The Effects of Exposing Teachers to Selected Methods of Film Utilization

Robert Evan Holloway
Central Washington University

Follow this and additional works at: https://digitalcommons.cwu.edu/etd
Part of the Educational Methods Commons, and the Instructional Media Design Commons

Recommended Citation
Holloway, Robert Evan, "The Effects of Exposing Teachers to Selected Methods of Film Utilization" (1969). All Master's Theses. 1245.
https://digitalcommons.cwu.edu/etd/1245

This Thesis is brought to you for free and open access by the Master's Theses at ScholarWorks@CWU. It has been accepted for inclusion in All Master's Theses by an authorized administrator of ScholarWorks@CWU. For more information, please contact scholarworks@cwu.edu.
THE EFFECTS OF EXPOSING TEACHERS TO SELECTED METHODS OF FILM UTILIZATION

A Thesis
Presented to
the Graduate Faculty
Central Washington State College

In Partial Fulfillment
of the Requirements for the Degree
Master of Education

by
Robert Evan Holloway
July, 1969
APPROVED FOR THE GRADUATE FACULTY

____________________________
Charles W. Wright, COMMITTEE CHAIRMAN

____________________________
Alexander H. Howard, Jr.

____________________________
Richard J.C. Covington
ACKNOWLEDGMENTS

The writer would like to thank the following committee members for their thoughtful constructive criticism: Dr. Charles Wright, Dr. Richard Covington, and Dr. Alexander H. Howard.

The author is also indebted to Mr. Ken-ichi Takemura for his suggestions on the statistical analyses and to Mrs. Sherryn Holloway for drawing the graphs.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>CHAPTER</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. THE PROBLEM</td>
<td>1</td>
</tr>
<tr>
<td>Statement of the Problem</td>
<td>1</td>
</tr>
<tr>
<td>Need for the Study</td>
<td>1</td>
</tr>
<tr>
<td>Limitations of the Study</td>
<td>4</td>
</tr>
<tr>
<td>Definition of Terms</td>
<td>5</td>
</tr>
<tr>
<td>Check list</td>
<td>5</td>
</tr>
<tr>
<td>Film</td>
<td>5</td>
</tr>
<tr>
<td>Film rhetoric</td>
<td>6</td>
</tr>
<tr>
<td>Motion pictures</td>
<td>6</td>
</tr>
<tr>
<td>Summary of research</td>
<td>6</td>
</tr>
<tr>
<td>Overview</td>
<td>6</td>
</tr>
<tr>
<td>II. REVIEW OF THE LITERATURE</td>
<td>8</td>
</tr>
<tr>
<td>Literature on Film Use</td>
<td>8</td>
</tr>
<tr>
<td>Literature on Film Rhetoric</td>
<td>10</td>
</tr>
<tr>
<td>Specific studies</td>
<td>12</td>
</tr>
<tr>
<td>Research on specific techniques</td>
<td>14</td>
</tr>
<tr>
<td>Points for which to watch</td>
<td>14</td>
</tr>
<tr>
<td>Motivational statement</td>
<td>16</td>
</tr>
<tr>
<td>Summarization of content</td>
<td>18</td>
</tr>
<tr>
<td>Learner participation</td>
<td>20</td>
</tr>
<tr>
<td>Knowledge of the results</td>
<td>22</td>
</tr>
<tr>
<td>Post-film treatment</td>
<td>22</td>
</tr>
<tr>
<td>CHAPTER</td>
<td>PAGE</td>
</tr>
<tr>
<td>---------</td>
<td>------</td>
</tr>
<tr>
<td>III. DESIGN OF THE STUDY</td>
<td>26</td>
</tr>
<tr>
<td>The Check List</td>
<td>26</td>
</tr>
<tr>
<td>Source of the items on the list</td>
<td>26</td>
</tr>
<tr>
<td>Method of establishing reliability</td>
<td>26</td>
</tr>
<tr>
<td>Reliability of the check list</td>
<td>29</td>
</tr>
<tr>
<td>Validity of the check list</td>
<td>30</td>
</tr>
<tr>
<td>The Population</td>
<td>31</td>
</tr>
<tr>
<td>The Sample</td>
<td>32</td>
</tr>
<tr>
<td>The Procedure</td>
<td>32</td>
</tr>
<tr>
<td>The Experimental Variable</td>
<td>34</td>
</tr>
<tr>
<td>Controlled Variables</td>
<td>35</td>
</tr>
<tr>
<td>Extraneous Variables</td>
<td>35</td>
</tr>
<tr>
<td>The Statistical Methods</td>
<td>36</td>
</tr>
<tr>
<td>IV. A REPORT OF THE FINDINGS</td>
<td>39</td>
</tr>
<tr>
<td>Description of the Sample</td>
<td>39</td>
</tr>
<tr>
<td>Instructor's academic degree</td>
<td>39</td>
</tr>
<tr>
<td>Class period</td>
<td>40</td>
</tr>
<tr>
<td>Instructor's age</td>
<td>43</td>
</tr>
<tr>
<td>Instructors' teaching experience</td>
<td>43</td>
</tr>
<tr>
<td>Class size</td>
<td>45</td>
</tr>
<tr>
<td>Course level</td>
<td>47</td>
</tr>
<tr>
<td>Length of film</td>
<td>49</td>
</tr>
<tr>
<td>Instructor's rating of the film</td>
<td>49</td>
</tr>
<tr>
<td>The Check List</td>
<td>52</td>
</tr>
<tr>
<td>CHAPTER</td>
<td>PAGE</td>
</tr>
<tr>
<td>-----------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>The Extraneous Variables</td>
<td>53</td>
</tr>
<tr>
<td>Results of Fisher's Exact Test</td>
<td>54</td>
</tr>
<tr>
<td>Pearson's Product-Moment Correlation</td>
<td>54</td>
</tr>
<tr>
<td>Results of the Multiple Regression Program</td>
<td>56</td>
</tr>
<tr>
<td>The Experimental Variable</td>
<td>58</td>
</tr>
<tr>
<td>Results of the t test</td>
<td>58</td>
</tr>
<tr>
<td>V. SUMMARY, CONCLUSIONS, DISCUSSION AND RECOMMENDATIONS</td>
<td></td>
</tr>
<tr>
<td>RECOMMENDATIONS</td>
<td>61</td>
</tr>
<tr>
<td>Summary</td>
<td>61</td>
</tr>
<tr>
<td>Conclusions</td>
<td>63</td>
</tr>
<tr>
<td>Discussion</td>
<td>64</td>
</tr>
<tr>
<td>Recommendations</td>
<td>70</td>
</tr>
<tr>
<td>Implications for Teacher Education</td>
<td>70</td>
</tr>
<tr>
<td>Suggestions for Further Study</td>
<td>73</td>
</tr>
<tr>
<td>Communication of research findings</td>
<td>73</td>
</tr>
<tr>
<td>Determining the use of techniques</td>
<td>74</td>
</tr>
<tr>
<td>Design of the film</td>
<td>74</td>
</tr>
<tr>
<td>Knowledge of research-supported techniques</td>
<td>75</td>
</tr>
<tr>
<td>Validity of generalizations from the research</td>
<td>75</td>
</tr>
<tr>
<td>BIBLIOGRAPHY</td>
<td>77</td>
</tr>
<tr>
<td>APPENDIX A. Allen's Summary of Instructional Film</td>
<td></td>
</tr>
<tr>
<td>Research</td>
<td>81</td>
</tr>
<tr>
<td>CHAPTER</td>
<td>PAGE</td>
</tr>
<tr>
<td>---------</td>
<td>------</td>
</tr>
<tr>
<td>APPENDIX B. The Check List</td>
<td>86</td>
</tr>
<tr>
<td>APPENDIX C. Correspondence with Hyer</td>
<td>88</td>
</tr>
<tr>
<td>APPENDIX D. Memorandum to Instructors Requesting First Observation</td>
<td>92</td>
</tr>
<tr>
<td>APPENDIX E. Criteria for Use of Check Listed Techniques</td>
<td>93</td>
</tr>
<tr>
<td>APPENDIX F. Memorandum to Instructors Requesting Second Observation</td>
<td>104</td>
</tr>
<tr>
<td>APPENDIX G. Evaluating Teachers' Use of Instructional Television</td>
<td>106</td>
</tr>
<tr>
<td>TABLE</td>
<td>PAGE</td>
</tr>
<tr>
<td>-------</td>
<td>------</td>
</tr>
<tr>
<td>I. Difference Among the Observers in Using the Check List in the Pilot Study</td>
<td>28</td>
</tr>
<tr>
<td>II. Extraneous Variables</td>
<td>37</td>
</tr>
<tr>
<td>III. Instructor's Academic Degrees</td>
<td>40</td>
</tr>
<tr>
<td>IV. Class Periods</td>
<td>43</td>
</tr>
<tr>
<td>V. Age of Instructors</td>
<td>43</td>
</tr>
<tr>
<td>VI. Years of Teaching Experience</td>
<td>45</td>
</tr>
<tr>
<td>VII. Class Size</td>
<td>47</td>
</tr>
<tr>
<td>VIII. Course Level</td>
<td>47</td>
</tr>
<tr>
<td>IX. Length of Film</td>
<td>49</td>
</tr>
<tr>
<td>X. Rating of Films by Instructors</td>
<td>52</td>
</tr>
<tr>
<td>XI. Criteria for Dichotomization of Extraneous Variables</td>
<td>55</td>
</tr>
<tr>
<td>XII. Degree of Relatedness Between the Extraneous Variables and the Number of Check Listed Techniques Used by Instructors</td>
<td>57</td>
</tr>
<tr>
<td>XIII. Extraneous Variables and the Total Number of Check Listed Techniques</td>
<td>59</td>
</tr>
<tr>
<td>XIV. Results of the t Test</td>
<td>60</td>
</tr>
<tr>
<td>XV. Films in the Second Sample Ranked by Length</td>
<td>67</td>
</tr>
</tbody>
</table>
## LIST OF FIGURES

<table>
<thead>
<tr>
<th>FIGURE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. A Comparison of Instructors' Degrees in the First and Second Observations</td>
<td>41</td>
</tr>
<tr>
<td>2. A Comparison of the Class Periods in the First and Second Observations</td>
<td>42</td>
</tr>
<tr>
<td>3. A Comparison of the Instructors' Ages in the First and Second Observations</td>
<td>44</td>
</tr>
<tr>
<td>4. A Comparison of the Instructors' Teaching Experience in the First and Second Observations</td>
<td>46</td>
</tr>
<tr>
<td>5. A Comparison of Class Sizes in the First and Second Observations</td>
<td>46</td>
</tr>
<tr>
<td>6. A Comparison of Course Levels in the First and Second Observations</td>
<td>48</td>
</tr>
<tr>
<td>7. A Comparison of the Length of the Films in the First and Second Observations</td>
<td>50</td>
</tr>
<tr>
<td>8. A Comparison of the Instructors' Rating of Films in the First and Second Observations</td>
<td>51</td>
</tr>
</tbody>
</table>
CHAPTER I

THE PROBLEM

Professional literature has increasingly pointed to the need for the application of research results when using instructional media, including the motion picture. The communication of these results to instructors at large, however, appears to have been neglected. The thesis on which this study was based was that instructors would use more research-supported teaching techniques if they were better informed of the research results. This study examined one method of communicating to instructors data from applied research related to the use of media in instruction.

Statement of the Problem

It was the purpose of this study to find if a change in the ways in which instructors use motion pictures could be brought about by exposing the instructors to a summary of applied research (Appendix A) related to the instructional use of motion pictures.

Need for the Study.

From a broad point of view, educators have been slow to apply laboratory findings to learning in the classroom (23:68). The present study was based on the assumption that
one of the causes of this slowness was that the instructor's reading was limited "to textbook materials and other easily digestible, though usually out-of-date and incomplete, secondary sources of information" (4:358).

More specifically, Meierhenry stated in 1961 that "learning theory as a basis for more effectively utilizing audiovisual materials has not been given attention until recently" (21:3).

Almost a decade after Meierhenry made this observation, authors of texts in the media field are beginning to reflect this need. For instance, Kemp's newest edition of Planning and Producing Audiovisual Materials (19:3-19) devotes two chapters to specific research findings which have supported various media production and use techniques. This contrasts with the first edition (18) which contained no reference to learning theory or research.

Unfortunately most authors have not followed Kemp's lead. AV Instruction: Media and Methods (5:285-86), a text used in college-level audiovisual courses, improved only slightly in this respect in its third revision and, while two pages on research findings may be better than none, the generalizations made from the findings are not closely tied to their sources.

An example from another text, Pula, illustrated the difficulty. Pula said that the "ability to learn from films
will increase with practice" (24:110). Borg's description of texts and materials that were "easily digestible, though usually out-of-date and incomplete, secondary sources of information" (4:358), might have been supported by such a statement.

This study was conducted to determine the effect of exposing teachers to research data which supported specific methods in an attempt to increase the use of those methods. The frequency of the use of films or other media by teachers has not been shown to have a relationship to their audiovisual training, which may indicate something was missing from their training. A study by Graves resulted in the conclusion that no "significant relationships were found . . . between the quality of film usage by teachers and their . . . previous college level audiovisual training" (13:7044). In basic agreement with Graves, Cresser found no significant difference in the frequency of media utilization between those who had attended media in-service training and those who had not (9). The seventeen school audiovisual coordinators who conducted the training for the teachers questioned "indicated that learning theory and its relationship to media utilization was an important part of their in-service training program" (8:47). Four indicated that this was the most important part of their program. The teachers desired more applied theory while the
coordinators maintained applied theory was already an important part of their program. This may mean the applied theory presently included in teacher media training is less than adequate.

Evans stated that one of the causal factors in resistance to change in higher education was the need for teachers to perceive a change "as essentially superior to traditional teaching methods if this factor was to affect the rate of its adoption" (12:17). From such statements, from the studies cited, and from an examination of texts and in-service training programs, as well as the past experience of the researcher in conducting teacher in-service training programs in media, it was concluded that instructors needed to be more thoroughly grounded in research findings. One approach in attempting to fill this need was to try a simple informational method, giving the instructors a summary of research related to the use of instructional film.

**Limitations of the Study**

Variables which may have affected this study, but which were not measured, are: (1) the instructor's previous media training, and (2) the instructor's basic attitudes toward change. Previous studies have shown there is no significant relation between media training and use. For this reason it was not measured. The researcher's lack of
familiarity with attitude measurement, as well as the hesitancy of a student to approach the faculty for the purpose of measuring dogmatism, caused the elimination of attitude as a variable under study.

The sample size, while randomly selected from the population of the two departments of education and psychology, was from too small a universe to encourage larger generalizations than those which could be made to the departments involved in the study.

Developing and using the instrument for this study was an experiment in itself, but the valuable hindsight gained did not contribute to the accuracy of measurement.

**Definition of Terms**

**Check list.** The check list (Appendix B) was a list of six research-supported techniques which may be used to present a film. The research and learning theory supporting these techniques are cited in Chapter II of this study. The criteria observers referred to in determining the use or non-use of a technique is reported in Chapter III and Appendix E.

**Film.** The term is limited to 16mm sound motion pictures and is synonymous with "motion pictures."
Film rhetoric. This term covers the variables or definable processes by which instructors may increase the instructional effectiveness of the films.

Motion pictures. The term is limited to 16mm sound motion pictures.

Summary of research. The summary (Appendix A), which was distributed to the instructors observed was written by W. H. Allen for Roundtable Films, Inc. Each page of the summary was on a different part of film use. The four pages were titled, in the order in which they were stapled, Introducing a Film, Conducting a Discussion, Obtaining Viewer Participation, and Stopping the Film. Each page gave relevant research findings and the recommended uses.

Overview

Chapter I has stated the thesis on which this study was based and the particular aspect of this thesis which the study approached. It has also included the need for the study as supported by the literature and the researcher's experience. The larger limitations of the study have been mentioned and the terms used in the study defined.

Chapter II is a review of research having a bearing on this study and research supporting those techniques of instructional film use on the check list (Appendix B).
Chapter III explains the check list and defines the population sample. It includes the statistical methods which were used to evaluate the data. Also defined are the extraneous variables and the experimental variable.

Chapter IV is a report of the results of the statistical analysis of the data. The results of Fisher's exact test and the multiple regression program for the extraneous variables are reported. And the result of the \( t \) test for correlated sample means which was used to determine the significance of the experimental variable is also reported.

In Chapter V the researcher discusses the implications of the results and makes suggestions for further research.
CHAPTER II

REVIEW OF THE LITERATURE

The first section of this chapter is a review of literature which approaches the question of how teachers in fact use film in the classroom. Then, the second section reviews film rhetoric, research and learning theory on how a film should be used.

I. LITERATURE ON FILM USE

The present investigator found a limited number of studies concerning film utilization by teachers. Most of the studies approach the question of utilization by asking how many films were used rather than how they were used. Reed is an exception to this.

Reed's 1950 study is cited by Hoban (14:3-40) as being representative of how instructors use films. Reed selected for direct observation 13 fifth grade teachers who were film users. The four criteria used to determine the "goodness" of the teacher's use of a film were:

1. Clarity of purpose of film use;
2. Knowledge of film content and plan for its use;
3. "Readiness" of the pupils for film observation; and
4. "Follow-through" after film exhibition.

Reed drew the conclusion that:
In terms of the criteria that have been used for "good" utilization, the evidence collected by this observer and by the principals seems to indicate that the teachers who are using sound films are making "good" use of them. (14:8-40).

Reed did find variation in the quality of film use. This variation was not attributed to the teacher's understanding of the medium, but to "those factors that cause variation in teaching regardless of materials and equipment used" (14:8-40). The teacher's learning theory, skill, understanding and ability to work with children were cited by Reed as being "the kind of factors that go beyond basic principles of film usage and are of most importance in bringing about the best possible utilization of films" (14:8-40).

Hoban's evaluation of Reed's conclusion was that:

This conclusion is consistent with the main weight of experimental evidence which indicates that principles of teaching are important. Routine techniques are perhaps more characteristic of mediocrity than of excellence (14:8-40).

But defining the principles makes the 'goodness' of film use difficult to measure. Anna Hyer commented on this difficulty in her own doctoral dissertation on film utilization.

Quality of utilization. In the opening stage of the study, plans were made to include quality of film use as well as quantity. Later this plan was altered. A check form for use by an observer was devised based on the characteristics of good utilization defined through research, but the researcher was not satisfied with these check sheets as a method of determining quality of use. So much depended upon the type of film, the class itself, the teaching purposes, and whether the methods of the
classroom were teacher-dominated or pupil-dominated, that a check sheet approach seemed inadequate as a judge of degree of success of film use (17:7).

Correspondence with Hyer (Appendix C) indicated that she believes the original comments are still valid. Hyer was doubtful "that collecting . . . a list and checking it against observations in the classroom would perform a very useful purpose," since she felt that "the quality of a teacher's use of a film is the product of . . . many . . . factors."

Hyer concentrated on the factors which had to do with the number of films used. And other studies attempting to evaluate film use have also established the quality of use as synonymous with the number of films used (13:7044).

The physical problems involved in teachers using film are not a part of this thesis study, so this aspect has not been reviewed. Less tangible variables which may influence the number of films or media used, however, are important to this study, since the same factors may influence how a film is used. Teaching experience, for instance, was found to be a factor in the 'high user' category in a study by Graves (13:7044). These variables are discussed under the design of the present study in Chapter III.

II. LITERATURE ON FILM RHETORIC

Two compilations summarized most of the research which has been done concerning the methods and conditions of film
used. Hoban, et al, summarized and commented on over 200 studies of instructional film covering the period from 1918 to 1950 (14). Nearly 350 research studies on instructional television and film for the period from 1950 to 1964 are summarized in Reid and MacLennan (25). The comparison of television and film research, granting obvious differences, may be made since "evidence exists that line TV, kinescopes, and conventional films are equivalent from a teaching point of view" (1:119).

Since the intent of Allen's summary of film research (Appendix A) was different, it cannot be compared with the two sources cited. In spite of its brevity, however, it was more informative than most secondary sources. Sands devoted only two and a half pages and Thomas a mere two pages to research and applied theory on the instructional film (26:353-56; 28:137-59). These college-level texts, unlike Allen, did not cite much specific research or learning theory, and thus are not included in this review.

The only writer found by the present researcher who combined theory with research and its implications was Travers in his report on Research and Theory Related to Audiovisual Information Transmission.
Specific Studies

A number of studies support the techniques on the checklist used in this experimental study. Wittich compared three classroom methods of using educational sound film. The most successful of the three approaches was an introduction consisting of a summary of the film's content and motivating questions, a review of the film after showing, and a second showing of the film (30). A study by the Commonwealth Office of Education of Australia found four variables which were "superior in aiding the pupils to retain the material learned" (14:8-37). They were:

1. Introduction or orientation . . . ;
2. Discussion, . . . participation or practice . . . ;
3. Repetition of the film . . . ; and
4. Distributing the activity over a period of two days . . . (14:8-37).

Hoban summed up these and similar studies as indicating not so much a "formula" for film use "as it is a matter of applying the principles of instruction to methods of film use" (14:8-43). Hoban did not continue with the identification of the specific principles of instruction to which he was referring. The researcher inferred that these were based on learning theory similar to that which Travers documented in more detail.
Learning theory which is cited as supportive of research studies, in the opinion of the researcher, must be approached pragmatically. Pure theory, as well as the physiological processes of learning, are beyond the scope of this study. The results of research which could be applied to a classroom situation were the loci of the items on the check list. The difficulty of separating cause and effect was well illustrated by Travers. He concluded that repetitive showings of a film may be equated with participation activities and that the causal effect may have been neither of these, but a third element, time (29:110) When research did not clearly point the way but did indicate that results may be obtained by using different techniques, the researcher equated the techniques: the desired end result, more learning, may be achieved by either process.

The check list used for this study included a section on pre-film treatment. The three techniques which were selected to be measured in testing the effectiveness of the distribution of Allen's summary of research were: (1) directing the learners' attention to specific points they should watch for during the showing; (2) motivating the learners; and (3) summarizing the content or setting the mood of the film before showing.
Research on Specific Techniques

The research is cited in the same order as the techniques appeared on the check list. The first technique implied the question: "Did the instructor direct the learner's attention to specific points he should watch for during the showing?"

Points for which to watch. Lumsdaine seems to have done the most definitive work on directing attention as a film teaching technique. He found that learning could be significantly increased by directing the learner's attention to certain parts of the film before it was shown. In his joint work with May (20:106), he summarized a number of studies by stating that the "effective ingredient seems to be some means of providing for selective focusing of attention on particular aspects of the material. . . . . ."

The experiments Lumsdaine referred to used oral or written instructions, pre-film testing, and the pointing out of the "hardest" questions before a second showing. The most commonly used technique, in the experience of the writer, is the use of oral instructions to direct attention. A synopsis of Lumsdaine's study to further support this technique follows.

The experiment was a study of the effect of directing attention with oral instructions. Three classes of high
school students were shown the same film. Each class was
told to watch for a specific aspect of the film. Following
the forty-minute film, the students were tested on that
aspect as well as on others about which they had received no
instructions.

Lumsdaine concluded that the results were statistically
significant and supported "the hypothesis that the directed
attention procedure used with this film [David Copperfield--
The Boy] should result in differences in the relative amounts
learned on the materials to which attention was directed, as
compared to other parts of the film" (20:91). The weakest
link in generalizing from this research is that only one film
was used and there were no replications. This fault lay in
the lack of a tradition for the replication of studies in
research on instruction (25:16). This lack of replication
necessitates using other studies which have indirectly sup­
ported the technique of directed attention.

And May and Lumsdaine did cite other experiments using
three different films which showed a gain in learning when
the directed attention technique was used. The differences
among the studies was the method of directing attention. If
the writer equates pre-tests and written instructions and
questions with oral instructions, as did May and Lumsdaine,
adequate supporting evidence has been established for the
generalization.
On a more theoretical basis, the early experimentalists believed that attention was part of the selective process in "determining the focus of consciousness" (29:8.03). William James' Functionalism was interpreted as being essentially concerned with processes, and attention was one of the processes--specifically a selection process (29:8.03). James believed that this focalization was achieved at the expense of other simultaneously presented information and his theory was defended in detail by Travers. This was not, however, judged to be significantly detrimental by Lumsdaine, who stated in his discussion of several experiments that "the total amount learned . . . seems not to be seriously reduced by the use of these [attention directing] devices" (20:103). These two schools of thought lend authority to the technique of directed attention.

**Motivational statement.** The second item on the checklist was: Did the instructor motivate the learners? This category was a combination of techniques. Allen used the term in a limited sense to mean the method of pointing out to the learner what value the film will have for him (1:125). As used in this study, the term also covers the creation of viewer anxiety. This was done in deference to the educational philosophy held by some instructors relating to the validity of anxiety as a motivation to learn. This is not intended as
a support of that philosophy, but only to recognize it as a legitimate and possible stand which would have influenced the outcome of the study if the "motivational statement" category were divided between the two techniques or if one were excluded from the study.

Pointing out to the learner the importance of learning from the film is rather well described by the phrase "positive motivation." McNiven's study, among others, in attempting to determine the effect of perceived usefulness in learning from films, found that the "nearer the individual perceives himself to be to the use of information from a film, the greater will be the learning" (25:129). The subjects, in McNiven's experiment, learned more if they knew they were to be tested after the showing. Subjects also learned more if they ranked the films high for usefulness and interest. It may be concluded that introductory remarks which caused the learner to believe the films content useful would increase the learning which may occur. Allen cited a study by Hovland which also supports this contention. He observed that military trainees learned 10 per cent more when their attention was called to important points and to the importance of learning these points (Appendix A).

Allen cited Hovland again in supporting the creation of viewer anxiety to increase learning. The announcement of
a post-film test before showing increased learning by 23 percent for a sample of Army trainees (Appendix A).

Allison and Ash attempted to determine if a mild concern on the part of the student would result in increased learning. A sample of 480 college students in introductory psychology classes were divided into four groups, one of which saw no films. The other three viewed two films preceded by either anxiety-decreasing, neutral, or anxiety-increasing instructions. The difference of anxiety-increasing over the neutral instruction was significant at the .03 level. Anxiety-increasing over anxiety-decreasing instruction was significant at the .01 level. The authors concluded that "increasing anxiety uniformly increased scores on test of material in the film" (25:22).

Hovland's study found that subjects learned more if they received anxiety-producing instructions, and so, in conjunction with the Allison and Ash study, support the use of this method.

The establishment of motivation or attention has been an a priori condition in most experiments in the psychology of learning. Skinner, for instance, "deprives" his animals before they are placed in a learning situation. This is done to decrease the effect of distracting stimuli (6:156).

Summarization of content. The third item on the check list under the heading of pre-film treatment, implied the
question: "Did the instructor summarize the content or set the mood of the film before showing?" Allen phrased this as "a reading of a brief descriptive story of the content" (Appendix A). Allen's primary source for his statement was a study by Wittich and Fowlkes (30) which showed a "significant increase in the learning from social studies and science films when intermediate-grade students read brief descriptive stories of the content." While this category is supported in general by the psychological principles of a "set" to learn, Wittich's study was the specific foundation for the phrasing of the category title.

The use of an introduction as a technique to increase learning has been studied in a number of experiments. Though it has been shown to increase learning significantly when used in combination with other techniques, "the confounding (uncontrolled mixing) of variables" (25:16), or even the controlled mixing, does not give the limiting information needed to attribute a specific value to this technique.

A study by the Australian Office of Education using six different combinations of techniques to present a film found that the most effective method was introduction, film, discussion, film again after 24 hours, and test (25:48). This was, unfortunately, a good example of confounding variables when support of the value of the introduction technique is being sought.
The effectiveness of having the introduction included in the film appeared to be negligible according to a study by Murphy (25:136). This could be taken to mean that a filmed introduction does not preclude the need for an introduction by the instructor. Even if the technique of including the introduction were effective, it is doubtful it would be consistently included since comments by producers have made it "absolutely clear that there is no agreement among them concerning the principles that should be followed in the design . . . " (29:1.12).

The reading of a synopsis of the film before showing appears to be a valid technique, according to Wittich. If the essence of this variable is making the students aware of what is to come, then the shift from the students' reading of a synopsis to having the synopsis communicated in oral introductions is also valid.

Learner participation. Participation techniques call for involvement on the part of the learner. The effectiveness of participation depends on motivation, though the requirement of participation may, in itself, be a motivating factor (20:228). Feedback on learner-response, like participation, acts as reinforcement.

Allen concluded that evidence justified using the techniques of learner participation, overt verbalization of
responses, and knowledge of results of overt response (feedback), inasmuch as these techniques result in increased learning from a film (1:125). Paced presentation and mental practice, according to Allen, also result in increased learning under certain conditions.

Hovland (16:239) found an 18.1 per cent increase in learning if low motivation viewers made overt responses. The gain for highly motivated viewers was about the same whether participation was covert or overt (22:411-418; 16:239).

The difference between this technique and class discussion for the purpose of this study, was that the participation category was restricted to the period the film was being screened. It also usually, but not always, referred to learner response to the film rather than to the instructor.

If the learner is instructed to take notes or practice a skill during the film, the film must be paced so there is enough time to satisfactorily accomplish these tasks without trying to do two things at once. Note-taking or skill-practicing during the film without pacing will interfere with learning (22:411-418; 25:26).

Purposely stopping the film is a legitimate technique. And it must be done for pacing where more time is needed between sequences than provided by the producer. This does not interfere with learning and in most cases enhances it (25:27). Stopping a film, according to three studies cited
by Allen, may result in significantly greater learning than straight showing (Appendix A). The three studies supporting this technique utilized statements, review, and/or the answering of questions when the film was stopped. Numerous studies have supported overt participation of the learner as desirable. Covert participation will also satisfy this category for the purposes of this study. In order for it to qualify as a deliberate technique, however, the learner had to be instructed to respond in this manner; covert participation could not be assumed (Appendix A).

Knowledge of the results. Participation followed by the learner's knowing the correctness of his responses is an effective way of increasing learning (1:126). Unlike "learner participation," limited to the time the film was being shown, feedback is possible both before and after the showing as well as during. A pre-film test with immediate knowledge of results may result in significantly greater learning than a pre-film test without knowledge of results (1:126). This technique, or a post-film test given in the same way, qualified as feedback for the purpose of this study.

Post-film treatment. The two categories of class discussion and review-and-summary are not clearly separated in research studies. An army study, for instance, used a review exercise in which the main points of the film were discussed
(Appendix A). Judging from Hovland's description of this experiment (16:142), discussion played a very minor part, there being no verbal response elicited from the learner. While learning showed a significant increase over the showing of the film alone, the study did not combine a two-way discussion and review. When combining techniques, the increase in learning is not additive. So the increased learning, in the case of a second showing for instance, often does not justify the use of the additional time. For this reason, the two categories of class discussion and review-and-summary will not be considered separately in scoring; either of the possibilities will satisfy the overall category of "post-film treatment." They are separate on the check list only in order to determine which method the instructor used to satisfy the category.

The "law of recency" noted by Carr (16:3) will assure the reinforcement or coloration of parts of the film. Reinforcement is the most active principles, however, in either method for the post-film treatment.

Reviews, in the form of discussions, post-film tests, or lectures, have been well researched and almost invariably result in more learning. Wittich found an increase of about 10 per cent when the review was used in addition to an introduction before the film (30:391). Hovland (16:143) found a
statistically significant difference between the film alone and the film plus a review.

The Australian Office of Education found discussion and review (a second showing of the film) the most effective of six possible combinations of techniques (1:127). The film was shown a second time the day after the discussion, benefiting from the psychological principle of spaced practice. It is most important that the discussion follow the film immediately to take advantage of another psychological principle: the degree of response is relative to the recency of the stimulus.

May (20:110) felt that discussion is a generally desired intermediate goal in education, whether in relation to films or in other types of learning situations. Kendler's study, cited by Reid (25:108), concluded that one review (reshowing) increases learning and that overt participation during a review increases learning. Kendler also found that these effects decrease with repetition. There seems to be general agreement that review treatments produce significantly greater learning than no review (25:133).

Research on different methods of using instructional film has indicated a number of techniques which may promote learning. Most of these techniques are instructional methods not unique to film use.
The use of a specific technique is not valid in all situations where films are used. The techniques used on the check list were not intended to be exclusive of other techniques. They were selected as representative of the techniques cited in Allen's summary of instructional film research. Their selection does not indicate any degree of preference for these techniques. They were selected to yield an approximate measure of the change brought about as a result of the experiment.

The following chapter explains the procedure of the study. Descriptions of the method of the exposure of instructors to Allen's summary and of the extraneous variables which may affect the experiment are included, along with explanations of the objectives of the statistical analyses.
CHAPTER III

DESIGN OF THE STUDY

This chapter defines the population, the sample, the procedures used and the statistical techniques for evaluating the results. It also describes the development and "use criteria" of the check list. The check list was the instrument used to measure the change induced by the experimental variable.

The Check List

Source of the items on the list. The lower half of the check list (Appendix B) listed seven techniques instructors may use in presenting an instructional film. The seven techniques were selected from those techniques described in Allen's summary of instructional film research (Appendix A).

Method of establishing reliability. Each item on the check list represented a technique. Examples of the use and non-use of each technique were written by the researcher. The delimiting criteria for the use of a technique were included in the writing. The three observers (the researcher and two assistants) who were to use the check list then read and discussed the examples and the delimiting criteria (Appendix E).
An audio tape recording was made of each of five instructors presenting an instructional film in a classroom situation. The recording was made by taking a portable tape recorder to the classroom and recording the pre-film and post-film discussions and any interspersed comments. Four of the instructors were college faculty members teaching college level classes. The fifth was a student teacher teaching an upper elementary class.

The three observers then listened to the audio tape and checked the techniques used by the instructor on the check list. The researcher, in his capacity as observer, then attended two presentations with each of the other two observers. The items on which there were differences among the observers are listed in Table I.

There were two types of errors. One was confusion on the observer's part as to the differences between techniques one and three. When the instructor cited an extensive number of points for which the students should watch, the observers confused it with a summarization of content. In such a case the total number of techniques checked by the three observers would be the same. The specific items, however, would differ. The researcher was interested in the types of techniques as well as the number of techniques employed by instructors. For the calculation of reliability, then, the number of similar correct answers were used as the observers' scores.
TABLE I
DIFFERENCES AMONG THE OBSERVERS IN USING THE CHECK LIST IN THE PILOT STUDY

<table>
<thead>
<tr>
<th>Technique</th>
<th>Differences</th>
<th>Number of Uses</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Pre-film Treatment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Points for which to watch</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>2. Motivational statement</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>3. Summarization of content</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>Participation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Learner participation</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td>5. Knowledge of results</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td>Post-film Treatment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Class discussion</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>7. Review or summary</td>
<td>0</td>
<td>9</td>
</tr>
</tbody>
</table>

*Indicates those on which observer erred.
The second type of error was a difference among the observers as to whether a technique was used. These differences appeared to be due to two factors. One was an emotional reaction by the observer to a comment or comments by the instructor. For instance, one instructor stated that poverty was a major problem in the United States. One of the observers who had very strong feelings about the poverty problem, reacted to the statement and checked it as a motivational statement. While this may have been true within the observer's emotional framework, the statement did not meet the criteria outlined by the researcher. This implies the second factor. The observers did not remember the discriminating criteria clearly enough. There was no disagreement when the criteria were reviewed. This was, however, after the fact and the check lists used for the five taped observations were not corrected. To use this finding to improve the accuracy of the check list, a space was provided at the bottom of the check list for the observers to write questions or comments about the observations. It was determined that in the study proper the observers would discuss each observation with the researcher after having viewed an instructor presenting a film.

Reliability of the check list. The four live observations that the researcher did with the observers were not
used in determining the reliability of the check list because there were no differences. In addition, the data did not match the five taped observations since the former involved two observers and the latter involved three. The Kendall Coefficient of Concordance: \( W (27.229) \) was used to determine the correlation between the three observers when using the check list to listen to the five audio taped instructors. The correlation was significant at the .05 level.

**Validity of the check list.** Chapter II included a review of literature which supported the use of the techniques on the check list as methods which may increase learning when used with an instructional film. The design and parameters of the studies cited in the literature were kept in front of the researcher as the discriminating criteria were written, and no new generalizations were made. In several instances the latitude of the application of a technique was less for this study than the original studies indicated it might be. This was done to reduce the variance in the observer's measurement of whether a technique was used or not.

Although no attempt was made to measure the effectiveness of the techniques, the ultimate goal of the use of the techniques was to increase learning. The check list, however, was intended to measure the change brought about by exposing the instructors to Allen's summary of research. The validity
of the check list as a measure of the learning taking place was not defensible. The purpose of the check list was only to determine whether the techniques listed by Allen were being used by the instructors to present a film.

The Population

The population was the instructors in the departments of education and psychology at Central Washington State College in the Winter and Spring quarters of the 1968-69 academic year. There were 35 instructors in education and 28 in psychology. Six instructors in the department of education had prior knowledge of the purpose of the study and were therefore eliminated from the population for sampling purposes.

The average number of films used by each of the two departments in the 1967-68 academic year was 292 per quarter. The average use by instructors in the education department was 8.4 films per quarter. The average use by instructors in psychology was 10.4.

In order to compare an instructor's use of films before and after exposure to Allen's summary, at least two films had to be shown, one for the before observation and one for the after observation. This further limited the population to those instructors who used two or more films during the Winter and Spring quarters.
The Sample

The first sample was 23 instructors in the departments of education or psychology. They were selected at random from the instructors in the two departments. Twenty of the 23 observations were considered valid. This established the pilot sample. Fifteen of the 20 instructors were observed a second time after they had received copies of Allen's summary of instructional film research. The first 20 observations were used to determine the effect of the selected extraneous variables on the techniques used to present a film. This was done using Fisher's exact test and a multiple regression program (10:3). These tests were also used on the second 15 observations. The 5 instructors who were not observed a second time were removed from the sample when the t test for correlated sample means was used.

The Procedure

Instructors in the two departments were informed, by memorandum (Appendix D), that the researcher would like to view their classes when an instructional film was being shown. Instructors at the college usually requested films from the college film library. These request forms were checked each day to see if instructors in either of the two departments involved in the study planned to use films. Whenever an instructor requested a film, he was contacted and permission was requested to have an observer present for the showing.
The background data on the upper half of the check list was completed either before or after the observation. The instructor was not, for instance, asked his age or years of teaching experience. Either before or after the showing the observer asked the instructor two questions. The first was: "What was your purpose in using this film?" The check list was folded in half at the double line and the instructor could see the three purposes listed. If the instructor hesitated or requested a definition, the observer was instructed to define the purposes as follows: "Instructional means cognitive, demonstrational means for skills, and motivational means for affective change." The second question was: "How do you rate this film for the purposes for which you are using it?" The ratings, from "excellent" to "poor" were read to the instructor. The instructor could also see the ratings on the folded check list. If the instructor gave two ratings for the film, one for content and one for the technical quality, the rating for content was used.

The observer sat in the room as part of the class. As the techniques on the check list were used, as defined by the criteria in Appendix E, the observer made a check in the "yes" column for the appropriate technique. Any questions or extenuating factors were made note of in the space at the bottom of the check list.
After twenty valid observations, Allen's summary of instructional film research was distributed to the twenty instructors who were observed. The four spirit-duplicated sheets were stapled together and the instructor's name was typed at the top of the first sheet. The summaries were taken to the departmental secretary who put one in each instructor's mailbox. One week after the summary was distributed, a memorandum was sent to the 20 instructors requesting their cooperation for a second observation (Appendix F). The same procedure for contacting and observing as was used the first time being followed, 15 of the instructors were observed again.

The Experimental Variable

The experimental variable was the exposure of the instructors to Allen's summary of instructional film research. The summary was distributed to the instructors after the first observations were completed. The same check list was used to record the number and kinds of techniques used by instructors before and after the summary was distributed.

The $t$ test for correlated sample means was used to determine whether there was a significant change between the two sets of observations. The significance level was set at the $.01$ level for a one-tailed $t$ test. The predictive
hypothesis was:

\[ M_1 < M_2 \]

where \( M_1 \) was the sample mean of the first 15 observations and \( M_2 \) was the sample mean of the second 15 observations.

**Controlled Variables**

A Bell and Howell 16mm motion picture projector was stationed permanently in each classroom. All the projectors were equipped with a still frame switch. A projection screen was permanently mounted in each classroom. All classrooms had light control in the form of either drapes or, for those rooms without windows, rheostats. The assumption was made that the instructors knew how to operate the equipment.

The instructors had equal opportunity to make use of more than 2700 motion picture films in the Central Washington State College film library. Rental and loan films could be requested from other sources by the instructors.

**Extraneous Variables**

The upper half of the check list was for the purpose of collecting data about variables which might influence the way in which an instructor used a film. Some of the extraneous variables had been significant in studies dealing with the frequency of film or media use by instructors. Others
were included because the researcher was unsure about their effect. These extraneous variables were:

1. Instructor's sex.
2. Degree held.
3. Class period.
4. Instructor's age.
5. Teaching experience.
6. Class size.
7. Course level.
8. Film length.
9. Instructor's purpose.
10. Instructor's opinion of the value of the film.

The Statistical Methods

Finney's tables based on Fisher's exact test were used to evaluate the extraneous variables after they were dichotomized. The Fisher's exact test is the same basic format as a two-by-two chi square test. The ten extraneous variables were dichotomized as shown on Table II. The Fisher's exact test was used because the expected cell frequencies in some cases were five or less (11:92). The test looked like the diagram on page 38 for the better known two-by-two chi square test. This test was run for each item on the check list to determine variables which may have affected the way in which an instructor used a film.
### TABLE II
**EXTRANEOUS VARIABLES**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Column A</th>
<th>Column B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>Degree</td>
<td>PhD.</td>
<td>Less than PhD.</td>
</tr>
<tr>
<td>Period</td>
<td>Period in the am</td>
<td>Period in the pm</td>
</tr>
<tr>
<td>Age</td>
<td>30 years and under</td>
<td>31 years and over</td>
</tr>
<tr>
<td>Experience</td>
<td>10 years and under</td>
<td>11 years and over</td>
</tr>
<tr>
<td>Class size</td>
<td>29 and under</td>
<td>30 and over</td>
</tr>
<tr>
<td>Course level</td>
<td>399 and under</td>
<td>400 and over</td>
</tr>
<tr>
<td>Film length</td>
<td>30 minutes and under</td>
<td>31 minutes and over</td>
</tr>
<tr>
<td>Purpose</td>
<td>Instructional</td>
<td>Demonstrative or Motivational</td>
</tr>
<tr>
<td>Value of film</td>
<td>Excellent</td>
<td>Poor to very good</td>
</tr>
</tbody>
</table>
Where:

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>AY</td>
<td>BU</td>
</tr>
<tr>
<td>CY</td>
<td>DU</td>
</tr>
</tbody>
</table>

Group I

Group II

AY equals the number of yeses in the first half of the dichotomized extraneous variable;

BU equals the number of noes in the first half of the dichotomized extraneous variable;

CY equals the number of yeses in the second half of the dichotomized extraneous variable; and

DU equals the number of noes in the second half of the dichotomized extraneous variable.

A computerized multiple regression program (10) was run to determine which of the extraneous variables had the most effect on the number of yeses. The extraneous variables were not dichotomized for this test.

A statistical description of the sample as determined by the observations is reported in the following chapter. The results of the exposure of the instructors to Allen's summary of instructional film research is included in this description.
CHAPTER IV

A REPORT OF THE FINDINGS

This chapter reports the results of the statistical analyses of the makeup of the samples in this study, the effects of the extraneous variables on the method of film use, and the effect of the experimental variable.

Description of the Sample

The range, average, variance and machine coding for each of the extraneous variables are reported to indicate the degree of proportional homogeneity between the two sets of observations. The second set of fifteen observations were made of instructors selected from the first set of twenty observations. The purpose for juxtapositioning the two sets of observations, in addition to clarifying the makeup of the samples per se, is to provide a base for generalizations made in Chapter V. It may be noted that variables such as the instructors' academic degrees remain fairly constant since the only difference between the two observations is the removal of five instructors from the second observations. Variables such as film length, however, had the potential of greater variance.

Instructor's academic degree. The instructors were divided into three groups by virtue of their highest
academic degree. For the computer analysis, the number "one" was assigned to bachelors, "two" to masters, and "three" to doctors. Using this division of the data, the similarity of the two groups with respect to their degree may be noted in Table III, where the average for both groups was 2.6. The proportional homogeneity of the two groups of observations is shown in Figure 1. The two groups appeared to be similar with respect to the degree variable.

**TABLE III**

INSTRUCTOR'S ACADEMIC DEGREES

<table>
<thead>
<tr>
<th>Observation</th>
<th>N</th>
<th>Range</th>
<th>Frequency</th>
<th>Average</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>20</td>
<td>1-3</td>
<td>2 4 14</td>
<td>2.6</td>
<td>.463</td>
</tr>
<tr>
<td>Second</td>
<td>15</td>
<td>1-3</td>
<td>1 4 10</td>
<td>2.6</td>
<td>.400</td>
</tr>
</tbody>
</table>

Class period. Classes started at 8:00 a.m. and met every hour on the hour. Each of the eight periods was 50 minutes in length. At least one class was observed for each of the eight periods in both observations except for second period, which had no observations in either group. The similarities in the frequencies were proportionally homogeneous. The frequencies are depicted in Figure 2, page 42, on a percentage basis. The absolute frequencies are set forth in Table IV, page 43.
FIGURE 1

A COMPARISON OF INSTRUCTORS' DEGREES IN THE FIRST AND SECOND OBSERVATIONS
FIGURE 2
A COMPARISON OF THE CLASS PERIODS IN THE FIRST AND SECOND OBSERVATIONS
TABLE IV

CLASS PERIODS

<table>
<thead>
<tr>
<th>Observation</th>
<th>N</th>
<th>Range</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>Average</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>20</td>
<td>1-8</td>
<td>2</td>
<td>0</td>
<td>4</td>
<td>2</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>1</td>
<td>4.75</td>
<td>3.881</td>
</tr>
<tr>
<td>Second</td>
<td>15</td>
<td>1-8</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>5.2</td>
<td>4.028</td>
</tr>
</tbody>
</table>

Instructors' ages. The age for each instructor was obtained from the office of the Dean of Faculty. The statistical analysis was run using the exact age to the nearest year. Figure 3, page 44, shows the close similarity of the two observations with a cumulative percentage representation. As may be noted in Table V, the range for both observations was the same.

TABLE V

AGE OF INSTRUCTORS

<table>
<thead>
<tr>
<th>Observation</th>
<th>N</th>
<th>Range</th>
<th>Average</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>20</td>
<td>25-55</td>
<td>39.45</td>
<td>77.418</td>
</tr>
<tr>
<td>Second</td>
<td>15</td>
<td>25-55</td>
<td>40.4</td>
<td>89.971</td>
</tr>
</tbody>
</table>

Instructors' teaching experience. The total teaching experience for each instructor was obtained from the office
A COMPARISON OF THE INSTRUCTORS' AGES IN THE FIRST AND SECOND OBSERVATIONS

FIGURE 3
of the Dean of Faculty. The range of the years of teaching experience was the same in both observations. The averages are close enough to justify an assumption of similarity of the two groups. Table VI indicates this homogeneity in both the range and the average and Figure 4, page 46, shows the proportional likeness.

**TABLE VI**

<table>
<thead>
<tr>
<th>Observation</th>
<th>N</th>
<th>Range</th>
<th>Average</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>20</td>
<td>1-33</td>
<td>14.05</td>
<td>95.207</td>
</tr>
<tr>
<td>Second</td>
<td>15</td>
<td>1-33</td>
<td>14.93</td>
<td>112.352</td>
</tr>
</tbody>
</table>

**Class size.** The observer determined class sizes by head counts during showings. The class of 200 students was atypical and its inclusion explains the large variance. It was included in both observations, however, and can be regarded as a constant. While the range and average are fairly close, indicating the proportional homogeneity reflected in Figure 4, the average in Table VII, page 47, suggests that the majority of the observations were made of rather small classes. In the first observation, seven classes ranged from 17 to 25 members, ten had from 20 to 63, and there was one each of 8 and 200 students. The same bunching occurred in
FIGURE 4
A COMPARISON OF THE INSTRUCTORS' TEACHING EXPERIENCE IN THE FIRST AND SECOND OBSERVATIONS

FIGURE 5
A COMPARISON OF CLASS SIZES IN THE FIRST AND SECOND OBSERVATIONS
the second observation, where thirteen classes ranged from 15 to 47, with one class each of 80 and 200 students.

**TABLE VII**  
**CLASS SIZE**

<table>
<thead>
<tr>
<th>Observation</th>
<th>N</th>
<th>Range</th>
<th>Average</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>20</td>
<td>8-200</td>
<td>38.45</td>
<td>1666.892</td>
</tr>
<tr>
<td>Second</td>
<td>15</td>
<td>15-200</td>
<td>42.66</td>
<td>2180.238</td>
</tr>
</tbody>
</table>

**Course level.** The course number was the same as the catalogue number and implied the sequence. This was used as an index of the class level of the students. The course number was coded by the first digit of the catalogue number. The course number 450, for example, became 4. The similar averages and variances given in Table VIII indicate the high degree of likeness of the two samples even though the sample size differed. The homogeneously proportional makeup of the two samples is illustrated in Figure 6.

**TABLE VIII**  
**COURSE LEVEL**

<table>
<thead>
<tr>
<th>Observation</th>
<th>N</th>
<th>Range</th>
<th>Frequency</th>
<th>Average</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1-5</td>
<td>1 1 1 1 5 1</td>
<td>3.25</td>
<td>.723</td>
</tr>
<tr>
<td>First</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Second</td>
<td>15</td>
<td>1-4</td>
<td>1 1 7 6 0</td>
<td>3.20</td>
<td>.742</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
FIGURE 6

A COMPARISON OF COURSE LEVELS IN THE FIRST AND SECOND OBSERVATIONS
Length of film. The length of the films in minutes was determined by referring to the Central Washington State College film library catalogue (7). Though the range differed slightly as cited in Table IX, the averages remain close. The proportional differences of the frequencies of the two observations as shown in Figure 7 indicate a more even distribution for the second observation.

**TABLE IX**

**LENGTH OF FILM**

<table>
<thead>
<tr>
<th>Observation</th>
<th>N</th>
<th>Range</th>
<th>Average</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>20</td>
<td>14-54</td>
<td>29.2</td>
<td>161.01</td>
</tr>
<tr>
<td>Second</td>
<td>15</td>
<td>6-60</td>
<td>31.40</td>
<td>251.97</td>
</tr>
</tbody>
</table>

Instructor's rating of the film. The instructors were asked to rate the films for the purpose for which they were using it. The five possible classifications were assigned numbers for the statistical analysis. The numbers of the classifications were: (1) excellent, (2) very good, (3) good, (4) fair, (5) poor. The classifications were modeled after those used by the Educational Film Library Association for evaluating films. While the central tendency is the same for the two observations, as illustrated in Figure 8, page 51, the 1.8 average for the first observations
FIGURE 7

A COMPARISON OF THE LENGTH OF THE FILMS IN THE FIRST AND SECOND OBSERVATIONS
FIGURE 8

A COMPARISON OF THE INSTRUCTORS' RATING OF FILMS IN THE FIRST AND SECOND OBSERVATIONS
indicates teachers rated films better than for the second set of observations since their average was 2.06, as shown in Table X.

**TABLE X**

**RATING OF FILMS BY INSTRUCTORS**

<table>
<thead>
<tr>
<th>Observation</th>
<th>N</th>
<th>Range</th>
<th>Frequency</th>
<th>Average</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>20</td>
<td>1-4</td>
<td>8 9 2 1 0</td>
<td>1.8</td>
<td>.694</td>
</tr>
<tr>
<td>Second</td>
<td>15</td>
<td>1-3</td>
<td>4 6 5 0 0</td>
<td>2.06</td>
<td>.638</td>
</tr>
</tbody>
</table>

**The Check List**

The check list (Appendix B) lists seven techniques for which the instructors were observed. The techniques were:

1. Points for which to watch.
2. Motivational statement.
3. Summarization of content.
4. Learner participation.
5. Knowledge of results.
6. Class discussion.
7. Review or summary.

The fifth technique, knowledge of results, was not included in the statistical analyses since none of the instructors used this technique as it was defined for this study. The review
or summary technique was used by one instructor. Since the review or summary technique has been equated with the discussion technique in previous research studies, the two techniques were combined for the statistical analyses. Only five techniques, then, were actually analyzed--numbers one through four and six and seven.

The Extraneous Variables

The extraneous variables presented in Chapter III were:

1. Sex of the instructor.
2. Instructor's degree.
3. Class period.
4. Instructor's age.
5. Instructor's teaching experience.
6. Class size.
7. Course level as determined by the course number.
8. Length of the film.
9. Instructor's purpose in using the film.
10. Instructor's rating of the film.

The first variable, sex, and the ninth, the instructor's purpose in using the film, were not statistically analyzed. Only one female was observed and the researcher believed no worthwhile information would be gained by a statistical analysis because of the unequal dichotomization. The same reasoning applied to the instructor's purpose in using the
film. Seventeen of the first 20 instructors responded with "instructional" for purpose.

**Results of Fisher's Exact Test**

The eight extraneous variables used in the statistical analysis were dichotomized on the criteria in Table XI. The two groups were compared to determine if one group used any of the check listed techniques more than the other. There was no significance at the .05 level within the first observation of 20 instructors (df of 18) or within the second observation of 15 instructors (df of 13).

**Pearson's Product-Moment Correlation**

The determination of Pearson's $r$ was one of the preliminary steps in the multiple regression program. The correlation coefficient was computed for the relationship between each of the eight extraneous variables. The correlation coefficient for the relationship between each of the extraneous variables and the total number of check listed techniques used by the instructors was also computed. This was done separately for the first 20 observations and the second 15 observations.

With few exceptions, the correlations between the extraneous variable showed no significance at the .05 level, with 18 degrees of freedom for the first observations and 13 degrees of freedom for the second observations. The
### TABLE XI

CRITERIA FOR DICHOTOMIZATION OF EXTRANEOUS VARIABLES

<table>
<thead>
<tr>
<th>Variable</th>
<th>Criteria</th>
<th>Group One</th>
<th>Group Two</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Instructor's degree</td>
<td>Bachelors and Masters</td>
<td>Doctors</td>
<td></td>
</tr>
<tr>
<td>2. Class period</td>
<td>Periods 1 through 5</td>
<td>Periods 6 through 8</td>
<td></td>
</tr>
<tr>
<td>3. Instructor's age</td>
<td>25 through 39 years</td>
<td>40 through 55 years</td>
<td></td>
</tr>
<tr>
<td>4. Teaching Experience</td>
<td>1 through 10 years</td>
<td>11 through 33 years</td>
<td></td>
</tr>
<tr>
<td>5. Class size</td>
<td>8 through 29 students</td>
<td>30 through 200 students</td>
<td></td>
</tr>
<tr>
<td>6. Course level</td>
<td>100 through 399</td>
<td>400 through 599</td>
<td></td>
</tr>
<tr>
<td>7. Length of film</td>
<td>6 through 30 minutes</td>
<td>31 through 60 minutes</td>
<td></td>
</tr>
<tr>
<td>8. Instructor's rating of the film</td>
<td>Excellent</td>
<td>Fair through Very Good</td>
<td></td>
</tr>
</tbody>
</table>
exceptions were such expected correlations as those between the age of the instructor and his teaching experience.

Some of the correlations between the total number of check listed techniques used by instructors and the extraneous variables are of importance when discussed in terms of the results of the multiple F derived from the multiple regression program. Table XII indicates the level of significance for the variables as determined by Pearson's $r$. The only noteworthy effect was that of the length of the film in the second set of observations. That the $r$ for the length of film is almost significant at the .1 level for the first set of observations should be noted because of the importance of this variable in the results of the multiple regression program. While course level was significant at the .1 level (.378) with 18 degrees of freedom in the first observations, its lack of significance in the second observations indicates its real effect, if any, is not a constant.

**Results of the Multiple Regression Program**

The MRP 31 multiple regression program was run on the first 20 observations and again on the second 15 observations to determine the relationship of the extraneous variables to the total number of check listed techniques used by the instructors. The objective was to determine which of the
<table>
<thead>
<tr>
<th>Extraneous Variables</th>
<th>First Level of Observation</th>
<th>Second Level of Observation</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>df=18</td>
<td>df=13</td>
<td></td>
</tr>
<tr>
<td>Degree</td>
<td>.0909</td>
<td>.3841</td>
<td></td>
</tr>
<tr>
<td>Period</td>
<td>-.0168</td>
<td>.3210</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>.0580</td>
<td>-.0033</td>
<td></td>
</tr>
<tr>
<td>Experience</td>
<td>.0269</td>
<td>-.0518</td>
<td></td>
</tr>
<tr>
<td>Class size</td>
<td>.1521</td>
<td>-.1267</td>
<td></td>
</tr>
<tr>
<td>Course level</td>
<td>-.4285</td>
<td>.2574</td>
<td></td>
</tr>
<tr>
<td>Length of film</td>
<td>-.2967</td>
<td>-.6575</td>
<td></td>
</tr>
<tr>
<td>Value of film</td>
<td>.1166</td>
<td>.2909</td>
<td></td>
</tr>
</tbody>
</table>

TABLE XII

DEGREE OF RELATEDNESS BETWEEN THE EXTRANEOUS VARIABLES AND THE NUMBER OF CHECK LISTED TECHNIQUES USED BY INSTRUCTORS.
variables had the greatest predictive ability for the check listed techniques. The order of the deletion of the extraneous variables and the significance for each step is given in Table XIII.

Several combinations of extraneous variables indicated predictive ability in one or the other sets of observations. The variable with the highest degree of predictability, and the only variable to be significant in both observations, was the length of the film. The negative correlation coefficient for this variable in both sets of observations indicated that there was an inverse order of relationship. The longer the film, the fewer check listed techniques were used and the shorter the film, the more check listed techniques were used. The variable is most predictive for short films.

The Experimental Variable

The experimental variable was the exposure of the instructors to Allen's summary of instructional film research (Appendix A).

Results of the t Test. The $t$ test for correlated sample means was run to determine the degree of change, if any, between the number of check listed techniques used by 15 instructors after exposure to Allen's summary as compared to the number used by the same 15 instructors before exposure. The study was predicated on a hypothesis predicting an
<table>
<thead>
<tr>
<th>Step</th>
<th>Observation</th>
<th>Residual Deleted</th>
<th>DF1</th>
<th>DF2</th>
<th>Significance Multiple Ficance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>F .05 .01</td>
</tr>
<tr>
<td>1</td>
<td>Instructor's degree</td>
<td>8 11</td>
<td></td>
<td></td>
<td>1.349</td>
</tr>
<tr>
<td>2</td>
<td>Value of film</td>
<td>8 6</td>
<td></td>
<td></td>
<td>1.004</td>
</tr>
<tr>
<td></td>
<td>Value of film</td>
<td>7 12</td>
<td></td>
<td></td>
<td>1.634</td>
</tr>
<tr>
<td>2</td>
<td>Class period</td>
<td>7 7</td>
<td></td>
<td></td>
<td>1.338</td>
</tr>
<tr>
<td>1</td>
<td>Class period</td>
<td>6 13</td>
<td></td>
<td></td>
<td>2.003</td>
</tr>
<tr>
<td>3</td>
<td>Instructor's age</td>
<td>6 8</td>
<td></td>
<td></td>
<td>1.782</td>
</tr>
<tr>
<td>2</td>
<td>Class size</td>
<td>5 14</td>
<td></td>
<td></td>
<td>2.360</td>
</tr>
<tr>
<td>4</td>
<td>Class size</td>
<td>5 9</td>
<td></td>
<td></td>
<td>2.386</td>
</tr>
<tr>
<td>1</td>
<td>Teaching experience</td>
<td>4 15</td>
<td></td>
<td></td>
<td>2.553</td>
</tr>
<tr>
<td>5</td>
<td>Course level</td>
<td>4 10</td>
<td></td>
<td></td>
<td>3.189</td>
</tr>
<tr>
<td>1</td>
<td>Instructor's age</td>
<td>3 16</td>
<td></td>
<td></td>
<td>2.905</td>
</tr>
<tr>
<td>6</td>
<td>Instructor's degree</td>
<td>3 11</td>
<td></td>
<td></td>
<td>4.298 x</td>
</tr>
<tr>
<td>1</td>
<td>Length of film</td>
<td>2 17</td>
<td></td>
<td></td>
<td>4.418 x</td>
</tr>
<tr>
<td>2</td>
<td>Teaching experience</td>
<td>2 12</td>
<td></td>
<td></td>
<td>5.064 x</td>
</tr>
<tr>
<td>7</td>
<td>Course level</td>
<td>1 18</td>
<td></td>
<td></td>
<td>4.050</td>
</tr>
<tr>
<td>8</td>
<td>Length of film</td>
<td>1 13</td>
<td></td>
<td></td>
<td>9.902 x</td>
</tr>
</tbody>
</table>
increase of the use of the check listed techniques which would be significant at the .01 level. Table XIV shows the \( t \) in the context of the mean, variance, and standard deviation. The \( t \) was 1.388, which was significant at the .1 level with 14 degrees of freedom using the one-tailed test.

**TABLE XIV**

RESULTS OF THE \( t \) TEST

<table>
<thead>
<tr>
<th>( N )</th>
<th>Mean</th>
<th>Variance</th>
<th>Standard Deviation</th>
<th>( t )</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 pairs</td>
<td>.466</td>
<td>1.695</td>
<td>1.302</td>
<td>1.388</td>
</tr>
</tbody>
</table>

Conclusions and extrapolations from the data reported in this chapter are set forth in Chapter V. Care has been taken in this chapter to provide a foundation for conclusions made by the researcher which, while not outside the scope of the study, were not addressed directly by the experimental hypothesis.
CHAPTER V

SUMMARY, CONCLUSIONS, DISCUSSION

AND RECOMMENDATIONS

This chapter is based on the findings of the experimental study. After the summary in this chapter, the basic conclusion which can be drawn from the data is made. The writer extrapolates more extensively from the data in the discussion section following the conclusions. The recommendations are made in two sections; the first concerns the implications of this study in relation to exposure of instructors to instructional film research and the second suggests areas for further study.

I. SUMMARY

Statistical analyses of the data gathered from the first 20 observations of instructors in education and psychology at Central Washington State College in the Winter quarter of the 1968-69 school year indicated that no single extraneous variable of the eight listed below had a significant effect at the .05 level on the way in which films were used as gauged by the check list.

1. Instructor's academic degree.
2. Class period.
3. Age of the instructor.
4. Instructor's teaching experience.
5. Size of the class.
6. Course level.
7. Length of the film.
8. Instructor's rating of the film.

The multiple regression computer program results for the first observations indicated that combinations of extraneous variables had no significance at the .01 level on the way in which a film was used. The average number of the six check listed techniques used by the instructors was 2.05, with a variance of 1.418.

After the 20 instructors were exposed to Allen's summary of instructional film research, 15 of the 20 were observed again to determine the effect of the exposure on the way in which the instructors used films. The average number of check listed techniques was 2.6, with a variance of 1.828. The $t$ test for correlated sample means yielded a $t$ of 1.388 which was not significant at the .01 level of the one-tailed test with 14 degrees of freedom.

The statistical analysis of the effect of the extraneous variables on the way in which the second sample used films in the Spring quarter indicated the length of the film had a significant effect at the .01 level with 13 degrees of freedom, as determined by Pearson's product-moment coefficient of correlation. The multiple regression program also indicated
that the length of the film alone had an effect on the way in which film was used which was significant at the .01 level with a multiple F of 9.902 with a df1 of 1 and a df2 of 13.

II. CONCLUSIONS

The design of the study was based on a hypothesis which predicted an increase in the number of check listed techniques used by instructors after exposure to Allen's summary of instructional film research. The significance level was set at the .01 level for a one-tailed t test. The hypothesis was:

\[ M_1 < M_2 \]

where \( M_1 \) was the sample mean of the first 15 observations and \( M_2 \) was the sample mean of the second 15 observations.

Since the results indicated the change was not significant at the selected alpha, the hypothesis cannot be asserted at the predicted .01 level of confidence.

It may be concluded then, that the exposure of the instructors to Allen's summary by the method used did not have a significant effect at the .01 level on the way in which the instructors in the sample used films as measured by the check list.
III. DISCUSSION

The statistical analyses of the extraneous variables and the data gathered from the use of the check list in the observations indicated problem areas which, while outside the scope of the formal hypothesis, appeared to warrant tentative conclusions concerning instructional film use.

The lack of significance of the experimental variable may have been a measure of factors other than the impact of Allen's summary. The instructors may have dismissed the summary because it was spirit-duplicated, for instance. The researcher took a direct approach and asked the instructors about the summary. All of the instructors but one remembered receiving the summary. Four of the instructors implied they studied the summary. The others said they "skimmed" or "glanced through" it. The implication is that to measure the effect of knowing the results of instructional film research on film use, the research would have to be more forcefully communicated to the instructors. What was actually measured was the method of communicating the results of research so as to influence the use of films and, while the method was simple, it seemed, for the most part, to be ineffectual.

Most instructors used methods of instruction which were common to other instructional situations. Hoban equated
traditional instructional techniques with film techniques as significantly increasing learning from films "if properly used" (14:9-7). The techniques listed by Hovan were:

1. Orienting an audience on what it is going to see or summarizing what it has seen.

2. Announcing that a check-up or test on learning will be given after the film.

3. Repeating the important points (with variation) within the film. Showing the film more than once.

4. Conducting audience-participation (or practice) exercises during or after a film showing.

5. Informing the learner of how much he has learned. Giving test results or correct answers as soon as possible, or during the film if the practice is conducted during the film.

Since these techniques have a wider application than that of film use, another instrument for measuring or determining instructional methods without respect to the medium could be used. Highly specific instruments, such as that used by Television Channel 9, Seattle, and the check list used in this study (Appendix G) were developed for situations where the material has a predetermined and consistently structured format. A more flexible instrument, then, may have yielded a better measurement of the techniques involved in the film presentations.

The researcher used the generalizations made from previous studies of film rhetoric, as cited in the second chapter of this study, to measure the techniques used by the
instructors in the sample. While the film formats in many of the cited studies were similar to those used by the sample, the films within the context of the research designs may have yielded atypical results unless the research design is held as a constant. Previous researchers, in controlling the methods and materials the instructors would use for the studies, did not have to allow for factors which become more apparent in the field. The variable of the design of films used in previous studies was highly controlled. Unless the design element is controlled in other experiments which attempt to apply the findings derived from such situations, those experiments are in danger of being confounded.

The film length variable should have been attended to more closely when the multiple regression program for the extraneous variables in the first set of observations indicated length of film in combination with course level was significant at the .05 level. This is said in retrospect because the second set of observations indicated that the influence of the film length variable on the way in which a film was used was significant at the .01 level. The change does not appear to be attributable to the experimental variable however, since it may more easily be explained by the larger range and variance in the length of the films for the second sample. The range for the length of films shown by the first sample was from 14 to 54 minutes with an average
of 29.2 and a variance of 161.01. The range for the second sample was from 6 to 60 minutes with an average of 31.40 and a variance of 251.97.

The variable of film length was dichotomized at the 30 minute mark for the chi square test. This appears to have been the wrong division. The ranking of the films in the second observations by length with the total number of techniques used, as cited in Table XV, indicated that the division should have been about 27 minutes.

**TABLE XV**

<table>
<thead>
<tr>
<th>FILMS IN THE SECOND SAMPLE RANKED BY LENGTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length of film in minutes</td>
</tr>
<tr>
<td>---------------------------</td>
</tr>
<tr>
<td>6</td>
</tr>
<tr>
<td>10</td>
</tr>
<tr>
<td>14</td>
</tr>
<tr>
<td>26</td>
</tr>
<tr>
<td>28</td>
</tr>
<tr>
<td>28</td>
</tr>
<tr>
<td>29</td>
</tr>
<tr>
<td>29</td>
</tr>
<tr>
<td>30</td>
</tr>
<tr>
<td>33</td>
</tr>
<tr>
<td>39</td>
</tr>
<tr>
<td>54</td>
</tr>
<tr>
<td>57</td>
</tr>
<tr>
<td>60</td>
</tr>
</tbody>
</table>

In addition, the chi square test was applied to each technique rather than the total number of techniques used by an
instructor. The small sample size makes such seemingly minor changes critical.

It was anticipated that a larger sample would be used for the study. The average film use per instructor in the department of education was 8.4 a quarter and in psychology the average was 10.4. Since these averages were based on the 1967-68 annual report (CWSC Film Library), which did not break down the film use by instructor, the researcher did not know the variance for these averages. As was found when observations began, a few instructors used most of the films shown. The small sample of instructors may lead the reader to question the results of the experimental variable. The researcher would tend to concur, with the reservation that the study was justified by the corollary findings of the influence of the length of a film on how the film was used. The first thing to come to mind is that a long film, say 40 minutes, in a 50-minute period would reduce the number of techniques used because the instructor had less time to work directly with the class. While this may be true to some degree, it does not explain why the techniques were not used with 30-minute films, which left adequate time for both pre-film and post-film instructional techniques. It may be that instructors tend to regard the longer films as self-contained instructional units instead of instructional aids. Whatever the reason, it remains that the length of the films
had a significant effect on the number of check listed techniques which instructors used.

One film showing dramatically demonstrated the effect of the design on the way in which the film was used as measured by the check list. A ten-minute Educational Horizons film entitled You and Your Classroom was shown. The instructor began with a description of the film and its purpose. He indicated that the student would discuss the film and it would be shown a second time. The students were told to write their reactions to situations between sequences. The film was shown using the still frame whenever a sequence was completed. In the estimation of the researcher, the instructor did an excellent job of presenting the film using the techniques indicated by research as potentially increasing learning from film. The design of the film was different from the typical classroom film however. It was described in the film catalogue as "open-end to stimulate discussion" (7:102). Between each sequence a caption indicated the film should be stopped and the sequence discussed.

The statistical basis for a generalization from this specific instance, even when taken in conjunction with the significance of the length of the film, does not exist in this study. On the basis of the empirical evidence, however, the writer would advance the possibility that the design of the film has more effect on how an instructor uses a film than does the instructor's knowledge of film rhetoric.
Course level combined with the length of the film was a significant variable at the .05 level as determined by the multiple regression program run on the first set of observations. The researcher believes it likely that the statistical significance of the course level was an anomaly. Course level by itself was not significant at the .05 level in the first multiple regression program. Pearson's product-moment coefficient of correlation between the course level and the techniques used by instructors reversed in correlation between the two sets of observations. The coefficient of correlation for the first set of observations was -.4285 and for the second was .2574. The possibility that a larger sample would show some significant effect on the course level was neither clearly supported nor rejected by the statistical analyses.

IV. RECOMMENDATIONS

The first section concerns the implications of this study in relation to the exposure of instructors to instructional film research and the second suggests areas for further study.

Implications for Teacher Education

Fifteen of the 20 instructors in the first observations used some method of pre-film treatment. Only three of
the instructors used all three techniques listed under pre-film treatment on the check list. Most instructors do use some method of pre-film treatment then, but there is room for improvement. A stressing of the need for a variety of techniques in a film-using situation would seem called for.

The technique of feedback by which the learner is immediately reinforced with the correct answers to questions was not used at all. It should be noted that feedback was termed "knowledge of results" on the check list and as defined for this study did not include an open discussion (Appendix E). The term "feedback" in most instructional film research studies means the learner's immediate knowledge of the correctness of the answers to an oral or written quiz. None of the instructors observed used this technique. Based on previous research studies, the researcher believes the technique a valid one and its lack of use may indicate a need for additional emphasis on this technique.

Of the 20 instructors in the first observation, all but 4 used some type of post-film treatment. With one exception, the 16 users of post-film treatment techniques followed the film with a discussion. One instructor, the exception, showed the film a second time. Since the value and informational density of the film, its length, and the press of time must be taken into consideration by the instructor when showing a film twice, it is not surprising that this technique
is not used as often as the discussion technique. The re­
searcher holds some reservations about the discussion tech­
nique as it was observed. The instructor would often ask if
there were any comments, without making an attempt to direct
the discussion. If the students were interested in discus­
sing the film, the instructor got credit for using the dis­
cussion technique. The design of the research studies
which recommended this technique as effective provided for a
rather highly structured discussion which acted in some
respects as a summary. The researcher is unsure of the
validity of generalizing from the research studies to all
types of discussions. That no discrimination of the type of
discussion was made on the check list was a weakness of the
study. The discussion technique is widely used but does not
follow the format found in instructional film research
studies. As Hoban stated, "the instructional techniques,
. . . if properly used, significantly increase learning from
films" (14:9-7). It appears that specific reference to the
format used in research studies would be called for and
references to the discussion techniques outside this context
should be separately defined in teacher education.

It may be said that for these samples, general in­
structional methods, which Hoban contrasts with techniques
(14:9-7), were used with film rather than the specific film­
teaching techniques such as those Allen summarized. While an
increased stress on film techniques may result in more techniques being used, the implication in this study is that the design of the film has more of an effect on the techniques used by the instructor. Teacher education is not able to directly effect a change in the design of instructional films, but it may make teachers more aware of the effect of film design elements on their teaching. The average number of check listed techniques used, 2.6, indicates an area of change where teacher education can have a direct effect. The needed change could be defined as more effectively communicating research supported instructional methods of film rhetoric.

Suggestions for Further Study

This study has indicated problem areas which, while outside the scope of the study, are important in instructional film use. The following suggestions address themselves to these problem areas.

Communication of research findings. Methods of communicating instructional film research findings to teachers in such a way as to cause their use remain to be brought to the writer's attention. Searching for effective methods of communication is the larger problem, not limited to instructional film use, of course. The current emphasis on competency-based objectives may suggest a way to effectively communicate the results of research on film utilization methods.
Determining the use of techniques. The researcher believes the check list developed for this study yields only a very rough approximation of what is going on in the classroom. A more flexible instrument based on instructional methods, as well as one which is more exacting in its qualitative measurement, needs to be developed.

Design of the film. The researcher believes this is the most fruitful area for further research. It is obvious that the design of the material has some effect on the teaching method. How much effect and in what areas has not been studied to the best of the writer's knowledge. The effects of the length of the film and other design factors have been researched in relation to their effect on the learner. However, the effect of other design factors on the instructor's methods appears to have been neglected.

A second aspect of design is the rationale of the film producer. This area has been studied inasmuch as the kinds of films have been surveyed and Travers attempted to determine the principles of design followed by producers of instructional films. Unfortunately, Travers found it "absolutely clear that there is no agreement among them [producers] concerning the principles that should be followed in the design of such materials" (29:1-12).
Knowledge of research-supported techniques. It was not determined by this study that teachers know, or do not know, instructional film research and the techniques derived from that research. The results of the observations did indicate that the techniques were not consistently used. The source of the problem remains to be determined. An assumption of this study was that instructors would use the techniques if they were cognizant of the techniques and the research behind them. It may be that the teachers knew the techniques and did not apply the knowledge. If this was the case, perhaps attitude would be indicated as an area of fruitful study.

Validity of generalizations from the research. The danger of sweeping generalizations made from specific studies under what may have been atypical conditions is well recognized by researchers. The generalizations made by Allen (Appendix A) may be based on such an assumption of such conditions. This would not mean the generalizations were wrong, but only that important qualifications should be made since their application may be limited by other factors.

The validity of the assumption that learning was taking place if the check listed techniques were being used may be subject to question if the generalizations made from the research are overdrawn in some cases. It would be interesting to determine if more learning was actually taking
place in those classrooms in the sample where the greater number of check listed techniques were used.

While other suggestions for study might possibly be drawn from the data gathered in this study, they should be considered independently of this study because the sample was so small. And the same statement should be made concerning the studies suggested above. The researcher would also urge caution in the use of the check list for determining the methods used. Without severe modifications of the criteria which determined the use of the techniques, it may not be sufficiently sensitive to differences among the subtypes of a technique which may be used.

The purpose of this study was to find if a change in the way instructors use films could be brought about by exposing the instructors to a summary of instructional film research. The exposure did not bring about a significant change at the .01 level. The writer believes this indicates the mere distribution of a summary of instructional film research to instructors is an ineffectual method of improving film utilization.
BIBLIOGRAPHY


9. ———. "An Analysis of the Relationship of Media In-Service Training to Teacher Media Utilization in the Public Schools," Paper read at Department of Audiovisual Instruction Annual Convention, Portland, Oregon, Monday, April 28, 1969.

10. Dykstra, Otto, Jr. MRP 31 Multiple Regression Program. General Foods Research Center, Tarrytown, New York. (Computer program--no pages or dates.)


APPENDIX A

ALLEN'S SUMMARY OF INSTRUCTIONAL FILM RESEARCH
HOW TO GET THE MOST TRAINING OUT OF YOUR TRAINING FILMS

INTRODUCING A FILM

DO INTRODUCTIONS BY THE TRAINING SPECIALIST INCREASE LEARNING FROM FILMS TO BE VIEWED?

IF SO, WHAT SPECIFIC KINDS OF GROUP PREPARATION ARE OF MOST VALUE?

Experimental research presents evidence that preparation of the audience for the film to be viewed can have a significant effect upon what is learned from the film. For example:

- Lumsdaine found that amount learned from certain parts of a film could be increased substantially by directing the viewer's attention to those parts before the film was shown.1
- Similarly, military trainees made a learning gain of 10% when the instructor called their attention to important points to be learned and to the importance of learning these points.2
- Allison and Ash found that college students were motivated to learn more if they were given instructions that increased their anxiety about learning from the film.3
- The announcement to Army trainees of a test to follow a film increased learning 23%.4

WHAT DOES THIS RESEARCH MEAN TO YOU?

It is apparent from the research evidence that learning from a film can be increased substantially by using various techniques in the instructor's introduction. The following techniques, used where appropriate, are particularly effective:

- Directing the viewers' attention to specific points in the film.
- Pointing out the importance to the viewer personally of learning from the film.
- Discussing questions and problems related to the film.
- Increasing the viewers' anxiety about learning from the film, possibly as it related to his advancement in the organization, his performance, or by announcing that he will be tested on what he learned.

These findings are supported by psychological principles of learning on motivation and "set" to learn.

REFERENCES:

1 A.A. Lumsdaine, "Attention Directed to Parts of a Film." In Mark A. Moy and A.A. Lumsdaine, Learning from Films. New Haven, Conn.: Yale University Press, 1958.


IS A DISCUSSION FOLLOWING A FILM WORTH THE TIME and EFFORT?

If so, is there any particular form the discussion should take?

Evidence from the research shows that the use of discussion techniques after a film showing can have a significant effect upon what is learned from the film. For example:

- In an Army study, a group exercise was used in which the main points of the film were discussed. Learning was increased significantly over the film showing alone.1
- Witich and Fowlkes found that 78% more material was learned by the discussion techniques over showing of the film alone. Also, 28% more was learned over the method that only introduced and prepared the class for the film. However, these techniques required considerably more time.2
- The Australian Office of Education presented the clearest evidence of the superiority of discussion and review techniques. This study combined film showings and reshewings in six different ways and found a superiority for the method that: (a) introduced the film, (b) showed it, (c) discussed it immediately, and (d) showed it again the next day.3

WHAT DOES THIS RESEARCH MEAN TO YOU?

- The evidence demonstrates a decided advantage to film utilization techniques which provide for group discussion and review.
- The following techniques, when used, have been shown to be most effective:
  - Group discussion of points raised in the film immediately after the film showing.
  - The combination of film discussion with techniques that prepare the group for the film they are to see.
  - Restating the film to clarify any questions raised in the discussion.
- IN SUMMARY, the user of a film must decide whether or not the additional time needed to discuss the film is warranted by the requirements of the training situation. If he does conduct a discussion, he can confidently expect learning to increase significantly.

REFERENCES

WILL VIEWERS LEARN MORE FROM A TRAINING FILM IF THEY ACTUALLY PARTICIPATE IN IT WHILE IT IS BEING SHOWN?

If so, what kind of participation is of most value?

A number of research studies present evidence that the use of participation by learners can have a significant effect upon what is learned from a film. For example:

- In an Army study, participation techniques were used in which the viewers made overt responses to questions. This participation increased learning by 20%. And it was more effective for the less motivated and less intelligent viewers. 1

- Gropper and Lumsdaine, in a series of studies with televised instruction, provided opportunities for student participation at strategic points in the presentations. Learning was increased significantly. 2

- Michael and Maccoby showed that learning of facts and principles could be increased by using active student response. 3

- It seemed to make little difference whether viewers responded overtly (out loud) or covertly (to themselves). 3

WHAT DOES THIS RESEARCH MEAN TO YOU?

It is apparent that learning from a film can be increased by using various viewer-participation techniques. Here are some effective steps to take:

- Instruct the viewers to think about the answers to questions that are asked in the film.

- Stop the film and have the viewers answer questions out loud or to themselves about the material just presented. Then follow this up with a short discussion if appropriate.

- At the end of film sequences, have the learners practice mentally or mentally review the material they have just viewed.

- Do not bother with note-taking during the film showing. In most cases it will only interfere with the learning.

Remember that learner involvement or participation in the material to be learned is one of the most effective ways to increase that learning. Plan ahead how you are going to use a particular film so that you give the viewer the maximum opportunity to engage in this participative activity.

REFERENCES:


WILL THE VIEWER LEARN MORE FROM A TRAINING FILM IF IT IS STOPPED AT INTERVALS TO PERMIT DISCUSSION OR PARTICIPATION?

A number of research studies present conclusive evidence that the film-stopping technique can have a significant effect upon what is learned from the film. For example:

- In a study with Naval ROTC midshipmen, films were stopped periodically to permit answers to questions about the content. This procedure resulted in significantly greater learning over the non-stopped versions of the film.1

- A film on civilian defense against the atom bomb was used with high school students and stopped at the end of each sequence. Students were asked questions about the material. Again, the film that was stopped produced significantly greater learning than the one that was shown straight through.2

- Similar results were obtained when a film on the use of hand tools and another on snakes were stopped for the purpose of answering questions, being presented with statements, or reviewing the material they had just seen.3

WHAT DOES THIS RESEARCH MEAN TO YOU?

The evidence in support of stopping the film is so conclusive that the technique should be used wherever feasible. Here are some suggestions for application based on the research results:

- Remember that the film doesn’t have to be run through from beginning to end without stopping just because it was made that way. The film can be stopped at any time for viewer activity.

- Analyze the film and locate the places where it may be stopped and group discussion might be profitable. Then plan your use of the film to build in appropriate trainee activities at these points.

- Have the viewer answer questions, discuss material presented in the preceding sequence, and review the points made.

REFERENCES


APPENDIX B

THE CHECK LIST
OBSERVER ___________________________ INSTRUCTOR ___________________________

DATE _______________________________ SEX ___ DEGREE ________________________

PERIOD _______________________________ AGE ___ EXPNCE _______________________ 

CLASS SIZE ___________________________ COURSE NUMBER _______________________ 

FILM ____________________________________________________________________________

RUNNING TIME ______________________________________________________________________

PURPOSE
INSTRUCTIONAL __________
DEMONSTRATIONAL ________
MOTIVATIONAL __________

RATING OF FILM
EXCELLENT __________
VERY GOOD ___________
GOOD _____________
FAIR _______________
POOR ______________

CHECK LIST OF METHOD OF FILM USE

METHOD (CATEGORY) LEVEL (YES) (NO)

PREFILM TREATMENT

POINTS FOR WHICH TO WATCH

MOTIVATIONAL STATEMENT

SUMMARIZATION OF CONTENT

PARTICIPATION

LEARNER PARTICIPATION

KNOWLEDGE OF RESULTS

POSTFILM TREATMENT

CLASS DISCUSSION

REVIEW OR SUMMARY

POSSIBLE EXTENUATING FACTORS:
APPENDIX C

CORRESPONDENCE WITH HYER
Dear Dr. Ryer:

I am a graduate student in audiovisual currently working on my thesis. You may have heard my name (perhaps in vain!) from Harold when we were working on the first draft of the Title III project for Guam.

My thesis was to be a qualitative study of film use. I intended to observe and record the quality of film usage by a selected number of teachers. The teachers were to be exposed to the most effective methods of film utilization following the observations. They would then be observed a second time for significant improvement in the quality of utilization.

Your dissertation, which I obtained on inter-library loan from Indiana, referred to a qualitative study on page eight. If I understood correctly, the study was not done because the number of variables made the evaluatory instrument unsatisfactory.

I have been unable to locate an instrument for evaluating the quality of film use. It seems to me that enough research has been done in film utilization to support the development of such an instrument. If you are aware of one that has been developed, or of an attempt to develop one, I would very much like to know about it. In any case I would appreciate your thoughts on the feasibility of an inventory or check list, if not an evaluatory instrument, per se.

Graduate students are notorious for imposing on people and so in exercising this traditional prerogative I shan't be piqued if you haven't time to reply. If you do however, I shall be grateful.

Sincerely,

Robert Holloway
Graduate Assistant, AV
Robert Holloway  
Graduate Assistant, AV  
Central Washington State College  
Audio-Visual Library  
Ellensburg, Washington  98926  

Dear Mr. Holloway:

No, I do not know of any evaluatory instrument for rating the quality of film use.

There have, of course, been studies on specific utilization techniques that tend to increase the amount of learning from a film and also elements in the production of films which seem to have an effect upon their usefulness in the classroom. I am doubtful, however, that collecting such a list and checking it against observations in the classroom would perform a very useful purpose.

I have a feeling that the quality of a teacher's use of a film is the product of the purposes for which the film was used and the nature of the students, the nature of the film itself, and many other factors. For example, some films are produced to stand alone, some only present data, etc. So, the use would have to be related to the nature of the film and, as I said, the teacher's purpose.

You might think of taking a specific film, determine with the teacher some specific behavioral objectives to be obtained by its use, develop a criterion test, and then test various usage against the results obtained.
I'm not sure if I am clear what I am getting at, but I feel that just the study you have proposed would give misinformation rather than any helpful clues.

Sincerely,

Anna L. Hyer
Executive Secretary

ALH:jw

Please note:
Signature has been redacted due to security concerns
APPENDIX D

MEMORANDUM TO INSTRUCTORS REQUESTING

FIRST OBSERVATION
MEMORANDUM

TO: Members of the Faculties of Education and Psychology

FROM: Robert Holloway
Graduate Assistant, AV

RE: Classroom observations

Feb. 5, 1969

In order to gather the data for my thesis study I need to observe classes in which a motion picture is being shown.

I will attempt to contact you whenever you make arrangements with the audiovisual library to show a film. If you plan to show films which I may observe from other sources please call me at the CCTV office (3-1456), my home (925-9274) or drop me a note in care of the AV library.

I will appreciate your cooperation and if you are interested I'll be happy to explain as much about the study as possible without contaminating the results. I hope you will participate but if you do not wish to be involved in the study, please sign this memo and leave it with your departmental receptionist.

You will not be requested to complete a questionnaire for this study nor will it take up any class time.
APPENDIX E

CRITERIA FOR USE OF CHECK LISTED TECHNIQUES
USE OF THE CHECK LIST

I. DISCRIMINATION CRITERIA

There must be agreement between observers as to what will or will not satisfy a category. This material gives examples of methods which will and will not be acceptable. Informal discussion and field testing will also be used to develop and check correlation of discriminating methods.

**Prefilm treatment.** Activities of the teacher and/or student are given for each category. A summary description of technique precedes the sample dialogue. The dialogue is intended as a guide.

**Points for which to watch.** Satisfaction of this category may be achieved by the teacher eliciting questions concerning the film; by reviewing the points of preceding course work which relate to the film, by handing out a list of important points; or by emphasizing an aspect of the film, such as dress or the reaction of a specific character to a situation. The teacher may combine this with the introduction or summarization of content by telling the students which parts are important. A pretest would also act as a list of important points.
A sample acceptable dialogue follows:

**Teacher:** I want you to watch for examples of classroom organization which are similar to those in the United States. Or

**Teacher:** Yesterday we talked about the difficulties of children communicating with their peers. In the film we are about to see, try to put yourself in Jim's shoes when he breaks his friend's radio.

Unacceptable instruction:

**Teacher:** This film covers several important points which we have discussed. Or

**Teacher:** Some of you may have some questions in your mind about what it is like to teach elementary school. This film should answer some of them.

The teacher must be specific about facts or concepts to which particular attention should be paid.

**Motivational statement.** This tells the viewer why the film is important to him personally. This need for the information should be relatively immediate rather than "in years to come." Announcing a test on the material in the film, knowing the material in order to perform, perhaps in a discussion, or lending the film a high status by virtue of awards or the authority of the subjects (actors) involved, may be used by the instructor to satisfy this category.
An acceptable motivational statement would be:

Teacher: Following the film we will divide into buzz groups and list rules for the sequential development of bulletin boards. Or

Teacher: This is one of the first documentary films made. It is considered a work of art and is shown as often in theaters as in classrooms. It is timeless in its portrayal of human struggle and ranks in the film world in about the same category as Hemingway does in the literary world.

Examples of unacceptable statements:

Teacher: This is a good film. I show it every year and I'm sure you'll get a lot out of it. Or

Teacher: This film gives some information which will be of real value when you get out in the field. Try and remember how the teacher handles discipline problems and it will make it easier for you when you have them.

Summarization of content. The teacher may read, or have the students read, a synopsis of the film. This activity must originate from prior knowledge of the film and so the teacher will be the one to provide this information.

An acceptable summary would be:

Teacher: This film is about Phoebe. Phoebe is about 16 and typical of a girl of her background (white, Anglo-Saxon
middle class) who becomes pregnant out of wedlock. Or

**Teacher:** This film creates a European classroom of the last century. The lack of student involvement and the authoritarian manner of the teacher are correctly represented. The teaching conditions are still to be found today; the overcrowded classroom and dearth of equipment are not unique.

An unacceptable introduction may be:

**Teacher:** This is a film about a girl with real problems. It is a lot better film than the ones I saw when I was a student. The problems seem real and you genuinely feel for her. Or

**Teacher:** This film is about Abraham Lincoln.

The titles alone will not suffice as an introduction unless it is very unusual, both in length and descriptiveness. A film about Lincoln, for instance, would need historical context and the period of Lincoln's life which was to be covered to qualify as a minimal introduction.

**Participation.** The activity must involve the learner. While a covert response by the learner may satisfy this category, the assumption that a covert response has been solicited must be preceded by the overt and clear elicitation of the instructor.
Learner participation. This category is exclusive to the period the film is being shown. The solicitation of a covert response, however, may precede the film. It could also be at any time during the film or when the film is stopped for comments, questions, or statements. A short film or part of a film (10 minutes) does not seem to benefit from stopping because time is a negligible factor. Participation in this case may follow the film, but because of the difficulty of determining whether the activity would fall under the category of discussion or that of participation, especially in dealing with concepts, participation will be limited to the time the film is being shown.

Note-taking or skill practice during the film call for pacing which is seldom scripted into the film. In a case where the instructor overtly requests the students to participate in this manner, he must also make provisions for pacing, assuming there are none in the film. If this method of participation is utilized and the instructor does not allow for time to perform, it will be judged as unacceptable in satisfying this category.

An idealized example of learner participation might be:

Teacher (preceding the film): Try to think what you would do if you were faced with a classroom discipline problem like the one in the first sequence. At the end of the sequence, we'll stop the film and critique the teacher's
performance. Jot down notes during the critique and we'll try to come up with a "golden rule" for discipline problems.

Or more realistically:

Teacher (stopping the film): Did you notice how the teacher ignored minor infractions of rules? (resumes showing). Unacceptable teacher initiated activities could be:

Teacher: We have to change reels; this is a rather long film. I like the way Dr. Jones presents the argument for teacher representation in administrative policy making.

Or

Teacher (stopping the film): What do you think of that? Now watch the rest of it. (resumes showing)

Specificity, not quantity, of the instructor's comments is one important factor which discriminates between acceptable and unacceptable levels. One more example:

Teacher: I want you to think about the concepts in this film.

This is an example of a request for covert learner participation but it is not directional enough for the learner to be clear about that to which he is to respond. Since selectivity may also be an aspect of this technique, the request for covert participation may be combined with the category "points for which to watch."
Knowledge of results. If the teacher uses a prefilm test and goes over the test as soon as everyone is finished to correct and explain the answers, this category would be satisfied. When prefilm or postfilm tests are not used, it will be difficult to determine whether the instructor is using this method or not. Following the verbal responses of sophisticated feedback from an instructor who is acknowledging, correcting, and reinforcing the student's answers in addition to questioning and possibly leading the discussion, amy be too much for the observer to watch. Even if one observer did an acceptable job of discriminating, the correlation between observers could be low. Because of this difficulty, the observers will set high standards for feedback in order to avoid a type I error in the final analysis of the informational program for this item.

If some sort of test is involved it will be rather easy to determine the use or non-use of this method. The following examples are intended to aid in the more difficult discrimination between the levels if the evaluation is based on verbal feedback. An example of acceptable feedback:

Teacher (stopping the film): Joe, your buzz group compiled a list of desirable classroom seating arrangements for group discussion. What did you think of the method used here?
Student: O.K., but some of the kids couldn't see the material the teacher was referring to because of the depth of the arrangement.

Teacher: Right. Three students deep leaves the third row out of much of the interplay; they can't see as well what is going on if objects are involved and eye contact is poor.

The teacher's response to the student's comment ("right") completed the cycle.

Feedback on a written test following the film will be acceptable, but feedback on a verbal basis, either before or after a film, must follow the format of a quiz to be acceptable. Verbal feedback during the film can be judged with more latitude.

Unacceptable dialogue might be:

Teacher (stopping the film): This is a key lighting technique which we have not covered yet. The use of a limbo set makes this very effective for dramatic action.

Student: What is a limbo set?

Teacher: Watch the background in the rest of the film.

(resumes showing)

This example is on the borderline. If there is any doubt as to whether the exchange is feedback or not, check the "no" level. This example would qualify as learner
participation, however, and that category should be satisfied.

Postfilm treatment. With the exception of a second showing, this category must be satisfied by activities immediately following the film. A second showing may be scheduled for the next meeting of the class and still qualify as review. If the review is in the form of a discussion, it must have its foundation in the film. A discussion about a general topic, discipline for instance, may follow the film. It may not, however, satisfy this category if the discussion does not clearly relate to the film. The film is intended to be used as a tool and merely to exhibit it as evidence that you have found information on the subject at hand will not suffice.

An example of part of a discussion which would clearly relate to the film might be:

Teacher: What type of counseling services are available for girls who are in trouble?

Student: Most schools provide some sort of counseling service for students.

Teacher: Why didn't the girl in the film avail herself to such a service then?

One which would not relate so clearly and therefore not satisfy the category:
Teacher: Sorry I wasn't able to get that film about bulletin boards earlier in the unit. Before we go on to chalkboard techniques are there any questions? No? Well, let me review the main uses of bulletin boards and the rules for developing an idea for use on a board before we go on to the next unit.

It would be tempting to give the teacher credit for effort and intent but since the objective of the use of this method was not achieved, don't do it.

The second showing of the film is easy to judge objectively. Portions of the film reshown do count as a review; the whole film need not be reshown.
APPENDIX F

MEMORANDUM TO INSTRUCTORS REQUESTING SECOND OBSERVATION
MEMO

TO: ______________________

____________

____________

COMMENTS: I have observed one of your classes viewing a film. Because of the statistical design of my thesis, I need to repeat the observation. If you know when you will next use a film, please note the time and place below and return to me.

DATE: ___________ PERIOD: ________ ROOM: ___________

If you prefer to call me, my home phone is 925-9274; on campus, call 3-1456 (CCTV).

FROM: Thanks for your cooperation

Bob Holloway
APPENDIX G

EVALUATING TEACHERS' USE OF

INSTRUCTIONAL TELEVISION
EVALUATING TEACHERS' USE OF INSTRUCTIONAL TELEVISION

The successful use of television for instructional purposes necessitates dividing the class period into three parts: pre-telecast, telecast, and follow-up. It is important that these three divisions are considered as a whole.

I. PRE-TELECAST

How well does the classroom teacher use this period to:

A. Create a climate for learning by displaying interest and enthusiasm in the lesson?

B. Establish the purpose of the lesson and make sure it is understood?

C. Arouse student interest by having students raise questions about the material to be presented, by discussing aspects of the lesson which will capture their imagination, displaying related materials, etc.? (The teacher should not pre-teach the TV lesson.)

D. Distribute necessary materials and make sure pupils have them organized and ready to use?

E. Write special vocabulary, specific questions, problems, or outlines pertaining to the telecast on the chalkboard, and explain?

F. Turn on set in ample time and make certain it is operational and in the best position for viewing, i.e., free from glare and reflection?

G. Place the set on standby until actual program is ready to begin? (The volume turned down and picture turned to black to avoid distraction.)

H. Provide adequate lighting for notetaking and other activities during the telelesson? (Television should never be viewed in a darkened room.)

I. Prepare the class in advance for the telecast?

II. TELECAST

During the telecast how well does the classroom teacher:

A. Take an active and enthusiastic interest in the program, participate when participation is called for, and react when a reaction is required?

B. Locate herself so as to observe the telecast and the reactions of the students?
C. Adjust set when necessary for best sound level and picture quality?

D. Set a good example for the class by being attentive and alert? (The teacher should not use the television period to check papers, leave for coffee, etc.)

E. Prepare herself to cope with possible distractions such as broken pencils, lack of materials, and outside interruptions?

F. Take notes to guide the discussion for further emphasis and clarification during the follow-up?

G. Deal with behavior problems without delay?

H. Turn the set off immediately when the television lesson ends and begin the follow-up?

III. FOLLOW-UP

The television lesson is never intended to be a complete learning experience by itself. It can be meaningful only when it is followed by the types of learning activities which make the television lesson an integral part of the total learning process.

During the follow-up time how well does the teacher:

A. Avoid a follow-up lecture (which is a poor teaching technique)?

B. Avoid using the follow-up to "re teach" the television lesson?

C. Refer to the Teacher's Guide for possible suggestions on how to extend learning beyond the television lesson?

D. Plan appropriate activities to help students understand the concepts presented and form their own generalizations and conclusions and clarify misunderstandings?

E. Extend the lesson through discussion and enrichment?

F. Encourage students to seek answers to questions raised through research and independent study?

G. Provide for individual differences?

H. Evaluate frequently?