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THE EFFECTIVENESS OF VARIOUS TELEVISION FORMATS
IN PRESENTING AFFECTIVE INSTRUCTION

by

Gwen Curry Nugent

A DISSERTATION

Presented to the Faculty of
The Graduate College in the University of Nebraska
In Partial Fulfillment of Requirements
For the Degree of Doctor of Philosophy
Psychological and Cultural Studies

Under the Supervision of Professors
Robert E. Stepp and Robert D. Brown

Lincoln, Nebraska

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PREVIEW

TITLE

The Effectiveness of Various Television Formats in

Presenting Affective Instruction

BY

Gwen Curry Nugent

APPROVED

DATE

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SUPERVISORY COMMITTEE

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PREVIEW

CHAPTER I

INTRODUCTION

Statement of Purpose:

The period during 1950-1965 represented a time of intensive research on the instructional effectiveness of television. Over 200 studies, representing close to 400 separate comparisons, were conducted in a variety of settings and with a variety of curriculums (Chu and Schramm, 1967). The primary research question was "can television teach?" and experiments compared television with other modes of instruction. Results leave no doubt that children and adults do learn from this medium. The general design of the studies, however, resulted in research with media, not on media; there was no attempt to analyze how and what television can teach best.

Today, the research emphasis is shifting from a broadband interpretation of television's capabilities to a more specific delineation. The attempt is to determine where and how television can make its greatest contribution to instruction. Instead of concentrating on the value of various media in promoting student achievement, current researchers and developers are recognizing the multivariate nature of the communication process and are examining the impact of several variables contributing to learning. Salomon and Clark (1977) pointed out that media research should expect interaction effects between particular media attributes, learner traits, and learning objectives. Rhetts (1974) proposed a similar strategy, maintaining that instructional and research design should consider task characteristics, learner characteristics, and mode of

presentation. Further guidance in this area has been provided by Mielke (1970) who proposed a conceptual map for high potency message-medium interactions in instructional television. His framework identified variables potentially related to successful television presentations. He proposed that message aspects such as a high degree of concreteness, visual stimulation, and simulation of direct experience, coupled with presentational factors that preclude reproduction or simulation in live classroom settings, are potential factors for successful television productions. He also suggested that the television medium can more effectively convey affective versus cognitive material. This study considered these current concerns.

The purpose of the research was to determine the effectiveness of various television design and production formats in promoting affective learning and eliciting college student interaction on value-based issues. The study had two concerns, the efficacy of introductory organizers and the effectiveness of several production formats. These two areas represented separate analyses and used different television programs in their design. The introductory organizer research examined the use of program titles and advance organizers. The study of production format tested four methods: (1) dramatization; (2) visuals with narration; (3) on-camera narrator; and (4) on-camera authority/role model. Two program topics, both dealing with ethical issues in scientific fields, were each produced in the four production methods and were tested with beginning and more advanced chemistry students. This study considered learning outcomes, learner characteristics, and presentational methods with an aim towards further explicating and defining these components and their relationships to televised instruction.

Theoretical Bases and Rationale:

Learning and instructional theory provide limited guidance or explanation as to how a person encounters and learns from television instruction. McIntyre (1965) and Kander (1961) both advocated application of the stimulus-response paradigm to instructional television and pointed out its relevance to cueing, student participation, and feedback factors. Greene (1969), however, took an opposite viewpoint, maintaining that the stimulus-response approach tended to ignore human cognitive processes and symbolic behavior. He pointed out that stimulus-response theory, while applicable to programmed instruction, had little relevance to the highly visual, complex learning experience provided by television.

Salomon (1968) suggested that information processing and psycholinguistic theory offer guidance for the specification of television design and production considerations. Maintaining that typical film and television conventions such as dissolves, fades, and cuts gave these media special language, he suggested that these language properties were relevant to psycholinguistic theory. Similarly, concerns with information density and structure made information processing theory applicable.

Certain subtheories of learning have applicability to television, particularly theoretical orientations in the field of visual education. One view suggests that learning will be more complete as the number of cues in the learning situation increases. This view, advocated by Dale (1946) and Carpenter (1953), is generally referred to collectively as realism theory and suggests that an increase in realism of the existing cues in a learning situation increases the probability that learning will be facilitated.

An opposing viewpoint typically associated with Travers (Travers, McCormick, Van Modfrans, and William, 1964) and Dwyer (1972) is that excessively realistic cues may be distracting and produce interference rather than facilitate learning. These relevant-cue theorists maintain that presenting a student with a wealth of visual stimuli that approximates reality is not necessarily the best way to promote learning. Maintaining that realistic visuals present too many irrelevant cues, they suggest that simplified visuals may be superior.

Gagne (1970) reviewed the learning theories of Miller, Skinner, Ausubel and himself as they relate to the design of instruction and concluded that Ausubel's and Gagne's offered the most direction. Gagne's work is perhaps the most extensive effort to develop a pedagogy for media teaching and is one of the few that specifically deals with affective learning and its facilitating conditions. Gagne maintains that a frequently important condition for attitude change is the presence of a human being who can serve as a model (Gagne, 1977, p. 46). The model does not have to be a "real" person, but can be an imaginary one such as fictional characters encountered in books and on the stage or television. He points out that it is necessary to establish the model's appeal and credibility and that the model should communicate a personal situation where one behavior has to be chosen over another.

Ausubel's work has provided direction for much of the prose learning research but has had little impact on the design of television instruction. One concept unique to Ausubel which has heavily influenced instructional design is the use of integrative and perceptual organizers. Perceptual organizers are built-in mechanical aids that are intended to make

material more salient and comprehensible (Ausubel, 1968, p. 332). Examples are underlining, italics, headings and subheadings. Integrative or advance organizers are materials presented at a high level of abstraction, generality and inclusiveness that can serve as anchoring ideas for the information to be learned (Ausubel, 1968, p. 148). They are intended to provide an ideational scaffolding for new material by encompassing the areas to be covered and delineating the fundamental ideas under which the information can be incorporated. They can be written in statement or question form since questions introducing superordinate concepts precipitate a set to subsume facts under given ideas (Ausubel, 1978, p. 256).

While suggesting these learning and instructional theory underpinnings, it is clear that each makes a unique contribution but no one provides a comprehensive view of television instruction. Complicating the problem is the fact that basic research on television has not produced enough insights and patterns to provide comprehensive explanations or generate hypotheses. What exists is a low-level theory of television teaching and learning that is limited in generality and applicability. Lumsdaine (1965) has articulated this problem in relation to programmed instruction, but his comments are just as applicable to other media presentations.

The empirical emphasis does not deny the usefulness of a theory as a basis of prediction or as a guide to program construction. It merely takes the position that, for the present, theoretical propositions and rules for programs derived from them are insufficient and therefore are hazardous bases on which to rely for the assessment of a program's effectiveness. Obviously, it would be more efficient as well as more elegant if results of empirical tests of effectiveness could be reliably predicted in advance.... At present it is to be recognized that a mature science of instruction does not exist.
(pp. 312-313)

Recognizing television's present lack of theoretical guidance and basic research, the rationale for this study was two-fold. First, drawing from Gagne's and Ausubel's theories and Mielke's conceptual framework, tentative predictions were posited as to effective design and production techniques for presenting affective material to college audiences. Research with affective television resources is virtually nonexistent and clearly needed in the search for how and what television can teach best. Secondly, the results of this study should contribute to the data base that is slowly being developed from evaluation and research on television projects. It is only through this documentation that the body of knowledge on instructional television development can be improved.

Research Hypotheses:

The research hypotheses were the following:

1. The use of combinations of a program title and advance organizer in television programs have differential effects on student affective learning, comprehension, appeal, and follow-up discussion.
2. Programs having the same instructional intent but varying in television production format have differential effects in their ability to promote student affective learning, appeal, and follow-up discussion.

The first research hypothesis drew on Ausubel's concept of organizers and suggested its relevance to affective television instruction. Advance organizers have traditionally been studied with instruction and learning in the cognitive domain. As Hartley and Davis (1976) suggested,

however, the basic conceptualization of ideational scaffolding would appear to have relevance for a broader range of instruction, including that with affective objectives. The presence of a cognitive component to the formation of attitudes and values has been proposed by several theorists and researchers (Hovland and Rosenberg, 1960; Merrill, 1962; Triandis, 1971). Support for this idea and its relevance to instruction has come from Gagne (1977, pp. 249-251), who proposes that the learner must possess some understanding of the concept underlying the desired attitude or value. Maintaining that concept and information learning are essential prerequisites for acquiring an attitude or value, he nevertheless acknowledges that one can possess knowledge of all necessary concepts and still not develop or change a particular value.

For this research, perceptual organizers were presented in the form of a program title. The advance organizer consisted of superordinate generalizations and conceptual questions intended to provide ideational scaffolding. The use of organizers was projected to be facilitative, although the stimulus form was aural as opposed to the visual print form typical in prose learning.

The second research hypothesis tested four production formats, visuals with narration, host/narrator, authority/model "testimonial," and dramatization. Drawing upon Gagne's theory it was predicted that televised human models relating personal value dilemmas and choices would promote affective learning and be an effective production format. Coupling Gagne's theory with Mielke's conceptual framework, it was also predicted that dramatizations which simulated direct experience and provided examples of situations of choice would be successful. Dramatizations can

provide a high degree of concreteness by putting flesh and blood on the abstractness of values; they can provide visual stimulation; and they cannot easily be simulated in the classroom. Using Mielke's criteria, this production format would appear to be superior to host/narrator on camera, which more closely approximates the typical teaching situation.

PREVIEW

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

Since this study aimed to delineate design and production techniques effective in promoting affective learning, the review of literature discusses research and evaluation studies relevant to these areas. The first section considers research on television and film resources aimed at achieving affective learning objectives. The second section reviews the research attempting to delineate effective design and production techniques. Emphasis is on specifications that contribute to both attitudinal and learning outcomes.

Learning Outcomes:

Most of the research in television instruction has dealt with cognitive learning outcomes. The subject matter of television presentations for college audiences has ranged from anthropology (Williams, Paul, and Ogilvie, 1957) to zoology (Greenhill, Rich, and Carpenter, 1962). The research with military subjects has dealt with television instruction on such information topics as oxygen breathing apparatus (Mercer, 1952) and cold weather uniforms (McIntyre, 1954). Learning outcomes in these studies were clearly cognitive and were measured by written achievement tests.

The research on instructional television programming aimed at affective outcomes is slim. Considerable study has been conducted, however, on the effect of films in producing attitude or opinion change. Some of the earliest work in this area was conducted in conjunction with the Nebraska Program of Educational Enrichment through the Use of Motion

Pictures, a four-year experiment examining the educational impact of motion pictures in secondary schools. Research showed that films can successfully modify student beliefs (Meierhenry, 1952). When selected motion pictures about the United Nations were shown in a convocation setting, students developed a more positive point of view towards this institution. In addition, many students developed an increased interest in the United Nations and a deeper appreciation of its importance.

Other early research was conducted by Hovland, Lumsdaine, and Sheffield (1949), who investigated the "orientation" films of the Army during World War II. These authors found that knowledge was increased more readily than opinions were changed and that men favorable to the film itself seemed to change opinions more easily.

Research on media-induced attitude change has been reviewed by Allen (1960) who concluded that films can modify motivations, interests, and opinions if they are designed to stimulate or reinforce existing beliefs of the audience. He pointed out, however, that there is little evidence that films can make changes if they are contrary to the existing beliefs, personality structure, or social environment of the individual audience. In a later review, however, Lumsdaine and May (1965) maintained that research pointed to the general conclusion that effective changing of attitudes by audio-visual media required programming that was carefully tailored to take into account prior data about motivations and interests of the audience. Their conclusion is supported by the research of Edling (1963) and Levonia (1963), who found that students' opinions could be changed by a film especially produced for a given audience. It appears from the research that media can more easily stimulate or reinforce existing

beliefs of the audience. If programming is designed to change attitudes, it must be developed according to criteria involving those characteristics of the audience which interact with opinion change. In addition, the effect of such films is generally specific. Attitude changes can result from films whose content is closely related to the object of the specific attitude.

The research on attitude change has shown that carefully designed media can be used effectively with certain audiences. But evidence of television's potential impact in the affective domain has come rather recently with the success of various children's programming. Sesame Street led the way, including affective goals such as the development of empathy and cooperation and the recognition of fairness or unfairness (Lesser, 1974, p. 73). The achievement of these goals has been documented by several authors (Coates, Pusser, and Goodman, 1976; Paulson, 1974). The Agency for Instructional Television followed suit with a series of affective programs. Ripples, a primary level series, aimed to help children understand themselves as human beings and build human values (National Instructional Television, 1971). Although no behavioral data was obtained to substantiate achievement of these goals, the evaluation report revealed that teachers felt the programs dealing with emotions and values were effective in the classroom (Rockman, 1973).

Ripples was followed by Emmy-award-winning Inside/Out, designed for the intermediate grades and emphasizing helping the whole child develop a personally effective life style. Using a dramatization format, the series dealt with the day-to-day problems and emotions of children from their point of view. The programs were intended to promote discussion,

and their success in achieving this goal was clearly indicated in the series evaluation (Kulhman and Wiley, 1972). Inside/Out's sequel was Self Incorporated, a life-coping skills series intended to help eleven to thirteen-year-olds cope with the problems that result from the physical, emotional, and social changes they are experiencing. Using an attention profile system to measure subject's visual attention to the screen and a discussion analysis technique, the formative evaluation revealed that the programs were well received and likely to result in worthwhile discussion (Rockman and Auh, 1976).

Three other affective education series deserve mention. One is Bread and Butterflies, a career development program for nine-to-twelve year olds. Intended to help students explore the relationship between their lives and the world of work, the programs were open-ended encounters, encouraging viewer involvement in problem solving and decision making. This series has been extensively evaluated by Educational Testing Service (Flaughner and Knapp, 1974). Vegetable Soup, a multi-ethnic television series for elementary children was designed to reduce the adverse effects of racial prejudice. The evaluation report revealed that there was a significant positive effect on attitude formation and/or change in groups of children viewing that series versus children who had not viewed the shows (Mays, Henderson, Seidman, and Steiner, 1975).

Carrascolendas, a primary level series aiming to facilitate bilingual education of Mexican American children, was another successful affective education program. Series evaluations showed that not only did the children gain in cognitive areas, but they also developed certain affective skills, such as improved self-concept (Natalicio and Williams, 1971).

The success of these nationally-distributed series provides support for the use of television to elicit affective learning. But these series were developed for younger children. An examination of the film and television catalogues and a review of pertinent literature revealed that there are few resources in affective education for older students. The 1977-78 16mm and videotape catalogues published by the National Information Center for Educational Media revealed only twenty-six programs on values that were appropriate for a college student audience. The fact that there are 100,000 entries in the 16mm catalogue alone clearly points to how few television and film resources that deal with affective subject matter have been developed. An exception is a series of two-to-three minute "trigger" films that were produced by the University of Michigan. These films were designed to immerse the viewer in a realistic problem, develop emotional reactions, and encourage post-program discussion. Driving habit and drug education films were developed for teenage audiences, and mental retardation and dental education were the subject of films for college students. In addition, a set of programs on aging were produced for the 1971 White House Conference on the Aging. Preliminary evaluations of these programs revealed a high degree of viewer acceptance and provided evidence that the films achieved their intended objectives (Fisch, 1972; Schuman, 1971).

Design and Production Specifications in Instructional Television:

Research on the effectiveness of media design and production techniques provides little guidance for television instructional design. Most of the study in this area has been conducted with film, with studies from the Film Research Program at Pennsylvania State University and from the United States Air Force providing the backbone. Unfortunately, most of

the research dealing with production variables was conducted in the 1950's with relatively little subsequent work. The tapering off of research is partly due to the high cost of production and the shift of research concerns to television. With the advent of instructional television, the research question became "Can television teach?" and specifically, "Can television teach as well as conventional methods?" The outpouring of research on these question was tremendous, but the preoccupation of researchers with television's effectiveness meant that production and design concerns were relatively ignored. Today there are few research studies dealing with television production and design variables. Research conducted through Title VII of the National Defense Education Act; evaluative data from Title III, Elementary and Secondary Education Act; and nationally broadcast bilingual and multiethnic education series such as Carrascolendas and Vegetable Soup have provided some insights about production and design. It is only recently, however, with the sustained production efforts of Children's Television Workshop, the Agency for Instructional Television, the University of Mid-America, and Ontario Educational Communications Authority, that continuing programs of television research and evaluation have been established. The work of these agencies has been invaluable in supplementing our limited theoretical research base.

The review of literature in this area is limited to design and production techniques found to be effective with older students--high school, college, and postsecondary. Research with military subjects is also included. Both evaluation and research studies are examined.

Sesame Street and The Electric Company proved the success of vignettes and story lines used in a swiftly paced magazine format. Considerable

research has shown, however, that older students prefer simpler, more straightforward production styles. This preference was clearly illustrated when Children's Television Workshop attempted to transfer production techniques successful with the younger audience to a series targeted at adults. The result was Feeling Good, an adult Sesame Street that aimed to influence preventive health care. This series made its debut on the Public Broadcasting Service in the Fall of 1974. Six weeks later, based on evaluation and market data (Mielke and Swinehart, 1976), the production agency announced that it would be taken off the air for eight weeks of extensive revision. The length of the show was cut from one hour to thirty minutes. The show's regular cast of characters, whose home base was a variety store called Mac's Place, was replaced by a single host, Dick Cavett. Each show now treated a single topic rather than the multiple topics featured earlier. In general, the series took on a more serious tone. Feeling Good was an extremely expensive experiment in adult programming. Nevertheless, its failure emphasizes the importance and impact of design and production considerations.

The experience of Feeling Good is supported by research and evaluation studies showing that simple production techniques are effective. Barrington (1972) found that a simple set (host in front of a grey curtain) was superior to a more sophisticated laboratory set in promoting learning about Skinner's use of reinforcement with pigeons. Diagrams and models were also more effective than photos and film. Cobin and McIntyre (1961), in one of the most comprehensive examinations of production techniques, obtained results in conflict with what is considered "good" production. Students learned more when visuals were drawn before

them (as on a blackboard) than when they were prepared in advance (as on a camera card); they preferred constant close-ups to a variety of camera shots; they preferred fixed camera positions to conventional switching which attempted to depict character differentiation. There was no significant difference in learning between versions shot with one camera and those shot with two, between single versus repetitive supers, between visuals remaining on the screen ten seconds and those fading in and out or wiped in. When a presentation using fades, cross-fades, and cuts was compared with a "straight" presentation, researchers found that the production techniques caused confusion, and the normal presentation resulted in significantly higher learning. Another study comparing segments with dollying versus cutting, production errors versus no production errors, limbo set versus nonlimbo set, and flat versus key lighting revealed no significant differences in learning (Ellery cited in Reid and MacLennan, 1967). Other research focusing on optical effects (fades, wipes, dissolves) showed no significant difference in student achievement when typical transitions were eliminated (Mercer, 1952). This study, however, involved films rather than videotapes and dealt with cognitive subject matter. Evaluations of affective programs have shown that film techniques (intercuts) used to move linear story lines to fantasy sequences or flashbacks can cause student misunderstanding and confusion (Rockman and Auh, 1976). Traditional video and audio special effects were needed to cue the students to such transitions.

The most basic production decision in any television presentation is deciding on an appropriate format. Most television productions for older students have been televised instruction, using a "talking face" presentation.