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Sight and Sound on 8: A Filmed Presentation Depicting the Local Production of an Eight Millimeter Magnetic Sound Film

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SIGHT AND SOUND ON 8:

A FILMED PRESENTATION DEPICTING THE LOCAL
PRODUCTION OF AN EIGHT MILLIMETER
MAGNETIC SOUND FILM

A Thesis
Presented to
the Graduate Faculty
Central Washington State College

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

by
Gerald Rodney Magelssen
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CHAPTER I

THE PROBLEM AND DEFINITIONS OF TERMS USED

I. THE PROBLEM

Statement of the problem. The purpose of this study was to prepare an eight millimeter sound film which would demonstrate to educators how such a film could be locally produced.

Importance of the study. The use of 8mm sound films could greatly supplement and expand the present supply of educational films in our schools. Students, teachers, administrators and parents can locally produce good quality magnetic sound motion picture films with a minimum of equipment and expense.

Through the medium of an 8mm sound film the procedures for the production of such a film were presented, not only to briefly describe the procedures, but to help create interest in this comparatively new field. Many persons in education are not aware of the possibilities for supplementing and enriching the present school program with 8mm sound films.

Many aspects of the 8mm sound film make it especially suitable for school use. Eight millimeter sound films are much less expensive than 16mm sound films. The cost of a 16mm film of comparable length (19) produced at this institution was approximately twelve times that of the

author's 8mm film (see Appendix C). The size and simplicity of operation of the equipment make the 8mm sound film especially suitable for individual and small group viewing. Eight millimeter films can also be shown to audiences of fifty and sometimes more, depending on the viewing conditions in the room. The most important feature of 8mm sound film is that films can be custom-made for the individual situation. Commercially-made films must be made for a great variety of audiences, and thus cannot meet specific local needs. The 8mm sound film should not be expected to take the place of other methods of teaching, but it is an excellent tool when used in suitable situations. Not only is the completed film valuable in itself, but there is also valuable learning that takes place while the film is being produced.

It must be remembered that locally produced films are just that--they are produced by amateurs with relatively inexpensive equipment, and on a limited budget. The films will lack much of the polish and quality of commercially produced films, but they serve a real purpose--to provide another means to better educate our students.

II. DEFINITIONS OF TERMS USED

Color temperature. The color of various light sources are different and the degree of difference is measured in degrees of Kelvin temperature. Film must be balanced for

certain temperatures, basically daylight and tungsten, in order to get the proper colors on the film.

Editing. This involves the selection and proper organization of the various scenes after the filming has been completed.

Eight millimeter magnetic sound film. This is film which has a magnetic stripe along one edge, on which music and narration can be recorded.

Frame. Each individual picture or section of a film-strip or movie film is called a frame.

Incident light reading. This is the method by which an exposure reading is taken with the light meter aimed toward the camera from the position of the subject. This measures the light which falls on the subject. It is the preferred method for indoor pictures.

Lip synchronization. When the speech of a person is heard at the same time as his lip movements are observed, lip synchronization is achieved in a film. This is possible with a movie camera which records sounds at the same time that the scene is photographed.

Local production. A local production involves school personnel, who create an 8mm magnetic sound film which will

fit the local school or community situation.

Monitoring sound. This involves listening to the sound on earphones as it is being recorded.

Production. A production is the creation of an 8mm sound film which entails the use of personnel, materials and methods.

Reflected light reading. This is the method by which an exposure reading is taken with the light meter aimed toward the subject from the position of the camera. This measures the light reflected from the subject to the camera. It is the preferred method for outdoor photographs.

Reflex viewing. When a person uses a camera which has reflex viewing, one is able to view the scene through the same lens which takes the picture. In this way, one knows exactly what will be included in each frame.

Zoom lens. The scene coverage may be changed by turning or moving the lens. One lens then has the capabilities of a normal, wide angle and telephoto lens.

CHAPTER II

PROCEDURE

The following steps were taken in the planning and production of the film, Sight and Sound on 8. These same steps could be used as a guide for the production of any 8mm magnetic sound film. The procedures are divided into these broad areas: (1) planning, (2) shooting, processing and previewing, and (3) editing and recording. Under each of these, the steps are listed.

I. PLANNING

- A. Decided on the topic and the intended audience.
- B. Determined the approximate length of twelve minutes.
- C. Decided to use color film.
- D. Prepared a tentative outline of the film, divided the film into scenes, with a short description of what was to be included in each scene.
- E. Brought completed outline to the graduate committee for approval.
- F. Secured equipment and material used for this film.
The individual producer can vary his choice of equipment manufacturer and quantity, depending on what is available and on the type of production.
 1. Cameras--Canon Zoom 8 movie camera and Kodak Brownie movie camera. The Canon was used for

most of the shooting, while the Kodak Brownie was used to show that quite inexpensive equipment can be used for locally produced films. The Canon has definite advantages and is much more versatile than the Kodak Brownie. A helpful guide to choosing the right movie camera is presented by Drukker (7:180-81, 195, 201).

2. Film--Kodachrome II, type "A" indoor color film. It was chosen for this production because of the quality of the film and fast service with the use of prepaid mailers. Indoor film was chosen because most of the shooting was accomplished indoors. A number 85 filter was used with the type "A" film when shooting outdoors. Recent issues of photography magazines (17:70-135; 6:43, 88) list most of the available films, with pertinent information about each.
3. Portable light--Sylvania Sun gun. The use of a Sun gun was especially helpful when portability was a necessity. The Sun gun took much less time to set up than did the more frequently used floodlights. The color balance (3400°K) of the Sun gun is balanced for Kodachrome II

type "A" film.

4. Flood lamps--Colortran Senior lights with stand and converter. These lights are quite portable and have many capabilities. They were used for most of the shooting. These lights have a control box which will change the color temperature of the lights (3200°K or 3400°K).
5. Projector--Argus 8mm silent projector (Model M-500). This was used for most of the previewing of the film because it had a single frame and reverse mechanism. This made it possible to view any segment of the film many times without the necessity of removing the film from the projector and rethreading it each time, as would have been necessary with the Fairchild projector.
6. Projector--Fairchild 8mm sound projector (Model HLH-1). This is an acceptable projector but it needs to be improved before the process of adding narration can operate satisfactorily. The projector has a tendency to "lose the loop" often when starting each reel. Also, there is no provision for single framing or reverse, which is very useful in sound recording.
7. Exposure meter--Spectra Professional exposure meter.

8. Tripods--Argus Elevator and Huskey Quick-Set.
Filming is easier and more satisfactory with a sturdy, easy-to-operate tripod.
 9. Editor--Yashica-8. Drukker (9:108-11) explains what to look for when buying a film editor.
 10. Splicing materials--film splicer, emory board, film cement, and white cotton gloves. Kemp (14:139-42) explains the process of editing and splicing.
 11. Art materials--flannelboard, felt shapes, paper and ceramic letters. The art materials were used for the titles. Information concerning art work and titles is available in some Kodak publications (18). In addition to these, many of the photography magazines have ideas concerning titling.
- G. Wrote the script. The script was written in two columns (see Chapter III). In this presentation the script was written before any of the shooting was accomplished. This conserves much time and film. All facts which were felt to be essential to fulfillment of the purpose of this film were included in the script. A frequent problem in script writing is an attempt to include too many details. Various sources are available to help

one write a better script (1:102-12; 5:21-25; 16:10-15). Listening to and viewing professionally narrated films is also helpful.

- H. Timed and recorded the script. The shooting of the film will be simplified if the script is recorded. This will provide a good means of timing the script and of listening critically to it. The recording can be played while the shooting is taking place to insure that enough footage will be shot for each scene. It is advisable, though, to add some additional footage to allow for script changes or other variations in timing.
- I. Planned titles and art work.
- J. Developed a shooting schedule. The shooting schedule included the following information:
 - 1. Locations where shooting would take place. All the scenes that were to be shot at a given location were listed together. This saved a great deal of time.
 - 2. Approximate time of each scene in seconds.
 - 3. Props needed, including what type of lighting was necessary.
 - 4. Personnel necessary.
 - 5. Notes on camera angles, and what the personnel were to do in each scene.

II. SHOOTING, PROCESSING AND PREVIEWING

- A. Began shooting. This film was shot at 16fps, as no difference in sound quality could be detected between 16fps and 24fps. This conserved film (see Appendix D for film lengths per minute). During much of the shooting the recorded script was played or the scene was timed to insure that there would be enough footage for the narration. There was some experimentation with various types of lighting. However, the majority of the scenes were shot with the Colortran lights. Many publications are available on shooting procedures and techniques (1:79-91; 20:3-4; 14:127-38).
- B. Had film processed. Kodak gave excellent service-- most films were received from the Palo Alto Office on the fifth day after they were sent.
- C. Previewed processed film. When the film was received from the processor, it was previewed to insure that all scenes were acceptable, and to discover if any of the scenes needed to be retaken.
- D. Reshot any scenes which were not satisfactory.

III. EDITING AND RECORDING

- A. Did preliminary editing and splicing. Many means of storing the small strips of the edited film can be used. One way is to tape the strips up

to the wall and indicate the scene number. Or, they can be placed in a compartmentalized box which will not scratch the film.

- B. Viewed the film again to check editing and splicing.
- C. Viewed film. The narration was read at the same time to determine whether any scenes needed to be cut or any script changes needed to be made. Notes were taken while viewing.
- D. Did final editing and splicing.
- E. Narrator viewed the edited film.
- F. Narrator tape recorded the final revised script.
- G. Graduate committee viewed the film while the tape recorded narration was played.
- H. Sent film in to be sound striped. See Appendix B for list of names and addresses of some companies that sound stripe film.
- I. Set up equipment to narrate film. Two rooms were used with a window between. The projector was in one room, the narrator in the other. The film was projected through the glass. In this way, distracting projection sounds were not picked up by the recording portion of the projector. Kodak has a book concerning magnetic sound recording on film (16).
- J. Narrator viewed film many times to perfect timing

of the narration.

K. Recorded narration on the magnetic sound stripe.

L. Viewed final completed film.

The above steps were completed during the months of April and May, 1964, on the Central Washington State College Campus. The exact number of hours that were required to accomplish this is not known. The author had some still photography experience but had never operated a movie camera before beginning this film.

CHAPTER III

THE SCENARIO: SIGHT AND SOUND ON 8

Scene

1. Filming at HES
playground

2. Chicks; soldering
jewelry; children
meeting mailman;
farm scene

3. Close-up of projector

Narration

Eight millimeter sound films have many possibilities in today's schools. They offer the first practical opportunity for administrators, teachers, and students to locally produce sound films.

Some possible uses of a local production are:

Recording classroom projects

Showing special skills such as casting jewelry.

Additional possibilities include:

Bringing into the classroom community helpers, local agriculture, and so forth.

The equipment, in comparison with 16mm sound equipment, is quite simple, portable and flexible.

SceneNarration

4. 16mm and 8mm reels

These reels represent approximately the same amount of viewing time, yet it is obvious that the 8mm reel takes up much less space. This same size relationship is true when comparing other 8mm and 16mm sound equipment.

5. Small group viewing

The compactness of film and equipment makes 8mm sound films especially suitable for private and small group viewing. This film is intended to acquaint teachers with the basic requirements and techniques in the local production of an 8mm magnetic sound film.

6. Sitting at table
planning

Planning should be the first step in the production of a film. The first decision made should be the scope of the film and its intended audience. Next are decisions involving

SceneNarration

specifications--that is, the amount of time the film will run, what it will cost, whether it will be black and white or in color, and so forth.

7. Close-up of outline

You will need a tentative outline of what you want to include in the film. This film is divided into scenes with a short description of what is included in each scene.

8. Photographer and narrator working on script

To avoid wasting much time and film, a script should be prepared before shooting. A second alternative would be to shoot the film, then write the script to fit the footage.

9. Close-up of script

Your basic approach to a great extent will determine when the narration is prepared.

One of the more practical ways is to write the script in two

SceneNarration

columns, the left column for the camera directions and the right one for the narration. Time estimates of each scene may be stated on the script.

10. Artist sketching
and working with
felt board

Titles and art work may be planned and created before the actual filming gets underway. They can provide continuity and help make the film more pleasing to view. These are only a few of the materials which can be effectively used.

11. Narrator recording:
close-up of shooting
schedule

Two useful aids are a tape recorded narration and a shooting schedule. A tape recording provides a means of critically listening to the narration. It can also be played during the shooting so the action will fit the narration. A shooting schedule enables the photographer to

SceneNarration

- shoot all scenes at a given location at one time. The shooting schedule will conserve time if it includes what action is desired, the approximate time each scene should take, and the props needed.
12. Taking film out of box showing data sheet
- Much important information is found on the data sheet enclosed with the film you choose.
13. Shooting
- You may begin shooting when the titles, art work, and script writing and all of the planning procedures have been completed. The make and capabilities of the equipment you use will be determined by the type of film you are producing and by what is available to you.
14. Shooting with Brownie camera
- Many 8mm cameras are on the market today. The older style camera lacks many features of

SceneNarration

newer models, but quite good results may be achieved with it.

15. Fairchild camera
set up with mike;
plug in headset

The Fairchild Cinephonic camera has sound capabilities. That is, the sound can be recorded directly on the film as the scene is being shot. Exact lip synchronization can thus be achieved. A microphone and a headset are connected to the camera for recording and monitoring the sound.

16. Shooting title;
artist moving
letters

This camera, like many others with reflex viewing and a zoom lens, is more versatile than the older cameras. With reflex viewing it is possible to know exactly what is being included on each frame, which is particularly important in shooting titles or other close-ups. One zoom lens is more convenient to use than many individual lenses.

SceneNarration

17. Using Sun gun at
HES; adjusting
flood lights

The lighting used will depend again on your needs and what is available. The Sun gun gives adequate light and is invaluable when mobility is desired. Other more elaborate lights are available for better control of lighting and greater illumination.

18. Entire scene and
close-up of tape
recorder

The recorded narration could be played during the shooting of the various scenes. This allows the cameraman and the actor to hear the narration, making it possible to have enough footage shot at each scene. It is also advisable to add a little footage before and after each scene to allow for any script changes.

19. Using exposure meter,
close-up of meter

Wherever you shoot your film, the exposure of the film is very critical. It is suggested

SceneNarration

- that if you are not familiar with how to properly use an exposure meter, this should be your first task before you start to shoot your film.
20. Putting film in mailer
- When all shooting is completed, the film is sent in for processing.
21. Sitting by projector taking notes
- When the film is received from the processor, it is previewed and notes taken on the various scenes. This is the Fairchild Projector which is capable of recording sound as the film is shown.
22. Running film through editor
- Next the film is edited. The film is viewed in the small screen at the top of the editor, and the film is cut into the various scenes.
23. Cutting segments and fastening them
- Here, the segments of film are fastened to a large sheet of

Scene

to wall; turning
crank

Narration

cardboard in the editing room. Scene numbers may be written on the cardboard. By turning the small crank on the side of the editor, each frame may be viewed individually to determine which frames will be included in the film.

24. Splicing film;
viewing spliced
film; putting film
in mailer

When all the segments are marked and put into proper sequence, they are cemented together, using a splicer similar to this. In this case the splicer is a part of the editor. The film is again viewed and notes taken on final editing which needs to be accomplished. The narration is read to see how well it now fits. The film is then sent in for magnetic striping, to prepare it for the addition of sound.

<u>Scene</u>	<u>Narration</u>
25. Narrator recording on projector close-up of projector	The magnetically striped film is viewed many times to perfect the timing of the narration. The equipment is now set up in a room similar to this so that the narration can be read with- out having the noise of the projector interfering. Here, the narration is being recorded onto the magnetically striped film. The recording portion of this projector is a miniature tape recorder--this allows many recordings to be made and erased until the desired results are achieved.
26. Viewing finished film.	The film is now ready for showing. These suggestions can help to make the production of your film an enjoyable and worthwhile experience.

CHAPTER IV

SUMMARY AND CONCLUSIONS

A twelve minute 8mm sound color film was produced depicting the local production of such a film. The following conclusions were reached:

1. The cost of a locally produced 8mm sound film is much less than a 16mm sound film (Appendix C).
2. Eight millimeter sound films can be custom made for the local situation.
3. The writer's film is more complete than many local films would need to be. The shorter, single concept films would require much less editing and splicing, and thus less time.
4. The use of the Colortran lights was very successful, but by using one or preferably two Sun guns much setup time would be saved. However, some decrease in quality would possibly result.
5. Eight millimeter sound films seem feasible for local productions. They are not meant to be professional productions; on the contrary, if they do lack some refinement this helps to remind the viewers that they are local productions designed for their own use.
6. The amount of equipment used in this film would not be necessary for most productions.

Depending on the subject, a production could be made with a camera, a light meter and a sound projector.

7. The Fairchild projector is acceptable but it would be more valuable with a single frame and a reverse mechanism.
8. Eight millimeter sound films are gaining some prominence--one complete book (11) has been devoted to the field. The editor of this book compiled the viewpoints on 8mm films of educators, manufacturers and businessmen. Recent articles (2:234-35; 24:231-33) report the present status of 8mm sound films, and what can be expected of 8mm sound film in the future.

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APPENDIX

APPENDIX B

The following are some of the laboratories that offer sound striping services for 8mm films. It is suggested that detailed up-to-date information should be received from these companies before sending film to them.

Eastman Kodak Company
Rochester 4, New York
Cost: 6¢ per foot, 4¢ per foot
if 400 feet or more

Vitatone Company
736 $\frac{1}{2}$ South Atlantic Blvd.
Los Angeles, California
Cost: 2 $\frac{1}{2}$ ¢ per foot

Color Reproductions
7938 Santa Monica Blvd.
Hollywood 38, California
Cost: 3¢ per foot

Hollywood Valley Film Laboratories, Inc.
12546 Ventura Blvd.
Hollywood, California
Cost: 3¢ per foot, minimum order of \$5.00
(20:5).

APPENDIX C

FINANCIAL COSTS IN THE PRODUCTION OF
SIGHT AND SOUND ON 8

Seven Rolls of Film.	\$14.56
Art Work	11.00
Film Titling Set	5.71
Processing	9.80
Sound Striping	4.50
Tuff Coat.90
Narration (Services Contributed)	<u>00.00</u>
TOTAL.	\$46.47

All other processes were accomplished by
the author.

FINANCIAL COSTS IN THE PRODUCTION OF
A TOUCH IN TIME (19:20)

Film	\$ 94.35
Processing	24.31
Narrator	75.00
Sound Track and Technical Services	188.04
First Answer Print	55.85
Music Rights	20.00
Copyright.	4.00
Miscellaneous.	<u>60.00</u>
TOTAL.	\$521.55

APPENDIX D

COMPARISON OF TIME AND FOOTAGE WITH
16mm FILM (20:8)

Actual Running Time in Minutes	Number of Feet at 16fps		Number of Feet at 24fps	
	8mm	16mm	8mm	16mm
1	12	24	18	36
2	24	48	36	72
3	36	72	54	108
4	48	96	72	144
5	60	120	90	180
6	72	144	108	216
7	84	168	126	252
8	96	192	144	288
9	108	216	162	324
10	120	240	180	360
11	132	264	198	396
12	144	288	216	432

TIME AND LENGTH RELATIONSHIPS FOR
8mm FILM

80 frames	1 foot
4000 frames	50 feet
1 foot	5 seconds at 16fps
12 feet	1 minute at 16fps
50 feet	4 minutes 10 seconds at 16fps