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A study of selected films as an aid in an eighth grade occupational orientation program

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A STUDY OF SELECTED FILMS AS AN AID IN AN EIGHTH GRADE OCCUPATIONAL ORIENTATION PROGRAM

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CHAPTER I

THE PROBLEM AND REVIEW OF THE LITERATURE

I. THE PROBLEM

Statement of the problem. The study was made in an attempt to answer the question: Are selected films effective in an eighth grade occupational orientation program at California Junior High School in Sacramento, California?

The eighth grade course of study[1] lists twenty occupational areas and allots ten weeks for a survey of these fields. The home room meets for a period of forty minutes four times a week. This provides forty home room periods to survey these fields. One group of home rooms studied the occupational unit in the traditional manner, while the other group studied the unit with the aid of twenty selected occupational films.

The purpose of the study was to see if selected films used as an aid were effective in giving occupational information.

Importance of the study. The study was made at the suggestion of Francis Noel, Chief of the Bureau of Audio-Visual Aids, and Donald E. Kitch,[2] Chief of the Bureau of

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1 Leo Baisden, editor, Home Room Handbook for Junior High Schools (Sacramento: 1939), p.67.

2 Interview, Sacramento, California, August 28, 1950.

Occupational Information and Guidance. These men felt that there had not been sufficient study in the use of sound films to give occupational information and that such a study in a typical classroom situation in California would be of value to schools throughout the state. No study of this type had been made in California and many requests for information of this nature had been received by the State Department of Education. It was hoped that the conclusions reached by this study would answer many of these questions.

A survey of the research and literature in this field revealed that this particular problem had not been studied. Much information was discovered that related to certain aspects of the study, though more was found that dealt with silent films than with sound films.

It is most important that some thought toward the future be made by the eighth grade pupil if he is to select the proper courses in high school. Occupational tests given in the ninth grade help the pupil point toward some general occupational area, but these tests are related more to preference and aptitude. If little occupational information has been attained, the pupil is not well prepared to select high school courses. At the California Junior High School occupational information is given only in the eighth grade home room program. The time, however, is so limited that not much information in the traditional manner can be given.

The specific problem, then, is the short time allotted to present extensive information, a situation in which some feel that sound films are of greatest value.[3] Dale has pointed out that the motion picture can give an understanding of relationships of things, ideas, and events.[4]

Preview of thesis organization. The study of the problem is divided into five chapters. The first chapter contains the statement of the problem and explains the need for such a study. The importance of this type of study is described and the latter part of the chapter reviews the literature related to the study. The literature concerning occupations is studied first. A description of the literature related to visual aids follows.

The second chapter is devoted to the materials used in the study. The standards of selections that were used to choose the films are related first. The construction and use of the film guides follows, while the film guides used are included in Appendix B. The limitations of the study are next discussed and definite reasons are cited for the limitations. The second part of the chapter includes the

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3 Harry C. McKown and Alvin B. Roberts, Audio-Visual Aids to Instruction (New York and London: McGraw-Hill Book Company, Inc., 1940), p.154.

4 Edgar Dale, Audio-Visual Methods in Teaching (New York: The Dryden Press, 1946), p. 190.

the development of the test construction and the plan of test item selection. A description of the use of the test is presented.

The experiment described in the third chapter compares the teaching procedure used in the control group and the experimental groups. The final part of the chapter shows how the groups were selected. Criteria for comparison of the two groups included both age and mental abilities.

The actual test results form the major part of Chapter IV. The second part of the chapter presents pupil reactions to definite questions. Thus, the study also is evaluated from the pupils' viewpoint. General reactions of the teachers and pupils are presented to reflect the intangible aspect of the study. Incidental results form the latter part of the chapter. Two groups of pupils, those of greatest and least mental ability, are compared and also, the test scores of the four home rooms are compared.

In the final chapter the summary reviews briefly the main points of the study. The conclusion is divided into three parts: first, the positive results are stated; second, the weaknesses of the study are discussed; and third, the future opportunities for study of the problem are cited.

II. REVIEW OF THE LITERATURE

A survey of literature showed that much of importance

has been published related to studies using films in connection with occupational guidance. Many articles have been published that included the use of sound films to develop special skills. In general the material published before World War II included silent films as well as sound. In the past two years the literature points to an increasing use of sound films in disseminating occupational information.

Literature on occupations. Christensen[5] points out that in the past the job of occupational counseling has paid too little attention to the need of occupational information. This important fact cannot be overlooked or treated lightly. Information about occupations is necessary in the choice of a job or career. Writers in the field of occupational guidance have paid too little attention to the employment of occupational information in counseling. The author states that in a ten year review of published articles dealing with occupational counseling he found only two articles dealing with occupational information.

Froelich[6] insists occupational information of all types must be given the counselees if they are to choose correctly in the future.

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5 Thomas E. Christensen, "Functions of Occupational Information in Counseling," Occupations, 28:11, October, 1949.

6 C. P. Froelich, "Basic Elements of Guidance," California Journal of Secondary Education, 23:454-459, December, 1948.

McCreary[7] in a discussion of presenting occupational information relates that one of the main methods of imparting occupational information is through the use of sound films.

Munz[8] describes a successful junior high school occupational guidance program and emphasizes the important role of the sound film. This program is very similar to the one that is part of this study. The use of the home room as the center of an occupational guidance program is a common procedure.

McKown[9] describes the methods and materials that should be used in an occupational guidance program. Some effective home room methods which he mentions are trips and talks. He states that the most effective materials are magazines, books, exhibits, and tests. The author relates that there are two main advantages of having an occupational counseling program in the home room. The teacher knows the pupils personally and had the advantage of many direct contacts over a period of time.

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7 William H. McCreary, "Imparting Occupational Information", California Journal of Secondary Education, 22:95, February, 1946.

8 M.H. Munz, "A Vocational Guidance Program", Sierra Educational News, 44:17, February, 1949.

9 Harry C. McKown, Home Room Guidance (New York: McGraw Hill Book Company, 1946), p. 276.

Detjen[10] says, "The success of vocational guidance lessons will depend to a great extent upon the selection and presentation of interesting material." A good source list of materials may be found in Detjen's book.

Forrester[11] best describes the advantages of visual aids in an occupational program, especially the specific values of sound films. The author evaluates some occupational sound films and lists agencies that rent or sell films. He concludes, "Many educators report that well chosen visual aids make the giving of information about occupations more interesting, more enjoyable, sounder, and help produce more permanent results."[12]

Literature on sound films. Much of the research in the use of films was made before 1940. Many studies were devoted to both sound and silent films. In the past ten years some published studies about occupational sound films have been made.

Wittich and Fowlkes[13] contribute greatly in a study

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10 Mary E. Detjen and Erving W. Detjen, Home Room Guidance Programs (Boston: Houghton Mifflin Company, 1940) p. 307.

11 Gertrude E. Forrester, Methods of Vocational Guidance (Boston: D. C. Heath and Company, 1944) pp. 15-25.

12 Ibid., p. 15.

13 Walter Arno Wittich and John Guy Fowlkes, Audio-Visual Paths to Learning (New York: Harper Brothers Publishers, 1946), p. 98.

of the proper presentation of sound films to classes. In general, their conclusion was that to be effective the pupils must be prepared for the film, they must be questioned after the picture, and a second showing of the film produces the most effective results. A very extensive review of visual aid research was included in the first chapter.[14]

Hoban[15] emphasizes the improvement of educational motion pictures during and after World War II. Although most of the research was made about films used in the army training program, the results can be compared to similar films used in the classroom. The author states that the research was made by competent experimental psychologists.

Part of Hoban's work substantiates the previous study concerning the importance of preparation of the group for the film and the necessity of follow-up techniques.

It is important to note that both studies mention that films are not more valuable to any particular groupings of mental abilities.

The author concludes with one thought important to this study.

> The prewar conception of educational motion pictures as supplementary aids only, has had a stultifying influence on the development of effective films

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14 Ibid., pp. 9-21.

15 Charles F. Hoban, Movies That Teach (New York: Dryden Press, 1946), p. 1.

> for use in civilian education. As long as films are conceived primarily as supplementary aids, it is extremely unlikely that the full force of the motion picture to convey important information and ideas, to build up attitudes, and to influence thought and conduct will be brought to bear in organized education.

In another study sixty-eight schools representing general areas of the country report more than one-half used visual aids in assembly programs in occupational guidance. All of the schools report that the home room teacher was given some occupational guidance function to perform.[17]

Finn[18] reports that in 1948 motion pictures were the fourth most extensively used visual material in vocational guidance. Fifty per cent or more of the schools reporting use motion pictures in their guidance program. The author states that the advantage of the motion picture in this field is enjoyed because "in a relatively brief period of time they show what the workers do in an occupation and provide other essential information."[19]

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16 Ibid., pp. 19-20.

17 Harry A. Jager, editor, Occupational Information and Guidance Series, (Washington, D. C.: United States Printing Office, 1949), pp. 161-164.

18 Gordon H. Finn, "A Survey of Visual Materials Used in Vocational Guidance," Educational Screen, (February 1948), p. 252.

19 Ibid., p. 72.

An evaluative report by Blanc[20] on guidance films includes six films used in this study. A group of selected teachers in Denver, Colorado evaluated the films used in actual classroom work. The returns are summarized and the results are averaged into a rating based on a three point scale: 1.0--excellent; 2.0--good; and 3.0--poor. The decimal fractions indicate the relative variations between these points. The six films evaluated have an average rating of 1.6, which indicates these films are well suited for occupational guidance work.

One important work related to this investigation has been reported by Eric Johnston,[21] but the results of his study have not been fully released at this time.

A prairie county of Nebraska was the testing ground for an intensive film program. Because of the limited curriculum offerings and the inadequacy of teacher preparation in all fields, nearly a thousand films were employed to put the subject matter before the pupils. The results of this study are important, because the problem is almost identical. The underlying question was this: Could the motion picture make up the difference? The project was conducted over a four year period. The selection of films and measurement

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20 Sam S. Blanc, "Evaluating Films for Three Units in Guidance", Audio-Visual Guide, 17:25-27, November 1950.

21 Eric Johnston, "Motion Pictures and Education," The Educational Forum, 14:264, March, 1950.

of progress were most exacting.

An interim report states that through the use of films the subject matter of the standard curriculum was being more effectively learned and better retained.

Levinson[22] reports that the use of the sound film is entering upon a new and important phase, one in which films play an active part in disseminating occupational information.

The author lists eight specific objectives for this method of giving occupational information:

1. To reach many students.
2. To effect an economy of time.
3. To have the student possess or know the information in the shortest time possible.
4. To give the student the feeling of being in an industrial plant.
5. To extend the scope of the occupational information to cover a number of fields and to be sufficiently detailed in any one field.
6. To approach the child from the blind side so as to avoid the natural antipathy to preaching.
7. To enrich and clarify instruction at all levels from the elementary school through the university.[23]

The above objectives are closely related to those in this study. The author also includes eight advantages in using sound films to give occupational information. These statements are so closely related to the study that they must be included here.

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22 Gigi Levinson, "Motion Pictures for Disseminating Occupational Information," Educational Screen, 19:189, May 1940.

23 Ibid., p. 190.

Advantages of the Method

1. Economy of time and effort in teaching.
2. Enriches and clarifies instruction.
3. Its vivid presentation arouses the child's interest more than any other method; children like the movies.
4. Tests show that information is learned more readily and retained for a longer period of time.
5. Motion pictures bring the student to the place of work, overcome time and space.
6. With the motion picture as a teacher there is no limit to the information possessed in all fields or in any one field.
7. Many students rebel at conferences or lectures, because they have a preaching approach; motion pictures approach the subject from the blind side.
8. Movies are always entertainment and eagerly attended and accepted by the students.[24]

The above advantages of using sound films in giving occupational information were balanced with six disadvantages of the method in the same type of program.

Disadvantages of the Method

1. Material to date is not complete enough in all phases, technically poor in some instances and unscientific in others. A vivid emphasis may be on a minor fact or principal causing the child to lose the general import of the film as a whole.
2. In many films the entertainment factor is dominant instead of the educational factor.
3. Many occupational information films are commercial in nature and tend to propagandize.
4. Because of the vividness of the motion picture film, the eagerness with which children accept it, and the general state of vocational flux may cause the student to decide upon a particular vocation too quickly and too early in life.
5. At present the initial cost of using sound films is quite high since it involves the installation of

24 Ibid., p. 191.

expensive equipment and the rental or purchase of sound films is still too high for the smaller school with a limited budget.

6. The use of the motion picture in disseminating occupational information has only a short history and a larger library of experience is needed.[25]

One of the best lists of films in the occupational guidance field is included in a study by Schofield.[26] The many different areas in the guidance field are included, but the section on vocations lists and described twenty-seven films. This is the most modern bibliography found in the survey of the literature.

Kubiak[27] discusses the use of sound films in giving occupational information as a different approach to appeal to varied learner characteristics. This program was used in the Wisconsin Schools for Vocational and Adult Education. The sound films were used during the counseling and testing program, the chosen field being further explored with films related to this area. Many films used in the Wisconsin schools were included in this study.

One of the reasons given for the use of films in the program was that the group was so heterogeneous. The author

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25 Ibid., p. 191.

26 Edward T. Schofield, "Audio-Visual Materials for the High School Guidance Program," Audio-Visual Guide, 15:7, November, 1948.

27 John A. Kubiak, "How Our Schools Use Audio-Visual Materials to Improve the Quality of Vocational Education," See and Hear, 5:17, April 1950.

concludes that, "Their enrollees consist of juveniles between 14 and 18 with or without high school diplomas, young adults in need of training or retraining and older citizens interested in self improvement."[28]

In conclusion, the survey has indicated a growing tendency in the use of sound films in occupational guidance and training programs. The literature points toward many new developments in which sound films play an important, but not exclusive, role.

The survey, however, did not disclose any previous study attempting to measure the effectiveness, if any, of sound films in an occupational orientation program.

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28 Ibid., 5:17-18.

CHAPTER II

SELECTION OF MATERIALS USED

The selection of the twenty films used in the study is explained in the first part of the chapter. A discussion is given showing the development of the three criteria that help form the selective process in choosing the final twenty films. Some of the films found "undesirable" are described and the reasons for this are given. The twenty films ultimately selected and the occupational areas to be studied follows. Film guides were constructed for every film used in the study. The teacher participation is shown in the development of the film guides. One film guide is included as an example of those used in the study. Limitations of the study are discussed.

The development of the teacher-made test forms the second part of the chapter. A step-by-step description is given of the test construction. An outline of the objectives of the eighth grade occupational program is included. The test questions were made with these objectives foremost. The use of the test is explained in the final part of the chapter. The test was given before the occupational program began and after the unit was completed.

I. FILMS USED

Selection of films. A thorough survey was made of

the films available locally that could be used in an occupational guidance program. The film libraries of Sacramento County Schools, Sacramento City Schools, and the State Department of Education were the sources used.

Thirty-nine films were chosen as possible films to be used in the study. The next step was to develop minimum standards that the films must meet before they would be considered acceptable.

McKown and Roberts[29] have established criteria for selection of films and some of these were used in this study. One criterion was an appraisal of film accuracy. The films must present an accurate picture of the occupation to be studied. The next consideration was that of quality. The pictures must be sharp, clear, and possess sound of high fidelity. Each film selected must also be acceptable for the grade level in which it is used. The films must be accurate and understandable to eighth grade students.

Another criterion was attractiveness and up-to-dateness. It was felt that each film should be pleasing to view and should present the occupation in a modern manner. Films more than ten years old were not considered acceptable if scenes were found that dated the films as being old-fashioned.

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[29] Harry C. McKown and Alvin B. Roberts, Audio-Visual Aids to Instruction (New York: McGraw Hill, 1940), pp. 165-166.

The last general criterion was to select films that were informational in nature rather than those presenting skills or aptitudes needed in an occupation. There are many films devoted to skills, but these were not considered acceptable for occupational guidance work.

Of the thirty-nine films fourteen were found to be unsuitable upon preliminary examination. As an example, the film, "Airplane Structure" is too advanced for eighth grade students. The manufacturing methods in the film are exacting and detailed and too much emphasis is placed on skills needed. The film, "The Builders" is more out of date than is desired. This film describes many of the trades involved in construction work, but does not compare favorably with a film of a similar nature, "Builders of the Broad Highway". Many parts of "The Builders" emphasizes the skills of the job rather than the opportunities open in the field of building.

Every attempt was made to prevent duplication. The film "Brick and Stone Mason" would be worthwhile if more time could be allotted to the occupational program. However, the film selected to explain construction opportunities describes certain aspects of masonry and a certain amount of duplication was avoided by eliminating the film on masonry.

One guiding thought in the over all selection of films was that of choosing the films to suit the needs of the

greatest number of children. As an example, one good film "Furniture Making" had to be discarded from further consideration because of the limited nature of opportunity it offers to the whole group.

The above are just a few examples of how the selective process worked to eliminate fourteen films of the original thirty-nine.

Twenty-five films were left from the original list and of these, twenty were finally to be selected. Francis E. Noel, Chief of the Bureau of Audio-Visual Aids, selected the twenty films from this list that would best fit into the occupational guidance program of the California Junior High School.

In the eighth grade course of study[30] used in the school twenty occupational areas are listed. These are the fields that form the unit on occupations. The problem of film selection then became one of choosing twenty films that were most suited to the occupational fields to be studied.

The following list gives the twenty occupational fields to be studied:

1. commerce
2. transportation
3. communication
4. manufacturing

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30 Leo Baisden, editor, Home Room Handbook for Junior High Schools (Sacramento: 1939) pp. 67-69.

5. printing
6. journalism
7. building
8. public utilities
9. real estate
10. banking
11. home making, domestic and personal service
12. management
13. professional service
14. law
15. civil service
16. social service
17. agriculture and animal husbandry
18. forestry
19. minerals and oil
20. engineering

Some occupational areas were not represented by suitable films, while many excellent ones were found in others. Agriculture, for instance, is presented by many good sound films.

The twenty films representing occupational areas finally selected by Francis E. Noel for this study were as follows:

General
1. Finding Your Life Work
Commerce
2. Secretary Takes Dictation
3. Bookkeeping and Accounting
Transportation
4. Transportation
5. Arteries of the City
Communication
6. Radio and Television
7. Telephone and Telegraph
Printing
8. Modern Lithographer
Journalism
9. Journalism
Building
10. Builders of the Broad Highway, Parts I & II

Public Utilities
11. Telephone and Telegraph
Banking
12. Fred Meets a Bank
Professional Service
13. Nursing
14. Teaching
Civil Service
15. Mailman
Social Service
16. Home Nursing
Agriculture and Animal Husbandry
17. Farming Takes Skill
18. Cattleman
Minerals and Oil
19. Birth of an Oil Field
Engineering
20. Engineering

The above selection eliminated the study of the following occupational fields by films:

1. Manufacturing
2. Real Estate
3. Home Making
4. Management
5. Forestry
6. Law

The film, "Finding Your Life Work", was selected as an introductory film because of its particular qualities and good content. It was not intended to be used in connection with a specific field, but was used to introduce the unit and was shown first.

Six occupational areas, commerce, transportation, communication, building, professional service, and agriculture, were then to be studied with the aid of two films.

Two occupational areas, communication and public utilities, were to be studied with the same film, "Telephone

and Telegraph".

Construction of film guides. Good practice in using films demands certain preparation and follow-up activities. Film guides are generally conceded to be of greatest value in the average program using films. Therefore, a separate film guide[31] was constructed for each sound film used in this study. The film guide, to be used both for the preparation of the class for the picture and for follow-up discussion after the picture had been presented, was divided into two parts. After a short description, the first part included items necessary for a better understanding of the film by the pupils. In most cases the effective way to do this was through the use of questions. The second part of the film guide was devoted to words and phrases to know or learn before the film was shown. When the film was shown for preview purposes, the teachers helped to pick out the words and phrases mentioned in the sound track that might not be known by the students. Occupational guidance films, in general, include a few idioms and technical phrases that are not used or known by the eighth grade pupil. The film guide was kept small in size and mimeographed so every participating student would have one during the occupational

31 Appendix B, pp. 70-88.

guidance program.

The film guide constructed for the film, "Finding Your Life Work", is included as a typical sample of the film guides used in this study.[32]

Film Guide

Film Guide 1. Finding Your Life's Work

This film will help you start the study of your life's work. The film reviews the many ways one may study different occupations.

The following questions will help you study and understand the film:

1. How do aptitude tests help you know your abilities?
2. What are your strong points?
3. What are your social assets?
4. What financial help must you have to follow your chosen occupation?
5. How can others help you choose an occupation?
6. How does your school help you prepare for your chosen work?
7. What general requirements must be met in your field?
8. What are the advantages and disadvantages of your choice?
9. What other occupations can be best substituted for your first choice later on?

Words and phrases to know:

coordination
occupation
vocation

Limitations involved. The time set for the survey of

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32 Appendix B, p. 70.

the twenty occupations by the course of study was ten weeks. The time allowed for films then was the most evident limiting factor. Since good film usage prevents showing more than two films to each class per week, a limit of twenty films was established.

Silent films and other visual aids were culled from the study except those the teacher normally used each year in the occupational guidance program. The only intended variable factor from previous presentations of the unit was the use of sound films.

Availability played an important part in the choice of films. Rental films were not used, because emergencies and unforeseen changes in scheduling could interrupt the film program. One group might see a film and the other three experimental groups be denied this film, if film schedules would not allow the return of the film in proper time.

II. TEACHER-MADE TEST AND USE

Construction of test. A survey of occupational tests was made to find a standardized test which could be used in this study.

Buros[33] lists many tests relating to occupations, but these referred to aptitudes and preferences. None were found

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33 Oscar Krisen Buros, Third Year Mental Measurements Yearbook, 1949, pp. 627-705.

which would test occupational information.

The next step was to construct a test that would measure to some degree the information about occupations that was acquired during the occupational unit. Four teachers cooperated in constructing a test about the fourteen occupational areas to be presented by the sound films selected. One consideration was that of simplicity. The test had to be easy to administer and correct. A minimum of words was used to keep the test from becoming cumbersome.

The true-false type of test was finally selected after little progress was made in the multiple-choice type of test. After the type of test was selected the number of test questions was set at 140. This number was large enough to give an indication of learning in the results, if not an accurate measurement. However, it was not so great that it would be cumbersome or too difficult to administer.

Since fourteen occupational areas had been determined by the film list, ten questions were allowed each area. Two teachers of the control group and two of the experimental group submitted test items to be used. After examining all the test questions, the ten best for each occupational area were selected. One important factor in the selection was to choose questions that were equally favorable to both groups.

The following seven principles of the short-answer

test are listed by Remmers and Gage:[34]

1. Avoid the obvious, trivial, meaningless, and ambiguous.
2. Observe the rules of rhetoric, grammar and punctuation.
3. Avoid items which have answers upon which all experts do not agree.
4. Avoid trick or catch items.
5. Avoid items which contain irrelevant clues.
6. Avoid items which furnish answers to other items.
7. Require all pupils to take the same test and permit no choice between items.

All of these principles were kept in mind as the test questions were selected. The number of true and false questions was kept in balance and were placed at random in the test. The main question asked of each test item was this: Does this question reflect important occupational information that should be gained in the study of the unit?

The eighth grade course of study[35] outlines a study approach for each occupation and the first part is divided into three statements:

A. What the worker does
   1. Duties of the position
   2. Mental work
B. What the occupation offers the worker
   1. Safety and health
   2. Social benefits
   3. Financial return
   4. Participation in desirable work
   5. Promotion

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34 H. H. Remmers and N. L. Gage, Educational Measurement and Evaluation (New York: Harper & Brother, 1943), pp. 148-149.

35 Leo Baisden, editor, Home Room Handbook for Junior High Schools (Sacramento: 1939), p. 69.

6. Opportunities afforded for:
   a. Home life
   b. Recreation
   c. Cultural growth
   d. Participation in community activities

C. What the occupation required of the worker
   1. Personal characteristics
      a. Work habits
      b. Physical ability
   2. Education and training.

These questions were made with this outline in mind so that unimportant items would not be included in the final test. Also this would help keep the test from being one-sided in favor of the experimental or control group. Since both groups would be attempting to give the information in line with the above outline, a finer measurement would be obtained.

Use of the test. After the 140 questions had been selected and grouped into occupational areas the test was mimeographed and made ready for distribution.

Each of the nine classes in the study took the test on the same day and every effort was made to choose a day when a high attendance rate would prevail. One test per pupil was given to the teacher; she instructed the pupils to take the test as quickly as possible and omit items of which they were not certain. This test was given the week before the start of the occupational guidance unit. The results showed that one group had appreciably no more information on

occupations than the other. The use of this pre-test was justified in giving some measure of growth in both the control and experimental groups.

The same test of 140 items was given eleven weeks later under the same conditions as the pre-test. Absences and transfers eliminated 45 from the original 265 in the two groups. The rule was followed that if one person was absent more than seven school days his test result would not be used in the total tabulation. It was felt that absences of a shorter duration would balance each group. The results of the second testing are shown in Chapter IV.

Summary. Of all the materials used in the study the films, film guides, and teacher-made test were the most important. The development of the criteria for the film selection was explained. A list of the final twenty films was included with the occupational areas to be studied. A description of this selective process included a few of the films not finally chosen and the reasons were given for this. The development of the film guides used in the study was described. The objectives in the construction of the film guides were more clearly presented by including a few sections from the regular course of study. One film guide was included as an example of those used in the study.

The teacher-made test was described in the latter

part of the chapter. A description was given of the guiding principles used in the construction of the test. The test was given to all the pupils in the study under certain conditions. These conditions are explained as a final part of the chapter.

CHAPTER III

DESCRIPTION OF THE EXPERIMENT AND GROUPS STUDIED

I. TEACHING PROCEDURE USED

The first part of the chapter describes the two teaching procedures used in the study. A description of the "traditional" method used by the control group is given. The teaching procedure of the experimental group is fully described. The routine established for the film program is presented in two parts. The use given the film guide in class is shown. A description follows showing the actual film programming used throughout the week. The reasons for the separation of the nine eighth grade home rooms into the two groups are given. The physical make-up of the building and the teacher's familiarity with visual aids were two guiding factors. Two tables were included to give a comparison of pupils in each group. The pupils are compared according to mental ability and chronological age.

Control group. The teaching procedure used in the control group can best be called "traditional". A definite occupational program set up by the eighth grade course of study was followed by all. Traditional procedures, such as outside speakers and committee presentations, were not frequently used. Teacher presentation was the method basically used.

The library furnished an occupational guidance bibliography during the unit, one table being used in the library for display purposes. Some home room students used the library during the home room period or before or after school for more detailed information about occupations in which they were particularly interested.

The typical manner of presenting the occupational program was for the teacher to use one or two days to describe each of the twenty occupational areas found in the course of study. Certain aspects listed in the second chapter were chosen and each occupational area was described from these standpoints. This was not an inspiring program, but one which is generally used. One should remember the home room teachers were not trained in guidance work or in a home room activity program. Few schools offer courses for this type of teaching. Other obstacles to the program were in the form of fire drills, assembly programs, and class activities which disrupted the home room sessions for times ranging from a few minutes to a whole period.

Experimental group. The teaching procedure used in the experimental group was based on the sound films used in the study. The films were not the only material used, but the procedure was built around them. As mentioned, the four home room teachers constantly used films in their regular

subject matter work and were enthusiastic toward the experiment when first approached.

Each week's films were previewed the week before and the film guides to be used were prepared after the preview. A tentative selection of the films was given the teachers before the program began so that each teacher could begin collecting material and information to supplement the film. Films were used with only fourteen occupational areas, but an equal amount of time was used in the other six areas. Weekly meetings of the teachers were held. Different procedures were discussed and new approaches to film presentation and study were encouraged.

The films were shown during the home room period in the classrooms that belonged to the home room. There was no movement of pupils either before or after the presentation of the film.

The home room period is from 1:15 to 1:54 P. M., the first class after the lunch period. Students were in a receptive mood for the films unless some noon hour activity of an unusual nature had taken place. Each home room had a definite day and time for the film showing. Monday and Wednesday were the days used for Rooms One and Six. Room One had the film first; then the machine was wheeled to Room Six where the film was presented later in the period.

Two boys were used to set up the projector and to show the film. They were trained operators and were on duty during the home room period. A week's training program had been established for the visual aid operators; two boys were selected to serve one period each day. This service was in lieu of a study period and a school letter was earned after a service period of one semester. These two operators had the machine set up and threaded before the home room period began so that there could be no undue pressure to speed up the regular procedure.

Each floor of the building has a visual-aids table with wheels, on which the projector is placed and moved from room to room. After a few days practice the operators were able to begin showing the film in Room Six only six minutes after the film had ended in Room One. The same time was used in changing from room to room on the second floor and the same procedure was followed.

In general each teacher followed the same procedure in the experimental group in preparing for the film, presenting the film, and in following it up. The film guide was given to the pupils the day before the film showing. First the new words or phrases used were explained and discussed. Then teacher-led discussions were conducted in class based upon the film guide. In some cases the pupils formed committees and presented the film guide of a particular

occupation. After the film guide had been presented, the film presentation followed the next day, and the questions were again reviewed and discussed in light of the information given by the film. This was either on the same day or the next day. Occasionally a quiz was given on the film shown, or the students prepared questions for a quiz.

II. THE GROUPS STUDIED

Selection of groups. Four of nine eighth grade home rooms were selected to be the experimental group. The nine home rooms form the eighth grade of the school; the other five home rooms were the control group.

Students from elementary schools are placed in the seventh grade by alphabetical selection; transfers are placed in a rotation system to keep the home rooms balanced numerically. Therefore, one would expect to find no great difference in any home room in ages or mental ability.

The students, in general, were from the "great middle middle class", but there were two extremes that form about one tenth of the student body. Of the eleven hundred students, about five per cent come from a government housing project and five per cent come from one of the better residential districts in town.

There were two reasons for the selection of the four

home rooms used in the experimental group. The first thought was to choose two home rooms on the first floor of the building and two home rooms on the second floor, as the projector could then be used twice each period on the same floor. Much time would have been wasted should the projector have had to be moved from one floor to another during the period.

The other factor which determined the selection of the home room was the teacher's familiarity with visual aids. The study would better measure the effectiveness of sound films if the teacher was familiar with a visual-aids program and was in sympathy with the purpose and the goal of the study.

Comparison of the groups. Since the pupils were placed in the home rooms at random, it was assumed that the pupils would be nearly alike in mental ability, age, and general vocational information. The results of the Otis Mental Ability Tests given in the seventh grade were used to compare the mental ability of the two groups. The two groups were found to be quite similar in mental ability. The median I. Q. of the experimental group was 106, while that of the control group was 103.45.

Examination of Table I on Page 35 reveals that the range of scores of the two groups was almost identical.

The quartile deviation was also quite similar. The quartile deviation of the experimental group was 14.6 while

TABLE I

I. Q.* DISTRIBUTION OF GROUPS STUDIED

Experimental Group Class Intervals	Number of cases	Control Group Class Intervals	Number of cases
146--150	2	146--150	1
141--145	3	141--145	1
136--140	3	136--140	2
131--135	2	131--135	6
126--130	5	126--130	7
121--125	9	121--125	10
116--120	10	116--120	8
111--115	9	111--115	8
106--110	8	106--110	12
101--105	5	101--105	11
96--100	10	96--100	13
91--95	10	91--95	13
86--90	10	86--90	9
81--85	6	81--85	9
76--80	6	76--80	5
71--75	1	71--75	5
66--70	2	66--70	1
	101		119
Median I. Q. 106		Median I. Q. 103.45	

* I. Q. based on the Otis Beta Mental Ability Test given in the seventh grade.

that of the control group was 13.6. The control group was more homogeneous in mental ability.

The two groups show a marked similarity in age also. The median age of the experimental group is 13-7.3 while that of the control group is 13-6.3. Therefore the median of the experimental group shows that the experimental group is one month older than the control group.

Inspection of Table II, Page 37, shows no marked difference in range or quartile deviation. In general, the two groups were found to be closely related in age and mental ability.

Summary. The teaching procedure used in the experimental group was first described. A detailed account of the method of film presentation followed. A description of the use of film guides and of film presentation gave a clear picture of the actual class procedure. The actual film programming among the classes of the experimental group was explained and the weekly routine carried on during the study of the unit was described. A comparison of the two groups formed the latter part of the chapter. The two groups were found to be almost equal in mental ability and in chronological age. Two tables were included to give a more complete description in these two aspects.

TABLE II

CHRONOLOGICAL AGE DISTRIBUTION OF GROUPS STUDIED

Experimental Group Age		Number of cases	Control Group Age		Number of cases
15-5	15-6	1	15-5	15-6	1
15-3	15-4	-	15-3	15-4	-
15-1	15-2	3	15-1	15-2	1
14-11	15	2	14-11	15	1
14-9	14-10	1	14-9	14-10	4
14-7	14-8	2	14-7	14-8	1
14-5	14-6	2	14-5	14-6	1
14-3	14-4	4	14-3	14-4	3
14-1	14-2	7	14-1	14-2	8
13-11	14	6	13-11	14	13
13-9	13-10	7	13-9	13-10	9
13-7	13-8	24	13-7	13-8	17
13-5	13-6	19	13-5	13-6	16
13-3	13-4	9	13-3	13-4	25
13-1	13-2	9	13-1	13-2	8
12-11	13	2	12-11	13	4
12-9	12-10	1	12-9	12-10	4
12-7	12-8	1	12-7	12-8	2
12-5	12-6	1	12-5	12-6	-
12-4	12	-	12-4	12	1
		101			119

Median age 13-7.3 Median age 13-8.5

CHAPTER IV

RESULTS OF THE STUDY

The results of the teacher-made test are analyzed and the experimental group is compared to the control group on this basis. A table of the scores made by both groups is included to present a more complete picture than is given by reporting the median scores and quartile deviations. The findings of a questionnaire given to the pupils of the experimental group are presented. Pupil reactions to three specific questions are listed. Occupations suggested by students for later film study were listed by pupil-preference. Specific comments about the film program are given. Written comments of thirty pupils were selected at random. The four teachers participating in the study give a subjective evaluation of the study from another viewpoint. The latter part of the chapter includes a study of the comparison of scores made by fifteen pupils of greatest mental ability as against those of least ability. The final part of the chapter describes the test results from home room groupings. Two tables were included in the final part of the chapter to show these comparisons more clearly.

I. TEACHER-MADE TEST RESULTS

Comparison of groups studied. The tests were given

as described in Chapter III and the results were tabulated into two groups, the experimental and the control. One hundred one (101) pupils were included in the experimental group while 119 pupils formed the control group. The results of the pre-test indicated that both groups possessed a similar amount of occupational information before the study began.

The experimental group made a median score of 70.9 in the pre-test while the control group scored 76.9 in the same test. Table III, Page 40, was inserted to give a more comprehensive picture of the total tabulations in both the pre-test and final test.

In the pre-test the control group made a greater score by six points. The quartile deviation for the experimental group was 16.25 while the quartile deviation of the control group was 15.2. There was very little difference in variability between the two groups, but the range of the scores of the experimental group was greater by 28 points. The range of the control group was greater by 17 points as four pupils in the control group scored in lower class limits.

After the film program was completed the two groups were tested again and a significant gain was made by both groups. The experimental group made a median score of 85.0, while the control group had a median score of 84.5. Therefore the two groups ended with almost identical scores

TABLE III

TEACHER-MADE TEST RESULTS OF GROUPS STUDIED

Experimental Group				Control Group			
Pre test score	Number of cases	Final test score	Number of cases	Pre test score	Number of cases	Final test score	Number of cases
121-125	-	121-125	1	121-125	-	121-125	-
116-120	-	116-120	2	116-120	-	116-120	3
111-115	2	111-115	2	111-115	-	111-115	1
106-110	1	106-110	3	106-110	4	106-110	8
101-105	4	101-105	8	101-105	5	101-105	7
96-100	4	96-100	14	96-100	13	96-100	11
91- 95	5	91- 95	9	91- 95	5	91- 95	12
86- 90	11	86- 90	11	86- 90	16	86- 90	13
81- 85	12	81- 85	5	81- 85	5	81- 85	12
76- 80	8	76- 80	8	76- 80	16	76- 80	9
71- 75	6	71- 75	5	71- 75	7	71- 75	6
66- 70	12	66- 70	5	66- 70	10	66- 70	12
61- 65	4	61- 65	9	61- 65	7	61- 65	5
56- 60	5	56- 60	4	56- 60	12	56- 60	6
51- 55	11	51- 55	4	51- 55	3	51- 55	3
46- 50	7	46- 50	4	46- 50	7	46- 50	3
41- 45	1	41- 45	-	41- 45	2	41- 45	1
36- 40	1	36- 40	-	36- 40	2	36- 40	5
31- 35	2	31- 35	1	31- 35	5	31- 35	2
26- 30	3	26- 30	3	26- 30	2	26- 30	-
21- 25	1	21- 25	1	21- 25	-	21- 25	2
16- 20	1	16- 20	1	16- 20	-	16- 20	-
11- 15	-	11- 15	1	11- 15	-	11- 15	-
6- 10	-	6- 10	-	6- 10	-	6- 10	-
1- 5	2	1- 5	-	1- 5	-	1- 5	-
	101		101		119		119
Median score		Median score		Median score		Median score	
70.9		85.0		76.9		84.5	

according to the teacher-made test scores.

The quartile deviation of the experimental group was 16.61 while the quartile deviation of the control group was 14.09. The experimental group scores had a range of ten points greater than that of the control group.

The experimental group had a greater gain between the two tests, a gain of 14.1 points to the gain of 7.3 points by the control group. The gain of the experimental group was almost twice that of the control group. Thus a limited, but measurable gain was made by the experimental group over that of the control group.

It must be pointed out again that the test was constructed to measure desirable occupational facts and knowledge. The test was not based on specific information found in the films. The experimental group completed the occupational unit with the same occupational information as the control group, had made a greater growth and finally had had the advantage of seeing twenty films in fourteen occupational areas.

II. REACTIONS TO SOUND FILMS

Pupil reaction. At the end of the film program a questionnaire[36] was given to the experimental group. The

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36 See Appendix D, p. 94.

results were tallied and evaluated to measure the effectiveness of the occupational films.

The first question was this: "What film did you like best?" The first five films chosen were the following: "Birth of an Oil Field", "Builders of the Broad Highway", "Nursing", "Secretary", and "Farming Takes Skill". The first two selected were in color and covered the subject better than the others, because they were longer films. Many commented that they greatly preferred color films. Also, it might be well to consider using a twenty minute film more often for class room use rather than the usual eleven minute subjects.

The second question was this: "Did your choice of vocation change during the film program?" Only fourteen per cent of the pupils indicated that their occupational choice changed. This would indicate the film program did not influence any change of occupational choices. The students in the control group were asked the same question by the teachers and twelve per cent of them felt their choice had changed.

The third question was this: "What other occupations would you like to study with films?" The pupils made many suggestions. The number of students selecting each field is included opposite each occupation. The first fifteen

suggestions were given in this order:

1.	Medicine	14
2.	Law enforcement	12
3.	Law	11
4.	Aviation	10
5.	Art	9
6.	Architecture	7
7.	Modeling	7
8.	Baseball	7
9.	Homemaking	6
10.	Mechanics	5
11.	Sports	5
12.	Fishing	4
13.	Fashion designing	4
14.	First aid	4
15.	Government work	3

Other suggestions indicated were as follows:

Life saving
Movies
Football
Acting
Armed forces
Veterinary medicine
Selling
Advertising
Railroad
Beauty operator
Plumbing
Forest ranger
Drafting
Welder
Secret service
Big game hunter
Undertaker
Librarian
Blacksmith
Geologist
Archeologist
Fireman
Electrician
Radio announcer
Music
Midget racer
Dentist
Dancing

The last three parts of the questionnaire were as follows: "What should a film present about an occupation?"; "In a few sentences make a specific comment about the film program."; "In a few sentences make a specific comment about one film."

The following cases were arranged on the basis of the child's I. Q.; they help interpret the thinking and attitudes of the pupils in the experimental group. Errors in spelling were corrected and answers were selected at random from the grouped papers.

Case 1. I. Q. 150; pre-test score 86; final 104.
I believed the film program was very good. It gave me a fair and accurate picture of the various kinds of work, and made me understand the jobs.

Case 2. I. Q. 144; pre-test score 76; final 82.
The nursing film was helpful to all girls whether they choose it as a career or not.

Case 3. I. Q. 140; pre-test score 92; final 127.
I liked the film program, but it should have had a wider variety of occupations.

Case 4. I. Q. 140; pre-test score 81; final 91.
I thought it was a very worthwhile program for the boys, but there weren't many things to interest girls on their life work.

Case 5. I. Q. 130; pre-test score 106; final 90.
The film should show what schooling we should have, and what the job is like; that is, the advantages and disadvantages of the job.

Case 6. I. Q. 128; pre-test score 104; final 104.
On the whole, I think they were very good, although they were sort of out of date.

Case 7. I. Q. 121; pre-test score 69; final 106.
The one on teaching was very good and quite interesting, but did not tell too many of the duties of the teacher.

Case 8. I. Q. 118; pre-test score 98; final 102.
I did not get much out of the film program, because the occupations I like were not shown.

Case 9. I. Q. 115; pre-test score 66; final 104.
I liked the film program, because it helps you decide what your future should be. I disliked the program, because it took up your home room period.

Case 10. I. Q. 107; pre-test score 81; final 74.
The film program was all right for a person who expects to live in the city and work in the city. Almost all the films were based on jobs offered in the city.

Case 11. I. Q. 106; pre-test score 92; final 104.
I think it should be more exciting and interesting. Some of the films were dull, because they put in facts that we already know and leave out facts we know nothing about.

Case 12. I. Q. 102; pre-test score 94; final 104.
I think the films should be shown in the auditorium, because there is too much noise during the picture, and the picture is too small.

Case 13. I. Q. 95; pre-test score 84; final 86.
I think that the film on home nursing was very good, because it shows how to care for a person who is ill in the home.

Case 14. I. Q. 91; pre-test score 38; final 53.
I liked the idea of your showing us films. It gives us some idea of what we are getting into when we grow up.

Case 15. I. Q. 85; pre-test score 52; final 50.
The film on banking was very good. It explained every thing that you would have to know to become a banker.

Case 16. I. Q. 83; pre-test score 70; final 60.

I think they were all worthwhile and I appreciated the films we had.

Case 17. I. Q. 79; pre-test score 52; final 35.
I think the films were good, and there should be more of them, because they are educational.

Case 18. I. Q. 87; pre-test score 55; final 62.
I liked them when they were building the road and the crane fell over.

The comments reflect to some extent the subjective feelings of the pupils toward the occupational film program. Weaknesses of the study were ably spotted by the pupils. However, the general response was favorable to such a program and to the effectiveness of films.

Teacher reaction. The four teachers involved in the study felt that the use of films had been more than worthwhile and that the whole occupational program had been enriched by this. The fact that certain days were used for preparation, the actual showings, and follow-up tied together the whole program. The students were prepared for each home room period; the routine thus brought about a more workmanlike attitude than had ever before been experienced.

Some specific comments given by the four teachers at the end of the unit are as follows:

Teacher 1, 14 years experience.
The program was more successful than others in the past. I thought the children had shown a greater interest in different occupations. My one criticism was that the films selected seemed to favor the boys over the girls. Only a few films

definitely appealed to the girls.

Teacher 2, 4 years experience.

The children seemed to feel that the films were more for entertainment than for an educational purpose. The lighting was bad in our room and I would ask for this to be changed before we had such a program again.

It seemed as if we had too little time for discussion on the day the film was shown. The following day the interest was not as evident.

Teacher 3, 6 years experience.

My students did more outside studying about occupations than ever before. My children used the library during this unit. Some of these had never before shown an interest in any activity during the home room period.

A few complained to me that the films were not about the subjects they were interested in.

My only suggestion would be that next time we be allowed to see all or some of the films a second time. If this were done a better understanding would result.

Teacher 4, 22 years experience.

The best result from the films was that of motivation. In my other experiences in teaching this unit some films were shown in the auditorium and the students did not seem to get much from them. The use of the study guides did more to tie the films to further study than any other techniques I have seen.

One or two of the films may have been too advanced for the average pupil, but the films, in general, were graded for the class as a whole.

Seventh grade students at times inquired if they would have such a program when they reached the eighth grade. The students in the control group continually asked "if" they would get to see films. The whole home room program was improved by the occupational unit; the next unit given was easier begun, one teacher said. Other teachers asked if such

a film program could be tried in other units in the home room.

III. INCIDENTAL RESULTS

Many early studies indicated children of low I. Q. showed a greater ability to gain information from films then those of greater mental ability.[37] The findings of later studies tend to dispute this. The experimental findings were used to select thirty cases. The first fifteen were those with the highest I. Q. and the other fifteen were those with the lowest I. Q.. The results were analyzed to determine the difference between the first and second test scores. Tables IV and V, Pages 49 and 50, were included to give a more complete picture of these two groups.

The children of the greatest ability had a median I. Q. of 137. The median score was 89.7 in the first test and 99.0 in the second test, therefore a gain of 9.3 points over the first test. The children of the lowest ability had a median I. Q. of 79.5. The median score in the first test was 54.4 and 61.0 in the second test. They gained 6.6 points over the first test. The children of greatest ability gained one third more points than the others. The whole experimental

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37 Walter Arno Wittich and John Guy Fowlkes, Audio-Visual Paths to Learning (New York: Harper Brothers Publishers, 1946), p. 99.

TABLE IV

TEST RESULTS OF THE 15 PUPILS WITH THE HIGHEST I. Q.

Class Intervals*	Number of cases	Class Intervals	Pre-test number of cases	Final test number of cases
149--150	1	126--125	-	1
147--148	1	116--120	-	1
145--146	-	111--115	1	2
143--144	2	106--110	1	-
141--142	1	101--105	2	2
139--140	1	96--100	2	5
137--138	2	91-- 95	1	-
135--136	1	86-- 90	3	2
133--134	1	81-- 85	2	1
131--132	1	76-- 80	1	1
129--130	1	71-- 75	1	-
127--128	3	66-- 70	-	-
125--126	1	61-- 65	-	-
	15	56-- 60	-	-
		51-- 55	-	-
		46-- 50	-	-
		41-- 45	-	-
		36-- 40	-	-
		31-- 35	-	-
		26-- 30	1	-
			15	15
Median I. Q. 137		Median Score 80.7		99.0

* I. Q. based on the Otis Beta Mental Ability Test given in the seventh grade.

TABLE V

TEST RESULTS OF THE 15 PUPILS WITH THE LOWEST I. Q.

Class Intervals*	Number of cases	Class Intervals	Pre-test number of cases	Final test number of cases
85--90	2	91--95	-	2
83--84	2	86--90	-	1
81--82	2	81--85	-	-
79--80	3	76--80	1	-
77--78	3	71--75	-	1
75--76	-	66--70	2	-
73--74	-	61--65	2	4
71--72	1	56--60	1	1
69--70	-	51--55	7	1
67--68	2	46--50	2	3
	15	41--45	-	-
		36--40	-	-
		31--35	-	1
		26--30	-	-
		21--25	1	1
		16--20	-	-
		11--15	-	-
		6--10	-	-
		1-- 5	1	-
			15	15
Median I. Q. 79.5		Median Score	54.4	61.

* I. Q. based on Otis Self Mental Ability Test given in the seventh grade.

group, however, made a gain of 14.1 points over the first test.

In the pre-test the quartile deviation of the students with highest mental ability was 9.43. The quartile deviation of the other group of students was 5.94. The variability of those with the greatest mental ability was nearly double that of the other pupils. The same results were found after the final test. The pupils of higher I. Q.'s had a quartile deviation of 10.52, while the pupils of lower ability showed a variability of 6.17.

The increase of the pupils of higher I. Q.'s is more significant when the scores themselves are compared. The lower ability group made a median score of 54.4 in the first test to a median score of 69.7 for the higher ability group. The fact that the higher ability group both scored higher and made the greater gain indicates that sound films are even more effective to those who bring the most to the film.

The other incidental result was a comparison of scores by home rooms. In ability the classes of the experimental group had a median I. Q . of 106. In individual classes the median I. Q.'s were as follows: 94.4, 113, 110.5, and 105.5. Table VI was placed on Page 53 to give a more graphic description of the mental ability scores made in each home room.

The quartile deviations of the four home rooms were

not similar. The variability scores of the home rooms were as follows: 17.37, 11.87, 22.5, and 13.1.

The results in this comparison were significant, because the class with the least ability made almost the average gain between the two tests, and the class with the greatest mental ability made the smallest gain. In the same order the average gains by classes were 10.5, 5.9, 12.5, and 15.8. The two classes that were at the extremes in mental ability made the least gains during the two tests. Table VII on Page 54 was included to give a better comparison of scores made by the home rooms.

The gains by classes are even more significant when the pre-test scores are compared with the final test scores. The class with the greatest potential ability made the highest score in the pre-test, but made a smaller gain than the average of the group.

An examination of quartile deviations indicated little variability of scores made by the homerooms in the pre-test. They were as follows: 15.62, 18.55, 17.9, 15.85. This was not true in the final test; the scores 20.7, 9.6, 19.75, and 13.81, showed much more variation between the home rooms.

Another aspect of this result was significant in that the classes made gains in relation to the use of sound films by their respective teachers. A study of the visual aid sign-up sheets during the past year revealed that the teacher

TABLE VI

I. Q. DISTRIBUTION BY HOME ROOMS

Class Intervals	Home room 1 number of cases	Home room 2 number of cases	Home room 3 number of cases	Home room 4 number of cases
146--150	-	1	1	-
141--145	2	-	-	1
136--140	1	1	-	-
131--135	-	-	-	2
126--130	2	2	1	-
121--125	2	2	2	3
116--120	-	4	2	4
111--115	2	3	4	2
106--110	1	3	1	3
101--105	2	-	2	1
96--100	2	2	2	4
91-- 95	4	1	1	4
86-- 90	5	-	1	4
81-- 85	2	1	2	1
76-- 80	2	2	-	2
71-- 75	1	-	-	-
66-- 70	-	1	1	-
	26	23	20	32
Median I. Q.	94.4	113.	110.5	105.5

TABLE VII

DISTRIBUTION OF TEACHER-MADE TEST RESULTS BY HOME ROOMS

Class Intervals	Home room 1		Home room 2		Home room 3		Home room 4	
	Pre test no. cases	Final test no. cases	Pre test no. cases	Final test no. cases	Pre test no. cases	Final test no. cases	Pre test no. cases	Final test no. cases
121--125	-	-	-	1	-	-	-	-
116--120	-	1	-	-	-	-	-	1
111--115	-	1	-	-	1	-	1	-
106--110	-	1	1	-	-	2	-	1
101--105	2	1	1	2	-	3	1	1
96--100	2	3	-	2	-	1	2	2
91-- 95	1	-	4	5	-	1	-	3
86-- 90	1	3	4	4	2	1	4	3
81-- 85	1	2	4	1	4	1	3	1
76-- 80	2	2	-	2	1	2	3	2
71-- 75	1	1	1	1	-	-	4	3
66-- 70	5	1	3	1	2	2	2	1
61-- 65	1	3	-	1	2	4	1	1
56-- 60	2	-	-	-	1	1	2	3
51-- 55	2	4	5	-	1	-	3	-
46-- 50	1	1	-	2	3	1	2	-
41-- 45	1	-	-	-	-	-	-	-
36-- 40	1	-	-	-	-	-	-	-
31-- 35	1	-	-	1	-	-	1	-
26-- 30	-	-	-	-	1	1	2	2
21-- 25	-	1	-	-	1	-	-	-
16-- 20	1	1	-	-	-	-	-	-
11-- 15	-	-	-	-	-	-	-	1
6-- 10	-	-	-	-	-	-	-	-
1-- 5	1	-	-	-	1	-	-	-
	26	26	23	23	20	20	22	22
Median score	67.5	78	83.5	88.5	65.5	78	73	88.8

who had used visual aids most presented a class which made the greatest gain. The remaining classes scored gains in the order of the use of films by their teacher. This indicated that those who use films and rely upon them as an aid attain worthwhile results through the use of films.

Summary. The results of the teacher-made test formed the basis of this chapter. The test results of the experimental group were compared to the results of the control group both by median scores and quartile deviations. The results showed a limited gain in occupational information by the experimental group over the control group. Table III was included to give a more detailed picture of these results.

A description of the questionnaire was presented and the main findings indicated a favorable pupil reaction to the film program. The pupils' evaluation points toward the need for a continuation of such a program. Specific comments by the four participating teachers give a favorable subjective evaluation of the study from another point of view. Test results of the fifteen pupils of greatest mental ability were compared with fifteen of the pupils of least ability. The findings indicated that the film program favored no particular group in relation to mental ability. The other incidental result was a comparison of test scores by home room

groups. The comparison showed some differences in test results. The teachers who use films regularly were able to bring about more effective results.

CHAPTER V

SUMMARY AND CONCLUSION

I. SUMMARY

Summary of the study. The study was conducted to see if selected sound films used as an aid were effective in giving information in an eighth grade occupational orientation program.

The twenty films used in the study were selected and the eighth grade was divided into two groups, control and experimental. Both groups were approximately of the same age and mental ability. The teacher-made test on occupational information was given to both groups before the study began. One group studied the occupational unit in the traditional manner, but the other group had the regular unit plus the twenty selected films during the ten week unit on occupations.

At the end of the unit the two groups were again tested by the teacher-made test and the test results were used to form the conclusions drawn from the study.

II. CONCLUSION

Positive results of the study. On the basis of the test results and pupil reactions, the following conclusions have been made:

1. A limited but measurable increase in occupational

information was brought about by the use of selected films.

2. Selected films do not particularly aid pupils of high mental ability or of low mental ability.

3. In this study the teachers that use films regularly are able to bring about more effective results than those that use them sparingly.

4. Pupil evaluation indicated that films that are in color are more attractive than the traditional black and white.

5. Occupational choices of eighth grade students are not permanent, but viewing films of other occupations does not lessen the permanency.

6. Pupils indicated that they prefer to have a study of an occupational unit based on films.

7. That educational sound films form an effective, interesting, and vivid way of gaining occupational information.

Weaknesses of the study. The greatest weakness of the study was the absence of a standardized test that would more accurately measure the information gained by both groups.

As the field of counseling stresses more and more the need of occupational information, preference, interest, and training, the need of such a test is more acute.

The other important weakness was the lack of control

over such things as the following: film presentation, follow-up, and school irregularities. With the great number of pupils participating, factors such as absences and tardiness lessen the accuracy of such a study.

Future opportunities for study. The most important opportunity for study should be a re-examination of occupational units in the eighth grade. A ten week period is too short to cover the information needed.

There is a need for a study to determine the value of a second showing of sound films in an occupational unit. The fact that an occupational unit in the eighth grade is of an orientation nature could rule out the need for such a second showing, but first one should determine the effectiveness of such a second showing.

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APPENDIX

APPENDIX A

LIST OF OCCUPATIONAL FILMS USED IN THE STUDY

1.	Finding Your Life Work	Mahnke	1940	22 SD B&W
2.	Secretary Takes Dictation	Coronet	1947	10 SD B&W
3.	Bookkeeping and Accounting	Mahnke	1946	11 SD B&W
4.	Transportation	Mahnke	1941	10 SD B&W
5.	Arteries of the City	EBF	1941	11 SD B&W
6.	Radio and Television	Mahnke	1940	11 SD B&W
7.	Telephone and Telegraph	Mahnke	1946	11 SD B&W
8.	Modern Lithographer	EBF	1940	10 SD B&W
9.	Journalism	Mahnke	1940	11 SD B&W
10.	Builders of the Broad Highway, Part 1	Frith	1940	22 SD Color
11.	Builders of the Broad Highway, Part 2	Frith	1940	22 SD Color
12.	Fred Meets a Bank	Coronet	1947	10 SD B&W
13.	Nursing	Mahnke	1942	11 SD B&W
14.	Teaching	Mahnke	1942	11 SD B&W
15.	Mailman	EBF	1947	10 SD B&W
16.	Home Nursing	EBF	1942	11 SD B&W
17.	Farming Takes Skill	Frith	1946	12 SD Color
18.	Cattleman	EBF	1939	10 SD B&W
19.	Birth of an Oil Field	Shell	1948	31 SD Color
20.	Engineering	Mahnke	1942	10 SD B&W

LIST OF FILMS USED

1. Finding Your Life Work, Mahnke, 1940, 22 minutes, sound, black and white.

This film covers the aspects needed for reasonable success in a vocation. Aptitude tests, educational records, interest, and ability are mentioned as points to study before choosing your life work.

2. Secretary Takes Dictation, Coronet, 1947, 10 minutes, sound, black and white.

Office routine and the special need for organization are stressed by showing one girl working successfully in an office, while the other girl is so disorganized that she is inefficient. Shorthand techniques are briefly stressed.

3. Bookkeeping and Accounting, Mahnke, 1946, 11 minutes, sound, black and white.

The film covers the main duties of a bookkeeper and an accountant. The differences between the two are pointed out and the possible advancements in each occupation are portrayed.

4. Transportation, Mahnke, 1941, 10 minutes, sound, black and white.

The duties and opportunities of bus, taxi, and truck drivers are shown as also the requirements for these positions. The number of people employed in these occupations is given.

5. Arteries of the City, EBF, 1941, 11 minutes, sound, black and white.

Most aspects of all employment related to the daily flow of people from home to work form the basis of this film. The roles of traffic and other engineers are part of the story.

6. Radio and Television, Mahnke, 1940, 11 minutes, sound, black and white.

The radio industry is analyzed from a vocational standpoint. All types of employment in this and related f fields are given. The history of radio and the importance of manufacturing opportunities are presented.

7. Telephone and Telegraph, Mahnke, 1940, 10 minutes, sound, black and white.

The similarity between telephone and telegraph employment opportunities is shown. Skills required and job duties give an accurate picture of this field.

8. Modern Lithographer, EBF, 1940, 10 minutes, sound, black and white.

This film describes in detail the techniques of lithographic artists. All fields related to lithography, as commercial art, are shown as also is the difference between direct and photo-offset lithography.

9. Journalism, Mahnke, 1940, 11 minutes, sound, black and white.

The film shows the many different types of jobs open in the newspaper industry. The requirements needed by workers in the sports, financial, fashion, women's political, and editorial sections are covered.

10. & 11. Builders of the Broad Highway, Parts 1 & 2, Firth, 1940, 22 minutes each part, sound, color.

The complete picture of one highway development is colorfully portrayed through the eyes of the different workers on the project from the blueprint stage to the completion. Workers in the many different skilled trades are specifically shown.

12. Fred Meets a Bank, Coronet, 1947, 10 minutes, sound, black and white.

This film shows the work of the bank through the experience one boy had on a visit to the bank. Many different scenes in the bank give an idea of conditions and duties one would find in this occupation.

13. Nursing, Mahnke, 1942, 11 minutes, sound, black and white.

Described in this film are the qualifications and requirements needed to enter the nursing career. The opportunities open in specialized fields to nurses are covered.

14. Teaching, Mahnke, 1942, 11 minutes, sound, black and white.

The traits of a good teacher are given. The many

different fields in teaching are shown, as are the general educational requirements. The film ends on the note of the advantages that are special to teaching.

15. Mailman, EBF, 1947, 10 minutes, sound, black and white.

The film follows the city and rural mailman on his rounds through the day. It shows graphically how mail is sorted and delivered to the homes. The social responsibilities of post office workers is given.

16. Home Nursing, EBF, 1942, 11 minutes, sound, black and white.

The daily routine of caring for the sick in one's home is described in this film. It shows in detail how to care for the patient in bed, such as, making the bed and giving a bath.

17. Farming Takes Skill, Firth, 1946, 12 minutes, sound, color.

This film covers the general aspects of modern scientific farming in California. All types of farm problems are covered in this vivid portrayal of agriculture. Modern developments cover a major portion of the film.

18. Cattleman, EBF, 1949, 10 minutes, sound, black and white.

The life on a cattle ranch forms the background for the film that shows the many different types of work found

in ranching. Dipping, shipping, and herding cattle are part of the scenes of the film.

19. Birth of an Oil Field, Shell, 1948, 31 minutes, sound, color.

The story of an oil field through the drilling and producing stages gives a complete picture of many types of work connected to the petroleum industry.

Animated cartooning is used effectively at times.

20. Engineering, Mahnke, 1942, 10 minutes, sound, black and white.

Requirements and duties in the following fields are shown: civil, structural, hydralic, sanitary, mechanical, combustion, machine design, refrigeration, heating, and ventilation. Different factors related to each field are carefully portrayed.

APPENDIX B

FILM GUIDES USED

Film Guide 1. Finding Your Life's Work

This film will help you start the study of your life's work. The film reviews the many ways one may study different occupations.

The following questions will help you study and understand the film:

1. How do aptitude tests help you know your abilities?
2. What are your strong points?
3. What are your social assets?
4. What financial help must you have to follow your chosen occupation?
5. How can others help you choose an occupation?
6. How does your school help you prepare for your chosen work?
7. What general requirements must be met in your field?
8. What are the advantages and disadvantages of your choice?
9. What other occupations can be best substitueed for your first choice later on?

Words and phrases to know:

coordination
occupation
vocation

Film Guide 2. Secretary Takes Dictation

This film gives an example of one type of office work. Over 35% of the girls who graduate from high school have a secretarial position at one time or another. It is important to note the good and bad points of a secretary as portrayed in this film.

The following questions will help you understand the film:

1. Does experience as a secretary help in establishing efficiency?
2. Does an employer have to realize the ability of his secretary and dictate accordingly?
3. What equipment should an efficient secretary have ready at all times?
4. What four qualities should a secretary strive to obtain?
5. What personal qualities are needed most in office work?
6. Are there chances for advancement in office work?
7. Why are most working conditions considered good in office work?
8. Are most secretaries trained on the job or in schools?
9. What machines are found in offices?

Words and phrases to know:

dictation
shorthand

Film Guide 3. Bookkeeping and Accounting

Records must be kept in good order. Most business establishments employ bookkeepers and accountants. There are also many special jobs that an accountant may do.

The following questions will help you study and understand the film:

1. What are some of the duties of a bookkeeper? Are these duties important in a business firm?
2. Do bookkeepers have to be accurate in their work?
3. Are there any special qualifications for a bookkeeper?
4. What special machines should a bookkeeper be able to operate?
5. Do accountants audit records?
6. Do accountants sometimes devise new bookkeeping systems?
7. Is it necessary to have a general knowledge of business to be an accountant?
8. Since an accountant works primarily with books, does he need a pleasing personality? Should he keep his findings confidential?
9. What should a person who would like to be an accountant take in high school? Is there any special training he must have? Is there any examination he must pass to become a Certified Public Accountant?
10. List some reasons why accounts might be used in F. B. I. work, in sales of business firms or establishments.
11. Is a good background of English important for an accountant?

Words and phrases to know:

entry
computation
audit

Film Guide 4. Transportation

The daily movement of people from home to work and back provides jobs for many people. The requirements needed by bus, truck, and taxi drivers are shown in this film. The number of people employed in this film is presented.

The following questions will help you study and understand the film:

1. What are the requirements for a bus driver?
2. What are the requirements of a taxi driver?
3. What are the requirements of truck drivers?
4. Which of the three types mentioned employ the most people?
5. What types of work are open to women in this field?
6. Is safety an important part of this work?
7. Are jobs in transportation of a permanent or temporary nature?
8. What hours do transportation workers have?
9. Are working conditions in general good?

Words and phrases to know:

municipal
utility

Film Guide 5. Arteries of a City

Opportunities in transportation work are increasing every year. During the film look for the job you would like to have.

The following questions will help you study and understand the film:

1. What kinds of engineering are needed in transportation work?
2. Do subways have disadvantages?
3. Will greater train service solve big city transportation problems?
4. Is ferry service declining?
5. Are more buses being used?
6. What are the peak hours of transportation?
7. What causes these peaks?
8. Why would you like to follow a career in this field?
9. What is the fastest growing type of transportation?

Words and phrases to know:

urban
metropolitan
freeway
express highway

Film Guide 6. Radio and Television

Radio and television offer great opportunities for skilled people. Now is the time to start selecting courses for this field. Many of the jobs open in radio and television are described in this film.

The following questions will help you study and understand the film:

1. What radio work does not require skilled training?
2. Are most types of office workers used in radio?
3. Can radio entertainment use people of creative talents?
4. Is a first class electrical engineering training basic to radio engineering?
5. Why is the "small entertainment" field an important one?
6. Why are most radio manufacturing jobs unskilled?
7. What are the duties of the radio operator?
8. Do you think that many maintenance men are needed in the radio and television fields?
9. Why should a student interested in television take science and mathematics courses in high school?
10. What is meant by the statement that one who is interested in some phases of radio should have a high degree of coordination?
11. A good way to find out if you like radio work is to make it your hobby. Many books on radio are in our library.

Words and phrases to know:

vacuum tube
radio network
phototransmission

Film Guide 7. Telephone and Telegraph

The field of cummunications is ever expanding. The different types of work offered in this field are great and employment opportunities are good. Many jobs do require certain skills and these are shown in the film.

The following questions will help you study and understand the film:

1. What similarities are found in telephone and telegraph work?
2. What chances are there for advancement?
3. What educational requirements are needed?
4. Are more and more phones being used?
5. What skill is needed in telegraphy?
6. What types of jobs offer employment out-of-doors?
7. What jobs are open to girls?
8. Has employment decreased with the use of dial systems?

Words and phrases to know:

communications
sound wave
splice

Film Guide 8. Modern Lithographer

This film is a review of the development of some types of printing and the relation of printing to allied arts.

The following questions will help you study and understand the film:

1. At first what were impressions made on?
2. Offset printing has increased opportunities in what other fields?
3. The printing industry has developed many new techniques; what are they?
4. Are printers skilled workers?
5. What has modern lithography done for the average person?
6. Has modern lithography made the printing process cheaper?
7. Do new rotary presses speed up the printing process?
8. What job would you like to have in the picture, "Modern Lithographer"?

Words and phrases to know:

sensitized
repel and attract
color filters

Film Guide 9. Journalism

Words must be written. There are many jobs available in the journalism field for those who have ability and like to write.

The following questions will help you study and understand the film:

1. What are the duties of the managing editor?
2. What are some of the hazards that the reporter must be ready to meet? Some of the thrills?
3. To whom does the outside man telephone when reporting a story?
4. Who writes the headlines? The editorial?
5. How does your local paper get world news? What is syndicate material?
6. List some of the different departments of a city newspaper.
7. Why must a reporter be accurate?
8. What is the difference between linotype and teletype?
9. What does the make-up editor do?
10. Check the jobs that you find interesting and then check your qualifications for a journalism career. Do you like to write? Is your English good? Are you able to state an idea clearly and concisely? If you would like more information about journalism it is available in the school library.

Words and phrases to know:

linotype
teletype
syndicated articles

Film Guide 10 & 11. Builders of the Broad Highway

Parts 1 & 2

A pictorial review of a large construction project is the content of this film. The need of working together is very well portrayed by the actions of the different occupations shown.

The following questions will help you study and understand the film:

1. Is "safety first" one main thought in this work?
2. Can carelessness be expensive?
3. Would you like to work outside with your hands?
4. Why do workers have to cooperate?
5. What advantages do construction workers have?
6. Can you think of five disadvantages of construction work?
7. What special skilled workers are employed?
8. What jobs require a college education?
9. Is construction work steady employment?
10. Do men who operate power equipment have to be responsible?
11. Are they well paid?

Words and phrases to know:

arc welding	bull dozer
plumb bob	boom (noun)
trowel	concrete form

Film Guide 12. Fred Meets a Bank

This film shows the various types of work done in a bank, and some of the types of services performed by a bank. Conditions of work are well portrayed in this film.

The following questions will help you study and understand the film:

1. What are the two kinds of accounts?
2. Name one advantage of a check.
3. How do you use a check book?
4. How does the bank cancel checks?
5. Name three services of a bank.
6. Do bank employees have short hours?
7. Do bank employees use bookkeeping machines?
8. What does a bank guard do?
9. Do bank employees deal with the public?

Words and phrases to know:

vault — safety deposit box
deposit — mortgage

Film Guide 13. Nursing

A career for girls is offered in the field of nursing. At present the opportunities for employment are very good, and the many advantages of nursing are shown. The qualifications and requirements are noted at the end of the film.

The following questions will help you study and understand the film:

1. What schooling must one have to become a nurse?
2. What qualities must a nurse possess?
3. Can nurses continue to train for more skilled work?
4. Do only hospitals employ registered nurses?
5. What is a public health nurse?
6. Can a nurse work part time?
7. What hours can a nurse expect to work?
8. Is a nurse's work considered vital to the community?
9. Must one be in good health to be a nurse?

Words and phrases to know:

pediatrics
x-ray

Film Guide 14. Teaching

Teaching, the largest profession, demands many skills and sacrifices, but offers untold rewards.

The following questions will help you understand the film:

1. Must you like children to be successful?
2. Does teaching offer constant study in many fields?
3. What security does teaching offer?
4. Does teaching offer good retirement systems?
5. Is a college degree necessary to teach in California?
6. Are scholarships available to perspective teachers?
7. Are more and more men attracted to teaching?
8. What four advantages of teaching are mentioned?

Words and phrases to know:

scholarship
teacher's certificates
special fields
administration

Film Guide 15. Mailman

One of the largest civil service groups is that of the postal service. Certain requirements are needed to become a mailman. There are many advantages open to those that work for the government.

The following questions will help you understand the film:

1. What is meant by civil service?
2. What limitations are there to federal employment?
3. What advantages do mailmen have for advancement?
4. How does one obtain employment as a mailman?
5. Are federal employees well paid?
6. Do all mailmen work on delivery of mail?
7. How is mail sorted for delivery?
8. What responsibilities do mail men have?
9. What is rural mail delivery?

Words and phrases to know:

civil service
federal
rural

Film Guide 16. Home Nursing

A presentation of practical nursing, this film shows how a patient is cared for in the home. The techniques used in the picture can be used by all persons if someone in their family is ill at home.

The following questions will help you study and understand the film:

1. Why is cleanliness important?
2. Why is cheerfulness stressed?
3. Are records kept when one is sick?
4. What are the main needs of the patient?
5. How can one help the patient spend the day?
6. Does the home nurse need a license?
7. What is a registered nurse? public health nurse?
8. Are there any positions for men in nursing?
9. Are there any positions for men in hospitals?

Words and phrases to know:

convalescence
respiration
prescription
soft diet
sponge bath
pulse rate

Film Guide 17. Farming Takes Skill

The film presents many scenes taken from farm life, particularly those found in California. For the boy or girl who prefers out-of-door work, farming is to be strongly considered.

The following questions will help you understand and study the film:

1. Must a farmer be able to manage people?
2. Why does a farmer need more and more schooling?
3. Must the farmer understand market conditions?
4. What sciences are needed in farming?
5. How can a girl help on a farm?
6. Could a farmer be skillful in many jobs?
7. What colleges in California would help you be a better farmer?

Words and phrases to know:

thresher
harrow
rotation of crops
cultivation of soil

Film Guide 18. Cattleman

In the field of agriculture ranching is most important to us in California. The many activities on a ranch carried on during the year are shown in this film. The many different types of work done on a ranch should be noted.

The following questions will help you understand and study this film:

1. Is physical labor necessary to run and maintain a ranch?
2. Do ranchers usually work short hours?
3. In what ways is a ranch like a business?
4. What is a round-up for?
5. Why are animals "dipped"?
6. Why are horses shod?
7. Are there many different types of work on a ranch?
8. What must a ranch possess?
9. Why are many people employed on a large ranch?

Words and phrases to know:

pasture
irrigation

Film Guide 19. Birth of an Oil Field

The oil industry is expanding year after year; advancements and new techniques continually call for more employment in this field. This film depicts many types of jobs people have in the oil field and oil refinery. Certain scenes are made on actual jobs and are very typical.

The following questions will help you understand and study the film:

1. What is an oil derrick?
2. What is a drill bit?
3. Where in the U. S. is the most oil located?
4. Is hard work necessary on a drilling crew?
5. What is an oil refinery?
6. How is oil brought to the surface?
7. Are all drilling operators permanently settled in one location?
8. Is this kind of work dangerous?
9. What other jobs can you think of that are related to oil?

Words and phrases to know:

petroleum
strata
geological
refinery

Film Guide 20. Engineering

Engineering is one of the most exacting of the professions. There are five fields of engineering which the film describes.

The following questions will help you to study and understand the film:

1. Can you name five fields of engineering?
2. What school training is needed to be an engineer?
3. What courses are needed most?
4. Which field shown is the oldest?
5. What are the advantages of engineering?
6. Can girls become engineers?

Words and phrases to know:

alloys
theory

APPENDIX C

TEACHER-MADE TEST

COMMERCE

_____1. Skill in spelling is important for secretarial work.
_____2. Efficiency is part of being a good secretary.
_____3. A secretary does not need to be able to work with others.
_____4. Office work is considered hazardous.
_____5. Office workers are highly paid.
_____6. More women are employed in office work than men.
_____7. A good secretary need not be able to type.
_____8. Working conditions are considered good in an office.
_____9. Office workers are rated higher socially than factory workers.
____10. A secretary must have a college education.

TRANSPORTATION

____11. Transportation workers enjoy regular hours.
____12. High physical requirements are necessary for bus drivers.
____13. Air lines are continually hiring more employees.
____14. Transportation employees must be able to work with others.
____15. Personal appearance of transportation employees need not be good.
____16. The railroads offer permanent positions.
____17. Reasonable advancement can be expected.
____18. Safety is important in transportation work.
____19. Large transportation companies give training courses.
____20. Special schooling is required for most transportation jobs.

COMMUNICATION

____21. Most radio repairing can be done without training.
____22. Good English usage is not necessary for announcers.
____23. Television offers little opportunity for the future.
____24. Dial systems are replacing many telephone operators.
____25. Telephone operators must be courteous.
____26. The telephone companies train their own men.
____27. Telegraph operators are considered skilled workers.
____28. Telephone employees can expect the benefits of security.
____29. Much radio station work is of a detailed nature.
____30. Communication employees must be pleasant to the public.

PRINTING

____31. Printers are unskilled workers.
____32. Printers are poorly paid.
____33. Printers can enter business for themselves.
____34. Most printing is done by hand.
____35. Linotype operators do not use a machine.
____36. Newspapers employ most linotype operators.
____37. Neatness is important in printing.
____38. There is seasonal employment in the printing industry.
____39. Learning opportunities are possible in the printing industry.
____40. The printing trade is not unionized.

JOURNALISM

____41. One must graduate from a journalism school to be a reporter.
____42. Newspaper reporters in real life are similar to those seen in movies.
____43. Good English usage is needed in news writing.
____44. Editors should have a good knowledge of history.
____45. Writers are born not trained.
____46. Radio and television will replace newspapers.
____47. News writing requires getting facts.
____48. A news reporter has to expect irregular hours.
____49. Working conditions are good for reporters.
____50. News reporters must be interested in other people.

BUILDING

____51. Carpenters use hand tools.
____52. Carpenters need not follow directions.
____53. Building trades workers are highly unionized.
____54. The building trades offer no jobs to apprentices.
____55. Construction workers can expect to work every day.
____56. Construction workers must be able to read blue prints.
____57. Architects need little schooling.
____58. Good workers can expect to advance to foreman.
____59. Construction workers must have at least a college education.
____60. Construction will soon decline greatly in California.

PUBLIC UTILITIES

____61. Employment is seasonal in public utilities.
____62. Wages are much lower in this field.
____63. Public utilities offer security to employees.
____64. Public utilities employment offers advancement.
____65. Public utilities employment means serving others.

____66. More and more jobs are open in public utility work.
____67. Public utilities are usually small organizations.
____68. Public utilities offer employment for many skills.
____69. A lifetime career is not offered in public utility work.
____70. Public utility employment is similar to civil service.

BANKING

____71. Banking offers good hours.
____72. Banking requires one to know arithmetic.
____73. Banking jobs are dangerous.
____74. Employees in banks make very high salaries.
____75. Banks use many computational machines.
____76. Banking offers reasonable security in employment.
____77. One cannot expect to advance in banking employment.
____78. Bank employees are well regarded socially.
____79. Working conditions are considered good in banks.
____80. Banking offers the most to those mathematically minded.

PROFESSIONAL SERVICE

____81. Nursing is an old profession.
____82. Nurses do not work in a physical sense.
____83. Nursing requires special training.
____84. Nurse's hours are short and regular.
____85. Nurses have a great deal of responsibility.
____86. Teaching offers more to women than to men.
____87. Teachers cannot expect to better themselves.
____88. Teaching has little security.
____89. Teaching requires special training.
____90. More and more teachers will be hired in the future.

CIVIL SERVICE

____91. Most civil service workers are considered to be poorly paid.
____92. Most civil service jobs are temporary.
____93. One can expect promotion if qualified.
____94. Test results are a factor in civil service employment.
____95. Civil service workers are not transferred to other localities.
____96. Good sick leave and pension plans are part of civil service.
____97. State employees are part of civil service.
____98. Civil service workers cannot vote or hold political office.

___99. Only clerical work is under civil service.
___100. Civil service employment is open to all qualified citizens.

SOCIAL SERVICE

___101. Social service workers must want to serve others.
___102. Social service workers can expect to become rich.
___103. Social service workers meet all kinds of people.
___104. Social service workers do many kinds of jobs.
___105. Social service workers need a broad education.
___106. Social service employees work only with poor people.
___107. Social service work does not require special training.
___108. Patience is one thing needed in social service work.
___109. Women have few opportunities in social service work.
___110. Social service work is not of the career type.

FARMING

___111. Colleges offer few courses in farming.
___112. Farmers work short hours.
___113. Farmers must understand farming machinery.
___114. Much physical work is necessary on a farm.
___115. Farming is becoming more specialized.
___116. California is not a great agricultural state.
___117. Farmers employ other workers.
___118. Farmers have a steady income.
___119. California farms have few conveniences.
___120. Farm incomes have decreased in the past five years.

MINERALS AND OILS

___121. Mining is hazardous work.
___122. Miners must understand the use of machinery.
___123. Roustabouts is a term applied to some oil workers.
___124. Good physical conditions are unimportant in working underground.
___125. Oil workers move from one locality to another.
___126. Working conditions have not improved in mining.
___127. Certain skilled workers are not required in drilling for oil.
___128. Most mining jobs require more than a high school education.
___129. Working in an oil field appeals to the carefree type of person.
___130. Most miners get a disease called silicosis.

ENGINEERING

___131. The engineering field is not open to women.

___132. Engineering requires college graduation.
___133. Engineers do mostly physical work.
___134. Much engineering training is based on mathematics.
___135. Civil engineers are trained to work with chemicals.
___136. Engineers have little chance for future advancement.
___137. Engineering is not considered as one of the professions.
___138. Engineers must be able to plan ahead.
___139. Engineers are trained to be specialists in one field only.
___140. Inventions open new fields to engineers.

APPENDIX D

VOCATIONAL SURVEY

What film did you like best? _____

Did your choice of vocation change during the film showings?

Before the film program it was _____

After the film program it was _____

What other occupations would you have liked to study with films? _____

_____

_____

What should a film present about an occupation to make it worthwhile? _____

_____

_____

In a few sentences make a specific comment about one film.

_____

_____

_____

In a few sentences make a specific comment about the film program _____

_____

_____