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A COMPARATIVE ANALYSIS OF PRODUCTION TECHNIQUES FOUND IN RANDOMLY-SELECTED COMMERCIAL AND EDUCATIONAL TELEVISION PROGRAMS. EDUCATIONAL TELEVISION PROJECT, PRELIMINARY REPORT, NUMBER SEVEN.

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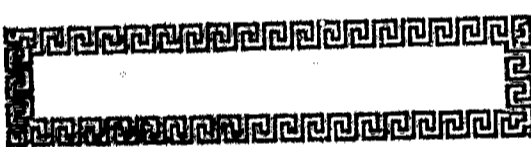

Descriptors-*BROADCAST TELEVISION, *COMMERCIAL TELEVISION, *EDUCATIONAL TELEVISION, OBSERVATION, *PRODUCTION TECHNIQUES, TEACHING METHODS, TELEVISION LIGHTING, TELEVISION SURVEYS

Identifiers-Eugene Oregon Station KOAC TV

Although educational television is associated with the classroom, data comparing the production techniques of ETV to those employed in commercial television does not support the stereotyped image of ETV as a televised lecture. Late in 1961, five students knowledgeable in television production and specially trained as observers for this study watched 18 programs, randomly selected from 13 previously established categories of program type. Thirteen of the programs were from four commercial stations, and five were from the local educational station. For purposes of rating, the technical aspects of production were divided into seven categories: camera factors, lighting, background, graphic devices, audio factors, performers, and opening and closing formats. In general the educational and commercial programs used the same techniques, but commercial TV used them more frequently. For example, educational programs had fewer cuts, fades, and camera moves per minute than commercial programs, even in matching categories. Hence it was concluded that commercial TV is more "dynamic" in production. The data recording sheets are appended. (PM)

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the university of oregon • eugene, oregon

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EDUCATIONAL TELEVISION PROJECT

PRELIMINARY REPORT NUMBER SEVEN

A Comparative Analysis of Production Techniques Found in
Randomly-Selected Commercial and Educational Television Programs

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(Instructor in Political Science)

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PART I

INTRODUCTION

The traditional approach to research in the area of broadcasting is to seek data regarding the size of audiences, and attempt to estimate how and why these audiences behave as they do. It is true that in some instances consideration of the actual program or methods of program production may be involved as a variable, but often this concern is only in relation to the question of how the variation may affect audience reception. That is, the researcher's interest is really in changes in the audience, and not as much with understanding the inherent nature of the production technique itself. Yet, if one thinks of broadcasting in the form of the usual communications model, it becomes obvious that the communicative chain has two ends; not only should the scholar be concerned with what is "received," but also with what is "injected" into the system.

In the earlier work of the Oregon Educational Television Project at the University of Oregon, audience reaction to educational television was the chief emphasis and concern. Now we intend to turn our attention to something else, the proverbial "other side of the coin," and concentrate attention on what could be called the "stimulus" variables, or the production techniques which may characterize the educational television program.

Background for the Study: The research which here was first proposed in the Oregon Educational Television Research Project Preliminary Report #3.¹ As was noted in that Report, "One aspect of program structure...generally..."

I. Shepherd, J. R. and Scheidel, T. M., "A Sequence of Proposed Research Designs Relating Program Structure to Resistance to ETV," Educational Television Project: Preliminary Report Number Three, The University of Oregon, September 1961. (Mimeographed, 65 pp.)

neglected...is the area of television production.² It was pointed out that although some "very general content analyses" of production factors are to be found, a specific analysis of educational television production techniques was not available.

Notable among the studies which seem to bear on the present issue to some degree is the one by M. S. MacLean, et. al.³ In this study, MacLean analyzed the reactions of subject to the "production quality" of certain educational television programs, and found that one of the reasons why a viewer may continue to watch a program related to "how varied or exciting he finds the pace of the program."⁴ MacLean's observations at least suggest the importance of considering how a program is presented on the air, i.e., concern with the variables of production.

Wilbur Schramm, in his study of "The Content of Educational Television"⁵ shows interest in a comparison of the different types of programs broadcast by educational stations and those broadcast by commercial stations. While he does not make a specific analysis of the production techniques utilized, he demonstrates at least an implied concern with these in his discussion of the "forms" of programs:

"The commercial station takes its forms and skills from the dramatic and vaudeville theatre; the educational station derives from the classroom, the lecture hall, and the forum."⁶

2. Ibid, p. 18.

3. MacLean, M. S., Crane, E. and Kiel, D. F., "What Makes an ETV Program Interesting?" in The Impact of Educational Television, (W. Schramm, ed.), University of Illinois Press, Urbana, 1960.

4. Ibid, p. 103.

5. Schramm, Wilbur, "The Audiences of Educational Television," in The Impact of Educational Television, (W. Schramm, ed.), University of Illinois Press, 1960.

6. Ibid, p. 6.

Shepherd⁷ looked at program variety and forms of educational television programs and compared these with commercial television programs. Again, by implication, if not direct examination, Shepherd indicated an interest in the form of programs when he defined and chose criteria for the categories used in his analysis.⁸

It should be noted that while these studies deal with the general problem of programming and program forms, there are many pieces of research in which some production variable may have served as one of the variables; nevertheless there seems to be a gap (in the information now available) on what might be called the "composite" or "total" picture of educational television production techniques and how these compare with those of commercial television.

The paucity of available material would be, in and of itself, enough to make the question of concern to the researcher. One could, however, enter upon this area of inquiry with more enthusiasm if there were some data to indicate that in fact audiences do make critical judgments about programs and the production aspects of those programs. This concern was basic to the work which was outlined in Report #3⁹ and prompted the authors of that publication to take some particular steps to determine, if possible, what this critical function might be. This was described as

7. Shepherd, J. R., "A Study of Some Aspects of KOAC-TV Programming and Its Audience," Educational Television Project: Preliminary Report Number Two, University of Oregon, May 1961. (Mimeographed, 37 pp.)

8. Ibid, p.22.

9. Shepherd, J. R. and Scheidel, T. M., op. cit.

follows:¹⁰

We turned to the data gathered thus far in the Project to determine whether or not any evidence exists indicating that program structure is related to resistance to educational television. More specifically, we wanted to know if viewers make judgments of program structure along some dimensions on which there is an implicit consensus. Do they exercise a critical function here as opposed to offhand utterances of a generalized attitude? Then, if such a critical judgment is made, might it be related to resistance to educational television?

An Index of Evaluation was calculated for each subject in the major study by using three items from the semantic differential scale; Good-Bad, I Like-I Dislike, Interesting-Dull. The distribution of subjects on the seven-step index was as follows:

Low Evaluation							High Evaluation		Total
0	1	2	3	4	5	6			
295	89	141	115	156	80	148	N=1,024		
29%	9%	14%	11%	15%	8%	15%			

The broad distribution of judgments seen here likely indicates that the subjects did make differing evaluations of KOAC-TV. Though the bases of these judgments are not known, the fact that the judgments are not preponderantly in the neutral category (3) supports our inference.

The next question is, are these evaluations related directly to educational television viewing? The matrix below, relating the seven-step Index of Evaluation to a six-step Index of Educational Television Utilization, offers some answers to this question.

KOAC-TV Evaluation	KOAC-TV Utilization			Total
	High 1, 2	Medium 3, 4	Low 5, 6	
High 4, 5, 6	155	168	120	443
Neutral 3	10	182	314	506
Low 0, 1, 2	0	15	60	75
Total	165	365	494	1,024

10. Ibid, p. 8ff.

One can see the relationship from the matrix (contingency coefficient = .447, $p < .01$). It would appear that the two variables are positively associated. The only deviation from this interpretation is the existence of the group which gives KOAC-TV a higher evaluation but which seldom watches. Other studies from the Oregon Project, not yet published, present explanations for this event. It appears that many who are favorable to KOAC-TV do not view because of conflicts in the viewing setting, e.g., a large family with many other competing interests. It is supposed that these persons would view educational television if they were the sole determiners of the program choice. With this behavior explained, the inference of a relationship between evaluation and utilization of educational television seems reasonable.

As another approach to answering some of our initial questions, we turned to the interview data from the field study and compared groups whose educational television viewing habits differed greatly. Those items from the interview schedule, questionnaire, and semantic differential which appeared to be related to program structure, either directly or indirectly, were selected for analysis.

Two groups of subjects were chosen from the total population for this analysis. One group ($n=156$) was composed of those persons who were categorized as educational television enthusiasts in the project. These are persons whose viewing of ETV was relatively great and whose evaluation of educational television was high. The other group ($n=50$) was composed from those subjects labeled resisters and uncertain abstainers in the project. These were persons who seldom viewed educational television and whose evaluation of educational television was low. Those subjects who reported they never watch KOAC-TV, they can't get KOAC-TV, and/or they haven't heard of KOAC-TV were eliminated. The reason for this selection was our concern for getting at the evaluation function. We reasoned that if one disparages educational television but never watches it, his evaluation is more likely to represent a generalized attitude than a critical judgment. We were interested in those who knew what educational television was and who had seen it but who resisted viewing KOAC-TV.

The following are the comparisons between the two groups on the items analyzed from the semantic differential.

	VIEWERS (n=156)			RESISTERS (n=50)		
	Like	Neutral	Dislike	Like	Neutral	Dislike
TV	92%	5%	3%	98%	2%	0%
KOAC	97%	3%	0%	5%	52%	42%
	Interesting	Neutral	Dull	Interesting	Neutral	Dull
TV	92%	7%	1%	96%	0%	4%
KOAC	96%	1%	3%	0%	38%	62%
	Amateur	Neutral	Professional	Amateur	Neutral	Professional
TV	32%	24%	44%	42%	26%	32%
KOAC	39%	11%	50%	20%	56%	24%

One item was taken from the questionnaire.

"Most educational television programs are boring."

	VIEWERS		RESISTERS	
	Agree	Disagree	Agree	Disagree
	28%	72%	52%	48%

A number of differences in judgment can be seen from these data. In the like-dislike and interesting-dull items the two groups cannot be compared directly on their evaluation of KOAC since these items were used in part to select the extreme groups. What is important here is the manner in which they differentially judge general television and educational KOAC-TV. The educational television viewers judge both television and KOAC-TV as liked and as interesting. While most resisters dislike KOAC-TV and consider it dull, their evaluations of general television are extremely similar to those of the viewers. A difference in judging can also be seen on the amateur-professional item. While the viewers tend to judge it as one or the other, the majority of the resisters tend to be non-committal and use the middle category. The difference between viewers and resisters on the questionnaire item is apparent. One noteworthy point is that the resisters do not condemn KOAC-TV uniformly and categorically. We take this to be a further indication of the function of judgment and not the expression of generalized attitudes.

These empirical data, then, do present some indications that people make evaluations of educational television which can be related to their viewing behavior. Whether these evaluations are critical judgments of program structure and not merely expressions of generalized attitudes cannot be fully assessed from the materials now available to us. We have some support for this inference, however, and while the margin of our mandate is not as great as we might prefer, we feel more confident in suggesting the following projects as worthy research endeavors.

"Program structure," as used in the foregoing statement, was defined to include "all production aspects, all content aspects, and their interaction." If the quoted analysis is accurate, it does not seem unreasonable to suggest that people appear to be capable of making critical judgments of what they see. Now the question is, what, in terms of production techniques, is available for them to see? And this leads us to the major concern of this study.

The Problem. It is clear from the literature that the impact of television production techniques upon the audience has not yet been fully assessed. There have been general content analyses of production factors, and experimental designs using various production techniques, but nowhere does one find a comparative analysis of the production techniques used in commercial and educational television, a basic step which would need to be accomplished before additional research into production could be conducted. This comparison would be valuable not only in providing prime data for understanding educational television, but also would be of importance in setting up future research designs in which particular production techniques might be incorporated. Our reasoning was that the stuff of educational television which is amenable to change might well be "how" the programs are done, and not "what" the programs consist of, at least in terms of program content alone. That is, while we know one could change the attitude of an audience toward an educational television station by changing its programs to those of the more popular commercial station, such a drastic move would be clearly self-destroying. The question is what can be modified, yet not wreck the vehicle in the process? The answer seems to lie in production, yet the facts are that we seem to know relatively little of that aspect of educational television.

With the need for the present study thus established, the following basic question was articulated to guide our research into this relatively unique area:

"What, if any, are the production techniques characteristic of educational television programs?"

A related but secondary consideration was:

"How do the production techniques of educational television differ (if at all) from those characteristic of commercial television production?"

With these objectives in mind, we proceeded to design and carry out the study which is described in the following sections of this report.

PART II

PROCEDURE

The nature of the research design, and particular procedures used in a study is largely a function of the purposes of that study. The objectives outlined in the previous section, together with certain research interests we held, implied three things about our research design. First, it was to be an essentially descriptive study, featuring a comparison of production techniques found in the two forms of television. Second, the data were to be obtained by direct observation. And, third, certain techniques of content analysis were to be applied to the data collected.

As Berelson comments in the Handbook of Social Psychology: "Content analysis is a research technique for the objective, systematic and quantitative description of the manifest content of communication."¹¹ It is clear from Berelson's description of the method that its effectiveness is contingent upon the quality of the set of categories selected for observation.

One of the first questions we asked was whether or not we could construct an instrument which would fit the criteria noted. Our problem was compounded by the lack of previous work which would suggest theoretically important directions for us to look in the establishment of the appropriate categories. We were forced to depend upon a kind of a prior examination of television broadcasting itself in order to arrive at what might be suitable dimensions of observation. Since this is so crucial to the whole study, it is dealt with separately in the section below.

11. Berelson, B., "Content Analysis," Handbook of Social Psychology, (Ed. G. Lindzey), Addison-Wesley Publishing Co., Inc., Cambridge 42, Mass., p. 488ff.

Development of the Analysis Forms: As a first step in the process, the authors devised a tentative list of what seemed to be relevant and important program production variables. Two of the authors had five or more years' experience in television production and seemed qualified to make at least this tentative selection. The categories included were checked for completeness, compatability, and appropriateness of definition in three ways: First, they were checked against elements included in standard textbooks in the field of television production. Second, a group of three television producers associated with the educational television studio on the University campus ^{was} ~~were~~ asked to evaluate the selection of categories, adding or eliminating as seemed appropriate. Finally, as we proceeded with the training sessions and trial observations (undertaken as training for our observers) further minor refinements were made in the data collecting forms.

As the result of the procedures described, we arrived at those categories listed in Figure 1, below.

Figure.1

The Dimensions of Measurements

Production variable	Items included
Cameras	<ol style="list-style-type: none"> 1. Number used 2. Number shots per minuts 3. Types of shots used 4. Transitions between shots 5. Changes in horizontal camera angle 6. Movement
Lighting	<ol style="list-style-type: none"> 1. Low key vs. High key
Sets	<ol style="list-style-type: none"> 1. Representational 2. Stylized 3. Real 4. Rear screen projections 5. Indoor 6. Outdoor
Graphic devices	<ol style="list-style-type: none"> 1. Film strips 2. Slides 3. Studio cards 4. Photographs 5. Blackboards 6. Objects 7. Rear screens (as display) 8. Animations
Audio	<ol style="list-style-type: none"> 1. Number of microphones 2. Program (theme) music 3. Transitional music 4. Background music 5. No music 6. Amount of speaking per minute 7. Rating of audio quality
Participants on camera	<ol style="list-style-type: none"> 1. Number 2. Sex and age 3. Dress (costume or conventional) 4. Total set activity; verbal exchange 5. Amount of visual and verbal humor
Opening format	<ol style="list-style-type: none"> 1. Hook 2. Visual devices 3. Use of announcer 4. Use of music
Closing format	<ol style="list-style-type: none"> 1. Straight visual 2. Supers 3. Use of announcer 4. Use of music

With the categories selected, we were then in a position to go ahead and devise the data-collecting forms themselves. The first step in this process was to group the individual measures of the separate items according to what seemed to be appropriate task units, so that each observer was responsible for a group of related items. One of the test sessions was then held and where necessary re-arrangement of items to be observed was made. In order to get some sort of check on the reliability of the forms (as well as the effectiveness of the observers) after each of the training sessions an analysis of inter-observer consistency was made. Each recorder was asked to use two different forms, and these were then compared with similar ones prepared by the other observers involved. An example, typical of the kind of consistency we found, was that when asked to enumerate the number of camera shots used in a given program, but observed for different characteristics, there was found to be only a difference of 3 out of 150 individual shots recorded. This would seem to suggest that there is a kind of reliability in the measures involved. Copies of the final forms of the analysis sheets are to be found in Appendix A.

As is always the case with data-gathering techniques of the type described here, one could raise the question of the accuracy of the observations themselves. We are confident that the measures used were reasonably accurate; we will describe in the next section of the report how we selected and trained the observers who made use of them.

Selection and Training of Observers: The question of what is observed is of primary importance in a study such as this, but we must not ignore the question of the accuracy of the observations. The objectives given in Part I indicated that we wanted to obtain the most objective and complete report possible of what was seen coming off the picture tube--we were not

interested in the subjective and limited responses of what might be called the "ordinary" or untrained viewer. We were frankly interested in the actual techniques used, which seemed to dictate that our observers had to be individuals trained in television production. It would be foolish to suggest that our "objective" observers, familiar with television production, did not have perception biases or "blind spots." However, because of their training and experience, it was hoped that they would have fewer such limitations than the untrained viewer, and consequently be better able to record accurate observations.

Eight students, selected on the basis of their familiarity with television production techniques, were employed as observers in the study. All eight had received University training in television production prior to being hired, and several were involved in producing television shows at the time of the study.

As an incentive, these individuals were paid for their work at a rate substantially above that of other student assistants at the University. As a part of their responsibilities, a one hour training session was held to acquaint each with the particular job he was expected to perform during the course of the study. Preceding this drill session, each was instructed and tested on the use of the particular recording form he was to use. In addition, each individual was tested on two actual programs, viewed under conditions similar to those of the study, and these test reports were then analyzed by the staff in an effort to estimate competency of the worker.

Of the eight students employed, only 5 of the individuals were used at a given time, the other three serving as stand-bys or alternates in order to insure against an absence by the scheduled observer.

Viewing Conditions: An attempt was made to hold the viewing conditions constant during the duration of the study. Through the cooperation of the local television cable company, a special viewing room was set up at the University of Oregon, in which was installed the television cable and 21" receiving set. By virtue of the cable, we were assured that the signals and reception from the two local and the three distant stations received in the area would be nearly alike. The set was placed in the room so that all viewers saw it at about the same distance and from approximately the same angle.

In order to obviate the possibility of observer fatigue, whenever possible the programs selected were spaced so as to allow at least one-half hour between them. In all but two cases it was possible to select the indicated program from different channels and at different times in order to insure the desired spacing. The programs selected for study were distributed within the viewing period, with three per day as the maximum. All the sampled programs were viewed during the week of November 28 to December 3, 1961, with the exception of two which were seen on December 10, due to a delay of one week caused by mechanical failure of the television set.

Each of the viewing sessions described was supervised by one of the staff supervisors, who checked the viewing reports completed by the observers at that session.

Sampling Procedure: Recalling our stated objectives, we were interested in both describing the production techniques of educational television as well as comparing those with production techniques utilized in commercial television. Accordingly, it was necessary to select programs from both forms of television, and by means of some selection according to a scheme of program types, to allow for the comparisons between the two to be made.

The first objective is best served by a sample of programs, from each of the forms of television, drawn according to some random formula. The second requires that there be a sample drawn from within the particular categories of program types to be examined. Faced with the two alternatives, selecting a simple random sample of all programs, or making this choice as a stratified random sample, the latter would have advantages for us. With appropriate qualifications, this "selected" sample would still permit us to make certain generalizations to all programs if we wished to do so, and thus provide us with some answers to our first query, while at the same time to give us data to make possible the comparison of programs broadcast on the two forms of television. The problem in the second approach is the necessity for categorizing programs - a process which is always beset with difficulties. In our case, however, we had the advantage of previous work done in connection with the Oregon Television Project, and we relied on those categories established in Preliminary Report #2,¹² which have proven to be reasonable definitions of 14 program types. With the basic decision made in favor of the stratified random sample, we then proceed to draw the particular programs for the sample.

We first listed all programs (excluding specials) available in the area during the test week. Next, this list was divided according to whether the program was carried on the commercial or educational station. The final step, prior to drawing the actual sample, was to classify each program according to type. These included: (1) Information-news, (2) information-discussing, (3) educational programs, (4) information-informal, (5) religious programs, (6) childrens' programs, (7) artistic

12. Shepherd, op. cit., pp. 22-26.

entertainment, (8) variety-popular music, (9) drama-comedy, (11) drama-miscellaneous, (12) quiz shows, (13) sports, (14) movies.

There are a number of problems which must be noted in connection with the list above. In terms of our experience, we did not expect to find educational programs to fit each of the categories listed, which meant that we would have to limit our sample in that case. We found that only five of the types were applicable to educational television, and so the available programs were assigned to the following categories: educational, artistic entertainment, information-discussion, drama-miscellaneous, and information-news. Since our interest was in television production techniques, the "movies" category would have little meaning to our study. We excluded that from our sampling considerations, and assembled the program titles under the thirteen remaining headings.

Upon the separation and categorization of programs for each of the forms of television broadcasting, we were in a position to identify specific programs to be watched. Operating on the principle that we should make this a random selection, and not attempt to commit ourselves to some idea of selecting "typical" or "representative" programs (with all of the attendant dangers to such a scheme) we utilized a table of random numbers to identify the particular program to be observed in each of the 13 categories. In five cases, we had two programs in the category; one for the educational broadcasts, and one for the commercial broadcasts. The total sample, then, consisted of 13 commercial television programs and five educational programs. We had comparable programs for five of

the thirteen categories* which allowed us to make the desired descriptive analysis as well as the comparative one.

The specific programs, for each of the two forms of television, were as noted in Figure 1.

Figure 2

Programs Selected

Name	Category
1. Montavani	Artistic entertainment
2. Sheri Lewis	Children's show
3. Californians	Drama - Adventure
4. Andy Griffith	Drama - Comedy
5. Millionaire	Drama - Miscellaneous
6. Learn to Draw	Educational
7. Oregon TV Forum	Information - Discussion
8. Off to Market	Information - Informal
9. News (Local)	Information - News
10. Yours for a Song	Quiz Show
11. This is the Answer	Religious
12. Game of the Week	Sports
13. Stars of Tomorrow	Variety - Popular Music

Educational Programs Selected

1. Songs of the South	Artistic entertainment
2. Drama Festival	Drama - Miscellaneous
3. Algebra	Educational
4. See Who's Here	Information - Discussion
5. Employment News	Information - News

Programs Compared

1. Montavani	versus	Songs of the South
2. Millionaire	versus	Drama Festival
3. Algebra	versus	Learn to Draw
4. Oregon TV Forum	versus	See Who's Here
5. News (Local)	versus	Employment News

The eighteen programs included in the sample can be described in terms of several variables that might have some bearing on production characteristics. These were not used as controls, in the usual sense, since the sample was drawn randomly. The information is presented here only to give

* It should be noted that we rejected the children's program selected by the method described, since we came up with a presentation which consisted entirely of cartoons. We reasoned that this would not give an indication of television production techniques, in which we were avowedly interested. We drew an additional random number to make the selection of the program we actually viewed.

the reader an indication of the distribution of the sample in terms of these characteristics.

Figure 3

Distribution of Programs by Four Variables

1. <u>LOCAL vs NETWORK PRODUCTION</u>		<u>5 Comparable Programs</u>	
<u>General</u>		Commercial Programs	E.T.V. Programs
Commercial Programs	E.T.V. Programs	Commercial Programs	E.T.V. Programs
Local	4	3	4
Network	9	2	1
TOTAL	<u>13</u>	<u>5</u>	<u>5</u>

2. <u>TIME OF DAY</u>		<u>5 Comparable Programs</u>	
<u>General</u>		Commercial Programs	E.T.V. Programs
Commercial Programs	E.T.V. Programs	Commercial Programs	E.T.V. Programs
6-12 A.M.	1	1	0
12-6 P.M.	6	2	1
6-12 P.M.	6	2	4
TOTAL	<u>13</u>	<u>5</u>	<u>5</u>

3. <u>LENGTH OF PROGRAM</u>		<u>5 Comparable Programs</u>	
<u>General</u>		Commercial Programs	E.T.V. Programs
Commercial Programs	E.T.V. Programs	Commercial Programs	E.T.V. Programs
0-15 Minutes	2	1	2
15-30 Minutes	10	4	1
More than 30	1	0	2
TOTAL	<u>13</u>	<u>5</u>	<u>5</u>

4. <u>FREQUENCY (TIMES PER WEEK)</u>		<u>5 Comparable Programs</u>	
<u>General</u>		Commercial Programs	E.T.V. Programs
Commercial Programs	E.T.V. Programs	Commercial Programs	E.T.V. Programs
One Time/wk	12	4	4
Three Times/wk	0	0	1
Five Times/wk	1	1	0
TOTAL	<u>13</u>	<u>5</u>	<u>5</u>

With the materials and procedures described in the preceding sections of this part of our report, we established tabulation sheets which would allow a numerical count on each of the items contained in the five data-collecting forms. These data were then summarized and, where appropriate, averages or percentages were computed. These are presented in tabular form in Part III of the report, along with our analysis of them.

PART III
ANALYSIS OF THE DATA

Part I of this report included a statement of the purposes and objectives of this study. In Part II, a brief discussion of the research design, including the procedure followed in collecting the data, was given. In this section of the report, we will present, in summary form, the principal findings of the research described in the earlier sections. Since the study was cast primarily in a descriptive framework, the findings will also be given in those terms. The presentation will not be simply limited to reporting the findings, however, since some interpretation is possible and desirable.

Organization of the Section: This part of the report is organized into seven arbitrary divisions, each corresponding to some major division of program production. These are as follows: Camera factors, lighting, backgrounds, graphic devices, audio aspects, performers (and their activities), the opening and closing. Each of these sections is subdivided, according to those items observed in the data collecting process. Where appropriate, summary tables have been prepared to represent frequencies for each of the characteristics observed.

As was discussed in Part II of this report, the comparisons between the two forms of broadcasting will be made on a two-fold basis for each of the variables analyzed. On the one hand, a comparison will be made of "All Commercial Programs" with "All Educational Programs." This means that all thirteen commercial television programs included in the sample (one program for each of the thirteen program types listed in Part II, page 9) are compared with all five educational programs included in the sample (one program for each of the five types available.) In addition to this, each of the tables will present a second comparison, the contrast

of the educational programs with similar types of commercial programs.

Section A: Camera Factors

Number of cameras used: One of the most obvious questions raised by our design is the simple question of the number of cameras used in the various productions. As was noted earlier in the report, our design called for the observation of production techniques as perceived by trained viewers over standard viewing sets. For this reason, our observations are based on observer perception, and not on a studio count. What we report here are, in effect, judgments of our trained viewers regarding the number of cameras used, and the data should be qualified accordingly. Our observations indicate that the commercial programs viewed were generally characterized by the use of two or more cameras per show. Among educational programs, there was no indication that any program was a three-camera show, and that they were characterized as two or less camera productions. When we made the comparison of these educational programs directly with their commercial counterparts, the former were found to make no use of more than two cameras, while the latter used more than two cameras several times. In summary, on the basic question of numbers of cameras used, it would seem that educational and commercial television production is somewhat different in that generally speaking commercial programs tend to use 2+ cameras and educational programs 2- cameras.

Number of camera shots per minute: Mere number of camera shots while interesting, tells us relatively little about the dynamic quality of the two forms of television production. If we look at the number of shots used in each minute of the productions viewed, then we begin to see some of the dynamics of production techniques.

Table I, below, shows clearly that the commercial programs had nearly twice as many camera shots as did the educational programs. The same

TABLE I

Number Shots Per Minute

Programs	Number of Programs	Total Working Length (Minutes)	Total Shots	Average Number of Shots Per Minute
All Commercial	13	305	1248	4.09
All Educational	5	192	419	2.18
Commercial With Educational Counterparts	5	98	382	3.90

relationship, although to a reduced degree, is found when we confine the analysis to educational programs and their commercial counterparts. We could summarize by pointing out that for either comparison, commercial television is characterized by utilizing more camera shots than does educational television. This may be an indication of a more "active" kind of production.

Types of shots: Before one could accept the generalization just suggested, it might also be well to consider the kinds or characteristics of the shots used in the two forms of television production. Frequency is not enough in and of itself to make it safe to draw conclusions regarding the prevailing character of the medium. In the collection of the data, we made provision for recording information regarding the composition of the picture, that is, whether or not the shot was a wide, medium, or close-up of the subject.

TABLE II

Kinds of Shots

Programs	Close-ups	Mediums	Wides	Total
All Commercial	286 (23%)	572 (46%)	413 (33%)	100%
All Educational	91 (22%)	257 (61%)	71 (17%)	100%
Commercial With Educational Counterpart	105 (28%)	191 (50%)	86 (23%)	100%

From the above table we find that commercial programs have nearly twice the relative number of wide shots as do educational programs. To a more limited degree, the same relationship holds when the program type is controlled, and we look only at those commercial programs which are like their educational counterparts. While none of the differences are so marked as with the case of the wide shots, it would seem that commercial programs use more close-ups and wide shots than do educational programs. It is possible to conjecture that this might relate to studio size, i.e., the smaller the studio the less likely the opportunity for the wide shot, or this may reflect a kind of conservative camera use (that is, that the close-up may be a more "daring" shot by virtue of the commitment implied in it.) Again, it would seem that the hypothesis that the use and functions of the camera in educational television tend to be characterized by a "non-dynamic" quality is supported by our data regarding the kinds of shots used..

Transitions between camera shots: How the director chooses to go from one shot to the next may have a direct bearing on the quality of the particular production under examination. For example, it is an accepted principle in television production that the selection of the cut over the dissolve may have effect on the "pace" of the particular program. With this in mind,

we took our camera data already discussed and analyzed it in terms of transitions. As should be apparent, some kind of transition is required after every camera shot in order to lead into the next, and so the number of transitions used will equal the number of shots noted in Table I, page 22. The same will be true in considering the number of such transitions per minute. The figures in Tables III, IV and V below make use of this basic data presented earlier, and the reader should refer to Table I when considering the tables below.

TABLE III

CUTS

(Number, Average Per Minute, % of Total Transitions*)

Programs	Number Cuts	Avg. Per Min.	% Total Transitions
All Commercial	1129	3.7	91%
All Educational	394	2.1	94%
Commercial With Educational Counterparts	351	3.6	92%

TABLE IV

DISSOLVES

(Number, Average Per Minute, % of Total Transitions)

Programs	Number Dissolves	Avg. Per Min.	% Total Transitions
All Commercial	69	0.2	6%
All Educational	12	0.1	3%
Commercial With Educational Counterparts	16	0.2	4%

* One example of one other type of transition (the electronic wipe) was found. With this one exception, the tables represent all transitions observed in every program.

TABLE V

FADES

(Number, Average Per Minute, % of Total Transitions)

Programs	Number Fades	Avg. Per Min.	% Total Transitions
All Commercial	49	0.2	4%
All Educational	12	0.1	3%
Commercial With Educational Counterparts	16	0.2	4%

Examination of the three Tables tends to support the idea that educational television is somewhat static in comparison to commercial production. Total differences remain rather small, but if one considers the number of transitions per minute, it becomes evident that something happens in commercial television production which is not true in educational programs. For example in Table III, we find that the number of cuts used in educational programs is slightly more than half of those used per minute in either commercial programs in general or in commercial "educational" programs. In the case of dissolves and fades, the absolute numbers involved are very small, yet the same pattern seems to be present. Relatively speaking, the differences do seem to emphasize the fact that educational television production is characteristically less "dynamic."

Changes in camera angle: Another possibility for introducing variety into the picture presented to the viewer is by means of changing the angle from which the picture is taken. This is, of course, possible on two planes, horizontal and vertical. These angles can change as the result of movement of the camera itself, from a switch from one camera in one position to another camera in a different position, or from the movement of the performer himself, which in turn would have the effect of changing the perspective of the camera.

TABLE VI

Changes in Horizontal Camera Angle

Programs	Total Number Changes	Avg. Per Min.
All Commercial	827	2.7
All Educational	365	1.9
Commercial With Educational Counterparts	226	2.3

TABLE VII

Changes in Vertical Camera Angle

Programs	Total Number Changes	Avg. Per Min.
All Commercial	412	1.4
All Educational	77	0.4
Commercial With Educational Counterparts	90	0.9

The significant figures in both of the tables above are the averages per minute. Educational television again appears to be different from commercial television in respect to the use of these camera angles. This is particularly true in the case of the data of Table VI. In spite of the fact that the total working time involved in the category of "commercial with educational counterparts" (a total of 98 minutes) is much shorter than that for the category "All Educational" (a total of 192), we still find that the per minute average is higher than "All Educational" alone. In short, the amount of camera activity of the type under examination here is proportionally much greater in commercial television. The same trend is observable in Table VII.

One possible explanation for these apparent differences might be in terms of available equipment for production purposes. Most educational stations are not equipped with a studio crane which would allow for high angle overhead shots, while some commercial stations are so equipped. Some educational stations have neither studios large enough to allow for angle shots nor floors which would permit them to move the camera for the angle, if desired; most commercial stations do not have these same limitations. Regardless of the reasons, our data again seem to show that educational television is not characterized by the same kind of camera mobility as is true with commercial presentations.

Camera movement: As suggested in the preceding discussion, another way in which the director can introduce variety into the picture is by ordering a movement of the camera while it is actually taking a picture. In three cases this actually involves the movement of the camera itself; in the fourth case the effect of camera movement can be achieved by means of using a special lens called the "zoom." The director may, if he wishes, call for a "dolly," which is defined as movement of the camera toward one side or the other; he may ask the camera to "truck," which means to move the camera in and out toward the subject being photographed; the camera can be requested to "pan," that is, to turn, on a fixed point, from side to side, or, finally, the camera can "tilt" on a vertical axis from a fixed point. We were interested in observing what differences, if any, could be found between commercial and educational television in regard to these four factors of camera movement. Tables VIII through XII summarize the data we found in observing the thirteen commercial programs and the five educational productions.

TABLE VIII
Number, Average Per Minute, Dollys

<u>Programs</u>	<u>Number Dollys</u>	<u>Avg. Per Min.</u>
All Commercial	48	0.16
All Educational	26	0.14
Commercial With Educational Counterparts	11	0.11

TABLE IX
Number, Average Per Minute, Trucks

<u>Programs</u>	<u>Number Trucks</u>	<u>Avg. Per Min.</u>
All Commercial	60	0.20
All Educational	32	0.17
Commercial With Educational Counterparts	12	0.12

TABLE X
Number, Average Per Minute, Pans

<u>Programs</u>	<u>Number Pans</u>	<u>Avg. Per Min.</u>
All Commercial	223	0.73
All Educational	204	1.06
Commercial With Educational Counterparts	32	0.33

TABLE XI
Number, Average Per Minute, Tilts

<u>Programs</u>	<u>Number Tilts</u>	<u>Avg. Per Min.</u>
All Commercial	68	0.22
All Educational	99	0.52
Commercial With Educational Counterparts	3	0.03

TABLE XII

Number, Average Per Minute, Zooms

Programs	Number Zooms	Avg. Per Min.
All Commercial	162	0.53
All Educational	39	0.20
Commercial With Educational Counterparts	10	0.10

In essence there seems to be relatively little difference between educational television and commercial television as far as the factors of camera movement are concerned. It is perhaps noteworthy that in one such aspect, educational television is apparently more "dynamic" than is commercial, and that is in regard to the use of the pan. While the actual number is less in educational production, the rate per minute is clearly more. When one considers the type of programming most typical of educational television (that is, some form or modification of the lecture) it is perhaps easy to explain the relatively high use of the pan. If one considers that it would seem generally speaking there are fewer cameras in use in educational television, we would find another reason why this type of camera operation might be widely utilized. That is, with limited cameras, it becomes necessary to follow the action with the camera, and hence the use of the pan.

In summary, we have found that as far as camera factors go, it would seem that a consistent pattern emerges from the data presented; in general educational television does not seem to be characterized by the variety or number of camera manipulations as does commercial television. Our breakdown of the data suggests further that this may not be a function of the subject matter of the program, since if that were true one would expect to find commercial educational programs to look more like educational programs than like commercial ones. While there are some exceptions, the fact is that

our data seem to show that these special commercial programs are rather unlike their educational cousins and resemble more closely their commercial brethren.

Section B: Lighting

Lighting does not offer the same amount of variation possible in such production factors as camera movement and choice of shots. It is, however, one of the dimensions of production, and so an analysis was made of the major differences one might expect to find between productions. We counted the total minutes devoted to "high key" (bright) and "low key" (relatively dark) lighting, and found there was essentially no difference between the various forms of television programs. That is, all but eleven minutes of the commercial programs were characterized by high key lighting; only thirteen minutes of the educational programs could be classified as low key. In passing, it should perhaps be noted that these same thirteen minutes in educational television broadcasting were all found in a single drama program, and so this does not seem to be too typical of educational television itself.

Section C: Setting

Still another part of production, and one that is open to a number of possibilities or variation, is the setting used. For the purposes of this analysis, we defined the following kinds of sets as ones which might be used in a television production: studio, representational, stylized, realistic, and a projected "rear screen" picture as the setting. We found that the difference between representational and stylized setting appears to be academic; it was apparent that the differentiation was small, if extant at all, and so the two were lumped together under the heading of

representational. In our analysis of the data, we found that the major difference between educational television and commercial television in this instance seems to be that the latter is characterized by the use of combinations of setting within a given program, while educational television characteristically uses one form throughout the program. Specifically, we found that seven of the thirteen commercial programs made use of combinations of studio, and representational sets. Of those seven, five also included backgrounds which could be classified as realistic presentations. Of those five programs, one made use of a rear screen projection in one part of the program. We found that three of the educational programs were set in the studio, four in a representational set, and one in a realistic set.

Another possibility of variety in setting is whether the action takes place inside or out of doors. We found that among commercial programs, 38% of the time was devoted to exterior shots, while in educational programs this constituted 47% of the program time. This figure may be a bit deceiving, since all of the "outdoor" time, in educational television, was found in a single program, the drama production; all other educational programs were set in interior settings.

Section D: Graphic Devices

What type of graphic devices (if any) a director chooses to use within the body of the program proper will have much to do with the kind of visual impact the program may have upon the viewer. In this study, we looked for a number of devices which can be used in the visual presentation of material. We noted the use of film strips, slides, studio cards, photographs, blackboards, objects animations, and rear screen projections when

used as a visual device and not as background. Table XIII, page 33, presents the data from these observations.

The "teaching" function of educational television (at least when offered on the educational station) becomes quite clear on examination of Table XIII. The blackboard, that indispensable aid to the classroom teacher, seems to have found a place on television! The display of objects, again a common classroom procedure, constitutes much of the visual presentation in educational television. It is interesting to note that commercial television differs from educational television in that the former makes much more use of both film and studio cards. What this seems to indicate is that the "heritage" of both forms of television seems to be evidenced in the kinds of visual presentation on which they rely.

Section E: Audio Factors

While it tends to be overlooked, the audio portion of a television program may have much to do with its reception. In this part of the report, we will analyze data derived from the following observations: number of microphones, use of music, use of speaking, and the relative quality of the audio signal.

In regard to the microphones, we found no difference between the commercial and educational programs. If the judgments of the observer were correct (and we have earlier indicated that this might not be true in this particular case) it would seem that all programs viewed used an average of at least two microphones in the production.

The data on the use of music is somewhat more interesting, and is analyzed according to three uses; i.e., as "program" music, transitional music, and background music. These data are presented in Table XIV, Page 34.

TABLE XIII

Minutes Used in Various Forms of Graphic Display

<u>Program</u>	<u>Film</u>	<u>Slides</u>	<u>Studio Cards</u>	<u>Photos</u>	<u>Blackboard</u>	<u>Objects</u>	<u>Rear Screen</u>	<u>Animation</u>
All Commercial	12	0	30	1	3	11	6	0
All Educational	0	0	0	0	53	32	0	0
Commercial With Educational Counterparts	11	0	14	1	1	0	5	0

TABLE XIV

Types of Music Used

Program	$\frac{\text{Minutes Program Music}}{\text{Total Program Time}}$	$\frac{\text{Minutes Transitional Music}}{\text{Total Program Time}}$	$\frac{\text{Minutes Background Music}}{\text{Total Program Time}}$	No Music	$\frac{\text{Total Program Time}}{\text{Total \%}}$	Total %
All Commercial	80 (26%)	33 (11%)	39 (13%)	161 (53%)	100%	100%
All Educational	39 (20%)	26 (14%)	18 (9%)	116 (60%)	100%	100%
Commercial with Educational Counterpart	24 (25%)	4 (4%)	14 (14%)	58 (59%)	100%	100%

In general, it would seem that educational television makes use of less music than does commercial television. This statement does not hold, however, if one considers the commercial educational program. Here we find that educational and commercial production is much closer. Perhaps the significant thing is not the similarity in this case, but the fact that, relatively speaking, so much music is used on both forms of educational television. If one falls into stereotyped thinking, and conceives of educational television simply as straight lectures, these data should be somewhat discomfiting. However, in using these figures, one should remember that these are inflated, due to the inclusion of the one hour and forty-five minute drama which made heavy use of these musical devices.

As a final check on the audio portion of the broadcasts examined, we asked our observers to classify the quality of the audio portion. We found little comment on the commercial programs, but two of the five educational programs were assessed as having "unsatisfactory" audio transmission.

Section F: Performer Variables

The "people," their number, sex, costume and behavior is an essential ingredient of any broadcast. In our analysis, we made a count of a number of these factors which we call "performer variables."

First, we counted the number of performers on camera. Since this number can change within a given minute of time (by which we measured our viewing) the reader will find that in our tables dealing with numbers of performers we based our analysis on the number of "scenes" within the particular production. We defined scene in the conventional terminology of drama to mean the entrance or exit of a character from the playing area, i.e., the picture being photographed at the moment.

TABLE XV
Number of Performers Per Scene

Programs	Total Number Scenes	1	2	3	4-10	11+	None	Total %
All Commercial	1346	533 (40%)	233 (17%)	93 (7%)	144 (11%)	228 (24%)	15 (1%)	100%
All Educational	658	271 (41%)	201 (31%)	67 (10%)	91 (14%)	21 (3%)	7 (.01%)	100%
Commercial With Educational Counterparts	413	214 (52%)	76 (18%)	16 (4%)	41 (10%)	52 (13%)	14 (3%)	100%

In terms of the measures used, it is apparent from Table XV that our stereotyped conception of what educational television is like in regard to the single professor lecturing to the television camera may not be true. With the exception of very large groups, the number of performers per scene observed in this study were consistently greater in educational television than in commercial programs.

While the number of performers in each of the scenes may be indicative of the "dynamic" quality of the production, perhaps another aspect of equal importance is in the kind of visual change presented in each of the various scenes. Using the same definition of scene as indicated above, but making the count on the basis of the introduction of men, women, children, or combinations of these as performers we derived the data presented in Table XVI, on page 38.

TABLE XVI

Age and Sex of Performers Per Scene

Programs	Total Number Scenes*	Men		Women		Men-Women Combined		Children- Adults Combined		Total %
		Men	Women	Men	Women	Children	Adults			
All Commercial	1298	822 (63%)	190 (15%)	230 (18%)	7 (.5%)	49 (4%)	100%			
All Educational	593	399 (57%)	84 (14%)	170 (29%)	0	0	100%			
Commercial With Educational Counterparts	382	298 (78%)	41 (11%)	43 (11%)	0	0	100%			

*The total number of scenes in this table will differ from Table XV since it is possible for the scene to change without a corresponding change in sex of the performer.

Just as was the case in the comparison of the number of performers found on educational television when compared with commercial presentation, it would seem the stereotype of the male lecturer is not completely supported by our data. With the possible exception of the lack of children utilized in any educational television viewed by us, it is somewhat surprising to note the similarity of the sex of the performers.

We made a record of the kinds of dress which typified the particular programs we were viewing, and found that five of the commercial programs made use of costumes, another five used conventional dress, and three of the programs in this category combined the use of the two modes of dress. In the case of educational programs, one of them used costumes while the remaining four presented the performers in conventional dress. In the case of the commercial educational program, again one made use of costumes, three presented the performers in conventional dress, and one made use of a combination of these techniques.

As a final part of this analysis, we asked that our observers rate four aspects of the programs observed on a 10 point scale from "little" on the low side to "much" on the high. The observations were made of total set activity, verbal exchange, verbal humor, and visual humor. Again these are subject to the perception of the observers; however, we are confident that the trained observers were able to make the discrimination required at least in a general way. Table XVII, page 40, reports the mean ratings assigned to each of the variables for all program types.

TABLE XVII

Mean Rating Scores for
Four Performance Variables

Programs	Set Activity	Verbal Exchange	Verbal Humor	Visual Humor
All Commercial	5.2	4.6	2.8	2.2
All Educational	2.6	4.0	2.4	2.0
Commercial with Educational Counterparts	4.2	3.4	1.0	1.4

Section G: Opening - Closing Format

It is possible to presume that the techniques for opening a program may have something to do with the attraction of an audience to that program. It is commonly held among broadcasters that something "special" must be done to catch and hold the dial tuner as he changes stations between programs. Whether this is a legitimate concern of the educational broadcaster is, of course, debatable. But presuming for the moment that it is, we asked our observers to note what techniques were used in opening the programs they observed. Information on closing a program was included for the sake of completeness.

In the analysis of the data, we found that eight of the commercial programs began with the use of a "hook" (prior action), as compared with three of the educational and three of the commercial educational programs. We found also that in eight of the commercial programs the straight visual presentation was made at the introduction, as compared to three of the educational and two of the commercial educational. In seven cases the commercial program also made use of the super, and one of those involved the use of the crawl title. Three of the educational and three of the commercial educational used the super technique. In eleven instances, the commercial programs included an announcer in the beginning of the program;

four of the educational and all five of the commercial educational used this method. Commercial programs used music in the opening more frequently than did the other program categories. Eleven of the commercial programs used music; three of the educational and three of the commercial educational used music in the introduction.

In regard to methods of closing the programs, again the similarities outweigh the differences. We found that in the case of the commercial programs, there were seven straight visual closings, in some cases combined with additional techniques. There were six cases of the use of the super, and three involving the crawl title. In the educational category, there were three straight visual closings, each of which involved the use of a super and one the crawl. In the commercial educational category, four of the programs made use of the straight visual, with one involving both the use of the super and the crawl.

In regard to the use of an announcer and/or music at the close, we found that in eleven instances the commercial program included both of these. In three of the programs observed in the educational and the commercial educational the announcer - music combination was found.

On the basis of our data in regard to the various techniques available for opening and closing a television program, the striking fact is that the proportions of the techniques used in the various program categories are nearly the same.

PART IV

SUMMARY AND CONCLUSIONS

Before one attempts to summarize or draw conclusions from the findings presented in the previous section of this report, it is important to bear in mind that our sample of programs was not drawn as a random sample, but as a stratified random sample. This fact is important because of the implications it has for the interpretation of the findings. Before discussing this point, it is necessary to remind the reader why this sampling technique was used.

The stratified random sample design was selected in order to make certain that programs of each of the thirteen types were included in the study. This makes it possible to make a comparison of the two forms of broadcasting on the basis of the same types of programs. This factor is an important one since it is clear from our prior research that commercial and educational channels are broadcasting different types of programs in this region, and thus there is the possibility of a spurious relationship between the two due to a difference in program type rather than in production differences. This danger was modified by controlling for program type, in making the second comparison, that of educational programs, with their commercial counterparts.

A sample of this type means that one can make statements of this order: to the extent that our sample adequately represents the population from which it was drawn (that is, a commercial or educational television program of a given type, selected randomly) the program is likely to be characterized by the techniques and forms similar to those observed in this study. Similarly, the selected program should be like (or unlike) programs of the same type found on the other form of broadcasting, in terms

of the use of similar production techniques and forms observed in this study. The reader is cautioned that one cannot say that any program drawn at random will have characteristics like those examined here, since some categories of programs have ten times as many programs as another, and our sample has only one program of each type regardless of the total number of programs in that type.

Finally, the reader should bear in mind that programs selected for analysis of educational television all originated from the single station, KOAC-TV, the educational station receivable in the test area. Generalization to all educational stations must be qualified with that in mind.

With the above limitations in mind, we will remind the reader that what we attempted to do in the study reported here was to compare thirteen commercial television programs with five educational television programs. As an additional dimension of the data, we selected the five commercial programs which were the counterparts of the five educational television programs, and made a second comparison.

In order to collect the data required, we prepared five data recording sheets, appended in Appendix A, and trained a group of eight observers to view the programs and record their observations. These were made in seven major categories, and our findings are summarized below according to those divisions:

Section A: Summary of the Findings

Camera Factors: We found that commercial television tended to use more cameras and more shots per minute than did educational television. With the single exception of the medium shot, commercial television used more variation in the kinds of pictures presented to the viewer than did educational television. Since commercial productions used more total shots,

they therefore made more use of various types of transitions. Commercial television was characterized by more different camera angles than was educational television. There was relatively little difference between the two when it came to camera movement, with the exception that the educational television programs used the pan more frequently than did commercial productions. In general, it can be said that commercial educational programs tend to look more like commercial programs than like educational programs seen on the educational channel.

Lighting: At least as measured by this study, there appears to be relatively little difference between the lighting practices of commercial and educational television.

Setting: One of the findings of interest in regard to the sets characteristic of the two forms of television is that commercial productions seemed to use combinations of types of sets more frequently than was true of educational television. While the educational television production made relatively great use of the single set, it was surprising to note this was often placed "outdoors." Before concluding that educational television has "gone on location," the reader should remember our prior qualification of this finding --this may be the function of a single program in our educational television sample.

Graphic Devices: We find that educational television relies heavily on the blackboard and demonstrations with objects, while commercial television makes use of a variety of visual devices including films, studio cards, photos and rear screen projections. If one can assign some kind of parentage to television, then it can be said that educational television reflects the heritage of the classroom and commercial television that of the showplace.

Audio Factors: There appears to be relatively little difference in the use of microphones between the two forms of broadcasting, at least as measured here. In regard to the quality of the audio of the programs presented, our observers found that two of the educational programs were unsatisfactory in this regard.

The analysis of the use of music produced some interesting data, in that while commercial television consistently made use of music more than did either form of educational television, the fact is that all forms used more music than perhaps is commonly thought to be the case. This seems to be somewhat contrary to the stereotyped conception of what educational television is like.

Performer Variables: Our analysis, made in terms of "scenes," defined as the entrance and exit of an individual on camera, again produced data which seems to be at odds with some of the common conceptions of educational television. We found, for instance, that while nearly half of the scenes presented involved only one performer, the remaining half of the six hundred and one scenes involved up to as many as 11+ participants. This does not seem to fit the picture of the single lecturer speaking to the camera, a view sometimes held of educational television.

In considering the sex and age of the performers found on educational television, it was not surprising that this measure showed the majority of the programs make use of the male performer. However, it is in some ways remarkable to note that there were a relatively large number of educational programs making use of women and combinations of men and women in the presentation.

Continuing our analysis of the performers themselves, we found that our viewers rated the amount of set activity of the educational television

programs as being about one-half that of the commercial television programs. In comparison with commercial television, educational television performers made use of verbal exchange, verbal and visual humor in about the same proportions. In the use of humor, it was found that educational television exceeded commercial educational programs.

Opening - Closing Format: In seeming denial of stereotypes held regarding educational television production, we found that educational programs, whether on commercial or educational channels, appear to be equally aware of the conventional devices for the opening and closing of programs. For example the "hook," which might well be thought of by some as the exclusive property of the commercial production was found to be used in three of the educational television programs and also in three of the commercial educational productions. Educational programs, whether on the educational channel or the commercial one, made use of such devices as the super, the crawl, music, and music and announcer combinations.

Section B: Conclusions

Our first objective was to describe the production techniques characteristic of educational television programs, as typified by those broadcast by station KOAC-TV. In general we found that these techniques did not fit what might be called the "stereotyped" conception of what educational television production is like. The educational television productions viewed made use of various techniques and devices which were also characteristic of commercial television and they utilized these in much the same way as commercial television productions might have used them. However, in getting at the second major question of this study, that of a direct comparison of educational and commercial television, we found a difference between the

two forms of television not so much in the kind of techniques used, but in the frequency of that use. The pattern which evolves from our analysis is that if commercial television made use of the technique, they used it more and to a greater extent than did educational television. If one wished to generalize from this, it might be possible to say that in general commercial television tended to be more "dynamic" in production than did educational television.

Section C: Suggestions for Further Study

With the two major conclusions as stated above, it becomes clear that the major question now is what about these techniques? Do they in fact have an impact upon the audience? Are these really "dynamic" differences as we have suggested, or simply the function of differing program subjects? It is clear that this first step in the direction of the analysis of the production techniques of educational television is preliminary to the more interesting question of how these may influence the kinds of attitudes the audience may have toward television itself.

APPENDIX A

RECORDING SHEET "A"

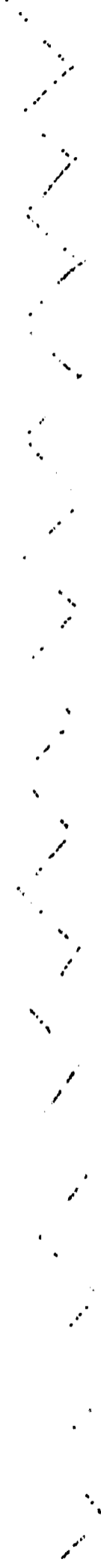
RECORDER _____
 PROGRAM _____
 DAY-DATE-TIME _____

Introduction

Hook Action _____
 Preceding Title _____

Audio		Visual			
Music	Speaking	Straight	Superimposed	Animated	Crawl
Yes No	Yes No				

Minutes	Program	Music			Audio			Minutes
		Transitions	Background	None	Speaking	None		
1								1
2								2
3								3



22								22
23								23

RECORDING SHEET "B"
 RECORDER _____
 PROGRAM _____
 DAY-DATE-TIME _____

Camera

Minutes	Number of Shot	Lenses and/or Positions; Transitions				
	1	Close-Up	Medium	Wide		
		Cut	Dissolve	Fade	Super I	Other
	2	Close-Up	Medium	Wide		
		Cut	Dissolve	Fade	Super I	Other
	3	Close-Up	Medium	Wide		
		Cut	Dissolve	Fade	Super I	Other
	4	Close-Up	Medium	Wide		
		Cut	Dissolve	Fade	Super I	Other
	5	Close-Up	Medium	Wide		
		Cut	Dissolve	Fade	Super I	Other
	6	Close-Up	Medium	Wide		
		Cut	Dissolve	Fade	Super I	Other
	7	Close-Up	Medium	Wide		
		Cut	Dissolve	Fade	Super I	Other
	8	Close-Up	Medium	Wide		
		Cut	Dissolve	Fade	Super I	Other
	9	Close-Up	Medium	Wide		
		Cut	Dissolve	Fade	Super I	Other
	10	Close-Up	Medium	Wide		
		Cut	Dissolve	Fade	Super I	Other

RECORDING SHEET "C" RECORDER _____
PROGRAM _____
DAY-DATE-TIME _____

Changes in Camera Angle and/or
Performer Movement

Changes in Vertical Camera Angle

RECORDING SHEET "D"

Minutes	Movement	Lighting	Graphic Devices	Background
1	Dolly Truck Tilt Pan Zoom	High Low	Fil Slid StuCar Photo Black Obj Rear Anim.	Stu: Rep Sty Real Rear S In Out
2	Dolly Truck Tilt Pan Zoom	High Low	Fil Slid StuCar Photo Black Obj Rear Anim.	Stu: Rep Sty Real Rear S In Out
3	Dolly Truck Tilt Pan Zoom	High Low	Fil Slid StuCar Photo Black Obj Rear Anim.	Stu: Rep Sty Real Rear S In Out
18	Dolly Truck Tilt Pan Zoom	High Low	Fil Slid StuCar Photo Black Obj Rear Anim.	Stu: Rep Sty Real Rear S In Out
19	Dolly Truck Tilt Pan Zoom	High Low	Fil Slid StuCar Photo Black Obj Rear Anim.	Stu: Rep Sty Real Rear S In Out
20	Dolly Truck Tilt Pan Zoom	High Low	Fil Slid StuCar Photo Black Obj Rear Anim.	Stu: Rep Sty Real Rear S In Out

RECORDER _____

PROGRAM _____

DAY-DATE-TIME _____

RECORDER
PROGRAM
DAY-DATE-TIME

RECORDING SHEET "E"

1. Number on Camera

Minutes	Camera Shot	1	2	3	4-10	11-50	51-	None
1								
2								

Men Alone	Women Alone	Both	Children	Adults & Children



14							
15							

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