Jouyko, 1972), or knowledge may need to be present for a learner to have a favorable attitudinal position toward a topic (Knowlton and Hawes, 1962).

A corollary to Guideline #2 was proposed in a study by Peterson and Thurstone (1933). They reported that younger children were influenced more by persuasive films than were older children. They also found that a series of related films seemed to produce a cumulative influence on attitudes. Possibly, younger children acquired more new information than older, more knowledgeable children as a result of viewing the persuasive films, and this contributed to their more significant attitude changes.

It would seem that positive attitudinal outcomes are most likely when the cognitive component of attitude is considered in the design of persuasive instruction. Level of knowledge is an important variable when attitudinal outcomes are sought.

*Guideline #3: Learners are positively affected when persuasive messages are presented in as credible a manner as possible.*

Source credibility has been recognized as an important criteria for attitude change since the early 1950's. When mediated instruction is developed it will often be valued positively, and attitudinal positions advocated in the materials will be influential, if the persuasive message is delivered by a credible source or in a credible way. Kishler (1950) found that when the actor in a persuasive film was cast as a member of a highly credible occupational group it was likely that attitude changes ad-

vocated by the actor would be produced.

Credibility can also be simulated by the way material is presented. Seiler (1971) produced three videotaped versions of a persuasive speech on the Vietnam War. It was found that the greatest attitude changes were produced in learners who viewed either technical graphics or "human-interest" photographs as a part of their visual message, as contrasted to a "talking-face" version. It was concluded that the visuals added credibility to the persuasive argument presented in the speech.

O'Brien (1973) provided additional support for Guideline #3 in a study dealing with the impact of televised instruction on attitude change of rural and urban elementary school students. It was found that urban children identified with television as a method of instruction. Rural students considered a live communication to be most credible. In each case the most credible form of instruction delivered the most powerful attitude change message.

The content of mediated instruction is probably the most critical variable in determining attitude formation and change. If that information is presented logically, and intelligently (i.e., credibly) it is likely that it will be favorably received and will be persuasive.

*Guideline #4: Learners who are involved in the planning, production, or delivery of mediated instruction are likely to react favorably to the instructional activity and to the message delivered.*

Active involvement in the learning process was examined as a component of several research studies. Erickson (1956) found that students who actually

niques that were a part of the instructional sequence. It was found that short reviews after TV lesson subunits produced the most favorable attitude reports in students. Simonson (1977) conducted an experiment where students were convinced to make counterattitudinal videotapes without realizing that attitude change was the primary purpose of this activity. The process of involving subjects in the making of these videotapes was found to be successful in producing significant attitude changes in subjects.

Microteaching is an involvement technique that has been found by many educators to be successful in changing attitude positions of preservice teachers. One study, of many in the literature, that evaluated the impact of microteaching in a somewhat controlled situation was conducted by Goldman (1969). It was reported that microteaching of self produced significant attitude changes toward self in college females.

It would seem that in the affective domain the active learner perceives instruction and information more favorably than does the passive learner, all other things being equal. Student involvement is an important technique for promoting desirable attitudinal outcomes.

*Guideline #5: Learners who participate in postinstruction discussions and critiques are likely to develop favorable attitudes toward delivery method and content.*

A powerful technique for promoting favorable attitudes that was evaluated by several researchers consisted of the addition of follow-up discussions to the instructional sequence. These follow-ups usually involved learners in an

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produced a film on science concepts reacted more favorably toward instruction and toward science than did students who only watched science films. Coldevin (1975) involved students in message delivery through the use of various review and summarization tech-

analysis or critique of the instruction and message presented. Allison (1966) found that only when postviewing discussions were included after students watched motivational science films did significant attitude changes occur. Fay (1974) reported similar findings in a

study that used follow-ups to a film on the problems of the handicapped and the need for "barrier-free" buildings. Attitudes toward continuing education were significantly altered after classroom teachers saw a film and participated in a discussion on the subject. This study was conducted by Burrichter (1968).

An interesting variation to the studies reported on above was conducted by Domyahn (1972). In this experiment students viewed a nonpersuasive film on the responsibility for the fall of Eastern Europe to the Communists after World War II. Domyahn reported that attitude changes were produced only in the treatment groups that participated in persuasive critiques after viewing the film.

Guidelines #4 and #5 are directed toward the behavioral component of attitude. When learners are involved in the instructional situation it is likely that they will value the learning process positively and will maintain or develop favorable attitudes toward the content presented. Again, it is important to remind the reader that these guidelines are only recommendations, and in a given situation may not be as effective as indicated by the results of studies reported above.

*Guideline #6: Learners who experience a purposeful emotional involvement or arousal during instruction are likely to change their attitudes in the direction advocated in mediated message.*

Janis and Feshbach (1953) presented a slide/audiotape program on the effects of poor dental hygiene to high school students. They varied the intensity of a fear-arousing appeal in three versions of the presentation to determine the most influential delivery technique. All three methods were successful in producing aroused, affective reactions in the students. However, it was found that a minimal fear-arousing appeal was most successful in modifying attitudes because the stronger versions left students in a state of tension that was not alleviated by the remedies offered during the slide show. Janis and Feshbach concluded that strong, fear-producing appeals were not as effective in changing attitudes as were more moderate appeals because the audience became motivated to ignore the importance of the

threat to reduce the tension they felt.

Rogers (1973) reported on a study that supported this position. Public health films dealing with cigarette smoking, safe driving, and venereal disease were tested in three different studies. It was found that the more noxious a film was the more fear that was aroused in viewers. However, it was also reported that these fear-arousing films were most effective in changing attitudes when preventatives or statements of probability of exposure to the malady discussed in the film were included as part of the motion picture.

Miller (1969) examined the degree of emotional involvement produced in viewers of motion or still picture versions of the same script. It was reported that the motion picture version produced the higher positive evaluation by students. Miller concluded that this was because of the increased involvement in viewers of motion pictures.

Again, the studies supporting Guideline #6 indicate that viewers' participation in the learning process is important when attitudinal outcomes are desired. In these cases involvement was emotional, rather than behavioral, as it was in the studies cited to support Guidelines #4 and #5. It would seem that learner involvement is a powerful technique for the instructional developer to use if attitudinal outcomes are to be an important consequence of instruction.

### Conclusion

Attitudinal outcomes should be a concern to the developer of teaching materials. Techniques likely to produce a favorable reaction in students should be identified, refined, and evaluated routinely as a part of the design and delivery of instruction process. It was readily apparent after studying the guidelines and research summarized in this article that type of media was only one of a number of variables that were found to influence attitudes. Media were primarily carriers of information in these studies. There was no "best medium" found for producing attitudinal outcomes. However, there probably is a "best approach" for the development of instruction that will maximize the likelihood of desirable attitudes being fostered in learners in a given situation. By critically applying the general guidelines listed above, the instructional developer

should be well on the way to promoting attitudinal positions in students that are likely to contribute to a healthy, positive learning environment.

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