Teacher Attitudes Toward Audiovisual Instruction as They Are Influenced by Selected Factors Within Teaching Environments

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This research investigated teacher attitudes toward audiovisual instruction as they were related to eight factors within the teaching environments experienced by a teacher population during the first semester of teaching following study in audiovisual education. Relationships discovered for the factors involving availability and accessibility of educational media within teaching environments are the basis for this report; those relationships revealed the population's concern for subtle differences between the influence of "availability" and "accessibility" upon their attitudes toward audiovisual instruction.

Previous researchers have indicated a concern for various factors that influence teacher utilization of educational media. Miller (1965) identified over 1000 physical barriers to audiovisual utilization encountered by teachers, and Hubbard (1960) noted four factors associated with teacher training and experience that were related to college teachers' use of audiovisual materials. Fear of mechanization and reduction of self-impor-

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tance were identified by Handleman (1960) as negative influences upon teachers in their utilization of instructional television.

Eboch (1966), in reporting on Project Discovery, noted that teachers will utilize audiovisual materials when they are available but did not comment on the effectiveness with which educational media were applied to the teaching-learning process. The growth of educational media inventories within schools and school districts was documented by Godfrey (1965) who noted that teacher requests were among the more influential channels for having school boards provide more audiovisual equipment and materials; while Battram (1963) found that teachers who perceived audiovisual materials to be readily available tended to learn more about the effective use of those tools.

Various researchers have reached conclusions indicating that attitude toward a field of study is improved during formal studies within that area (Aquino, 1968; Jones, 1963; Munger, 1963). However, little had been investigated concerning the influence of various factors upon teacher attitudes toward audiovisual instruction. Lack of knowledge and fear of automation were linked by Tobias (1966) with teacher attitudes toward programed instruction. Findings reported by Guba and Snyder (1964) indicated that teachers who used instructional television had more positive attitudes toward instructional television and newer instructional media than teachers who did not use the television medium. Kelley (1959) identified 16 factors related to teacher attitudes toward audiovisual instruction, but these factors were not limited to those found within his population's teaching environments. Disagreement with findings that linked attitudes toward audiovisual instruction with study in that area was expressed by Knowlton (1963), who attributed improved teacher utilization of educational media following coursework in audiovisual instruction to improved information and not to improved attitudes. Reporting on the same population, Knowlton and Hawes (1962) concluded that negative attitudes which the population displayed toward audiovisual materials were related to utilization barriers and not to educational media alone.

While a major implication of the literature is that teachers

utilize educational media more readily when that media is available, there is little evidence to indicate that increased utilization arising from availability of audiovisual equipment and materials is linked with improved teacher attitudes toward such utilization. It may be assumed that improved attitudes imply a desire on the part of a user which not only leads to *increased* utilization, but also to more *effective* utilization of educational media. Since it is a tenet of those associated with audiovisual education that improved utilization methods and techniques must be employed by teachers if educational media are to have the desired impact of assisting teachers in reaching their educational objectives, the assumption that increased availability of educational media leads to improved utilization cannot be supported. Torkleson alluded to this in a report to the Regional Research Conference on Newer Educational Media (1961) by noting evidence which "seems to point out that present knowledge in newer media has not been applied by teachers in their jobs, by professors concerned with teacher education, nor by school administrators in implementing their instructional programs."

The term *availability* implies a simple, physical presence. If Knowlton's conclusion concerning attitude-media relationships being associated with utilization barriers and not with specific media is correct, then it follows that accessibility of educational media at the times these are required by teachers for instructional applications is a major barrier which may be related to teacher attitudes toward audiovisual instruction. Therefore, the research reported here attempted to determine differences between attitudes on the part of teachers who perceived various degrees of availability and accessibility of educational media within their teaching environments.

Forty educators who enrolled in a graduate course entitled "Audiovisual Education" in the summer of 1966, and who returned to teaching duties during the academic semester immediately following those studies, comprised the population for the research. The population had experienced a mean of 6.2 years of teaching and each member had had at least one year of teaching experience. None had previously experienced a formal course in audiovisual instruction. What instruction they had received concerning educational media had taken the form of one-day workshops or demonstrations scattered through-

out their careers. More than 90 percent of the population indicated that the only method by which they had learned about educational media was through self-instruction on a trial-and-error basis.

Although each member of the population had utilized during his teaching career at least one type of projection or audio-playback device, the group as a whole was unsophisticated in applying educational media to the teaching-learning process. For instance, data indicated that 35 percent of the population had never utilized a projected image and approximately 12 percent had never used an electronic audio device.

The formal audiovisual education course involved in this study was concerned with selection and utilization of educational media, application of those media to meet the objectives of a curriculum within which they are employed, basic techniques for the production of audiovisual materials, and communications and learning theory as these applied to the preceding activities. Classes met for 30 three-hour sessions with each session divided into classroom and laboratory periods.

A preliminary investigation indicated that attitudes toward audiovisual instruction improved during the course of study in audiovisual education. To determine further changes in direction and intensity of attitudes, subsequent measures of that construct were made at the beginning and conclusion of the population's first semester of teaching following the audiovisual education course. Scores obtained from the two administrations of the attitude measurement instrument allowed for the division of the population into subgroups on the basis of net gain or net loss in raw scores. Those whose scores indicated net gains in attitude were classified as *Positive Change Group* and those with net losses, as *Negative Change Group.*

The *New Media Attitude Scale* (NMAS) was used as the principal instrument for gathering information concerning attitudes toward audiovisual instruction. That scale, developed and tested by Ramsey (1961), is a questionnaire scale possessing the characteristics of the Likert-type arrangement. The form of the NMAS used in this research was developed from responses to items which indicated sympathy with or hostility toward educational media by a population of more than 1100 members of the Department of Audiovisual Instruction and the Association for Supervision and Curriculum Development.

Item analysis and analysis of variance procedures allowed Ramsey to identify 39 items, at the .01 level of confidence, which discriminated between hostility or sympathy in regard to newer educational media. Those 39 items made up the final attitude measurement scale.

Information involving factors within the population's teaching environments was self-reported through responses to a five-point rating scale which signified degrees of favorableness or unfavorableness for each factor. The factors relevant to that phase of the study which pertains to this report were: 1) availability of audiovisual equipment, 2) availability of audiovisual materials, 3) accessibility of audiovisual equipment, 4) accessibility of audiovisual materials. In order to eliminate ambiguity between the meanings of *equipment* and *materials*, operational definitions of those terms were included within the framework of directions for responding to the factor rating scale.

Combined factor rating scale and NMAS data allowed for the development of a series of two-by-two matrices for determining factor-attitude relationships. Matrices were organized on the basis of positive-negative attitude change as compared with favorable-unfavorable ratings for the four factors tested. A phi coefficient statistic was used to learn the extent of relationships, and chi square derived from phi indicated the significance of those relationships (Table 1).

TABLE 1
Phi, Phi Maximal, Chi for Factor/ Significance of Chi for Factor/ Attitude Change Relationships

Factor	*Phi*	*Phi Maximal*	*Chi Square*	*Level of Significance*
Availability of audio-visual equipment	.155	.88	0.62	.50
Availability of audio visual materials	.388	.50	3.96	.05
Accessibility of audio-visual equipment and materials	.388	.50	3.96	.05

Because *availability* and *accessibility* might be thought synonymous, those terms were not included per se on the rating

scale employed for the collection of teaching environment data. Rather, scales soliciting information on those factors were stated in terms of "school ownership" for availability factors, and "attainability during times of need" for accessibility factors. Thus, it is unlikely that incorrect definitions on the part of the population were responsible for the differences which were perceived between availability and accessibility of educational media.

Analysis of the data indicated that the population was not concerned about the amounts of audiovisual *equipment* their schools owned, so long as that equipment was accessible when it was needed. On the other hand, the population attached great significance to the amount of audiovisual *materials* their schools owned as well as to the accessibility of such materials. Relative to these conclusions, it is interesting to note that the matrices utilized in determining factor-attitude relationships revealed that no one in the negative attitude change group noted that audiovisual materials were *available* in amounts sufficient for their instructional needs, and no one in the positive change group noted that audiovisual equipment and materials were not *accessible* to them when needed. This situation required application of Yates's continuity factor to cell sizes for arriving at significance levels. Without Yates's factor, significance would have approached the .01 level for each of those analyses.

The obvious recommendation to be drawn from such findings is that school administrators and educational communications personnel attend more carefully to acquiring and making accessible both audiovisual equipment and materials. It would appear that the population was interested in audiovisual equipment only to the extent that it fitted their intended utilization plans, but that they wanted materials to be available in quantities that permit browsing, previewing, and planning and also to be highly accessible for classroom use. This conclusion supports the purchase of multiple copies of certain audiovisual materials for use within a single school building.

Interpretations of subtler aspects of the data reveal implications for further study into matters of availability and accessibility of educational media within teaching environments. Thus, the findings pose the following questions:

1. Was the population satisfied in responding to avail-

ability and accessibility factors as they related to the whole of educational media within their teaching environments? Under the conditions imposed by this study, the population was forced to respond in just that fashion. Perhaps an instrument offering many scales for various types of audiovisual equipment and materials would reveal specific relationships between certain items and teacher attitudes toward audiovisual instruction. Here, indeed, would be firm ground for suggesting educational media standards which might truly influence teacher applications of educational media to the teaching-learning process.

2. Did the attitude measurement instrument utilized for the study provide correct indications of attitudes toward the entire field of educational media? While developmental and testing data for the NMAS (Ramsey, 1961; Brown, 1965) suggest that the NMAS is a suitable indicator of attitudes toward educational media, it is justifiable to speculate that respondents may have widely varying attitudes toward different aspects of educational media. Therefore, an attitude measurement instrument which provides indications of attitudes toward various aspects of educational media might be of greater validity for the type of research reported here. Paul Dawson at the Teaching Research Division, Oregon State System of Higher Education, is currently testing an instrument—the *Media Attitude Profile* (MAP)—which shows promise for that type of application.

The writer has recently begun an investigation that seeks answers to the preceding questions and utilizes the MAP and a revised factor rating scale for the collection of data.

A major implication emanating from this study is the need for further evidence which relates teacher attitudes, as indicated by an attitude measurement scale, with behaviors exhibited by teachers when functioning within teaching environments which afford various degrees of availability and accessibility for educational media. Should an investigation of more specific and definitive aspects of teacher attitudes toward audiovisual instruction support the general findings reported here, those factor-attitude relationships which are discovered may provide the basis for simulating conditions that reflect upon availability and accessibility of educational media within actual teaching environments. Thus, researchers would be en-

abled to manipulate availability and accessibility of audiovisual equipment and materials, and observe teacher behaviors toward educational media under circumstances which approximate a wide variety of possible teaching-learning environments.

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