

A COMPARISON OF THE AVAILABILITY, UTILIZATION,  
AND PROJECTED NEEDS OF AUDIO-VISUAL AIDS  
BETWEEN VOCATIONAL AGRICULTURE STUDENT  
TEACHING CENTERS AND SELECTED NON-  
STUDENT TEACHING CENTERS IN  
OKLAHOMA

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DEDICATED TO MY WIFE,

PENNY

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## CHAPTER I

### PURPOSE AND DESIGN OF THE STUDY

#### Introduction

During the past few years, vocational agriculture has experienced a definite change with modernization and introduction of new teaching media offering many new teaching techniques for our vocational agriculture teachers to employ to further enhance and supplement their teaching methods. Faced with the need for more effective and profound teaching methods in our schools, educators have increased the need for new techniques, new media, and increased knowledge in the use of audio-visual instructional aids. To what degree audio-visual aids can best be used as a supplement to the teacher's explanation has not yet been determined; but the need for instructional media as a learning resource to make one's teaching more effective and interesting to the student is definite.

C.B. Ray stressed the importance of audio-visual aids by the following statement: (1)

The objectives or goals of education have changed drastically in the past decade, and to achieve these objectives we must use media -- there is no other way.

The idea of using audio-visual aids can be traced back as far as the 17th century to Comenius, the great Czech educator who urged the use of pictures to help involve the learning senses to a greater degree. Comenius was averse to the practice of teaching by words alone and urged greater use of other means, such as pictures, which would involve the

learner's senses more thoroughly. The audio-visual movement in its modern form, however, did not truly begin until the 1930's, when use of the 16 mm. sound, teaching film became widespread. The successful use of audio-visual materials in the training of armed forces personnel during World War II provided a stimulus to their use in schools and colleges. The National Defense Education Act of 1958 also focused attention on the role of the newer media in education. (2)

### Need for Study

Because of the desire and need for a research study to determine the availability, utilization, and projected needs of audio-visual aids used in vocational agriculture departments in student teaching centers and selected non-student teaching centers in Oklahoma, this study will hopefully give needed information concerning the current status of media and materials used by teachers of vocational agriculture and also measure and best predict the future needs of audio-visual aids in our schools.

Because of technological advancements, the importance of audio-visual aids as valuable teaching-learning resources have increased considerably in recent years. We are living in a period of time when change is very apparent. Teaching methods and approaches have changed considerably and will continue to do so. We are using means of presenting material in education never before used by focusing attention on a variety of approaches derived from meaningful learning experiences. (3)

Because of this rapid change in teaching methods and techniques, if our students are to have access to vocational education that is purposeful, continuing, individualized, practical and attainable, the approach will have to be attained by a student centered course of study

involving audio-visual aids. (3)

### Statement of the Problem

The basic reason for doing this study was to ascertain information from various Oklahoma vocational agriculture departments as to the availability, utilization, and projected needs of audio-visual aids. The data can be used as a guideline for the selection of future student teaching training centers and also provide a present means to help ascertain to what degree instructional media in vocational agriculture is presently being used.

### Purpose of Study

The main purposes of this study were to measure the availability of audio-visual aids to the vocational agriculture instructor, to determine the utilization of audio-visual aids used to supplement the teacher's explanation, and to best predict the future needs of audio-visual aids to make the learning process more meaningful. Hopefully, the data and information collected from this study will aid the agricultural education faculty in the future pre-service training of vocational agriculture teachers and be of benefit to in-service training programs offered to present vocational agricultural instructors.

### Objectives

#### Major Objectives

In this study, the author hopes to ascertain the availability, utilization, and projected needs of instructional equipment and materials in vocational agriculture and determine to what extent vocational agri-

culture instructors and school administrators recognize the importance of audio-visual aids as an instructional resource.

The Minor Objectives Are:

- (1) to establish criteria concerning experience to learn needed skills and knowledge in audio-visual aids instruction;
- (2) to determine to what extent the school administration encourages the use of audio-visual aids in vocational agriculture;
- (3) to determine the more commonly used source for developing audio-visual and sensory teaching aids;
- (4) to determine the major problem of obtaining audio-visual equipment and materials in our public schools of Oklahoma in the vocational agriculture curriculum;
- (5) to determine the present operating proficiency and frequency of use of audio-visual equipment used by teachers in class or class related activities;
- (6) to determine the frequency of use of audio-visual materials in class or class related activities;
- (7) to determine the purpose for which audio-visual aids are used;
- (8) to determine at what point emphasis should be placed on the use of audio-visual equipment and materials to be of maximum benefit to the teacher education student; and
- (9) to determine the projected needs of audio-visual and sensory teaching aids.

Limitations and Assumptions of Study

The study was limited to the state of Oklahoma concerning the availability, utilization, and projected needs of audio-visual aids of the five supervisory districts. The total of the student teaching laboratories of each district represented in each of the five supervisory districts were used to establish the limit of the number of non-student

teaching centers. An additional limitation in this study was the number of student teaching centers used by the agricultural education department during the academic school year 1971-1972.

### Assumptions

Basic assumptions made by the author were:

1. The most practical way to acquire data concerning the current audio-visual program in vocational agriculture departments in the state of Oklahoma was by utilizing a questionnaire for the attainment of data.
2. The responses made by the vocational agriculture instructors were unbiased responses based on their feelings of the schools actual situation regarding present and future needs of audio-visual teaching aids as an instructional resource.

### Definition of Terms

Audio-Visual Equipment. Audio-visual equipment is the mechanical devices used to produce, present, or project audio-visual materials. For example, projectors, movie and still cameras, video tape machines, tape recorders, radio, television, thermofax machines, and duplicating machines.

Audio-Visual Materials. Audio-visual materials refers to various materials used by the instructor to supplement his teaching by involving the sensory perception of the student. Audio-visual materials involved in this study are films, slides, filmstrips, transparencies, charts and graphs, programmed text, posters, mock-ups and models, field trips,

guest speakers, and tape recordings.

Student Teaching Center. Student teaching center refers to a vocational agriculture department that meets the qualifications of the Oklahoma State University Agricultural Education Department and the State Department of Vocational Agriculture for participation in the student teaching program. (4)

Non-Student Teaching Center. Non-student teaching center refers to a vocational agriculture department which does not participate in the student teaching program.

## CHAPTER II

### REVIEW OF LITERATURE

#### Introduction

The results of Millikan's study indicated that vocational agriculture teachers in the Northwest supervisory district felt that their training in the production and use of audio-visual instructional aids had been inadequate. To follow up his findings, this study was designed to measure the current availability, utilization, and projected needs of audio-visual aids in the five supervisory districts located in Oklahoma based on the comparison of student teaching centers and selected non-student teaching centers.

The review of literature was divided into seven sections. The sections as outlined are listed below.

1. Advantages of Audio-Visual Aids
2. Utilization and Development of Audio-Visual Aids
3. Sources of Audio-Visual Aids
4. Limited Availability of Audio-Visual Aids
5. Competency and Skill Required in Using Audio-Visual Aids.
6. Progress and Recommendations of Audio-Visual Aids
7. Summary

#### Advantages of Audio-Visual Aids

Audio-visual instructional aids help the teacher to communicate his



ideas in a more meaningful way by stimulating the student's interest. A variety of approaches to a single learning experience can be presented to the student from which he can form generalizations. The many varieties of audio-visual equipment and materials available help the teachers to adjust their teaching methods to allow for differences in the way individual students learn to permit maximum communication. (2)

Good communication techniques in education play an important role in the enhancement of the education curriculum and is one of the most encouraging developments in the field. (5) To further enhance the needs for audio-visual aids as a good communication resource, Paul Wendt expressed the following opinion: (6)

Audio-visual materials, when used with adequate preparation and follow-up, have been shown to kindle a high degree of interest in subjects and topics that might be studied by a group and so have contributed greatly to motivation.

According to Wendt, research studies tend to indicate that audio-visual materials do not permanently change attitudes but are instrumental in reinforcing and strengthening ones that already exist. (6)

In general, educators find that audio-visual aids can make information easier to acquire and to remember, but the high school student in vocational agriculture needs the element of human interaction plus the planned use of resource aids, to supplement and best enhance the learning process.

The use and success of audio-visual materials depends highly on the teacher. The use of audio-visual aids will not make a good teacher out of a poor one, but it is a means to producing a better teacher by providing additional information to supplement the teachers skill and knowledge. (7)

Audio-visual procedures should make learning an active participating process on the part of both the teacher and the student. Audio-visual instructional aids inspire learners to exert maximum efforts in achieving their goals and provide for the fullest communication between teachers and students. (8)

Instructional aids should be used as a means to cement and supplement the teacher's lecture in a more realistic sensory form. The concept or idea can be more fully visualized by the student if a picture or demonstration is utilized by the teacher. There are many devices and procedures that can be utilized by the vocational agriculture teacher to make his teaching more effective. There are, for example, radio, television, films, projectors, photographs, and etc. Many times teachers are faced with the problem of what variety of audio-visual teaching aids to use as an instructional resource to guide them toward achieving the maximum development of learners. (9)

An important concept for a teacher to remember is that expressed by Elkins:

The role of the instructor has changed. No longer is a teacher hired to be a primary source of content. It is true that the teacher does serve as a learning experience in that he is capable of relating a vast amount of subject information to the students, but he is only one of many available learning experiences in which the student may be involved. (10)

The teacher of vocational agriculture performs a double role as student and adult educator. Bruce (7) states:

The teacher of vocational agriculture has many responsibilities, but first he is a teacher. A good teacher must have the abilities and qualities which will enable him to teach effectively. His teaching should be based on sound educational philosophy and should reflect good teaching methods. To teach effectively, he should have adequate instructional materials and use them correctly.

Zalatimo also states the principle responsibility of the teacher is to provide his students with the information, understandings, appreciations, and values which will produce the type of behavior most beneficial to the individual within his society. To fulfill this responsibility, teachers must select the proper content for the curriculum and effectively communicate this content to the pupils. (11)

#### Utilization and Development of Audio-Visual Aids

In the use and development of instructional teaching aids, one must not confuse means with ends. The end sought is not to teach the content of an instructional packet but the main concern is the student and providing an effective approach to teaching and learning. (12)

A teacher can make several important uses of instructional aids in his teaching methods. Once a teacher identifies uses to make of instructional materials, he is then in position to select the kind of materials to use, as stated by Bruce. (7) He also outlines some of the more important uses of instructional aids:

1. Stimulate interest
2. Set goals
3. Develop understanding
4. Aid in solving problems
5. Evaluate outcomes
6. Help determine procedures
7. Provides for individual differences
8. Increase retention and speed of learning
9. Identify problems

According to Brown and Norberg in their article titled "Administering Educational Media", teachers need the following competencies in order to use educational media effectively: (13)

1. to understand the behavioral processes involved in communications and learning,
2. to acquire knowledge of media characteristics and capacities,

3. to gain ability to evaluate and conduct or participate in experimental studies of teaching and learning,
4. to gain familiarity with appropriate materials and their sources,
5. to be in command of necessary mechanical skills.

Philip H. Terrell stated in his report on the use of resources as aids in teaching vocational agriculture:

There has been and can be considerable progress in selecting community resources as aids in teaching pupils of vocational agriculture. (14)

#### Sources of Audio-Visual Aids

There are two primary sources available for obtaining audio-visual aids according to Bloodworth. (15)

##### Major Source

1. Free commercially produced
2. Commercially produced audio-visual materials for education
3. State, or regional sources

##### Minor Source

1. Locally produced

Locally produced audio-visual materials related to agriculture can present material in the environment and community that is of interest to the student of a particular locality. A meaningful learning situation can make a more concrete impression on a student and make information easier to learn and retain.

The opinions expressed by Chandler & Cypher and Brown & Norberg emphasized the importance of locally produced instructional aids as valuable and effective teaching instruments.

Many of the most valuable and effective teaching aids are those which have been made by the teachers themselves, by the students, or by teachers and students working together after formal classroom time. (16)

Local preparation of audio-visuals has several potential values for teachers and students. In planning or creating a teaching device, one must evaluate the content of his presentation and become more critical of his approach to the communication problem. He also profits from viewing the subject from a new point of view. The students profit by gaining the benefits of materials that are not commercially available. (13)

#### Limited Availability of Audio-Visual Aids

Considerable progress has been and needs to be made to curb many of the inadequacies our vocational agriculture teachers are experiencing as a result of the present expansion of vocational agriculture in our agricultural curriculum. Many teachers have felt inadequate in preparation and use of audio-visual aids and therefore have limited resource aids as a result.

The awareness of several deficiencies in agricultural education has been expressed by Campbell. (17)

The general expansion of vocational agriculture has resulted in an awareness of several critical deficiencies. Typical shortages are, (1) teachers trained in special subject matter areas, (2) instructional materials in these areas, (3) media through which these instructional materials may be presented.

In references to the shortage of teachers of vocational agriculture trained in the specialty areas, instruction by means of videotape replay promises to extend the functions of the teacher to include a broader content and involve increasing numbers of students.

A National Education Association survey conducted in 1963 indicates that many classroom teachers believed that their pre-service training had been inadequate as far as audio-visual instructional aids were concerned. (13)

Audio-visual education will become increasingly more important in future years. Through the increased use of audio-visual instructional aids, our pre-service and in-service teachers have a professional obli-

gation to become fully acquainted with this expanding field. (18)

Kinder recognized the need for in-service programs in audio-visual education and suggested the following ways to train teachers. (18)

1. Hold institutes, workshops, demonstrations.
2. Organize audio-visual courses.
3. Provide for individual conferences between teachers and audio-visual supervisors.
4. Encourage teachers to make frequent visits to the audio-visual center.
5. Produce and distribute study guides, pamphlets, newsletters, service bulletins, and utilizations.
6. Provide teachers with a comprehensive and up-to-date catalog of materials.
7. Arrange for a collection of audio-visual books and journals in each school building.
8. Schedule preview and screening sessions.
9. Send building representatives and coordinators to selected conferences and conventions.
10. Give building coordinators some responsibility for assisting teachers in their buildings.

#### Competency and Skill Required in Using Audio-Visual Aids

A teacher's competency and skill in using audio-visual instructional aids varies from school to school. This study was designed to determine the present utilization of skills now being performed by various vocational agriculture instructors in the state of Oklahoma.

The following list, suggested by a committee for the Indiana Department of Public Instruction, provides criteria for the evaluation of teachers competency in using audio-visual materials. (19)

1. Teachers should be able to use audio-visual materials under favorable physical conditions.

2. Generally only one teacher and his class should use a specific unit of materials at one time.
3. Auditorium, assembly, and other large group use of appropriate films and other audio-visual materials should be encouraged.
4. Teachers teaching the same subject matter in the same grades generally will find it possible to use materials during the same booking period.
5. Teachers teaching the same content in different subjects or on different grade levels generally will not be able to use materials during the same booking period.
6. An administrative organization should be so organized that a teacher can have audio-visual materials and equipment with minimum amount of effort.
7. Each school should have someone available to teach equipment operation to teachers and pupils and advise how to set up the equipment and arrange seats for the best use of materials.
8. Some type of student help, as projectionist clubs or assigned pupil assistants, should be used to operate most equipment. Teachers should have an opportunity to learn projection and equipment operation if they choose to do so.

#### Progress and Recommendations of Audio-Visual Aids

Through the increased use of audio-visual aids many vocational agriculture instructors have encountered an inadequacy in their present facilities regarding maximum usage of audio-visual equipment and materials. Many problems of general construction of new buildings and existing old buildings have produced many problems for school planners to meet. The problem of ventilation, acoustics, and control of heat and light must be planned out carefully to allow for the increased effectiveness of audio-visual aids. (20)

School administrators need to consider the design for new schools and the renovation of existing schools to provide for the future as well as for present needs of facilities to accommodate the increasing use of audio-visual aids in our schools. (19)

As vocational agriculture instructors adapt to many new audio-visual aids, many instructors also have encountered an increase in female enrollment in vocational agriculture. The passage of the 1969 amendment to the National Future Farmers of America constitution allowed girls to become members of Future Farmers of America. Faced with the problem of mixed sexes in the classroom, teachers now wonder if they need to develop separate learning materials for each sex. According to Dwyer (21) sex and grade levels do not have to be altered or developed separately for learning based on sex. His results from the analysis indicated:

In general, boys and girls learn equally well from identical types of visual illustrations when they are used to complement oral instruction. Equally important is that it appears there is no special requirements based on sex for using specific types of visuals to provide maximum achievement of specific educational objectives.

To continue progressing at a rapid pace, vocational agriculture teachers will have to unite their ideas, knowledge and progress into a solid unit of learning with a center core. Some possible recommendations for strengthening and developing audio-visual aids into a well rounded vocational agriculture curriculum has been suggested by Millikan and Butler.

Audio-visual workshops that will offer comprehensive training to teachers should be set up in various parts of the state to provide needed, up-to-the minute instructional assistance. Such workshops should be a joint responsibility of the State Department of Vocational-Technical Education and the Oklahoma State University Department of Agricultural Education. (9)

The challenge to broaden and renew vocational agriculture instruction is a continuing one. Agriculture educators can make significant strides toward meeting this challenge by exploiting available information resources. At the same time, all agricultural educators may share their materials with others by sending copies to ERIC Clearing House for possible inclusion in the ERIC system. (22)



### Summary

Audio-visual aids offer an almost limitless supply of innovations to be developed by the educator. The need to further develop and explore these possibilities are essential to the progress and stability of further developing the vocational-agriculture curriculum into a means of teaching concrete and visual information. The versatility and wide variety of audio-visual machines available provides for the possibility of a vast amount of knowledge to reach a large group of learners at one time. Many teachers are not confident in the technical and mechanical operations of these instructional aids machines. However, the author feels that the new State Department of Education regulation which requires all persons to be certificated after September 1, 1971 have a course in instructional media use and construction on their transcript will help curb these inefficiencies and provide the opportunity for our teachers of vocational agriculture to further open up the road for audio-visual instructional aids.

Millikan states:

Teachers are not expected to be technical experts who can do all that is required in maintaining electrical equipment and mechanical equipment. But minor emergencies do arise, and these can often be successfully met with only a slight background of mechanical knowledge or manual skill.(9)

## CHAPTER III

### DESIGN AND METHODOLOGY

This chapter of the thesis deals with the procedures followed in: developing the questionnaire, validating the questionnaire, selecting the sample and administering the questionnaire, and treating the data.

#### The Development of the Questionnaire

The questionnaire was designed specifically to determine the availability, utilization, and projected needs of audio-visual instructional aids in the state of Oklahoma by the comparison of student teaching centers and selected non-student teaching centers. The questionnaire was developed to ascertain from selected Oklahoma vocational agriculture teachers their ages, their formal education, their teaching experience, their audio-visual experience, their knowledge regarding the operation of audio-visual aids and their opinions regarding the projected future needs of audio-visual aids.

#### The Method of Validating the Questionnaire

The first draft of the questionnaire was developed and submitted to the faculty members of the agricultural education department for their evaluations and recommendations. After revision, the questionnaire was resubmitted to the faculty and later administered to the Agricultural Education 5980 class for their suggestions and recommendations.

Following the faculty's and students' recommendations, the questionnaire was revised a second time. After completion of the second revision, the questionnaire was ready to be administered to the vocational agriculture teachers for their responses regarding the availability, utilization, and projected needs of audio-visual aids in vocational agriculture departments in the state of Oklahoma.

#### Selection of the Sample

For securing information and opinions from the five supervisory districts, the questionnaire was prepared and mailed to one-hundred and two vocational agriculture teachers in Oklahoma. One half of the research information was obtained from 37 student teaching centers divided into supervisory districts composing a total of 43 teachers approved by the agricultural education department as selected student teaching centers for the 1971-72 academic school year. The districts and the number of student teaching center teachers in each district are listed below.

SUPERVISORY DISTRICTS	NUMBER OF COOPERATING TEACHERS
Northwest	8
Northeast	9
Central	8
Southwest	12
Southeast	6

The total number of non-student teaching center teachers was randomly selected to correspond to an equal number of student teaching center teachers in each supervisory district as represented above to make an equal comparison of audio-visual aids used by student teaching centers

and selected non-student teaching centers. However, three extra questionnaires were mailed to non-student teaching center teachers in the five supervisory districts based on the assumption of a poor return. These questionnaires were later randomly discarded to get equal comparison numbers between student teaching center teachers and selected non-student teaching center teachers.

#### The Treatment of the Data

In this study, the data was summarized and tabulated according to age, districts and formal education. Percents and mean ratings were used to evaluate the data. A rank-order scale was used on some questions to determine the teachers response which were assigned whole number values which were used in the calculation of the mean rating.

## CHAPTER IV

### PRESENTATION AND ANALYSIS OF DATA

Data presented in this chapter were obtained from questionnaires completed by vocational agriculture teachers located in the five supervisory districts in the state of Oklahoma to determine the availability, utilization, and projected needs of audio-visual aids. The sample in this study included 102 vocational agriculture teachers of which a total of 96, or 94.1 percent questionnaires were returned. Of the 96 questionnaires returned, 86 questionnaires were needed to make an equal comparison of the 43 student teaching center teachers and 43 selected non-student teaching center teachers. Of the 86 questionnaires needed to make an equal comparison, 85 completed questionnaires were returned to the investigator for a 98.8 percent return. Only 42 student teaching center teachers responded to the 43 questionnaires mailed for a 97.6 percent return. Of the 59 non-student teaching center teacher questionnaires mailed, 54, or 91.5 percent of these questionnaires were returned. Of the 54 returned non-student teaching center questionnaires, 12 of these questionnaires were randomly discarded to make an equal comparison of 42 student teaching center teachers and 42 non-student teaching center teachers.

The author attributes the 98.8 percent return to an incentive which was mailed with the questionnaire, and colored paper on which the questionnaires were printed. To further enhance the return, a telephone follow-up reminder was used.

Data to determine the nature of the findings were summarized, classified, and tabulated and are discussed under the following headings:

1. Respondents' Personal Data
2. Availability of Audio-Visual Aids
3. Utilization of Audio-Visual Aids
4. Projected Needs of Audio-Visual Aids

#### Respondents' Personal Data

The teachers involved in this study were classified according to student teaching center teachers of non-student teaching center teachers, supervisory districts, age group, and level of formal education as presented in Table I.

Of the 42 student teaching center teachers involved in this study, 18, or 42.9 percent were from 20 to 34 years of age in contrast to 25 of the 42 non-student teaching center teachers or 59.5 percent ranging in the 20 to 34 year age group. In the range of 35 to 49 years of age, a total of 16, or 38.1 percent student teaching center teachers were involved as compared to 12, or 28.6 percent non-student teaching center teachers with a total of 28 teachers or 33.3 percent forming the 35 to 49 age bracket. Of the 84 teachers involved, 13, or 15.5 percent were between 50 to 65 years of age. Of the 13, 8 or 19.0 percent were student teaching center teachers with the remaining 5, or 11.9 percent following in the non-student teaching center 50 to 65 age group.

Data regarding the level of formal education of the vocational agriculture teachers was divided as to those who hold a Bachelor of Science degree, those with a Bachelor of Science degree plus additional credit hours, those with a Master's degree, and those with additional

TABLE I  
CLASSIFICATION OF TEACHERS BY SUPERVISORY DISTRICTS, BY AGE GROUP  
AND BY LEVEL OF FORMAL EDUCATION

	Supervisory Districts																							
	Northwest				Northeast				Central				Southwest				Southeast				Total			
	S-T		N-S-T		S-T		N-S-T		S-T		N-S-T		S-T		N-S-T		S-T		N-S-T		S-T		N-S-T	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Age Group																								
20-34	2	28.5	3	43.0	4	44.5	5	55.5	2	25.0	4	50.0	7	58.4	11	91.7	3	50.0	2	33.3	18	42.9	25	59.5
35-49	3	43.0	4	57.0	2	22.2	3	33.3	4	50.0	4	50.0	4	33.3	0	0.0	3	50.0	1	16.7	16	38.1	12	28.6
50-65	2	28.5	0	0.0	3	33.3	1	11.2	2	25.0	0	0.0	1	8.3	1	8.3	0	0.0	3	50.0	8	19.0	5	11.9
Total	7	100.0	7	100.0	9	100.0	9	100.0	8	100.0	8	100.0	12	100.0	12	100.0	6	100.0	6	100.0	42	100.0	42	100.0
Educational Level																								
B.S. degree	0	0.0	1	14.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	4	33.3	0	0.0	0	0.0	0	0.0	5	11.9
B.S. plus	2	28.5	5	71.0	5	55.5	6	66.7	2	25.0	4	50.0	8	66.6	7	58.4	3	50.0	4	66.7	20	47.6	26	61.9
M.S. degree	1	14.5	0	0.0	0	0.0	0	0.0	1	12.5	1	12.5	2	16.7	0	0.0	1	16.7	0	0.0	5	11.9	1	2.4
M.S. plus	4	57.0	1	14.5	4	44.5	3	33.3	5	62.5	3	37.5	2	16.7	2	8.3	2	33.3	2	33.3	17	40.5	10	23.8
Total	7	100.0	7	100.0	9	100.0	9	100.0	8	100.0	8	100.0	12	100.0	12	100.0	6	100.0	6	100.0	42	100.0	42	100.0

S-T = Student teaching center teachers

N-S-T = Non-Student teaching center teachers

credit hours past the master's degree. These four levels of education were further subdivided into student teaching center teachers and non-student teaching center teachers and later divided into their five respective supervisory districts as presented in Table I.

Findings as presented in Table I indicate the most prominent level of education was the Bachelor of Science degree plus additional hours which was held by 46 or 54.7 percent of the 84 vocational agriculture teachers involved in this study. In the student teaching center teachers group, 20 or 47.6 percent of the 42 hold a Bachelor of Science degree plus additional hours as compared to 26 or 61.9 percent of the 42 non-student teaching center teachers. It is interesting to note that all 42 student teaching center teachers hold a Bachelor of Science degree plus additional hours or a higher degree. Also, the lowest level of formal education reported by the non-student teaching center teachers located in the Northeast, Central, and Southeast supervisory districts was the Bachelor of Science degree plus additional hours as indicated by Table I.

#### Availability of Audio-Visual Aids

The availability of audio-visual aids as an instructional resource may be influenced by many factors such as cost, source of training, knowledge of use of aids, and the administration's encouragement of their use. One of the most significant factors influencing the availability of audio-visual aids is the source of training the vocational agriculture teacher has received. If a teacher has received instruction as to the proper method and technique to receive maximum benefit from the use of these instructional aids, the instructor is most likely to include these aids in his teaching curriculum.



Findings shown in Tables II, III, and IV summarize the vocational agriculture instructors' cumulative responses to question 3 of the questionnaire. (Appendix). The instructors were asked to check as many sources of training that pertained to their experience in learning needed skills and knowledge in audio-visual aids as applied.

The primary source of teachers' audio-visual training experience, as can be seen in Tables II, III, and IV, was training received almost all by self direction. Of the 84 vocational agriculture teachers who derived their audio-visual experience through self direction, 49 or 58.3 percent made up of 28, or 66.7 percent of the student teaching center teachers and 21, or 50.0 percent of the non-student teaching center teachers attributed their skill in use of audio-visual aids to self-direction.

Student teaching center teachers rated in-service training as a portion of methods course as the least used source for training received in audio-visual aids. Only two, or 4.8 percent of the student teaching center teachers reported receiving instruction in in-service training as a portion of methods course. The least significant sources for training reported by non-student teaching centers was one or 2.3 percent pre-service training as a separate formal course and one or 2.3 percent in-service training as a separate formal course.

Data summarizing the training of audio-visual experience acquired during student teaching was a total of 17, or 20.2 percent of the 84 vocational agriculture instructors. Of the 17 teachers in all districts, seven or 16.7 percent of the student teaching center teachers reported receiving audio-visual aids training during student teaching in contrast to 10, or 23.9 percent of the non-student teaching center teachers.

TABLE II  
REPORTED SOURCE OF TRAINING IN AUDIO-VISUAL AIDS INSTRUCTION BY SUPERVISORY DISTRICTS

Source of Training	Supervisory Districts																						Total			
	Northwest				Northeast				Central				Southwest				Southeast									
	S-T		N-S-T		S-T		N-S-T		S-T		N-S-T		S-T		N-S-T		S-T		N-S-T		S-T		N-S-T			
	N=7	N=7	N=7	N=7	N=9	N=9	N=9	N=9	N=8	N=8	N=8	N=8	N=12	N=12	N=12	N=12	N=6	N=6	N=6	N=6	N=42	N=42	N=42	N=42		
Almost all by self-direction	4	57.2	4	57.2	6	66.7	7	77.8	4	50.0	4	50.0	8	66.6	4	33.3	6	100.0	2	33.3	28	66.7	21	50.0		
I have received little or no training	0	0.0	3	42.8	5	55.6	4	44.4	2	25.0	4	50.0	3	25.0	3	25.0	2	33.3	1	16.7	12	28.6	15	35.7		
Pre-Service training as a portion of methods course	0	0.0	0	0.0	1	11.1	0	0.0	2	25.0	0	0.0	1	8.3	5	41.7	1	16.7	2	33.3	5	11.9	7	16.7		
Pre-Service training as a separate formal course	2	28.6	0	0.0	0	0.0	0	0.0	1	12.5	1	12.5	0	0.0	0	0.0	0	0.0	0	0.0	3	7.1	1	2.3		
In-Service training as a portion of methods course	0	0.0	1	14.2	0	0.0	0	0.0	1	12.5	1	12.5	1	8.3	0	0.0	0	0.0	1	16.7	2	4.8	3	7.1		
In-Service training as a separate formal course	1	14.2	0	0.0	0	0.0	0	0.0	2	25.0	0	0.0	1	8.3	1	8.3	0	0.0	0	0.0	4	9.5	1	2.3		
Student teaching	1	14.2	0	0.0	0	0.0	1	11.1	1	12.5	2	25.0	3	25.0	5	41.7	2	33.3	2	33.3	7	16.7	10	23.9		
Graduate training	1	14.2	0	0.0	2	22.2	1	11.1	1	12.5	1	12.5	1	8.3	0	0.0	0	0.0	1	16.7	5	11.9	3	7.1		
Other types of training	1	14.2	0	0.0	0	0.0	1	11.1	1	12.5	0	0.0	1	8.3	1	8.3	0	0.0	0	0.0	3	7.1	2	4.8		

S-T = Student teaching center teachers  
N-S-T = Non-student teaching center teachers

TABLE III  
REPORTED SOURCE OF TRAINING IN AUDIO-VISUAL AIDS INSTRUCTION BY AGE GROUP

Source of Training	Age Groups															
	20-34				35-49				50-65				Total			
	S-T N = 18		N-S-T N = 25		S-T N = 16		N-S-T N = 12		S-T N = 8		N-S-T N = 5		S-T N = 42		N-S-T N = 42	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Almost all by self direction	13	72.2	12	48.0	10	62.5	6	50.0	5	62.5	3	60.0	28	66.7	21	50.0
I have received little or no training	4	22.2	10	40.0	4	25.0	4	33.3	4	50.0	1	20.0	12	28.6	15	37.7
Pre-Service training as a portion of methods course	3	16.6	7	28.0	2	12.5	0	0.0	0	0.0	0	0.0	5	11.9	7	16.7
Pre-Service training as a separate formal course	3	16.6	1	4.0	0	0.0	0	0.0	0	0.0	0	0.0	3	7.1	1	2.3
In-Service training as a portion of methods course	1	5.5	3	12.0	1	6.2	0	0.0	0	0.0	0	0.0	2	4.8	3	7.1
In-Service training as a separate formal course	0	0.0	1	4.0	2	12.5	0	0.0	2	25.0	0	0.0	4	9.5	1	2.3
Student teaching	4	22.2	9	36.0	3	18.7	0	0.0	0	0.0	1	20.0	7	16.7	10	23.9
Graduate training	1	5.5	1	4.0	2	12.5	1	8.3	2	25.0	1	20.0	5	11.9	3	7.1
Other types of training	0	0.0	1	4.0	2	12.5	0	0.0	1	12.5	1	20.0	3	7.1	2	4.8

S-T = Student teaching center teachers  
N-S-T = Non-student teaching center teachers

TABLE IV  
REPORTED SOURCE OF TRAINING IN AUDIO-VISUAL AIDS INSTRUCTION BY LEVEL OF FORMAL EDUCATION

Source of Training	B.S. degree				B.S. plus				M.S. degree				M.S. plus				Average Score			
	S-T		N-S-T		S-T		N-S-T		S-T		N-S-T		S-T		N-S-T		S-T		N-S-T	
	N=0	N=5	N=0	N=5	N=20	N=26	N=20	N=26	N=5	N=1	N=5	N=1	N=17	N=10	N=17	N=10	N=42	N=42	N=42	N=42
	N	N	%	%	N	%	N	%	N	%	N	%	N	N	%	%	N	%	N	%
Almost all by self direction	0	0.0	2	40.0	15	75.0	13	50.0	2	40.0	0	0.0	11	64.7	6	60.0	28	66.7	21	50.0
I have received little or no training	0	0.0	0	0.0	7	35.0	12	46.1	0	0.0	1	100.0	5	29.4	2	20.0	12	28.6	15	35.7
Pre-Service training as a portion of methods course	0	0.0	3	60.0	3	15.0	4	15.3	0	0.0	0	0.0	2	11.7	0	0.0	5	11.9	7	16.7
Pre-Service training as a separate formal course	0	0.0	0	0.0	1	5.0	0	0.0	0	0.0	0	0.0	2	11.7	1	10.0	3	7.1	1	2.3
In-Service training as a portion of methods course	0	0.0	0	0.0	1	5.0	2	7.6	0	0.0	0	0.0	1	5.8	1	10.0	2	4.8	3	7.1
In-Service training as a separate formal course	0	0.0	0	0.0	1	5.0	1	3.8	1	20.0	0	0.0	2	11.7	0	0.0	4	9.5	1	2.3
Student teaching	0	0.0	2	40.0	5	25.0	8	30.7	1	20.0	0	0.0	1	5.8	0	0.0	7	16.7	10	23.9
Graduate training	0	0.0	0	0.0	0	0.0	1	3.8	1	20.0	0	0.0	4	23.5	2	20.0	5	11.9	3	7.1
Other types of training	0	0.0	0	0.0	0	0.0	1	3.8	0	0.0	0	0.0	3	17.6	1	10.0	3	7.1	2	4.8
S-T = Student teaching center teachers																				
N-S-T = Non-student teaching center teachers																				

No significant difference in the sources of training in audio-visual aids instruction between student teaching center teachers and non-student teaching center teachers was noted when compared by supervisory districts, age group, or level of formal education.

Administrator encouragement in the use of audio-visual aids could have a definite influence on the availability of audio-visual aids.

In order to assess the respondents' opinions regarding their administrator's encouragement in the use of audio-visual aids, the data was calculated and presented in mean rating form. Based on average scores determined by assessing values as: Strongly = 3.0, Moderately = 2.0, Occasionally = 1.0, and Never = 0.0, the degree of administrator encouragement in the use of audio-visual aids was determined. Table V illustrates the fact that student teaching center teachers received a higher degree of encouragement from their administration in the use of audio-visual aids than the non-student teaching center teachers.

Revealed from this study, administrators in the Southeast supervisory district tend to encourage the use of audio-visual aids to a lesser degree than the administrators in the other four supervisory districts. No significant difference in administrator encouragement in use of audio-visual aids was noted between both groups of teachers when compared by age group, educational level, or years teaching experience.

A school administrator may encourage use of audio-visual aids, but failure to communicate to the vocational agriculture teacher due to lack of convenience, is sometimes responsible for the low assessment of some teachers toward their administrator's encouragement in use of audio-visual aids. If a school administrator does not inform the vocational agriculture teacher of the administration's interest in the use of audio-

TABLE V  
TEACHER ASSESSMENT OF ADMINISTRATOR ENCOURAGEMENT IN USE OF AUDIO-VISUAL AIDS BY SUPERVISORY DISTRICTS,  
BY AGE GROUP, BY YEARS TEACHING EXPERIENCE, AND BY LEVEL OF FORMAL EDUCATION

		Mean Rating Supervisory Districts																							
		Northwest				Northeast				Central				Southwest				Southeast				Total			
		S-T		N-S-T		S-T		N-S-T		S-T		N-S-T		S-T		N-S-T		S-T		N-S-T		S-T		N-S-T	
		N=7		N=7		N=9		N=9		N=8		N=8		N=12		N=12		N=6		N=6		N=42		N=42	
N		N		N		N		N		N		N		N		N		N		N		N		N	
<u>Age Group</u>																									
20-34	2	2.00	3	1.33	4	2.25	5	2.20	2	2.50	4	2.25	7	2.14	11	1.90	3	2.00	2	2.00	18	2.16	25	1.96	
35-49	3	2.33	4	2.75	2	2.50	3	2.33	4	2.25	4	1.75	4	2.00	0	--	3	2.00	1	2.00	16	2.18	12	2.25	
50-65	2	2.50	0	--	3	2.33	1	2.00	2	3.00	0	--	1	3.00	1	2.00	0	--	3	1.33	8	2.62	5	1.60	
<u>Educational Level</u>																									
B.S. degree	0	--	1	3.00	0	--	1	1.00	0	--	0	--	1	2.00	4	2.00	0	--	0	--	1	2.00	6	1.83	
B.S. plus	2	2.50	5	1.80	5	2.20	5	2.60	2	2.50	4	2.25	7	2.14	7	1.85	3	1.33	4	1.50	19	2.10	25	2.00	
M.S. degree	1	2.00	0	--	0	--	0	--	1	3.00	1	2.00	1	2.00	0	--	1	3.00	0	--	4	2.50	1	2.00	
M.S. plus	4	2.25	1	3.00	4	2.50	3	2.33	5	2.40	3	1.66	3	2.33	1	2.00	2	2.50	2	2.00	18	2.38	10	2.10	
<u>Years Teaching Experience</u>																									
1-10	1	2.00	4	1.75	3	2.33	5	2.00	2	2.50	4	2.25	5	2.00	11	1.90	3	2.00	2	2.00	14	2.14	26	1.96	
11-20	4	2.25	3	2.66	1	2.00	2	3.00	2	2.00	3	2.00	5	2.00	0	--	2	1.50	0	--	14	2.00	8	2.50	
21-30	2	2.50	0	--	5	2.40	2	2.00	4	2.75	1	1.00	2	3.00	0	--	1	3.00	4	1.50	14	2.64	7	1.57	
31 or more	0	--	0	--	0	--	0	--	0	--	0	--	0	--	1	2.00	0	--	0	--	0	--	1	2.00	
S-T = Student teaching center teachers									A rating of 3.0 indicates <u>strongly</u>																
N-S-T = Non-student teaching center teachers									A rating of 2.0 indicates <u>moderately</u>																
									A rating of 1.0 indicates <u>occasionally</u>																
									A rating of 0.0 indicates <u>never</u>																

visual aids in his agriculture curriculum, the vocational agriculture teacher may not realize these instructional resources are and can be made available.

Opinions of teachers as to their assessment of administrator interest in use of audio-visual aids in vocational agriculture as compared to use in other subjects was presented in Table VI. A mean rating scale was used to present the administrator's interest level in use of audio-visuals in vocational agriculture as compared to use in other subjects. The teachers scored audio-visual aids as to their assessment of administrator interest in use of audio-visuals based on average scores determined by assessing values as: Yes = 2.0, Only to a Degree = 1.0, and No = 0.0. The teachers in both the student teaching centers and non-student teaching centers are in concurrence as to their opinion regarding administrator interest in use of audio-visual aids in vocational agriculture classes as compared to use in other classes. As a teacher's age, educational level, and years teaching experience increases, the teachers recognition of administrator interest in use of audio-visual aids in vocational agriculture also increases as indicated in Table VI.

The availability of audio-visual aids can also depend on a teachers source for producing locally available audio-visual and sensory teaching aids. Data regarding the most frequently used sources for developing audio-visual and sensory teaching aids are presented in Tables VII, VIII, and IX. The frequency of use of each source as an instructional aid is represented by a mean rating based on the following scale: Frequently Used Source = 2.0, Occasionally Used Source = 1.0, and Source Not Available or Feasible = 0.0. Based on the rating, the most frequently used source for developing audio-visual and sensory teaching aids was the core

TABLE VI  
TEACHER ASSESSMENT OF ADMINISTRATOR INTEREST IN USE OF AUDIO-VISUAL AIDS IN VOCATIONAL  
AGRICULTURE AS COMPARED TO USE IN OTHER SUBJECTS

	Mean Rating																							
	Supervisory Districts																							
	Northwest				Northeast				Central				Southwest				Southeast				Total			
	S-T		N-S-T		S-T		N-S-T		S-T		N-S-T		S-T		N-S-T		S-T		N-S-T		S-T		N-S-T	
	N=7	N=7	N=9	N=9	N=8	N=8	N=12	N=12	N=6	N=6	N=42	N=42	N	N	N	N	N	N	N	N	N	N	N	N
N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	
<u>Age Group</u>																								
20-34	2	2.00	3	1.66	4	1.75	5	1.40	2	2.00	4	1.50	7	1.85	11	1.54	3	1.66	2	1.00	18	1.83	25	1.48
35-49	3	2.00	4	1.75	2	2.00	3	2.00	4	2.75	4	2.00	4	1.75	0	--	3	2.00	1	2.00	16	1.87	12	1.91
50-65	2	2.00	0	--	3	2.00	1	2.00	2	2.00	0	--	1	2.00	2	2.00	0	--	3	2.00	8	2.00	5	2.00
<u>Educational Level</u>																								
B.S. degree	0	--	1	2.00	0	--	0	--	0	--	0	--	0	--	4	1.25	0	--	0	--	0	--	5	1.40
B.S. plus	2	2.00	5	1.60	5	1.80	6	1.50	2	2.00	4	1.50	8	1.87	7	1.71	3	1.66	4	1.50	20	1.85	26	1.57
M.S. degree	1	2.00	0	--	0	0.0	0	--	1	2.00	1	2.00	2	1.50	0	--	1	2.00	0	--	5	1.80	1	2.00
M.S. plus	4	2.00	1	2.00	4	2.00	3	2.00	5	1.80	3	2.00	2	2.00	1	2.00	2	2.00	2	2.00	17	1.94	10	2.00
<u>Years Teaching Experience</u>																								
1-10	1	2.00	4	1.75	3	1.66	5	1.60	2	2.00	4	1.50	5	2.00	11	1.54	3	1.66	2	1.00	14	1.85	26	1.15
11-20	4	2.00	3	1.66	1	2.00	2	1.50	2	1.50	3	2.00	5	1.60	0	--	2	2.00	0	--	14	1.78	8	1.75
21-30	2	2.00	0	--	5	2.00	2	2.00	4	2.00	1	2.00	2	2.00	0	--	1	2.00	4	2.00	14	2.00	7	2.00
31 or more	0	--	0	--	0	--	0	--	0	--	0	--	0	--	1	2.00	0	--	0	--	0	--	1	2.00

S-T = Student teaching center teachers  
N-S-T = Non-student teaching center teachers

A rating of 2.0 indicates yes  
A rating of 1.0 indicates only to a degree  
A rating of 0.0 indicates no



curriculum representing a frequency rating of 1.95 for both student teaching centers teachers and non-student teaching center teachers. It can be assumed that in Oklahoma the core curriculum is the most frequently used source for developing audio-visual aids. Of the 42 non-student teaching center teachers, only one teacher did not indicate any frequency use rating for the core curriculum. Oklahoma State University Fact Sheets with frequency ratings of 1.69 and 1.65 for student teaching center teachers and non-student teaching center teachers respectively, are the second most frequently used source for developing audio-visual and sensory teaching aids.

With regard to sources used for developing audio-visual aids, television was the least used source with a total of 38 student teaching centers and 39 non-student teaching center teachers. Student teaching center teachers indicated they used television with a 0.86 frequency rating as compared to a rating of 0.64 for non-student teaching center teachers.

Student teaching center teachers also used magazines, textbooks, pamphlets, booklets and live specimens more often with ratings of 1.70, 1.80, 1.60, 1.50 and 1.71, respectively as compared to non-student teaching center teachers with the following ratings: magazines = 1.58, textbooks = 1.63, pamphlets = 1.42, booklets = 1.42, and live specimens = 1.41.

As indicated in Table IX, one non-student teaching center teacher with a Master's degree reported that a library was not available or feasible for use in developing audio-visual and sensory teaching aids. Frequently used sources for developing audio-visual and sensory teaching aids showed no significant difference when compared by supervisory dis-

TABLE VII  
REPORTED FREQUENTLY USED SOURCES FOR DEVELOPING AUDIO-VISUAL AND SENSORY TEACHING AIDS  
BY TEACHERS CLASSIFIED BY SUPERVISORY DISTRICTS

Source of Aids	Mean Rating Supervisory Districts																Total							
	Northwest				Northeast				Central				Southwest						Southeast					
	S-T		N-S-T		S-T		N-S-T		S-T		N-S-T		S-T		N-S-T		S-T		N-S-T					
	N=7		N=7		N=9		N=9		N=8		N=8		N=12		N=12		N=6		N=6		N=42		N=42	
	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Newspapers	7	1.28	7	1.57	9	1.11	9	1.44	7	1.42	7	1.42	11	1.45	12	1.16	6	1.33	6	1.50	40	1.32	41	1.39
Radio	7	1.14	6	0.33	7	1.00	9	0.77	7	0.71	7	1.14	11	0.81	11	0.45	6	1.16	6	1.00	38	0.94	39	0.71
Television	7	0.85	6	0.16	7	0.71	9	0.66	7	0.71	7	1.00	11	1.18	11	0.54	6	0.66	6	0.83	38	0.86	39	0.64
Core Curriculum	7	2.00	7	2.00	9	2.00	9	2.00	8	2.00	7	2.00	12	1.83	12	1.83	6	2.00	6	2.00	42	1.95	41	1.95
Library	7	1.42	6	1.33	9	1.66	9	1.44	7	1.50	6	0.83	12	1.58	11	1.36	6	1.83	6	1.83	41	1.60	38	1.36
OSU Fact Sheets	7	1.85	7	1.42	9	1.55	9	1.55	8	1.62	7	1.57	12	1.75	12	1.83	6	1.66	6	1.83	42	1.69	41	1.65
Magazines	7	1.71	7	2.00	9	1.66	9	1.55	7	1.85	7	1.42	12	1.75	12	1.41	6	1.50	6	1.66	41	1.70	41	1.58
Textbooks	7	1.85	7	2.00	9	1.77	9	1.66	7	1.83	7	1.42	11	1.81	12	1.50	6	1.83	6	1.66	40	1.80	41	1.63
Pamphlets	7	1.57	6	1.16	9	1.44	9	1.44	7	1.57	7	1.71	12	1.66	12	1.16	6	1.83	6	1.83	41	1.60	40	1.42
Booklets	7	1.42	6	1.16	9	1.44	9	1.33	7	1.47	7	1.71	11	1.54	12	1.25	6	1.66	6	1.83	40	1.50	40	1.42
Live Specimens	7	1.42	6	1.33	9	1.44	9	1.33	8	1.50	6	1.50	12	1.91	12	1.25	6	2.00	6	1.83	42	1.71	39	1.41
Others																								

S-T = Student teaching center teachers  
N-S-T = Non-student teaching center teachers

A rating of 2.0 indicates frequently used source  
A rating of 1.0 indicates occasionally used source  
A rating of 0.0 indicates source not available or feasible

TABLE VIII

REPORTED FREQUENTLY USED SOURCES FOR DEVELOPING AUDIO-VISUAL AND SENSORY TEACHING AIDS BY TEACHERS CLASSIFIED BY AGE GROUP

Source of Aids	Mean Rating Age Group															
	20-34				35-49				50-65				Total			
	S-T		N-S-T		S-T		N-S-T		S-T		N-S-T		S-T		N-S-T	
	N = 18	N = 25	N = 16	N = 12	N = 8	N = 5	N = 42	N = 42	N	N	N	N	N	N	N	N
Newspapers	18	1.27	24	1.37	14	1.28	12	1.33	8	1.50	5	1.60	40	1.32	41	1.39
Radio	18	0.94	23	0.65	14	0.92	11	0.72	6	1.00	5	1.00	38	0.94	39	0.71
Television	18	0.94	23	0.60	14	0.71	11	0.54	6	1.00	5	1.00	38	0.86	39	0.64
Core Curriculum	18	1.94	24	1.91	16	2.00	12	2.00	8	1.87	5	2.00	42	1.95	41	1.95
Library	18	1.50	23	1.47	15	1.80	10	1.00	8	1.50	5	1.60	41	1.60	38	1.36
OSU Fact Sheets	18	1.66	24	1.66	16	1.62	12	1.58	8	1.87	5	1.80	42	1.69	41	1.65
Magazines	18	1.72	24	1.62	15	1.60	12	1.50	8	1.87	5	1.60	41	1.70	41	1.58
Textbooks	17	1.70	24	1.66	15	1.93	12	1.66	8	1.75	5	1.40	40	1.80	41	1.63
Pamphlets	18	1.16	24	1.33	15	1.60	11	1.54	8	1.62	5	1.60	41	1.60	40	1.42
Booklets	18	1.55	24	1.37	14	1.42	11	1.45	8	1.50	5	1.60	40	1.50	40	1.42
Live Specimens	18	1.83	23	1.30	16	1.75	10	1.50	8	1.50	5	1.60	42	1.71	39	1.41

## Others

S-T = Student teaching center teachers  
 N-S-T = Non-student teaching center teachers

A rating of 2.0 indicates frequently used source  
 A rating of 1.0 indicates occasionally used source  
 A rating of 0.0 indicates source not available or feasible

TABLE IX

REPORTED FREQUENTLY USED SOURCES FOR DEVELOPING AUDIO-VISUAL AND SENSORY TEACHING AIDS BY TEACHERS CLASSIFIED BY LEVEL OF FORMAL EDUCATION

Source of Aids	B.S. degree				B.S. plus				Mean Rating M.S. degree				M.S. plus				Average Score			
	S-T		N-S-T		S-T		N-S-T		S-T		N-S-T		S-T		N-S-T		S-T		N-S-T	
	N=0		N=5		N=20		N=26		N=5		N=1		N=17		N=10		N=42		N=42	
	N		N		N		N		N		N		N		N		N		N	
Newspapers	0	--	5	1.40	20	1.15	25	1.40	5	1.40	1	2.00	15	1.53	10	1.30	40	1.32	41	1.39
Radio	0	--	4	0.25	19	1.00	24	0.75	5	0.60	1	2.00	14	1.00	10	0.70	38	0.94	39	0.71
Television	0	--	4	0.25	19	1.10	24	0.66	5	0.40	1	2.00	14	0.71	10	0.60	38	0.86	39	0.64
Core Curriculum	0	--	5	1.80	20	1.95	25	1.96	5	2.00	1	2.00	17	1.94	10	2.00	42	1.95	41	1.95
Library	0	--	4	1.25	20	1.60	23	1.52	5	1.60	1	0.00	16	1.62	10	1.20	41	1.60	38	1.36
OSU Fact Sheets	0	--	5	2.00	20	1.70	25	1.64	5	1.80	1	2.00	17	1.64	10	1.50	42	1.69	41	1.65
Magazines	0	--	5	1.80	20	1.65	25	1.60	5	1.60	1	2.00	16	1.81	10	1.40	41	1.70	41	1.58
Textbooks	0	--	5	1.60	19	1.73	25	1.72	5	1.60	1	1.00	16	1.93	10	1.50	40	1.80	41	1.63
Pamphlets	0	--	4	1.25	20	1.60	25	1.40	5	1.60	1	2.00	16	1.62	10	1.50	41	1.60	40	1.42
Booklets	0	--	4	1.25	20	1.55	25	1.40	5	1.40	1	2.00	15	1.46	10	1.50	40	1.50	40	1.42
Live Specimens	0	--	4	1.00	20	1.75	24	1.41	5	1.60	1	2.00	17	1.70	10	1.50	42	1.71	39	1.41
Others																				
S-T = Student teaching center teachers									A rating of 2.0 indicates frequently used source											
N-S-T = Non-student teaching center teachers									A rating of 1.0 indicates occasionally used source											
									A rating of 0.0 indicates source not available or feasible											

tricts, age groups, or level of formal education for both groups of teachers.

Teacher's use of materials and equipment is undoubtedly related to the availability of such teaching aids in the schools. Tables X, XI, and XII present data pertaining to the 84 vocational agriculture teachers perceived problems in obtaining audio-visual equipment and materials for their vocational agriculture curriculum.

Problems in obtaining audio-visual materials was checked by the teacher as many times as relevant to the problem as to cost, administrative priorities, time of teacher, limited skill of teacher in preparation and use, and others.

The most frequently checked problem area on Question 13, (Appendix) was the cost of the equipment and materials. Of the 84 teachers involved in this study, 43, or 51.2 percent further sub-divided into 18, or 42.8 percent student teaching center teachers and 25, or 59.5 percent non-student teaching center teachers indicated cost as the major problem in obtaining audio-visual equipment and materials. The second major problem area in obtaining audio-visual aids according to data from 20, or 47.6 percent of the student teaching center teachers was the limited time of the teacher. Of the non-student teaching center teachers, 14, or 33.3 percent of the teachers reported limited skill of teachers in preparation and use as their second major problem in obtaining audio-visual aids.

Administrative priorities was reported as the third problem area by three, or 7.1 percent of the student teaching center teachers and six, or 14.2 of the non-student teaching center teachers for a total of nine or 10.7 percent of the 84 teachers who had problems in securing audio-visual equipment and materials. Of the nine teachers reported

TABLE X

TEACHERS PERCEIVED PROBLEMS IN OBTAINING AUDIO-VISUAL EQUIPMENT  
AND MATERIALS BY SUPERVISORY DISTRICTS

Problem Areas	Supervisory Districts															
	Northwest				Northeast				Central				Southwest			
	S-T		N-S-T		S-T		N-S-T		S-T		N-S-T		S-T		N-S-T	
	N=7	N=7	N=7	N=7	N=9	N=9	N=9	N=9	N=8	N=8	N=8	N=8	N=12	N=12	N=12	N=12
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Cost	2	28.5	2	28.5	3	33.3	5	55.5	2	25.0	3	37.5	7	58.3	10	83.3
Administrative Priorities	0	0.0	2	28.5	1	11.1	1	11.1	0	0.0	1	12.5	0	0.0	1	8.3
Time of Teacher	5	71.4	3	42.8	5	55.5	2	22.2	5	62.5	3	37.5	4	33.3	2	16.6
Limited skill of teacher in pre- paration and use	2	28.5	2	28.5	3	33.3	3	33.3	1	12.5	3	37.5	5	41.6	2	16.6
Others	0	0.0	1	14.2	0	0.0	1	11.1	3	37.5	0	0.0	1	8.3	0	0.0

S-T = Student teaching center teachers

N-S-T = Non-student teaching center teachers

TABLE XI  
TEACHERS PERCEIVED PROBLEMS IN OBTAINING AUDIO-VISUAL EQUIPMENT AND MATERIALS BY AGE GROUPS

Problem Areas	Age Groups															
	20-34				35-49				50-65				Total			
	S-T		N-S-T		S-T		N-S-T		S-T		N-S-T		S-T		N-S-T	
	N = 18		N = 25		N = 16		N = 12		N = 8		N = 5		N = 42		N = 42	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Cost	8	44.4	14	56.0	9	56.2	6	50.0	1	12.5	5	100.0	18	42.8	25	59.5
Administrative Priorities	0	0.0	3	12.0	2	12.5	1	8.3	1	12.5	2	40.0	3	7.1	6	14.2
Time of teacher	8	44.4	6	24.0	7	43.7	4	33.3	5	62.5	2	40.0	20	47.6	12	28.5
Limited skill of teacher in pre- paration and use	5	27.7	4	16.0	6	37.5	7	58.3	0	0.0	3	60.0	11	26.1	14	33.3
Others	3	16.6	1	4.0	1	6.2	1	8.3	1	12.5	0	0.0	5	11.9	2	4.7

S-T = Student teaching center teachers  
N-S-T = Non-Student teaching center teachers

TABLE XII  
TEACHERS PERCEIVED PROBLEMS IN OBTAINING AUDIO-VISUAL EQUIPMENT AND MATERIALS BY LEVEL OF FORMAL EDUCATION

Problem Areas	B.S. degree				B.S. plus				M.S. degree				M.S. plus				Average Score			
	S-T		N-S-T		S-T		N-S-T		S-T		N-S-T		S-T		N-S-T		S-T		N-S-T	
	N=0		N=5		N=20		N=26		N=5		N=1		N=17		N=10		N=42		N=42	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Cost	0	0.0	5	100.0	6	30.0	14	53.8	3	60.0	1	100.0	9	52.9	5	50.0	18	42.8	25	59.5
Administrative Priorities	0	0.0	0	0.0	2	10.0	5	19.2	0	0.0	0	0.0	1	5.8	1	10.0	3	7.1	6	14.2
Time of teacher	0	0.0	0	0.0	9	45.0	8	30.7	4	80.0	0	0.0	7	41.1	4	40.0	20	47.6	12	28.5
Limited skill of teacher in pre- paration and use	0	0.0	0	0.0	6	30.0	8	30.7	2	40.0	1	100.0	3	17.6	5	50.0	11	26.1	14	33.3
Others	0	0.0	0	0.0	3	15.0	1	3.8	0	0.0	0	0.0	2	11.7	1	10.0	5	11.9	2	4.7

S-T = Student teaching center teachers  
N-S-T = Non-student teaching center teachers



having no problems in obtaining audio-visual equipment and materials, three, or 33.3 percent were student teaching center teachers and six, or 66.6 percent were non-student teaching center teachers. One student teaching center teacher made the following comment, "The administration will give instructional aids priority when they know it is being used to educate and not to skim over easily."

As indicated in Tables X, XI, XII, the category of "Others" was checked by five, or 11.9 percent student teaching center teachers and two, or 4.7 non-student teaching center teachers. The main reason the seven teachers gave for checking their problem area in obtaining audio-visual aids under "Others" was the difficulty in finding up-to-date material that meets the ever changing needs of the teacher. No significant difference in teachers perceived problems in obtaining audio-visual equipment and materials was indicated when compared by supervisory districts, age groups, or level of formal education.

#### Utilization of Audio-Visual Aids

Utilization of audio-visual aids in order to receive maximum benefit depends on many factors. The teachers operating proficiency, importance of use of audio-visual aids, and frequency of use of equipment and materials all affect the utilization of audio-visual aids. A vocational agriculture teacher may have a wide selection of audio-visual aids from which to choose for his resource aids, but without adequate training in the use of the equipment, the teachers operating proficiency and frequency of use will most likely be lower than the teacher who has received adequate training in the knowledge of operating and using the equipment to its fullest capacity. Data concerning teacher self-evaluation of

present operating proficiency of audio-visual equipment is presented in Tables XIII, XIV, and XV. Teachers were asked to evaluate their present operating proficiency by rating as: (1) Good, (2) Fair, and (3) Need More Training. Based on average scores determined by assessing values as: Good = 2.0, Fair = 1.0, and Need More Training = 0.0 the teachers responses were evaluated to form a mean rating for the various types of audio-visual equipment. Both student teaching center teachers and non-student teaching center teachers indicated their highest degree of efficiency was use of the chalkboard with ratings of 1.82 and 1.68, respectively. The lowest reported operating proficiency by both student teaching center teachers and non-student teaching center teachers as indicated by Tables XIII, XIV, and XV, was knowledge of using and operating the video tape machine. The teacher's knowledge and familiarity with the video tape machine appears to be somewhat limited in all five districts.

In comparing student teaching center teachers and non-student teaching center teachers by supervisory districts, no significant differences in operating proficiency was noted. Refer to Table XIII.

As indicated in Table XIV, non-student teaching center teachers in the 50-65 age group reported a 0.80 rating for the overhead projector in contrast to a 1.50 rating by student teaching center teachers. Non-student teaching center teachers ranging in age from 50-65 also reported a 0.60 rating for the thremo-fax machine as compared to a rating of 1.50 by student teaching center teachers of the same age group. The author feels that non-student teaching center teachers low ratings may be due to the senior teachers resisting change in classroom teaching techniques. Student teaching center teachers and non-student teaching center teachers

TABLE XIII

TEACHER SELF-EVALUATION OF PRESENT OPERATING PROFICIENCY IN USE OF AUDIO-VISUAL EQUIPMENT BY SUPERVISORY DISTRICTS

Equipment	Mean Rating																							
	Supervisory Districts																							
	Northwest				Northeast				Central				Southwest				Southeast				Total			
	S-T		N-S-T		S-T		N-S-T		S-T		N-S-T		S-T		N-S-T		S-T		N-S-T		S-T		N-S-T	
	N=7		N=7		N=9		N=9		N=8		N=8		N=12		N=12		N=6		N=6		N=42		N=42	
	N		N	N		N		N	N		N		N	N		N	N		N	N		N		N
Movie Proj.	7	1.71	7	1.71	9	1.44	9	1.55	8	1.62	7	1.28	12	1.41	12	1.66	6	1.83	6	1.00	42	1.57	41	1.48
Slide Proj.	7	1.71	7	1.85	9	1.77	9	1.77	8	2.00	7	1.57	11	1.72	11	1.36	6	1.50	6	1.33	41	1.75	40	1.57
Filmstrip Proj.	7	1.71	7	1.42	9	1.66	9	1.77	8	1.75	7	1.28	10	1.10	11	1.18	6	1.66	5	1.20	40	1.55	39	1.38
Overhead Proj.	7	1.85	7	1.71	9	1.33	9	1.55	8	1.37	7	1.85	12	1.58	12	1.41	6	1.50	6	1.33	42	1.52	41	1.56
Opaque Proj.	6	1.33	7	0.71	8	1.12	7	1.28	7	1.00	6	0.66	9	1.22	9	0.66	5	0.66	5	0.80	35	1.11	34	0.85
Tape Recorder	7	1.71	6	1.16	8	1.62	8	1.50	7	1.57	6	1.50	10	1.60	12	1.08	6	1.16	6	0.66	38	1.52	38	1.18
P.A. System	7	1.57	7	0.85	8	1.25	8	1.62	8	1.12	5	0.80	10	1.40	12	1.00	5	1.20	6	0.66	38	1.31	38	1.02
Still Camera	7	1.71	7	0.85	9	1.11	8	1.62	8	1.12	6	1.16	10	1.30	12	1.32	4	1.50	6	0.83	38	1.34	39	1.20
Movie Camera	6	1.00	7	0.00	6	0.66	8	1.50	8	0.62	7	0.42	9	1.11	11	1.11	5	1.00	6	0.16	34	0.76	39	0.69
Duplicating m.	6	1.83	7	1.57	9	1.55	9	1.33	8	1.37	7	1.28	12	1.33	11	1.63	6	1.33	6	0.83	41	1.46	40	1.37
Video-tape m.	4	0.00	6	0.00	5	0.40	8	0.75	8	0.12	6	0.00	8	0.25	9	0.11	5	0.20	6	0.16	30	0.20	35	0.22
Thermo-fax m.	6	1.50	7	0.85	7	1.28	9	1.00	8	1.37	6	0.83	9	1.22	10	1.50	5	1.40	6	0.50	37	1.27	38	1.00
Chalk Board	7	1.85	7	1.57	9	1.88	9	2.00	8	1.87	7	1.85	12	1.75	12	1.66	6	1.66	6	1.16	41	1.82	41	1.68
Others																								
Bulletin Bd.									1 2.00								1 2.00							
S-T = Student teaching center teachers									A rating of 2.0 indicates <u>good</u>															
N-S-T = Non-student teaching center teachers									A rating of 1.0 indicates <u>fair</u>															
									A rating of 0.0 indicates <u>need more training</u>															

TABLE XIV

TEACHER SELF EVALUATION OF PRESENT OPERATING PROFICIENCY IN USE OF AUDIO-VISUAL EQUIPMENT BY AGE GROUPS

Equipment	Mean Rating Age Group															
	20-34				35-49				50-65				Total			
	S-T		N-S-T		S-T		N-S-T		S-T		N-S-T		S-T		N-S-T	
	N = 18	N = 18	N = 25	N = 25	N = 16	N = 16	N = 12	N = 12	N = 8	N = 8	N = 5	N = 5	N = 42	N = 42	N = 42	N = 42
	N		N		N		N		N		N		N		N	
Movie Proj.	18	1.61	25	1.48	16	1.62	11	1.63	8	1.37	5	1.20	42	1.57	41	1.48
Slide Proj.	17	1.70	24	1.58	16	1.75	11	1.72	8	1.87	5	1.20	41	1.75	40	1.57
Filmstrip Proj.	17	1.23	23	1.47	15	1.73	11	1.36	8	1.87	5	1.00	40	1.55	39	1.38
Overhead Proj.	18	1.66	25	1.80	16	1.37	11	1.36	8	1.50	5	0.80	42	1.52	41	1.56
Opaque Proj.	15	0.80	20	0.85	14	1.21	10	0.90	6	1.66	4	0.75	35	1.11	34	0.85
Tape Recorder	16	1.50	25	1.16	15	1.40	9	1.66	7	1.85	4	0.25	38	1.52	38	1.18
P.A. System	16	1.18	25	1.08	15	1.20	9	1.00	7	1.85	4	0.75	38	1.31	38	1.02
Still Camera	16	1.68	25	1.32	14	0.85	10	1.00	8	1.50	4	1.00	38	1.34	39	1.20
Movie Camera	15	0.93	24	0.83	14	0.57	11	0.45	5	0.80	4	0.50	34	0.76	39	0.69
Duplicating M.	17	1.52	24	1.41	16	1.37	11	1.27	8	1.50	5	1.40	41	1.46	40	1.37
Video-Tape M.	14	0.21	21	0.28	12	0.16	10	0.20	4	0.25	4	0.00	30	0.20	35	0.22
Thermo-Fax M.	16	1.37	23	1.21	15	1.13	10	0.70	6	1.50	5	0.60	37	1.27	38	1.00
Chalk Board	18	1.88	25	1.76	15	1.73	11	1.63	8	1.87	5	1.40	41	1.82	41	1.68
Others																
Bulletin Bd.					1	2.00							1	2.00		
S-T = Student teaching center teachers																
N-S-T = Non-student teaching center teachers																
A rating of 2.0 indicates <u>good</u>																
A rating of 1.0 indicates <u>fair</u>																
A rating of 0.0 indicates <u>need more training</u>																

TABLE XV

TEACHER SELF EVALUATION OF PRESENT OPERATING PROFICIENCY IN THE USE OF AUDIO-VISUAL EQUIPMENT BY LEVEL OF FORMAL EDUCATION

Equipment	B.S. degree				B.S. plus				Mean Rating M.S. degree				M.S. plus				Average Score			
	S-T		N-S-T		S-T		N-S-T		S-T		N-S-T		S-T		N-S-T		S-T		N-S-T	
	N=0		N=5		N=20		N=26		N=5		N=1		N=17		N=10		N=42		N=42	
	N		N		N		N		N		N		N		N		N		N	
Movie Proj.	0	--	5	1.80	20	1.65	26	1.38	5	1.40	1	0.00	17	1.52	9	1.77	42	1.57	41	1.48
Slide Proj.	0	--	5	1.40	19	1.73	25	1.56	5	1.60	1	1.00	17	1.82	9	1.77	41	1.75	40	1.57
Filmstrip Proj.	0	--	5	1.40	19	1.31	24	1.33	5	1.60	1	1.00	16	1.81	9	1.55	40	1.55	39	1.38
Overhead Proj.	0	--	5	1.60	20	1.50	26	1.65	5	1.00	1	2.00	17	1.70	9	1.22	42	1.52	41	1.56
Opaque Proj.	0	--	4	0.75	17	0.94	22	0.95	3	0.00	1	0.00	15	1.53	7	0.86	35	1.11	34	0.85
Tape Recorder	0	--	4	1.50	19	1.42	26	1.19	4	1.50	1	2.00	15	1.66	7	0.85	38	1.52	38	1.18
P.A. System	0	--	5	1.00	19	1.26	26	1.00	4	1.50	0	--	15	1.33	7	1.14	38	1.31	38	1.02
Still Camera	0	--	5	1.20	19	1.47	26	1.19	4	1.50	0	--	15	1.13	8	1.25	38	1.34	39	1.20
Movie Camera	0	--	5	0.80	16	0.75	25	0.76	4	0.75	1	0.00	14	0.78	8	0.50	34	0.76	39	0.69
Duplicating M.	0	--	5	1.60	20	1.50	25	1.44	5	1.00	1	0.00	16	1.50	9	1.22	41	1.46	40	1.37
Video-tape M.	0	--	5	0.00	16	0.25	22	0.31	4	0.00	1	0.00	10	0.20	7	0.14	30	0.20	35	0.22
Thermo-fax M.	0	--	5	1.20	19	1.36	24	1.04	5	0.40	1	0.00	13	1.46	8	0.87	37	1.37	38	1.00
Chalk Board	0	--	5	1.40	20	1.85	26	1.69	5	1.80	1	2.00	16	1.81	9	1.77	41	1.82	41	1.68
Others																				
Bulletin Bd.													1	2.00			1	2.00		

S-T = Student teaching center teachers  
N-S-T = Non-student teaching center teachers

A rating of 2.0 indicates good  
A rating of 1.0 indicates fair  
A rating of 0.0 indicates need more training

operating proficiency for most audio-visual equipment was surprisingly good when compared by supervisory districts, age groups, or level of formal education.

Many times several varieties of audio-visual aids are available to the vocational agriculture teachers in which their operating proficiency of these aids is rated rather high, but the frequency of use of audio-visual aids might be rated rather low due to preparation and use time. Findings obtained from Tables XVI, XVII, and XVIII, contain information about reported frequency of use was based on the following scale: Once Every Week = 6.0, Once Every Two Weeks = 5.0, Once Every Month = 4.0, Once Every Six Weeks = 3.0, Once Each Semester = 2.0, Less Than Each Semester = 1.0, Never Used = 0.0.

The chalkboard was rated as the most frequently used source of instructional aid used by almost all the vocational agriculture teachers with respective ratings of 5.75 and 5.97 for student teaching center teachers and non-student teaching center teachers. The video-tape machine was the least used source of audio-visual equipment as reported by a mean rating of 0.28 for student teaching center teachers and 0.29 for non-student teaching center teachers. Student teaching center teachers used the overhead projector and thermo-fax machine more frequently than non-student teaching centers as represented by Tables XVI, XVII, and XVIII.

Vocational agriculture teachers frequency of use of audio-visual materials was measured by the same frequency rating as used to determine the frequency of use of the equipment.

The frequency of use of audio-visual materials as indicated by 84 vocational agriculture teachers are presented in Tables XIX, XX and XXI.

TABLE XVI  
REPORTED FREQUENCY OF USE OF AUDIO-VISUAL EQUIPMENT BY  
TEACHERS CLASSIFIED BY SUPERVISORY DISTRICTS

Equipment	Mean Rating Supervisory Districts															
	Northwest				Northeast				Central				Southwest			
	S-T		N-S-T		S-T		N-S-T		S-T		N-S-T		S-T		N-S-T	
	N=7	N=7	N=7	N=7	N=9	N=9	N=9	N=9	N=8	N=8	N=8	N=8	N=12	N=12	N=12	N=12
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Movie Proj.	7	4.14	7	4.14	9	3.44	9	3.77	7	4.28	8	3.87	12	3.66	12	2.91
Slide Proj.	7	4.00	7	3.57	9	4.33	9	3.66	7	4.71	8	3.62	12	3.50	12	2.16
Filmstrip Proj.	6	3.83	7	2.42	9	3.22	8	2.75	7	3.42	8	3.50	11	3.63	12	1.75
Overhead Proj.	6	6.00	7	5.28	9	5.11	9	4.88	7	4.57	8	4.87	11	4.81	11	3.90
Opaque Proj.	6	1.50	7	1.42	8	1.55	7	1.85	7	2.00	7	1.42	10	1.60	11	1.72
Tape Recorder	7	3.42	7	2.00	9	3.33	7	2.85	6	3.50	6	2.00	11	3.27	12	1.91
P.A. System	7	2.00	7	1.57	8	2.00	8	1.50	7	1.57	6	1.66	11	2.36	12	1.50
Still Camera	6	3.50	7	2.42	8	3.87	8	3.62	7	3.28	6	2.50	11	3.45	12	2.83
Movie Camera	6	1.00	7	0.57	8	0.12	7	1.14	7	0.85	7	0.71	10	1.40	11	1.27
Duplicating m.	6	5.66	7	5.85	9	4.77	9	5.00	7	4.71	8	4.62	12	5.25	11	5.27
Video-tape m.	5	0.20	6	0.00	7	0.00	8	0.62	7	0.42	7	0.28	8	0.25	10	0.20
Thermo-fax m.	6	5.83	7	2.57	7	4.28	9	3.44	7	3.42	7	3.14	10	4.00	11	3.90
Chalk Board	7	6.00	7	6.00	9	6.00	9	5.88	7	6.00	8	6.00	12	5.66	11	6.00
Others																
Bulletin Bd.									1	6.00					1	6.00

S-T = Student teaching center teachers  
N-S-T = Non-student teaching center teachers

A rating of 6.0 indicates once every week  
A rating of 5.0 indicates once every two weeks  
A rating of 4.0 indicates once every month  
A rating of 3.0 indicates once every six weeks

A rating of 2.0 indicates once each semester  
A rating of 1.0 indicates less than each semester  
A rating of 0.0 indicates never used

TABLE XVII  
REPORTED FREQUENCY OF USE OF AUDIO-VISUAL EQUIPMENT BY TEACHERS CLASSIFIED BY AGE GROUP

Equipment	Mean Rating Age Group															
	20-34				35-49				50-65				Total			
	S-T		N-S-T		S-T		N-S-T		S-T		N-S-T		S-T		N-S-T	
	N = 18	N = 25	N = 16	N = 12	N = 8	N = 5	N = 42	N = 42	N	N	N	N	N	N	N	N
Movie Proj.	18	3.88	25	3.20	16	4.12	12	4.08	7	3.57	5	4.00	41	3.92	42	3.54
Slide Proj.	18	3.44	25	3.12	16	4.43	12	3.50	7	4.28	5	4.00	41	3.97	42	3.33
Filmstrip Proj.	18	2.83	23	2.13	15	4.60	12	3.33	6	3.66	5	3.20	39	3.61	40	2.62
Overhead Proj.	17	4.58	25	4.92	16	5.18	12	4.41	6	5.33	4	2.50	39	4.94	41	4.53
Opaque Proj.	16	0.62	23	1.60	14	2.21	11	1.54	6	3.00	4	1.75	36	1.63	38	1.60
Tape Recorder	17	3.05	24	2.04	15	3.53	10	2.70	7	3.42	4	2.00	39	3.30	38	2.21
P.A. System	17	1.88	25	1.64	15	2.33	10	1.30	6	1.83	4	1.75	38	2.05	39	1.58
Still Camera	15	4.26	25	2.84	14	2.64	11	2.81	7	3.85	4	3.25	36	3.55	40	2.87
Movie Camera	16	0.68	23	0.91	14	1.14	11	1.00	6	0.66	4	1.00	36	0.86	38	0.94
Duplicating M.	17	4.88	24	5.41	16	5.18	12	4.50	7	4.71	5	5.00	40	4.97	41	5.09
Video-Tape M.	14	0.07	23	0.21	12	0.50	11	0.45	6	0.33	2	0.00	32	0.28	36	0.27
Thermo-Fax M.	16	4.25	23	3.65	15	4.06	11	2.72	5	4.00	5	2.20	36	4.13	39	3.20
Chalk Board	18	6.00	24	5.95	16	5.62	12	6.00	7	5.42	5	6.00	41	5.75	41	5.97
Others																
Bulletin Bd.					1	6.00							1	6.00		
S-T = Student teaching center teachers								A rating of 6.0 indicates <u>once every week</u>								A rating of 2.0 indicates <u>once each semester</u>
N-S-T = Non-student teaching center teachers								A rating of 5.0 indicates <u>once every two weeks</u>								A rating of 1.0 indicates <u>less than each semester</u>
								A rating of 4.0 indicates <u>once every month</u>								A rating of 0.0 indicates <u>never used</u>
								A rating of 3.0 indicates <u>once every six weeks</u>								



TABLE XVIII

REPORTED FREQUENCY OF USE OF AUDIO-VISUAL EQUIPMENT BY TEACHERS CLASSIFIED BY LEVEL OF FORMAL EDUCATION

Equipment	B.S. degree				B.S. plus				Mean Rating M.S. degree				M.S. plus				Average Score			
	S-T		N-S-T		S-T		N-S-T		S-T		N-S-T		S-T		N-S-T		S-T		N-S-T	
	N=0		N=5		N=20		N=26		N=5		N=1		N=17		N=10		N=42		N=42	
	N		N		N		N		N		N		N		N		N		N	
Movie Proj.	0	--	5	2.80	20	3.65	26	3.57	4	3.50	1	5.00	17	4.35	10	3.70	41	3.92	42	3.54
Slide Proj.	0	--	5	2.00	20	3.45	26	3.61	4	4.00	1	5.00	17	4.58	10	3.10	41	3.97	42	3.33
Filmstrip Proj.	0	--	5	1.60	20	3.05	24	2.58	4	3.50	1	4.00	15	4.40	10	3.10	39	3.61	40	2.62
Overhead Proj.	0	--	5	4.60	19	4.63	26	4.69	4	3.75	1	6.00	16	5.62	9	3.88	39	4.94	41	4.53
Opaque Proj.	0	--	5	0.60	18	0.83	24	2.12	3	0.00	1	0.00	15	2.93	8	0.87	36	1.63	38	1.60
Tape Recorder	0	--	5	0.80	20	3.15	24	2.45	3	3.33	1	5.00	16	3.50	8	2.00	39	3.30	38	2.21
P.A. System	0	--	5	0.60	20	2.00	26	1.92	3	3.33	0	--	15	1.86	8	1.12	38	2.05	39	1.58
Still Camera	0	--	5	2.60	18	3.61	26	3.07	3	4.33	0	--	15	3.33	9	2.44	36	3.55	40	2.87
Movie Camera	0	--	5	1.20	18	0.66	24	0.95	3	2.33	1	0.00	16	0.75	8	0.87	36	0.86	38	0.94
Duplicating m.	0	--	5	5.20	20	4.80	25	5.52	4	5.25	1	0.00	16	5.12	10	4.50	40	4.97	41	5.09
Video-tape m.	0	--	5	0.00	17	0.05	24	0.41	3	0.00	1	0.00	12	0.66	6	0.00	32	0.28	36	0.27
Thermo-fax m.	0	--	5	4.20	19	4.15	24	3.08	4	3.75	1	0.00	13	4.23	9	3.33	36	4.13	39	3.20
Chalk Board	0	--	4	6.00	20	6.00	26	5.95	4	6.00	1	6.00	17	5.41	10	6.00	41	5.75	41	5.97
Others																				
Bulletin Bd.													1	6.00			1	6.00		
S-T = Student teaching center teachers									A rating of 6.0 indicates <u>once every week</u>								A rating of 2.0 indicates <u>once each semester</u>			
N-S-T = Non-student teaching center teachers									A rating of 5.0 indicates <u>once every two weeks</u>								A rating of 1.0 indicates <u>less than each semester</u>			
									A rating of 4.0 indicates <u>once every month</u>								A rating of 0.0 indicates <u>never used</u>			
									A rating of 3.0 indicates <u>once every six weeks</u>											

TABLE XIX  
REPORTED FREQUENCY OF USE OF AUDIO-VISUAL MATERIALS BY  
TEACHERS CLASSIFIED BY SUPERVISORY DISTRICTS

	Mean Rating Supervisory Districts																							
	Northwest		Northeast		Central		Southwest		Southeast		Total													
	S-T	N-S-T	S-T	N-S-T	S-T	N-S-T	S-T	N-S-T	S-T	N-S-T	S-T	N-S-T												
	N=7	N=7	N=9	N=9	N=8	N=8	N=12	N=12	N=6	N=6	N=42	N=42												
Materials	N	N	N	N	N	N	N	N	N	N	N	N												
Charts and Graphs	7	5.00	7	4.71	9	3.88	9	3.50	7	4.42	8	5.00	12	4.41	12	4.41	6	4.83	6	4.66	41	4.46	42	4.66
Programmed Text	7	5.42	7	4.14	8	4.50	8	4.50	7	4.71	8	4.75	11	4.00	10	4.30	6	4.33	6	4.66	39	4.53	39	4.46
Posters	7	5.14	7	3.28	9	3.88	9	4.00	7	3.71	8	4.12	11	4.27	12	3.91	6	4.66	5	4.40	40	4.32	41	3.92
Models & Mock-ups	6	3.00	6	2.83	8	3.12	9	2.88	7	2.14	8	3.12	12	3.08	12	2.66	6	3.50	5	3.20	39	2.97	40	2.90
Field Trips	7	4.57	7	4.71	9	4.66	9	4.66	7	4.14	8	5.00	12	5.00	12	4.83	6	5.33	6	5.33	41	4.75	42	4.88
Guest Speakers	7	2.14	7	1.85	8	1.37	9	2.22	7	1.71	8	1.87	12	2.16	12	1.83	6	2.66	6	2.00	40	2.00	42	1.95
Others																								
Samples																	1	4.00			1	4.00		
S-T = Student teaching center teachers													A rating of 6.0 indicates <u>once every week</u>											
N-S-T = Non-student teaching center teachers													A rating of 5.0 indicates <u>once every two weeks</u>											
													A rating of 4.0 indicates <u>once every month</u>											
													A rating of 3.0 indicates <u>once every six weeks</u>											
													A rating of 2.0 indicates <u>once each semester</u>											
													A rating of 1.0 indicates <u>less than each semester</u>											
													A rating of 0.0 indicates <u>never used</u>											

TABLE XX

REPORTED FREQUENCY OF USE OF AUDIO-VISUAL MATERIALS BY TEACHERS CLASSIFIED BY AGE GROUPS

Materials	Mean Rating Age Groups															
	20-34				35-49				50-65				Total			
	S-T		N-S-T		S-T		N-S-T		S-T		N-S-T		S-T		N-S-T	
	N = 18	N	N = 25	N	N = 16	N	N = 12	N	N = 8	N	N = 5	N	N = 42	N	N = 42	N
Charts and Graphs	18	3.72	25	4.76	15	5.06	12	4.50	8	4.62	5	4.60	41	4.46	42	4.66
Programmed Text	18	4.22	24	4.25	14	4.35	11	4.54	7	5.71	4	5.50	39	4.53	39	4.46
Posters	17	3.70	25	3.84	15	5.06	12	3.91	8	4.25	4	4.50	40	4.32	41	3.92
Models & Mock-Ups	18	2.66	25	2.92	14	3.42	11	2.54	7	2.85	4	3.75	39	2.97	40	2.90
Field Trips	18	4.66	25	4.88	15	5.06	12	4.83	8	4.37	5	5.00	41	4.75	42	4.88
Guest Speakers	18	2.16	25	1.92	15	2.06	12	2.08	7	1.42	5	1.80	40	2.00	42	1.95
Others																
Samples	1	4.00											1	4.00		

S-T = Student teaching center teachers

N-S-T = Non-student teaching center teachers

A rating of 6.0 indicates once every weekA rating of 5.0 indicates once every two weeksA rating of 4.0 indicates once every monthA rating of 3.0 indicates once every six weeksA rating of 2.0 indicates once each semesterA rating of 1.0 indicates less than each semesterA rating of 0.0 indicates never used

TABLE XXI  
REPORTED FREQUENCY OF USE OF AUDIO-VISUAL MATERIALS BY TEACHERS CLASSIFIED BY LEVEL OF FORMAL EDUCATION

Materials	B.S. degree				B.S. plus				Mean Rating M.S. degree				M.S. plus				Average Score			
	S-T		N-S-T		S-T		N-S-T		S-T		N-S-T		S-T		N-S-T		S-T		N-S-T	
	N=0		N=5		N=20		N=26		N=5		N=1		N=17		N=10		N=42		N=42	
	N		N		N		N		N		N		N		N		N		N	
Charts and Graphs	0	--	5	4.20	20	4.15	26	4.88	5	4.60	1	5.00	16	4.81	10	4.30	41	4.46	42	4.66
Programmed Text	0	--	5	5.00	10	4.20	26	4.26	5	3.40	1	4.00	14	5.42	8	4.25	39	4.53	39	4.46
Posters	0	--	5	3.80	19	3.78	26	3.92	5	3.80	1	4.00	16	5.12	9	4.00	40	4.32	41	3.92
Models & Mock-ups	0	--	5	2.00	18	2.55	26	3.19	5	3.20	1	0.00	16	3.37	8	2.87	39	2.97	40	2.90
Field Trips	0	--	5	5.00	20	4.75	26	4.84	5	4.20	1	5.00	16	4.93	10	4.90	41	4.75	42	4.88
Guest Speakers	0	--	5	1.40	20	2.10	26	2.11	5	1.60	1	2.00	15	2.00	10	1.80	40	2.00	42	1.95
Others																				
Samples					1	4.00											1	4.00		
S-T = Student teaching center teachers N-S-T = Non-student teaching center teachers A rating of 6.0 indicates <u>once every week</u> A rating of 5.0 indicates <u>once every two weeks</u> A rating of 4.0 indicates <u>once every month</u> A rating of 3.0 indicates <u>once every six weeks</u> A rating of 2.0 indicates <u>once each semester</u> A rating of 1.0 indicates <u>less than each semester</u> A rating of 0.0 indicates <u>never used</u>																				

Field trips were the most frequently used instructional resource as rated by student teaching center teachers with a rating of 4.75 and by non-student teaching center teachers with a rating of 4.88.

Charts and graphs and programmed text are used almost as frequently as field trips by both student teaching and non-student teaching center teachers. Both student teaching center teachers and non-student teaching center teachers listed guest speakers as their least used material aid.

Utilization of audio-visual aids is also related to objectives for which the teacher plans on achieving through use of audio-visual aids. Question seven of the questionnaire (Appendix) asks the vocational agriculture teachers to rank in order of importance five of the ten listed objectives for which they used audio-visual aids. Refer to Table XXII.

Stimulating and maintaining interest was ranked number one by both student teaching and non-student teaching center teachers. This finding is in agreement with Millikan's study in which the Northwest supervisory district teachers indicated stimulating and maintaining interest was the main purpose they used audio-visual aids. Providing information was the second reason both groups of teachers indicated for using audio-visual aids. Encourage understanding was ranked third in importance as indicated by student teaching and non-student teaching center teachers. In descending order from the fourth rank, student teaching center teachers and non-student teaching center teachers began to disagree on the rank of importance for which they use audio-visual aids.

#### Projected Needs of Audio-Visual Aids

Because of the increased use of audio-visual aids in classroom instruction, the projected future needs of audio-visual instructional

TABLE XXII

RESPONDENTS ASSESSMENT OF IMPORTANCE OF USE OF AUDIO-VISUAL AIDS IN ACHIEVING SPECIFIC OBJECTIVES

Objectives	Importance							
	N		Cumulative Score		Average		Rank	
	S-T	N-S-T	S-T	N-S-T	S-T	N-S-T	S-T	N-S-T
Developing specific skills	26	24	72	62	2.76	2.58	4	6
Testing and evaluation of skill performance	9	7	16	12	1.77	1.71	9	9
Providing guidance and pattern for skills	16	16	29	47	1.81	2.93	8	4
Assist student to evaluate his plans	2	9	4	14	2.00	1.55	7	10
Reviewing a unit of work	8	14	19	38	2.37	2.71	6	5
Help student make application	24	17	48	40	2.00	2.35	7	7
Encourage understanding	27	28	95	97	3.51	3.46	3	3
Providing information	38	34	142	141	3.73	4.14	2	2
Stimulating and maintaining interest	38	35	146	155	3.84	4.42	1	1
Developing appreciation and attitudes	16	18	43	38	2.68	2.11	5	8

S-T = Student teaching center teachers  
N-S-T = Non-student teaching center teachers

aids and the assessment of where emphasis should be placed on the use of audio-visual aids to be of maximum benefit to the teacher education student needed to be analyzed to best plan for further advancement of the agriculture curriculum.

Information presented in Table XXIII, shows student teaching center teachers and non-student teaching center teachers are in disagreement concerning at what training point emphasis should be placed in the audio-visual training of future vocational agriculture teachers. Student teaching center teachers indicated emphasis on audio-visual aids should be placed in general methods courses as compared to vocational education courses favored by non-student teaching center teachers in agreement on the remaining points where emphasis should be placed in audio-visual aid instruction to be of maximum benefit to the teacher education student.

Vocational agriculture teachers opinions concerning future needs of audio-visual equipment and materials are presented in Tables XXIV, XXV, and XXVI. Data in the tables are presented in mean rating form which was determined from the following scale: Definitely Encourages Educational Progress = 3.0, Important to a Degree = 2.0, Not Necessarily the Best Method = 2.0, and Not Needed = 0.0. The vocational agriculture teachers were instructed not to check in more than two columns for each item listed.

Both groups of teachers indicated that the items of equipment with a definite future need are the chalkboard, overhead projector, duplicating machine, thermo-fax machine, movie projector, and slide projector. Equipment needed to a lesser degree than the above but are very beneficial to encourage educational progress are the opaque projector, tape recorder, public address system, still camera, movie camera and video tape machine.

TABLE XXIII

## ASSESSMENT OF WHERE EMPHASIS SHOULD BE PLACED IN AUDIO-VISUAL TRAINING

Point of Emphasis	N		Cumulative Score		Average		Rank	
	S-T	N-S-T	S-T	N-S-T	S-T	N-S-T	S-T	N-S-T
Vocational education courses	34	34	174	184	5.11	5.41	2	1
General Methods courses	36	34	190	164	5.27	4.82	1	2
Student teaching	35	31	149	128	4.25	4.12	3	3
In-Service training (formal)	33	28	97	87	2.93	3.10	4	4
In-Service training (informal)	33	28	78	77	2.36	2.75	5	5
Graduate training	31	27	48	40	1.54	1.48	6	6

S-T = Student teaching center teachers

N-S-T = Non-student teaching center teachers



TABLE XXIV

FUTURE NEEDS OF AUDIO-VISUAL EQUIPMENT AND MATERIALS AS PERCEIVED BY  
TEACHERS CLASSIFIED BY SUPERVISORY DISTRICTS

	Mean Rating																							
	Supervisory Districts																							
	Northwest		Northeast		Central		Southwest		Southeast		Total													
	S-T	N-S-T	S-T	N-S-T	S-T	N-S-T	S-T	N-S-T	S-T	N-S-T	S-T	N-S-T												
	N=7	N=7	N=9	N=9	N=8	N=8	N=12	N=12	N=6	N=6	N=42	N=42												
	N	N	N	N	N	N	N	N	N	N	N	N												
<u>Equipment</u>																								
Movie Proj.	7	2.28	8	2.12	8	2.50	11	2.63	10	2.60	9	2.35	13	2.53	12	2.41	6	2.66	6	2.66	44	2.52	46	2.47
Slide Proj.	8	2.50	7	2.42	8	2.87	11	2.72	10	2.70	10	2.50	13	2.30	11	2.27	6	2.66	6	3.00	45	2.57	45	2.55
Filmstrip Proj.	7	2.28	7	1.85	8	2.50	11	2.45	9	2.55	10	2.10	13	2.15	11	1.90	6	2.33	6	2.50	43	2.34	45	2.15
Overhead Proj.	7	3.00	7	2.85	9	2.33	13	2.61	9	2.66	10	2.70	13	2.69	12	2.50	6	2.33	6	2.83	44	2.61	48	2.66
Opaque Proj.	7	1.85	7	1.00	9	1.77	9	2.00	8	1.75	8	2.00	13	1.92	12	1.50	5	2.00	5	2.20	42	1.85	41	1.70
Tape Recorder	8	2.62	8	2.12	9	2.55	11	2.00	9	2.44	8	2.25	12	2.58	11	2.18	6	2.33	6	2.33	44	2.52	44	2.18
P.A. System	7	2.00	7	1.28	7	1.57	9	1.22	8	2.00	10	1.80	13	1.76	10	1.50	5	1.40	6	2.33	40	1.77	42	1.59
Still Camera	7	2.00	7	1.71	10	2.50	10	1.70	9	2.00	9	2.00	13	1.76	11	2.18	5	2.00	6	2.33	44	2.04	43	1.97
Movie Camera	7	1.85	6	1.16	8	1.87	9	1.77	9	2.11	9	1.66	12	1.41	12	2.08	5	1.80	6	2.16	41	1.78	42	2.80
Duplicating M.	7	2.71	8	2.75	9	1.66	11	2.72	9	2.88	10	2.60	15	2.53	12	2.58	7	2.57	6	3.00	47	2.68	47	2.70
Video-Tape M.	4	2.25	6	1.50	6	1.33	9	1.77	7	2.28	8	1.62	12	2.00	10	1.60	4	1.00	6	2.00	34	1.84	39	1.69
Thermo-Fax M.	5	3.00	7	2.42	9	2.88	11	2.45	9	2.66	7	2.42	11	2.81	11	2.54	6	2.50	6	2.33	40	2.72	42	2.45
Chalk Board	7	3.00	8	2.75	9	2.88	11	2.81	9	2.88	10	2.80	13	2.76	13	2.69	6	2.50	6	3.00	44	2.81	48	2.79
Others																								
<u>Materials</u>																								
Films	7	2.28	6	2.33	9	2.88	11	2.36	10	2.60	10	2.40	13	2.46	13	2.30	6	2.83	6	2.50	45	2.60	46	2.36
Slides	7	2.42	7	2.42	9	2.88	11	2.45	9	2.88	8	2.75	13	2.46	12	2.33	6	2.83	6	3.00	44	2.68	44	2.54
Filmstrips	7	2.28	7	1.85	9	2.44	11	2.45	7	3.00	8	2.25	12	2.16	12	2.00	6	2.83	6	2.16	41	2.48	44	2.15
Transparencies	7	3.00	8	2.75	9	2.88	10	2.70	9	2.88	9	2.88	13	2.76	13	2.38	6	2.83	6	2.66	44	2.86	46	2.69
Photographs	7	2.42	8	2.37	9	2.66	10	2.20	9	2.55	10	2.40	13	2.61	12	2.16	6	2.83	6	2.33	44	2.61	46	2.28
Mock-ups/Models	7	2.14	7	1.57	8	2.37	10	2.50	8	2.25	9	2.00	13	2.30	12	1.83	6	2.16	6	2.16	42	2.26	44	2.02
Field Trips	7	2.71	7	2.71	9	3.00	11	2.63	9	2.77	11	2.63	13	2.70	13	2.69	7	2.57	6	3.00	45	2.77	48	2.70
Guest Speakers	7	2.28	7	2.28	8	2.00	11	2.00	9	2.44	9	2.33	13	2.23	12	1.66	5	2.80	6	2.33	42	2.3	45	2.06
Programmed Text	7	2.57	7	1.57	7	2.28	10	2.20	9	2.22	11	2.00	13	2.30	13	2.38	6	2.00	6	2.66	42	2.28	47	2.17
Charts & Graphs	7	2.71	8	2.37	9	2.33	11	2.18	9	2.55	10	2.60	13	2.15	12	2.25	6	2.66	6	2.83	44	2.43	47	2.40
Others																								
Samples																	1	3.00			1	3.00		

A rating of 3.0 indicates definitely encourages educational progress  
A rating of 2.0 indicates important to a degree  
A rating of 1.0 indicates not necessarily the best method  
A rating of 0.0 indicates not needed

TABLE XXV

FUTURE NEEDS OF AUDIO-VISUAL EQUIPMENT AND MATERIALS AS PERCEIVED BY TEACHERS CLASSIFIED BY AGE GROUP

		Mean Rating Age Group															
		20-34				35-49				50-65				Total			
		S-T		N-S-T		S-T		N-S-T		S-T		N-S-T		S-T		N-S-T	
		N = 18		N = 25		N = 16		N = 12		N = 8		N = 5		N = 42		N = 42	
		N		N		N		N		N		N		N		N	
<u>Equipment</u>																	
Movie Proj.	19	2.63	28	2.46	18	2.55	13	2.38	7	2.14	5	2.80	44	2.52	46	2.47	
Slide Proj.	19	2.52	26	2.46	18	2.61	14	2.35	8	2.62	5	3.00	45	2.57	45	2.55	
Filmstrip Proj.	17	1.88	27	1.92	18	2.61	13	2.30	8	2.75	5	3.00	43	2.34	45	2.15	
Overhead Proj.	19	2.36	30	2.66	17	2.76	13	2.61	8	2.87	5	2.80	44	2.61	48	2.66	
Opaque Proj.	18	1.61	25	1.68	16	2.12	11	1.36	8	1.87	5	2.60	42	1.85	41	1.70	
Tape Recorder	18	2.50	27	2.07	18	2.50	12	2.25	8	2.62	5	2.62	44	2.52	44	2.18	
P.A. System	18	1.66	25	1.64	16	1.87	13	1.46	6	2.16	4	1.75	40	1.77	42	1.59	
Still Camera	21	2.09	25	2.08	15	1.80	13	1.61	8	2.37	5	2.40	44	2.04	43	1.97	
Movie Camera	19	1.78	24	1.79	15	1.73	13	1.69	7	1.85	5	2.20	41	1.78	42	1.80	
Duplicating M.	21	2.57	28	2.75	17	2.76	14	2.50	9	2.77	5	3.00	47	2.68	47	2.70	
Video-Tape M.	16	1.81	25	1.52	12	2.00	10	2.00	5	1.60	4	2.00	33	1.84	39	1.69	
Thermo-Fax M.	17	2.88	26	2.50	15	2.60	11	2.45	8	2.87	5	2.20	40	2.77	42	2.45	
Chalk Board	19	2.84	29	2.79	17	2.76	14	2.71	8	2.87	5	3.00	44	2.81	48	2.79	
Others																	
<u>Materials</u>																	
Films	19	2.68	28	2.50	18	2.61	13	2.15	8	2.37	5	2.60	45	2.60	46	2.36	
Slides	19	2.73	28	2.57	17	2.64	11	2.27	8	2.62	5	3.00	44	2.68	44	2.54	
Filmstrips	16	2.25	28	2.00	17	2.64	11	2.27	8	2.62	5	2.80	41	2.48	44	2.15	
Transparencies	19	2.89	28	2.75	17	2.88	13	2.61	8	2.75	5	2.60	44	2.86	46	2.69	
Photographs	19	2.68	27	2.22	17	2.64	14	2.35	8	2.37	5	2.40	44	2.61	46	2.28	
Mock-ups/Models	19	2.15	26	2.07	17	2.47	13	1.84	6	2.00	5	2.20	42	2.26	44	2.02	
Field Trips	19	2.89	30	2.73	18	2.66	13	2.53	8	2.87	5	3.00	45	2.77	48	2.70	
Guest Speakers	19	2.42	26	2.07	16	2.43	14	2.00	7	2.00	5	2.20	43	2.30	45	2.06	
Programmed Text	19	2.26	29	2.27	16	2.25	13	1.76	7	2.57	5	2.60	42	2.28	47	2.17	
Charts and Graphs	20	2.35	28	2.39	16	2.56	14	2.14	8	2.37	5	3.00	44	2.43	47	2.40	
Others																	
Samples	1	3.00												1	3.00		
S-T = Student teaching center teachers		A rating of 3.0 indicates <u>definitely encourages educational progress</u>															
N-S-T = Non-student teaching center teachers		A rating of 2.0 indicates <u>important to a degree</u>															
		A rating of 1.0 indicates <u>not necessarily the best method</u>															
		A rating of 0.0 indicates <u>not needed</u>															

TABLE XXVI

FUTURE NEEDS OF AUDIO-VISUAL EQUIPMENT AND MATERIALS AS PERCEIVED BY TEACHERS CLASSIFIED BY LEVEL OF FORMAL EDUCATION

	B.S. degree				B.S. plus				Mean Rating M.S. degree				M.S. plus				Average Score			
	S-T		N-S-T		S-T		N-S-T		S-T		N-S-T		S-T		N-S-T		S-T		N-S-T	
	N=0		N=5		N=20		N=26		N=5		N=1		N=17		N=10		N=42		N=42	
	N		N		N		N		N		N		N		N		N		N	
<b>Equipment</b>																				
Movie Proj.	0	--	5	2.00	22	2.54	29	2.51	5	2.60	1	3.00	17	2.47	11	2.54	44	2.52	46	2.47
Slide Proj.	0	--	5	1.80	22	2.40	27	2.66	5	2.60	1	2.00	18	2.77	12	2.66	45	2.57	45	2.55
Filmstrip Proj.	0	--	5	1.60	20	2.05	27	2.07	5	2.40	1	2.00	18	2.66	12	2.58	43	2.34	45	2.15
Overhead Proj.	0	--	4	2.75	22	2.36	31	2.64	5	3.00	1	3.00	17	2.82	12	2.66	44	2.61	48	2.66
Opaque Proj.	0	--	5	1.40	20	1.70	25	1.76	5	1.80	1	1.00	17	2.05	10	1.80	42	1.85	41	1.70
Tape Recorder	0	--	5	2.00	21	2.52	28	2.17	5	2.60	1	2.00	18	2.50	10	2.30	44	2.52	44	2.18
P.A. System	0	--	5	1.00	20	1.70	27	1.69	5	2.00	1	2.00	15	1.80	10	1.40	40	1.77	42	1.59
Still Camera	0	--	5	1.80	24	1.95	25	2.08	5	2.20	1	0.00	15	2.13	12	2.00	44	2.04	43	1.97
Movie Camera	0	--	5	2.00	20	1.60	24	1.70	5	2.20	1	0.00	16	1.87	12	2.08	41	1.78	42	1.80
Duplicating M.	0	--	5	2.60	25	2.56	29	2.72	5	2.80	1	2.70	17	2.82	12	2.75	47	2.68	47	2.70
Video-Tape M.	0	--	5	1.80	18	1.83	24	1.53	4	1.25	1	2.00	11	2.09	9	2.00	33	1.84	39	1.69
Thermo-Fax M.	0	--	5	2.60	20	2.80	26	2.30	4	3.00	1	2.00	16	2.68	10	2.80	40	2.77	42	2.45
Chalk Board	0	--	5	2.80	22	2.77	30	2.76	5	3.00	1	3.00	17	2.82	12	2.83	44	2.81	48	2.79
Others																				
<b>Materials</b>																				
Films	0	--	5	2.40	22	2.59	28	2.35	5	2.60	1	3.00	18	2.61	12	2.25	45	2.60	46	2.36
Slides	0	--	5	2.00	22	2.63	28	2.64	5	2.60	1	2.00	17	2.76	10	2.60	44	2.68	44	2.54
Filmstrips	0	--	5	1.80	19	2.26	28	2.10	5	2.60	1	2.00	17	2.70	10	2.50	41	2.48	44	2.15
Transparencies	0	--	6	2.66	22	2.77	28	2.64	5	3.00	1	3.00	17	2.94	11	2.81	44	2.86	46	2.69
Photographs	0	--	7	2.28	22	2.54	26	2.23	5	2.80	1	3.00	17	2.64	12	2.33	44	2.61	46	2.28
Mock-ups/Models	0	--	5	2.80	21	2.09	26	2.11	5	2.00	1	1.00	16	2.56	12	2.08	42	2.26	44	2.02
Field Trips	0	--	6	2.83	21	2.76	29	2.55	5	2.80	1	3.00	19	2.78	12	2.66	45	2.77	48	2.70
Guest Speakers	0	--	5	1.60	22	2.18	27	2.14	5	2.00	1	3.00	15	2.60	12	2.00	42	2.30	45	2.06
Programmed Text	0	--	6	2.33	22	2.18	28	2.25	5	2.20	1	1.00	15	2.40	12	1.91	42	2.28	47	2.17
Charts and Graphs	0	--	6	1.33	22	2.18	28	2.42	5	2.20	1	3.00	17	2.76	12	2.33	44	2.43	47	2.40
Others																				
Samples					1	3.00											1	3.00		

S-T = Student Teaching Center Teachers  
 N-S-T = Non-Student Teaching Center Teachers

A rating of 3.0 indicates definitely encourages educational progress  
 A rating of 2.0 indicates important to a degree  
 A rating of 1.0 indicates not necessarily the best method  
 A rating of 0.0 indicates not needed

Transparencies, slides, films and field trips definitely encourage educational progress and are definitely needed in the future as rated by both groups of teachers. Other materials receiving a lower future need rating were: filmstrips, photographs, mock-ups and models, charts and graphs, programmed text, and guest speakers as indicated in Tables XXIV, XXV, and XXVI.

## CHAPTER V

### SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

#### Purpose of the Study

The major purposes of this study were to determine the availability, utilization, and projected needs of audio-visual aids in Oklahoma vocational agriculture departments based on a comparison between student teaching centers and selected non-student teaching centers.

#### Summary

Questionnaires were mailed to a total of 102 vocational agriculture teachers involved in this study. Returns were secured from 96 teachers, 54 of whom were teaching in non-student teaching centers and 42 in student teaching centers. In order to have equal numbers of teacher returns in each group, 42 teacher returns were randomly selected from among the 54 total returns from teachers in non-student teaching centers. Responses of each group were then collated, compared and analyzed to compile data for this study.

The majority or 51.2 percent of student teaching and non-student teaching center teachers were under 35 years of age. Twenty-eight, or 33.3 percent of the teachers ranged from 35-49 years of age, with the remaining 13 teachers or 15.5 percent between 50-65 years of age.

A Bachelor of Science degree plus additional hours of study was held by 46, or 54.7 percent of the 84 vocational agriculture teachers

involved in this study. Five, or 6.0 percent of the teachers held a Bachelor of Science degree, six, or 7.2 percent held a Master of Science degree, and 27, or 32.1 percent hold a Master of Science degree plus additional hours.

Three student teaching center teachers and four non-student teaching center teachers indicated they had experience in education other than teaching. Also, 12 student teaching center teachers and seven non-student teaching center teachers reported experience in other than education work.

The average years in teaching vocational agriculture were 15 years for student teaching center teachers and 10 years for non-student teaching center teachers, respectively.

The availability of audio-visual aids are influenced by many factors, some of these major factors are discussed in the following paragraph. A majority of 58.3 percent of the teachers indicated the major source of training received in audio-visual aids instruction was almost all by self-direction. Administrator level of encouragement in use of audio-visual aids was relatively high as perceived by vocational agriculture teachers involved in this study. A variety of sources were reported as being used to develop audio-visual and sensory teaching aids. However, the core curriculum was the most frequently used source for audio-visual aids development. About one-half of the teachers indicated cost of equipment and materials as the major problem in obtaining audio-visual aids.

Major findings influencing the utilization of audio-visual aids are summarized as follows: Teacher operating proficiency for most audio-visual equipment was surprisingly good for the level of formal training

received in audio-visual aids instruction. Both groups of teachers reported using a wide variety of audio-visual materials with varying degrees of frequency. However, field trips were the most frequently used as a source of audio-visual materials. Teachers indicated various reasons for incorporation of audio-visual aids in their agriculture curriculum. The major purpose being, stimulating and maintaining the interest of the students.

The major findings concerning projected needs of audio-visual aids indicated a definite need for audio-visual aids in the future. Pre-service training in audio-visual aids instruction for teacher education students was recommended by both groups of teachers. Student teaching center teachers and non-student teaching center teachers indicated a definite need for audio-visual aids for the encouragement of educational progress.

### Implications

The following implications are made as a result of analyses of major findings of this study.

1. The low level of formal training indicated as received in audio-visual aids instruction was possibly caused by the fairly recent introduction of these instructional aids in teacher education courses. However, with the new State Department of Education regulation now in effect the nature and extent of formal training in audio-visual aids instruction should definitely show an increase.
2. As indicated from the findings, administrator encouragement in use of audio-visual aids in all courses definitely influences

the availability of these aids for use by the teachers.

3. With a provision allowing for purchase of audio-visual aids in the latest matching funds program, the availability of these aids should increase in vocational agriculture departments in Oklahoma.
4. Because of the limited production of audio-visual materials for supplementing units of instruction projected in the core curriculum, the maximum benefit of the core curriculum may not currently be fully utilized.
5. The projected needs of audio-visual aids will probably continue to show a definite need in the future because teacher education students are presently receiving training in instructional media use and construction.

### Conclusions

The conclusions are based only on the responses of the 84 vocational agriculture teachers involved in this study. Based upon an analysis of data collected, analyzed, and presented in this study, the following major conclusions were made:

1. A low level of formal training in audio-visual aids instruction has been received thus far by the 84 vocational agriculture teachers involved in this study.
2. School administrators in general indicated a relatively strong encouragement toward the use of audio-visual aids in vocational agriculture.
3. The core curriculum was indicated as the most commonly used source for developing audio-visual and sensory teaching aids



by the teachers.

4. The majority of the teachers indicated that relatively high cost was a major deterrent in obtaining audio-visual equipment and materials.
5. Many teachers indicated a high operating proficiency and frequency of use for many types of audio-visual equipment even with the low level of formal training indicated.
6. The field trip was the most frequently used audio-visual method.
7. Stimulating and maintaining interest was the major objective indicated by teachers for using audio-visual aids in the vocational agriculture curriculum.
8. Teachers serving in student teaching centers preferred emphasis to be placed on audio-visual aids instruction in general methods courses as compared to non-student teaching center teachers who favored emphasis to be placed on vocational education courses for training in audio-visual aids instruction.
9. Both groups of teachers indicated a definite need for increased usage of many types of audio-visual aids in the future.
10. No significant differences were observed concerning the availability, utilization, or projected needs of audio-visual aids between student teaching center teachers and non-student teaching center teachers involved in this study.

#### Recommendations

The author feels more studies need to be made concerning the future availability, utilization, and projected needs of audio-visual aids and also to determine the effect the State Department of Education regula-

tion has on these aids. A follow-up study could be made in future years to determine if any change of teachers assessment of audio-visual aids are noted.

Because of the vocational agriculture teachers demanding schedule and absence of audio-visual production equipment in some schools, the author would like to reinforce two recommendations made by Patton (23).

1. The Curriculum and Instructional Materials Center should implement a plan for developing transparencies to be included in the core curriculum.
2. Audio-visual materials should be developed for use in supplementing units of instruction.

The author would like to suggest the following recommendation based on the results of the study.

1. In-service programs pertaining to selection, use, and operation of present as well as new audio-visual aids should be conducted to provide relevant instructional assistance to present in-service teachers.

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## APPENDIX

Dear Oklahoma Vocational Agriculture Instructor:

I would like to take this opportunity to informally introduce myself and ask for your cooperation in filling out the enclosed questionnaire. The questionnaire is designed to obtain data for the compiling of my thesis in Agricultural Education at Oklahoma State University.

This questionnaire is being sent out to various vocational agriculture departments to measure the availability, utilization, and projected needs of audio-visual equipment and materials in the state of Oklahoma. You perhaps know that recently the State Department of Education decreed that all persons certificated after September 1, 1971 have a course in instructional media use and construction on their transcript. The Agricultural Education Department is very anxious to obtain information about the current status of media and materials use by teachers of vocational agriculture.

We recognize that your time is one of your most valuable possessions with the impending fairs and shows. With this in mind, this questionnaire was designed to not take more than ten minutes of your time to complete.

I am certain that you agree vocational agriculture holds an unlimited future for many students enrolled in our high schools. One function of the questionnaire is to measure and best predict the future needs of audio-visual aids in our schools. With the brief purpose of this study defined, please complete and return the questionnaire in the self-addressed, stamped envelope at your earliest convenience.

Thank you.

Sincerely,

Neil Smith  
Graduate Student

P.S. Please accept this pen as appreciation for filling out the enclosed questionnaire.

VITA

Thomas Neil Smith

Candidate for the Degree of  
Master of Science

**Thesis:** A COMPARISON OF THE AVAILABILITY, UTILIZATION, AND PROJECTED  
NEEDS OF AUDIO-VISUAL AIDS BETWEEN VOCATIONAL AGRICULTURE  
STUDENT TEACHING CENTERS AND SELECTED NON-STUDENT TEACHING  
CENTERS IN OKLAHOMA

**Major Field:** Agricultural Education

**Biographical:**

**Personal Data:** Born at Great Bend, Kansas, August 5, 1948.

**Education:** Graduated from Sublette High School, Sublette, Kansas,  
in May 1966; Attended Panhandle State College, Goodwell,  
Oklahoma, from September, 1966 to December 1970, received a  
Bachelor of Science degree, with a major in Animal Science;  
completed the requirements for the Master of Science degree  
in May, 1972.

**Organizations:** Student member of National Vocational Agriculture  
Teachers Association, and Oklahoma Vocational Agriculture  
Teachers Association, Alpha Tau Alpha, Block and Bridle Club.