MEDIA UTILIZATION PRACTICES AND PREFERENCES OF TEACHERS IN AREA VOCATIONAL-TECHNICAL SCHOOLS IN OKLAHOMA

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CHAPTER I

PROBLEM DEFINITION

Introduction

In 1965, the Elementary and Secondary Education Act Title II funds were made available to public and private schools, with emphasis on funding of school media programs and materials. Since that time, there has been progress toward media utilization for the improvement of instruction and enrichment of the learning experience in United States classrooms (Mahar, 1982).

Much research has examined traditional methods of instruction versus methods using media. The literature reveals several different schools of thought on this subject. Most find no significant differences between the two methods (Torkelson, 1984; Schramm, 1977; Wilkenson, 1980; Clark, 1983; Winn, 1984). These findings are of interest in themselves in that involvement of media in instruction frees the good teacher of routine instruction so that their time may be used more effectively. Some research does indicate that effective employment of educational media in conjunction with teacher instruction and interaction definitely increases learning (Walker, 1983).

A few studies reported that the use of certain technologies has increased learning when compared to traditional teaching (Schuelke and King, 1983; Boen, 1982; Kulik, Kulik, and Cohen, 1980). For example, instructional television or computer-assisted instruction has been seen as a

successful alternative to traditional teaching (Schuelke and King, 1983). Although Thomas Edison (cited in Griffin, 1983) predicted in 1913 that in 10 years' time education would be completely changed due to 16-mm motion pictures, such a revolution has not materialized. Others have foreseen similar changes in education due to television and, more recently, computers. Although the extent of the effectiveness of computer usage in education has not been agreed upon, most do not deny the potential. Teachers in Oklahoma, as reported by Barrick (1983), perceive computers as advantageous for the improvement of instruction, student motivation, and preparation for the future. In fact, Cheek (1984) quoted Levin and Rumberger as projecting that employment for data processing machine mechanics, computer system analysts, and computer operators will increase over 100% by 1990. Papert (1984) believed that every school should have computers now, even though the technology is still changing and improving, so that children will become familiar with them now, not in five years, at which time they may be seriously handicapped without a basic understanding.

Many noteworthy scholars (Otto, 1984; Bear, 1984) agreed that instructional media will never effectively replace teacher interaction in instruction. Rather, instructional media, correctly used, has become an effective teaching tool.

The extent of effectiveness of media adoption in the classroom has not been unequivocally determined and agreed upon by scholars. Most agree that particular types of media are more effective than others in specific teaching situations, depending on the objectives to be accomplished (Dale, Hoban, and Finn, 1949; Heinich, Molenda, and Russell (1982).

Some course content does not lend itself to media utilization as readily as others. Godfrey's (1967) study on the use of instructional materials by teachers according to subject matter found that records,

tapes, and slides were used most often by language teachers; films, filmstrips, and opaque materials were used most often by science teachers; and television and radio were used most often by fine arts teachers. In the area of vocational-technical schools, little research was found as to extent or type of media used by teachers, although it is obvious upon visiting area vocational-technical schools that much equipment and materials are available.

Totten and Fulton (1966) devised an instrument designed to determine whether teachers were employing media effectively. The criteria were determined by a review of the professional literature in the field and a jury of 12 educational-media authorities. That instrument, in revised form, is used in this study. The original Media Utilization Checklist devised by Totten and Fulton was used in research completed by King (1969). King's study was designed to determine the extent of media usage in Oklahoma public schools in relation to the sophistication of the media program.

In 1972, Petty determined the extent of media utilization and programs at the university level in Kansas. Although Petty did not use the Media Utilization Checklist, he did use the Evaluative Checklist, also devised by Totten and Fulton (1966) and used in the evaluation of school media programs.

The revised version of the Totten and Fulton Media Utilization Checklist was also used by Payne (1973). Payne's study reported the extent of media utilization practices of first year teachers in Payne County, Oklahoma.

Further, research by Lowden (1980) reported the level of sophistication of media programs in vocational-technical schools in Oklahoma. He did not follow King's (1969) approach in correlating media programs with the extent of media use by vocational-technical teachers. In Lowden's study,

the Evaluative Checklist was used to evaluate media programs in area vocational-technical schools; however, Lowden did not evaluate utilization practices of teachers in vocational-technical education.

Statement of the Problem

The focus of this study was to extend the research of Totten and Fulton (1966), King (1969), and Payne (1973) conducted in public schools; of Petty (1972), who studied media programs in colleges and universities in Kansas; and of Lowden (1980), who investigated media programs in area vocational-technical schools in Oklahoma. The present study, using the Media Utilization Checklist, focused on three problems as yet unaddressed in the literature. First, to what extent are instructional materials being used by teachers in vocational-technical schools? Second, to what extent are innovations in educational media being incorporated into the vocational-technical school classroom? And third, which forms of instructional materials are most preferred by teachers in vocational-technical schools?

Significance of the Study

Technology in education has changed considerably in the past 10 years. Studies of media utilization by Totten and Fulton (1966) were conducted prior to the standards mandated by the state of Oklahoma (Oklahoma State Department of Education, 1971) and implemented in 1968, that require preservice teachers to take a media utilization course as a part of their professional training. King's (1969) study was conducted after the standards were set, although little change due to the standards could have been evidenced at the time of his study. In his study, King revised the media

utilization checklist originally used by Totten and Fulton (1966). King's study was completed prior to the inclusion of microcomputers in education. One aspect of this study was to again revise the Utilization Checklist to include computers.

The target population of this study was vocational-technical educators for two reasons. First, because the demand for service workers with skills obtained through vocational-technical education has increased (Alexander, 1983); second, because little research on media use in vocational-technical schools has been published. The vocational-technical schools in Oklahoma have become leaders in the nation in quality vocational-technical education (Troy, 1984). Of particular interest to this study is the extent to which Oklahoma vocational-technical schools incorporate the use of microcomputers in education, especially as relating to business and industry, as well as specialized uses of other instructional materials. The status of educational media utilization is not likely to be known without periodic evaluation. This study will contribute to knowledge of media utilization and practices by providing data concerning a little studied facet of our schools.

Objectives

The following objectives provided the basis for the descriptive portion of this study:

1. To determine the reported level of preference of selected instructional materials in the area vocational-technical schools.

2. To determine the reported level of usage of the following types of instructional materials in the area vocational-technical schools:

    a. overhead transparencies

    b. slides

c. filmstrips

d. motion picture films

e. opaque materials

f. sound recordings

g. teaching devices and programmed learning materials

h. educational television

i. videotape recorders

j. computers

3. To determine which instructional materials are most often used by teachers of various subject areas in area vocational-technical schools in Oklahoma.

Hypotheses

The following null hypotheses were tested using a level of significance of .05:

H_0: For each of the following types of media, there is no relationship between reported level of usage in the area vocational-technical schools and the indicated preference for that type of media used in teaching:

a. overhead transparencies

b. slides

c. filmstrips

d. motion picture films

e. opaque materials

f. sound recordings

g. teaching devices and programmed learning materials

h. educational television

i. videotape recorders

j. computers

Research Questions

Specific questions to be asked in this study are:

1. Under ideal conditions, what types of instructional materials are preferred by teachers in area vocational-technical schools in Oklahoma?

2. What types of instructional materials included on the Media Utilization Checklist are being used by teachers in area vocational-technical schools in Oklahoma?

3. Which instructional materials are most often used by teachers of the various subject areas in area vocational-technical schools in Oklahoma?

4. How extensively are the newer forms of instructional media being utilized by teachers of area vocational-technical schools in Oklahoma?

5. Is there a relationship between reported media usage and preference by area vocational-technical school teachers?

Assumptions

Several assumptions regarding this study have been made. The following are aspects for which it would be difficult or impossible to set controls:

1. The respondents have honestly and accurately completed the questionnaire.

2. The responses are representative of responses of all faculty in the population.

Limitations

Several limitations have, of necessity, been established at the onset

of the study:

1. Only media utilization practices and preferences of teachers with two or more years of teaching experience were evaluated. No attempt was made to evaluate programs.

2. The practices and preferences of only selected area vocational-technical school teachers in Oklahoma were evaluated.

3. This study was only concerned with selected types of instructional media as set forth in the research instrument.

Definition of Terms

The following definitions were utilized in this study:

Area Vocational-Technical School. This term refers to a vocational school at the secondary level which serves joint vocational school districts. Such schools eliminate the need for each school district to establish a vocational high school of its own. Sometimes this school is called a joint vocational school (Good, 1973).

Audio-visual Aid. Any device by means of which the learning process may be encouraged or carried on through the senses of hearing and/or sight is referred to as an audio-visual aid (Good, 1973).

CAI. This abbreviation stands for Computer-Assisted Instruction or Computer-Aided Instruction. An educational use of computers which usually entails using computer programs which drill, tutor, simulate, or teach problem-solving skills (Taffee, 1986).

Educational Media. A term used in various titles of the National Defense Education Act of 1958 to describe pertinent materials and technological devices such as television, teaching machines, programmed learning materials, electronic learning laboratories, and computers. The term also includes many well-established audio-visual media such as motion

pictures, filmstrips, slides, and recorders and the equipment necessary for their use (Good, 1973).

Educational Technology. A term used to describe a reliance on equipment-oriented instructional techniques such as computer-assisted instruction, simulators, multimedia presentations, and media-based self-instruction (Good, 1973).

Evaluation. This term refers to the appraisal of an educational media program by making value judgments based on established criteria that relate to specific elements of the program (King, 1969).

Instructional Materials. Any device with instructional content or function that is used for teaching purposes is referred to as instructional materials. These devices include books, supplementary reading materials, audio-visual and other sensory materials, scripting for radio and television programs, or teachers' guides and materials to supplement television programming, programs for computer-managed instruction, instruction sheets, and packaged sets of materials for construction or manipulation (Good, 1973).

Instructional Media. Devices and other materials which present a complete body of information and are largely self-supporting rather than supplementary in the teaching-learning process are referred to as instructional media (Good, 1973).

Medium of Instruction. This term refers to the principal mode used to mediate the plan of instruction to the learner, including face-to-face instruction by a live teacher or mediated teaching via prerecorded tapes or records, books, instruction sheets, correspondence or computer-assisted instruction, television, videotape, or some other audio-visual means or combination of means (Good, 1973).

Organization of the Study

Presented in this chapter was an introduction to the topic under investigation. The statement of the problem, significance of the study, research questions, assumptions, limitations, and definition of terms were also provided. A review of the literature is presented in Chapter II. The methodology to be used in conducting the investigation is discussed in Chapter III. Chapter IV describes the pilot study, Chapter V reports the analysis of the data derived from the returned questionnaires, and Chapter VI presents the summary and conclusions drawn from the data analysis.

CHAPTER II

REVIEW OF RELATED LITERATURE

Numerous studies have involved the evaluation of media programs and teacher utilization of media in public schools, colleges, and universities. Little research which specifically described the status of media and vocational-technical schools was found in the literature, although media utilization studies at the public school, college, and university levels can be related to media use in vocational-technical schools. As has been stated in Lowden's (1980) study on vocational-technical education, media utilization programs, practices, and procedures are usually generalizable through all facets of education. The differences lie in the criteria used in judging the effectiveness of media usage and striving for a match between instructional materials and teaching/learning activity.

Numerous other researchers have studied the effects of using various means of instruction to enhance learning (McPherson, 1946 [cited in King, 1969]; Dale, Hoban, and Finn, 1949; Davis and Alexander, 1977; Dunn, 1983). Davis and Alexander discussed three objectives of using educational media:

1. To facilitate the learning of concepts, principles, and perceptual motor skills.
2. To create an emotional response.
3. To enhance student motivation.

Davis and Alexander (1977) further stated in defense of media utilization that the variance of stimulus is a definite enhancement to maintenance of attention or to student motivation, pointing to the desirability of

incorporating into learning situations varied mediums of instruction in order to communicate with maximum efficiency. According to Cambre (1981, p. 11), "The proof of effectiveness lies in the communication received by the audience."

The review of related literature will be presented in three sections. The first section relates factors affecting media utilization. Examined in the second section is the use of instructional materials by teachers at various levels in the educational system. As might be expected, availability is of primary interest to a utilization study. Pertinent literature on teacher preferences is presented in the third section.

Factors Affecting Media Utilization

It has been nearly two decades since Totten and Fulton's (1966) study on media utilization using the original Media Utilization Checklist was conducted. The checklist was revised and expanded by King in 1969. King's revisions included the addition of the newer technologies at that time (television and videotape recorder) and clarification of special terminology used. Since that time, several studies have been completed using the Evaluative Checklist and/or the Media Utilization Checklist. Those studies included ones conducted by Petty (1972), Payne (1973), Nicosia (1973), and Lowden (1980) in evaluation of school media programs or media utilization practices in a variety of types of schools. In school media programs, many commonalities were found. Teague (1966), Totten and Fulton (1966), and King (1969) reported weaknesses in location of facilities, distribution methods, number of media personnel, teacher competencies in media operation, and in commitment of administrators toward media programs. King indicated that larger school systems are more adequately equipped than smaller school systems. Teague also found that better physical facilities

improved the utilization of educational media in the classroom. In a study done by Hawkins (1979) on educational media services in selected public secondary schools in the state of Missouri, it is interesting to note that usage of media materials and facilities varied somewhat from those reported in studies completed previously in Oklahoma. Hawkins concluded that facilities and media staff were adequate in Missouri, although he found equipment and materials to be inadequate due to budgetary limitations.

Since the completion of the Totten and Fulton (1966), Teague (1966), and King (1969) studies, competency in instructional media for teacher certification in Oklahoma has become mandatory (Payne, 1973). Although instructors of vocational-technical classes are often professionals from the community and do not necessarily seek state teacher certification, the research supporting media usage and criteria on appropriate media usage should apply to any teaching situation.

One recommendation made by Teague (1966) was that efforts be made to achieve greater commitment of administrators and teachers to the use of a wide variety of media. Many authorities agreed that schools must have the support of administrative involvement and commitment in order to improve the quality of instruction by the proper use of media (Teague, 1966; Totten and Fulton, 1966; King, 1969; Thornton and Brown, 1968; Brown, Lewis, and Harcleroad, 1983). Support of administrators would guarantee greater consideration in budgetary matters, one area of concern cited by many researchers (Hawkins, 1979; Nicosia, 1973; Margoles, 1969; Petty, 1972). According to Woodbury (1978), the outlay for instructional materials has dwindled to about one-half of the educational budgets, although teaching materials are increasing in sophistication, diversity, and number.

Margoles (1969), in his guidelines for implementing media support services at the college level; and Petty (1972), in his evaluation of

selected media programs in Kansas colleges and universities, found weaknesses similar to those stated by Totten and Fulton (1966) and King (1969) in media programs at the college level. Margoles and Petty have stated that these are barriers to the utilization of media. In these studies, teachers reported the major barrier as being lack of available materials related to their areas of interest. Other teacher concerns were the amount of time required to preview materials, insufficient competencies in operation of media equipment, inadequate facilities, outdated materials, and inadequate budget.

Librero (1981), in a media utilization study at the University of Indiana, found the deterrents or barriers to media usage to most often (21.3%) be lack of time to select and preview materials. Lack of budget was the largest contributing deterrent to usage of more materials, according to 13.8% of the respondents, while 10.6% responded that the lack of materials was their largest deterrent. Other respondents (9.6%) said that there was too much red tape, 7.4% said that they did not know which materials were most appropriate for their classes, 6.4% reported lack of class time to cover existing materials, 6.4% said that equipment was frequently unavailable, and 5.3% said that materials were frequently unavailable. In each of the following categories, 3.2% of the respondents said that visuals were too expensive or that administrators were not interested in their using media. Another 3.2% related lack of ability to use the equipment and materials.

In an evaluation of the educational media programs in Louisiana, Nicosia (1973) found that Louisiana public schools' educational media programs were inadequate in services, budget, administrative support, staffing, and facilities. Like King (1969), Nicosia identified a definite correlation between the strength of the media programs and the size of the

instructional unit. Nicosia also stated that there was a positive relationship between the well-established educational media program and teacher utilization of media in Louisiana public school systems.

In a recent study of type of materials most used by secondary school health teachers in Tennessee, Nybo (1976) found the problems most frequently encountered by respondents and considered by teachers to be barriers to utilization of educational media in instruction to be:

1. Too little time to preview or prepare materials adequately.
2. Inadequacy of materials and equipment.
3. Too much red tape.
4. Difficulty integrating materials into lesson plans.
5. Inadequate facilities.
6. Equipment in poor repair.
7. Inadequate competencies in media utilization and operation.

Studies on equipment availability are also pertinent. Research has shown that the greatest increase in equipment available to teachers from 1946 to 1964, listed in order of greatest increase first, is as follows: tape players, television sets, overhead projectors, record players, 16-mm projectors, slide/filmstrip projectors, opaque projectors, and radio (Finn, Perrin, and Campion, 1962; Godfrey, 1967).

Two decades later, Carter (1982), in his study of two-year college learning-resource centers in Oklahoma, found that all of the responding colleges surveyed provided filmstrip projectors, overhead projectors, slide projectors, record players, audio recorders, and videotape players. Furthermore, videotape recorders, 16-mm projectors, television sets, and reel-to-reel recorders were provided by 91% of the responding colleges in Carter's study. Only half provided 8-mm projectors, while virtually none, at that time, provided microcomputers.

Teacher Utilization of Instructional Materials

Of primary interest to this study was teacher usage of instructional materials. A study done in 1967 by the National Education Association (NEA) Research Division reported that over 80% of the teachers surveyed had access to overhead projectors, silent filmstrip projectors, record players, 16-mm projectors, and tape recorders; fewer had access to opaque projectors, sound filmstrip projectors, educational television, programmed instructional materials, 8-mm film projectors, and closed-circuit television. Only 3.2% had computers available in 1967. Usage differs from accessibility in that 81.2% reported making use of silent filmstrip projectors, while fewer than 80% reported using the other types of educational materials available for use. Only 1.4% used computers.

Nicosia (1973) found teacher utilization of recordings (tape or record) to enliven instruction and motion picture films (16-mm), filmstrips, and overhead transparencies in Louisiana public schools to be high in frequency of use. Teachers in Nicosia's study were generally found to be low in frequency of use of opaque projection, slides, 8-mm motion picture films, and the use of tape recordings for self-evaluation. His results indicated that recordings which enliven instruction were often used, while recording for self-evaluation was seldom used. Use of videotape recordings and educational television was nonexistent.

In 1973, Payne used the Media Utilization Checklist in a study in Payne County, Oklahoma, of first-year teachers' media utilization practices. Payne's findings agreed with Nicosia's (1973) in all aspects except that Payne found that teachers often use audio taped recordings for self-evaluation. Payne found wide use of teaching machines or programmed learning materials, recordings for enhancement of instruction, as well as

for self-evaluation, overhead transparencies, filmstrips, and motion pictures. The teachers in this study were, however, generally low in frequency of use of educational television, videotaped recordings, opaque projection, slide projection, and 8-mm motion picture projection.

Librero's (1981) study ranked audio-visual media according to respondents ordering of media most used in teaching. Overhead projectors were ranked first; 16-mm film, second; videotape, third; audio tape fourth; slides, fifth; charts and graphs, sixth; filmstrips, seventh; simulation games, eighth; exhibits and displays, ninth; computers, tenth; books, eleventh; opaque projectors, twelfth; and television and 8-mm films were ranked last. Respondents in Librero's study were also asked to forecast which instructional materials they predicted to be most in demand in the next five years. Those predictions follow in the order ranked from 1-12; overhead transparencies, video cassettes, computer programs, 16-mm films, video discs, slides, self-instructional materials, video games, filmstrips, television, 8-mm filmloops, and simulations and games.

No research was found regarding media utilization practices of teachers in vocational-technical school classes; however, in an article on media use in vocational-technical education, Dyrenfurth and Miller (1984) stated:

> Because of the applied nature of the courses, because of student characteristics, and because vocational instructors deliberately seek to maximize the impact of their instruction by making it more concrete, vocational education's fertile environment incorporates a large variety of media-based instructional methods. The vocational-education field's accelerating rush toward high technology, and the quest for excellence, fuel the drive toward more effective instructional practices (p. 8).

Dyrenfurth and Miller (1984) predicted that overhead projection materials would be most widely used by vocational education teachers, followed by slides and filmstrips as second most used, with films as third most frequently used. However, they felt that perhaps only 40% of vocational

educators would be involved, with less than 15% using videotape. Surprisingly, computers were not ranked. It is hope that this study may be of some assistance in examining the predictions of Dyrenfurth and Miller.

Teacher Preferences for Instructional Materials

Many studies have involved the ranking of media by teacher preference (Nybo, 1976; Margoles, 1969). It is of interest to note that teacher preference of specific types of materials may assume a different rank order from teacher utilization due to availability of equipment and materials. Godfrey (1967), as stated earlier, reported the highest use of records, tapes, and slides by language teachers; films, filmstrips, opaque projectors, and overhead projectors by science teachers; and television and radio by fine arts teachers. Because usage in his study varies by subject areas taught, it would seem to indicate teacher preference or perhaps appropriateness of medium to learning task is involved.

In Margoles' (1969) study, overhead transparencies were found to be most favored by college teachers. The other media, in order of preference, were: 16-mm motion picture films, slides, instructional television, tape recordings, filmstrips, opaque projectors, and programmed materials.

Of further interest was the research by Nybo (1976), indicating the types of audio-visual materials used and preferred by health teachers in grades 7-12 in Tennessee. Types of materials preferred under ideal circumstances are listed in this study. Nybo reported 16-mm films to be most often preferred as first choice; the results also indicated 16-mm films were most often preferred as second and third choices. Filmstrips received the second highest rating as first choice. After these two types, the respondents' preferences were mixed. As first choices, transparencies were third; videotapes, fourth; educational television, fifth; and slides,

sixth. However, when total responses were considered for first, second, and third choices, educational television was the third preference; transparencies, fourth; slides, fifth; and videotapes, sixth. Table 1 presents distributions of all preferences as indicated in Nybo's study. According to Nybo (1976), these data indicated that educational television and videotape would have been used more often, given adequate budgetary support.

Table 1

Types of Audio-Visual Materials Preferred by Health Teachers in Tennessee

Types of Audiovisual Materials	First Choice #	%	Second Choice #	%	Third Choice #	%	Total No. Votes #	%
Transparencies	16	7.7	20	9.7	32	15.9	68	11.0
Films	145	69.7	36	17.4	12	6.0	193	31.3
Filmstrips	24	11.5	78	37.7	43	21.4	145	23.5
Slides	1	0.5	17	8.2	39	19.4	57	9.3
Records	0	0	2	1.0	8	4.0	10	1.6
Tapes	0	0	4	1.9	10	5.0	14	2.3
Educational Television	9	4.3	32	15.5	32	15.9	73	11.9
Videotapes	13	6.3	18	8.7	25	12.4	56	9.1
Totals	208	100.0	207	100.1	201	100.0	616	100.0

Source: V. E. Nybo, "A survey of the types of audio-visual materials used and preferred by health teachers in grades 7-12 in the public schools of Tennessee" (1976).

Nybo (1976) also reported secondary school health teachers' actual usage practices of instructional materials. An interesting parallel is noted in the study. Secondary school health teachers chose films as their most preferred and most used medium. Filmstrips were chosen as their second most used and second most preferred medium of instruction. After that, utilization and preferences did not match. Transparencies were used by the third-largest group, with usage of records, audio tapes, slides, video tapes, and educational television following in that order. However, in types of medium preferred for use, educational television ranked third, and transparencies fourth.

Summary

The literature relevant to this study was reviewed in this chapter. The major areas emphasized were the factors affecting utilization of instructional materials in the classroom. These factors included physical facilities, distribution methods, number of media personnel available, teacher competencies in media operation, lack of time to select and preview materials and administrative commitment to the program. Administrative support was cited as the most important factor with budgetary considerations affecting each of the factors cited.

The types of instructional materials most used by classroom teachers and the types of instructional materials most preferred by classroom teachers were also major areas of emphasis in this chapter. Usage of specific materials as cited by various studies varied widely. Generally, overhead projection, 16-mm film, and filmstrips were most highly used, with opaque projection and 8-mm film being least utilized. Slides, audio recordings, and educational television fluctuate between high usage and low usage.

Usage of videotape and computers were seldom found included on previous studies.

According to preference studies, 16-mm films were consistently most preferred. The studies did not agree as to the second-most preferred medium of instruction. Some studies indicated that the medium of instruction most preferred may change with area of emphasis or discipline of instruction.

CHAPTER III

PILOT STUDY

Introduction

This chapter includes a description of the pilot study and a discussion of changes made in the questionnaire before distribution of the formal study. The pilot study was completed in order to examine the effects of revisions made in the original questionnaire.

Because the literature indicated that certain types of materials were used and preferred more often by some teachers than others, the questions were ordered in such a way as to place the most often used items first on the questionnaire. It was believed by this researcher and by King (1969) that locating positive response questions initially on the instrument would encourage a larger percentage of response. No attempt to measure increase in percentage of response due to reordering of the items was made, since this is not the major purpose of the study. The ratio of positive to negative responses was calculated for each question in order to determine whether positive responses appear to be greater on initial questions on the instrument than on later questions.

Because the instrument was last revised in 1969, there was a need to include some of the newer media (i.e., computers) on the questionnaire. A set of criteria for use of computers was devised using information from published literature (Thompson and Johnson, 1983; Cohen, 1983) and consultations with selected educational media professionals.

The pilot study also provided opportunity for respondents to indicate any ambiguous specialized terminology by circling unclear terms. This information was used to indicate the need for restatement of the question, a clarification statement, or definition of the term in question in the final version of the questionnaire.

Sample

The respondents in the pilot study were 12 teachers of computer technology and supportive mathematics skills, reading instruction, automotive systems, and machine tool technology in a selected area vocational-technical school. The students in this school included both high school students and adults who wished to upgrade work skills or learn new work-related skills. This particular area vocational-technical school was a relatively new school; therefore, the faculty was in the process of acquiring equipment and materials. Many instructors related that they were hoping to incorporate many new materials into coursework as soon as the materials and equipment were available. Because of the specialized nature of the classes in vocational schools, all media types are seldom used at this level.

Procedures

In the pilot study, the instruments were delivered by the researcher to the principal of the school who distributed and collected the instrument from selected instructors in order to conserve time. The completed instruments were later obtained from the principal's office by the researcher. Copies of the instrument and cover letter used in the pilot study are contained in Appendix A.

Results

In Section One ("General"), 30% of the respondents reported that they made extensive use of educational media to clarify a lesson, while 70% claimed occasional use of educational media to clarify a lesson. In the second part of this section pertaining to inservice education in new media uses, 10% never had any inservice training in new media uses, 60% rarely had inservice training, 20% occasionally, and 10% frequently had inservice training in use of newer devices.

More than half of the respondents (60%) indicated occasional use of overhead transparencies, 10% reported frequent use, while only 20% rarely used transparencies and 10% never used them. Use of slides were more or less evenly distributed, with 30% using them frequently, 10% using them occasionally, 30% using them rarely, and 30% never using slides.

Filmstrips were used frequently by 40% of the respondents, while 30% used filmstrips occasionally, 20% used filmstrips rarely, and 10% never used filmstrips in teaching.

Motion pictures were used frequently by 20% of the respondents, occasionally by 50%, rarely by 10%, and 20% never used motion picture films. The responses differed on Part C of this section dealing specifically with 8-mm motion picture films. In this section, 10% responded that they frequently used 8-mm films, while the majority (90%) never used 8-mm films.

Use of opaque projection for projection of nontransparent materials or for enlarging small sized still pictures was never used by 80% of respondents, rarely used by 10%, and occasionally used by 10%. Observation and research showed that opaque projection was a medium used most often at the elementary school level.

Recordings to enliven, enhance, and vivify impressions of materials were used frequently by 20%, occasionally by 20%, rarely by 20%, and never by 40% of the respondents. Recordings providing realistic musical or narrative experiences were never used by 70%, rarely used by 20%, and occasionally used by 10%. Recording for self-evaluation was never used by 30%, rarely used by 40%, and occasionally used by 20%. The remaining 10% used recording frequently for self-evaluation.

Teaching devices were surveyed for use in reinforcement or routine learning. Teachers responded that teaching devices were used in these ways frequently by 40%, occasionally by 10%, and never by 50%.

Educational television for dissemination of information or current events was never used by 60% of the respondents. An additional 30% rarely used television to disseminate information, but 10% occasionally used television for this purpose. A total of 20% of the respondents rarely used educational television for current events, and 30% used television for current events occasionally. Educational television designed to reach widely dispersed audiences was never used by 90% of the respondents, and 10% rarely used television for this purpose. Videotape recorders were never used by 50% of the respondents for self-evaluation, rarely used by 30%, and occasionally used by 10% of the respondents. The remaining 10% frequently made use of videotape recorders for self-evaluation.

Computers were used often by the majority (60%) of respondents who reported using computers as an instructor's aid in generating materials, storage and retrieval, or for CAI. Another 10% used computers occasionally for this purpose; 30% never used computers in this way. Fifty percent frequently used computers in drill and practice, tutorial, or demonstration situations. While 20% occasionally used computers in drill and practice, 30% never used them for drill and practice. A total of 30% never used

computers as the object of instruction and 20% rarely, 10% occasionally, and 40% frequently reported using computers in this way. In laboratory situations, 20% rarely used computers, 20% never use computers, 10% occasionally used computers, and 50% frequently used computers. Computers in teaching specialized technological applications in electronics, manufacturing, climate control, and drafting were used frequently by 10%, occasionally by 40%, and never by 50% of the respondents.

Teachers' preferences as to type of materials used in teaching were also measured. According to the responses to the questionnaire, overhead transparencies and computers were equally rated "most preferred," filmstrips were preferred second, videotape recorders were the respondents' third choice, slides were preferred as fourth choice, and motion picture films were fifth choice. Sixth, seventh, and eighth choices were audio tape recordings, television, and records, respectively.

Revision of the Instrument

As a result of the pilot study, some changes were indicated. Because 20% of the respondents indicated that the instructions were not clear, one sentence was changed in the introduction which made the instructions more clear. The changes are found in the instructions, first sentence: ". . . mark one of the numbers at the left of the statement" was changed to ". . . mark one of the numbers at the left of each section, 1-12." Also, it was noted that opaque projection was omitted from the "Level of Preference" chart, and so this medium of instruction was added to the instrument.

Other changes made in the questionnaire included reduction of type size in order to allow all parts of one section (1-12) to be together on a page, and clarification of section VIII by the inclusion of a segment on television videotaped playback of recorded materials.

Summary

This chapter related the results of the pilot study. The revised instrument was distributed to 12 teachers in a selected area vocational-technical school. The results of the pilot study indicated that some minor changes were necessary in the instrument. The changes indicated were clarification of the introduction and the addition of opaque projection to the "Level of Preference" chart. Other changes made in the instrument were inclusion of a segment on videotaped playback of recorded materials and reduction of type size of the instrument.

CHAPTER IV

METHOD AND PROCEDURE

A description of the population of this study is presented in this chapter. The data collection procedures used and the type of statistical test used to analyze the data collected are also presented in this chapter.

Subjects

Subjects for this study were teachers from each area vocational-technical school with two or more years of teaching experience. There were 40 area vocational-technical schools in the state, with a total of 670 teachers having two or more years of experience. After those teachers who participated in the pilot study were eliminated, an alphabetical list of the total population of teachers was lettered "A," "B," "A," "B," etc. All of the "B"s were eliminated, leaving 332 surveys to be mailed. A total of 206 surveys were returned; however, eight surveys were not usable, leaving 198 usable surveys returned. Participating schools are listed in Appendix B. All subjects were regular area vocational-technical school classroom teachers.

Instrument

The instrument used in this study was a modified version of the Media Utilization Checklist. Totten and Fulton (1966) developed the original checklist using the input of a nationwide panel of media professionals. The checklist was revised by King in 1969 and has often been used in

media-utilization studies. Data regarding the validity of the criteria and the utilization checklist were given in the dissertation in which they were developed (Totten, 1966). For this study, the Media Utilization Checklist was revised according to the results of a pilot study reported in Chapter III.

Using the modified Media Utilization Checklist (see Appendix C), the subjects were asked to rate each media type using a 12-point scale as to frequency of usage in instruction. Rankings of the subjects' preferences for each of the media types were also collected.

Data Collection Procedures

The director of Vocational-Technical Education was contacted at the State Vocational-Technical School offices and permission to conduct the pilot study and the final survey was granted. A list of area vocational-technical school teachers was requested. From this list, the sample of the study was randomly selected.

The Evaluative Checklist, coded for follow-up purposes, was then mailed to each subject. The teachers were asked to return the instrument by mail in the stamped, self-addressed envelopes provided. A cover letter, signed by the Deputy State Director of Vocational-Technical Schools, introduced the questionnaire (Appendix C).

A postcard reminder (Appendix D) was sent to each teacher two weeks following the instrument mailout. A follow-up letter (Appendix D) directed to each teacher recipient of the original instrument who had failed to respond was then sent approximately two weeks after the postcard, with a second copy of the instrument enclosed.

Data Analysis Procedures

Frequency distributions and percentages were calculated to achieve the objectives of the study. The hypotheses were analyzed using separate two-way chi-square (level of usage by indicated preference) for each type of media. There are four levels of usage--never use, rarely use, occasionally use, and frequently use--and ten levels of preference with most highly preferred being choice number one, followed by second, third, and fourth choice and so on, in descending order, to number ten being least preferred. Because chi-square analyses involving four levels of usage by 10 levels of preference did not yield the required expected frequency in each cell to satisfy the underlying assumptions of the chi-square analysis, the data was organized as follows: Levels of usage were assigned one of two values--never used or rarely used were collapsed into one category, and occasionally used or frequently used were collapsed into a second category. The level of .05 was used in testing for significance. On the preference scale, those materials chosen as first choices (1-5) were placed in the highly preferred category, while those rated last (6-10) were placed in the low preference category. The percentages obtained from the data analysis were used to construct the profile for reported level of preference and reported level of usage of selected instructional materials by plotting the mean response for preference and usage for each medium.

Summary

This chapter reported procedures for collecting data regarding the types of instructional materials used and preferred by area vocational-technical school teachers in a southwestern state. This was done through use of a questionnaire originated by Totten and Fulton (1966), further

developed by King (1969), and revised for use in this study. Chi-square analyses of the data were completed to determine the extent of the relationship between use and preference.

CHAPTER V

RESULTS

Introduction

The results of the statistical analysis of the data collected in this study are presented in this chapter. The hypotheses were tested using data collected from a modified version of the Media Utilization Checklist and a media preference scale. More specifically, the study was designed to determine instructional materials utilization practices of area vocational-technical school teachers in Oklahoma in terms of:

1. which materials were utilized in teaching;
2. which medium ideally would be preferred;
3. whether utilization and preference are related;
4. which instructional materials were utilized most by teachers in various subject areas of vocational-technical school; and
5. the extent to which newer technologies were being integrated into instruction.

Research Questions

The research questions were discussed in terms of the results of the statistical analysis of the data.

Research Question One: Which types of instructional materials included on the Media Utilization Checklist are most used by teachers in area vocational-technical schools in Oklahoma?

The Media Utilization Checklist is divided into nine sections. The first section includes general questions designed to determine each respondent's overall commitment to the use of instructional materials to enhance classroom instruction or as an integral part of the coursework. The General Section (Part A) of the checklist requests data as to the frequency with which educational media was used in instruction in that teacher's situation. Respondents reported that the majority (47.6% often and 47% occasionally) did use educational media in their teaching situations. Part B of this section of the checklist pertains to provisions for inservice education in the use of various forms or types of media. The majority (almost 68%) of respondents reported provisions for inservice education in media usage.

Section I of the Media Utilization Checklist surveyed the inclusion of overhead transparencies in classroom instruction. Inclusion of overhead transparencies as reported by respondents was high, with 83.5% occasionally or often utilizing this medium in instruction, while only 11.6% rarely or never used overhead transparencies. Respondents on Section II (slides) were fairly equally divided, with 54.3% rarely or never using slides in instruction and 45.9% often or occasionally using the slide medium.

Filmstrips (Section III) were found to be used never or rarely by 28.1%, while 63% used filmstrips occasionally or often when motion was not essential and it might be desirable to stop and discuss individual frames. The researcher concluded that Section IV (motion picture films), containing three questions, should be analyzed individually due to a large variance in response between parts. In Part A, 32.1% of respondents replied that they rarely or never used motion picture film to enhance lectures, provide motivation, or effectively present materials, while 67.9% of the respondents often or occasionally used films in this respect. Part B examined

motion picture film usage in respect to modification of time, size and space, for review, or when motion is essential to the learning process. In this situation, film was used never or rarely by 48.3% and often or occasionally by 51.6%. Responses to Part C, a section dealing with 8-mm silent film cartridges, were found to be extremely skewed. The majority of respondents (93.6%) never or rarely used 8-mm film. Only 6.4% reported that they often or occasionally used 8-mm silent film cartridges.

Opaque projection (Section V) was low in utilization in vocational-technical schools. On Part A, opaque projection was rarely or never used by 80.2% of the respondents, while 19.2% often or occasionally used opaque projection for group observation of solid materials. Part B, referring to opaque projection used to enlarge small pictures or project three-dimensional materials, received similar responses. A total of 84.4% responded that they never or rarely used opaque materials in this respect, while 15.6% reported often or occasionally using this type of instructional materials.

Section VI (teaching devices) was also divided into Part A and Part B. Part A specified use of teaching devices and programmed learning materials for immediate reinforcement. Responses were 40.5% never or rarely and 59.7% occasionally or often used teaching devices or programmed learning materials for immediate reinforcement. Responses to Part B, dealing with teaching devices being used in learning routine skills and factual information, indicated that 39.9% of the respondents never or rarely used teaching devices, while 60.1% often or occasionally did use teaching devices.

Section VII (recordings) was defined in the Media Utilization Checklist as being either audio tape or record. Three criteria were specified. In Part A, recordings were cited as being used to enliven and enhance instruction; in Part B, recordings provided for realistic musical

experiences, unique narrative experiences, capturing original sounds and overcoming time and distance barriers; and in Part C, tape recordings were used for self-evaluation. In Part A, 72.6% of the respondents never or rarely and 27.5% occasionally or often used recordings to enliven and enhance instruction. In Part B, 80.7% never or rarely and 19.2% occasionally or often used recordings to provide realistic musical experiences, unique narrative experiences, capturing original sounds and overcoming time and distance barriers. Responses to Part C, dealing with tape recordings being used for self-evaluation, indicated that 76.8% never or rarely used tape recordings, while 23.3% occasionally or often did use tape recordings.

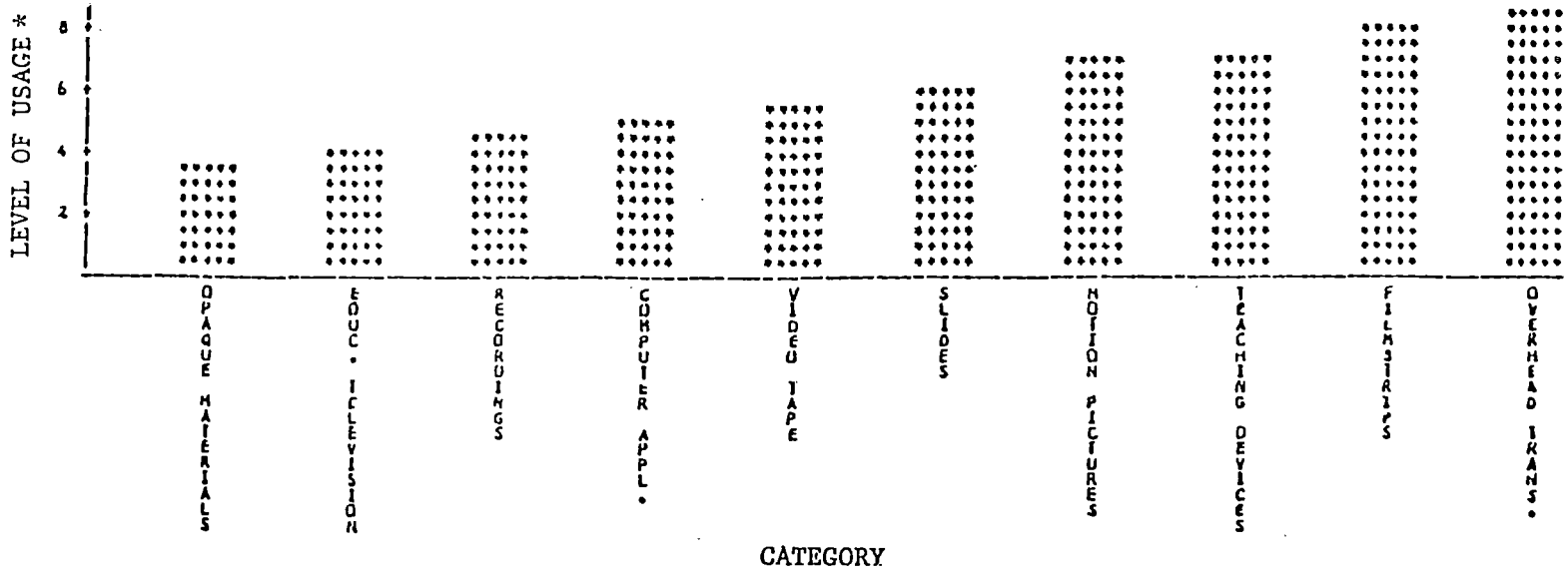
Section VIII (educational television) was also analyzed in two major divisions. Of five parts in the questionnaire under educational television, Parts A, B, and C dealt with dissemination of information, current events, and reaching widely dispersed audiences, respectively. Parts D and E dealt with the television videotape recorder for self-evaluation and the videotape recorder as a playback unit only. Responses indicated 74.4% never or rarely and 25.7% occasionally or often used television in disseminating information. In Part B on educational television used to depict current events, responses indicated 83.3% never or rarely and 16.6% occasionally or often used television in this way. In reaching widely dispersed audiences (Part C), 83.9% responded they never or rarely used television in this respect, while 16.2% said they did often or occasionally. Part D dealt with self-evaluation through the use of the television videotape recorder. A total of 68.1% said they never or rarely use the videotape recorder in this manner and 31.9% occasionally or often used the videotape recorder for self-evaluation. The videotape recorder used to play back previously recorded materials (Part E) was the most popular use in this section, with 52.1% occasionally or often using the videotape

recorder as a playback unit, while still 47.9% rarely or never used this medium of instruction.

The ninth and final section of the Media Utilization Checklist, a section on computer applications, also had five parts. Part A addressed use of the computer as an instructor's aid in generating materials, computer-assisted instruction, or information storage and retrieval. It was found that 50.8% never or rarely made this particular use of computers, while 49.2% occasionally or often did so. In Part B, 46.1% often or occasionally made use of computers in drill and practice, tutorial or demonstration situations, while 53.9% stated that they never or rarely found computers useful in this respect. In Part C, 32.5% said the computer was the object of instruction occasionally or often, while 67.6% never or rarely taught computer as the object of instruction. Again, very few respondents reported in Part D having used the computer in a laboratory setting for data analysis, simulation, problem solving, or modeling situations. Only 35.4% did use the computer in this situation, while 64.6% did not. In Part E, 78.8% responded that computers were never or rarely used in teaching specialized technological applications in electronics, computer-assisted manufacturing, climate control technology, or computer-assisted drafting. Only 21.3% of the respondents occasionally or often used computers in this manner. Figure 1 presents comparative data regarding usage of each type of media discussed in research question one.

Research Question Two: Under ideal conditions, which types of instructional materials are preferred by teachers in area vocational-technical schools in Oklahoma?

Under ideal conditions, as indicated in Table 2, 27.9% of the respondents listed transparencies as their most preferred choice of instructional medium. The second most frequently preferred type, videotape, was selected



*Smaller numbers are least used.

Figure 1. Mean media usage by area vocational-technical teachers in Oklahoma.

Table 2

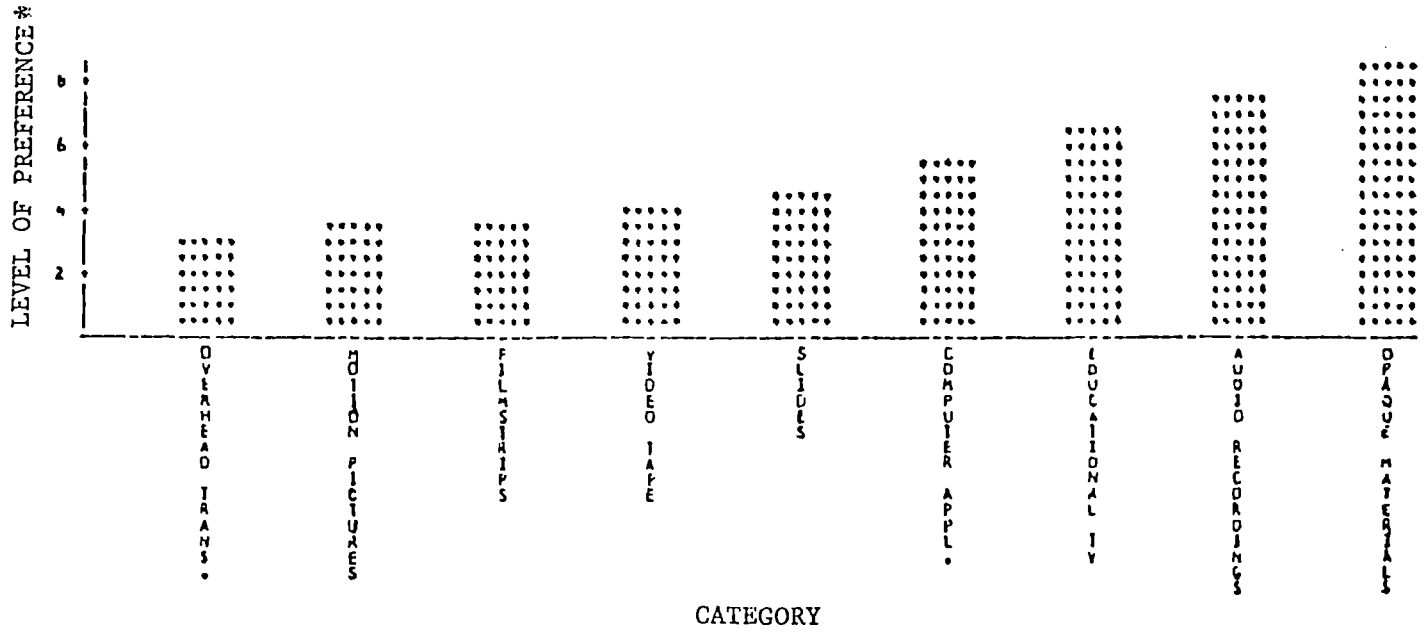
Types of Materials Preferred for Use Under Ideal Conditions

Type of Audiovisual Materials	First Choice		Second Choice		Third Choice		Total Number Responses	
	#	%	#	%	#	%	#	%
Transparencies	50	27.9	31	17.3	30	16.8	111	20.6
16-mm Films	25	14.0	32	17.9	34	19.0	91	16.9
Filmstrips	26	14.5	45	25.1	34	19.0	105	19.5
Slides	11	6.2	27	15.1	28	15.6	66	12.3
Records	2	1.2	1	.6	3	1.8	6	1.2
Tape Recordings	2	1.2	7	4.1	5	2.9	14	2.7
Educational Television	0	0	5	3.0	9	5.4	14	2.8
Video Tape	40	23.1	25	14.5	19	11.0	84	16.2
Computers	28	16.4	12	7.0	14	8.2	54	10.5
Opaque	1	.6	1	.6	6	3.6	8	1.6

by 23.1% of the subjects as first choice. The third choice, computers, received 16.4% of the nominations for first choice. Filmstrips were ranked fourth, with 14.5% indicating that they were most preferred, while films received 14% for fifth most favored. Slides, records, tape recordings, television, and opaque projection were marked as a first choice by fewer than 10% of the respondents.

Filmstrips received the majority (25.1%) of the nominations for second choice. Films, which were only selected by 14% as first choice, had the second largest ranking as preferred second choice, with 17.9%. Transparencies were rated very close to films as second choice, with 17.3% choosing transparencies as the second most preferred medium of instruction. Slides, selected by 15.1% of the respondents, were fourth. Videotapes were marked by 14.5% as second choice. The other types of instructional materials each received votes amounting to less than 10% of the total responses.

When total number of responses were considered for first through third choices, transparencies were selected by vocational-technical school teachers as most preferred, with 20.6% preferring transparencies as either first, second, or third choice. Filmstrips were second most preferred; films were third; videotape, fourth; and slides, fifth. Computers were sixth most preferred, with 10.5%. Educational television, tape recordings, opaque projection, and records received less than 3% each on the preference survey. Figure 2 presents the mean responses of the subjects regarding preferred instructional media discussed in research question two. On the preference scale in the instrument, a response of "1" indicated first choice; therefore, the shortest bar indicates most preferred, with the tallest bar on the chart indicating the least preferred medium of instruction.



*Smaller numbers are most preferred.

Figure 2. Mean media preference by area vocational-technical teachers in Oklahoma.

Research Question Three: Which instructional materials are most often used by teachers of the various subject areas in area vocational-technical schools in Oklahoma?

Table 3 lists the instructional areas of the respondents surveyed. The number of respondents for each area is also listed following the subject area. Due to the large number of options offered by vocational-technical schools, some areas are represented by only one respondent. The instructional media listed after each course is the media ranked as often used on the questionnaire. It was found that many instructors used teaching devices when a teaching device was interpreted as an automotive engine, an air conditioning unit, an automated cash register, etc. Only one instructor in this survey highly preferred recordings as a medium, and that instructor taught in the area of secretarial training. For most other respondents, recordings were among the lowest priority.

Research Question Four: How extensive are the newer forms of instructional media being utilized by teachers of area vocational-technical schools in Oklahoma?

The responses regarding computers indicated use of computers as an instructor's aid in generation of instructional materials, computer-assisted instruction, or for information storage and retrieval received the highest positive percentages of response, with 23.3% responding that they often used computers this way, 25.9% occasionally using computers as an aid to the teachers, 14.3% rarely, and 36.5% never using the computer as an instructor's aid in producing or acquiring teaching materials.

Use of computers as instructor in tutorial, drill and practice, or demonstration learning situations was second highest in positive responses in this section. A total of 20.2% often, 25.9% occasionally, 13.2%

Table 3

Number of Respondents Participating in Each Area of Specialization and the Types of Education Media Most Highly Utilized

Subject Area	Number of Respondents	Most Highly Utilized Media
Air Conditioning & Refr.	1	Teaching Devices
Allied Health	5	Filmstrips, Films(16-mm)
Appliance Repair	1	Transparencies, Filmstrips
Applied Accounting	2	Computers
Automotive Mechanic	6	Transparencies, Slides, Films(16-mm)
Banking and Finances	2	Teaching Devices, Computers
Brick Masonry	5	Transparencies, Television
Business & Industry	1	Transparencies, Films(16-mm) Teaching Devices, Computers
Carpentry	6	Transparencies
Childcare	4	Filmstrips
Custom Servicing	2	Transparencies
Commercial Art	1	Filmstrips, Opaque
Cosmetology	4	Television
Data Processing	7	Computers
Distributive Education & Mktg.	1	Films(16-mm), Teaching Devices, Television
Dental Lab Asst.	1	Slides, Films(8-mm),Teaching Devices, Television, Computers
Diesel Mechanic	5	Transparencies
Drafting	3	Computers
Electricity	5	Transparencies
Electronics	8	Teaching Devices, Computers
Farm Business Management	2	Transparencies, Computers
Fashion Merchandising	1	Transparencies, Slides, Films(16-mm),Television
Food Management	3	Computers
Home Furnishings	1	Television
Industrial Electronics	1	Transparencies, Teaching Devices
Institutional Home Services	3	Filmstrips
Machine Shop	3	Teaching Devices, Television
Maintenance	4	Films(16-mm),
Meat Processing	2	Transparencies, Slides
Medical Assistant	1	Transparencies, Slides, Filmstrips Films(16-mm),Television
Office Assistant	6	Computers
Practical Nursing	17	Filmstrips
Secretarial Training	1	Filmstrips, Teaching Devices, Recordings, Computers
Small Business Management	4	Transparencies, Television
Surgical Technician	1	Filmstrips, Television, Computers
Welding	8	Films (16-mm)
Horticulture	1	Slides, Filmstrips

rarely, and 40.7% never used computers for tutorial drill and practice or demonstration.

Use of computers as the object of instruction in computer literacy, data processing, computer science, or programming instruction received less favorable response. A total of 16.5% responded "often"; 16%, "occasionally"; 16.5%, "rarely"; and 51.1% responded that they "never" used computers as objects of instruction.

Use of computers in a laboratory setting for data analysis, problem solving, simulation, or modeling generated a higher positive response than computer education. In response to this section, 18.5% responded "often"; 16.9%, "occasionally"; 20.7%, "rarely"; and 43.9%, "never" used computers for data analysis, problem solving, simulation, or modeling.

Use of computers in teaching specialized technological applications in electronics, computer-assisted manufacturing, climate control technology, or computer-assisted drafting were found to have the lowest usage rates of all. In relation to specialized technological applications, electronics, manufacturing, climate-control, and drafting, only 12.8% responded that they often used computers, 8.5% occasionally used computers, 9.1% rarely used computers, and 69.7% never used computers in this way.

In the second part of this research question, usage rates of videotaped playback of recorded materials were surveyed. The results are reported in Table 4. Self-evaluation applications of the television videotape recorder are implemented by the respondents, to a very limited extent. Responses showed that 9.7% often used videotape, 22.2% occasionally, 17.3% rarely, and 50.8% never used videotape for self-evaluation. Television videotaped playback of recorded materials received higher usage, with 23.1% often, 29% occasionally, 16.7% rarely, and 31.2% reporting never using videotaped prerecorded materials.

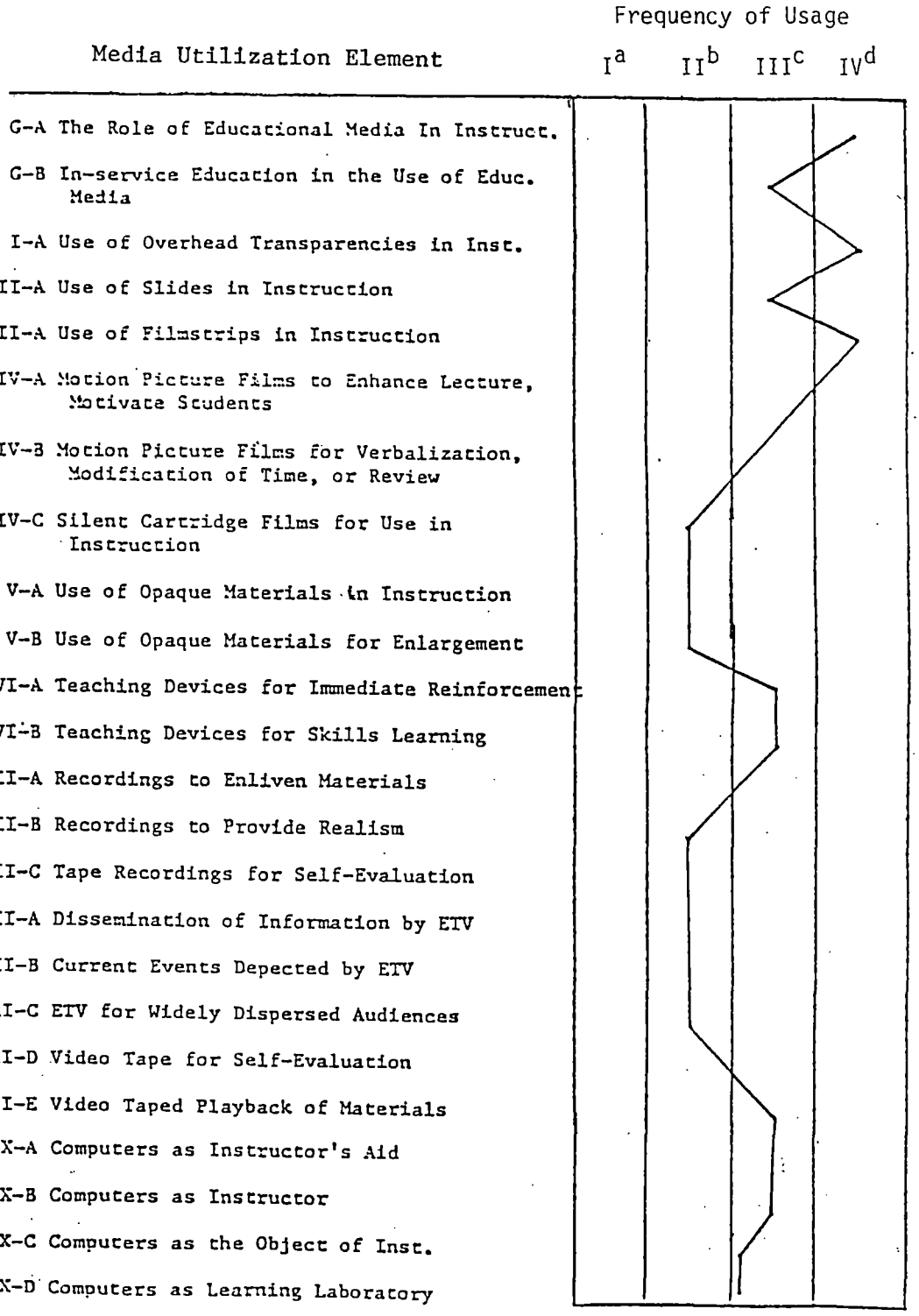
Table 4

Usage Rates for Newer Technologies in Media Utilization

	Never %	Rarely %	Occas. %	Often %
Computer Applications				
Instructor's Aid	36.5	14.3	25.9	23.3
As Instructor	40.7	13.2	25.9	20.2
Object of Instruction	51.1	16.5	16.0	16.5
Laboratory Setting	43.9	20.7	16.9	18.5
Specialized Applications	69.7	9.1	8.5	12.8
Videotape Applications				
Self-Evaluation	50.8	17.3	22.2	9.7
Playback	31.2	16.7	29.0	23.1

Research Question Five: Is there a relationship between reported media usage and preference by area vocational-technical school teachers?

The profiles presented in Figures 3 and 4 depict utilization frequency and preference for instructional media. The following null hypothesis was tested in order to answer this research question: For each of the following types of media, there is no relationship between reported level of usage in the area vocational-technical schools and the indicated preference for that type of media used in teaching:



a. Never b. Rarely c. Occasionally d. Often

Figure 3. Profile of mean frequency of usage by area vocational-technical teachers in Oklahoma.

a. overhead transparencies

b. slides

c. filmstrips

d. motion picture films

e. opaque materials

f. sound recordings

g. teaching devices and programmed learning

h. educational television

i. videotape recorders

j. computers

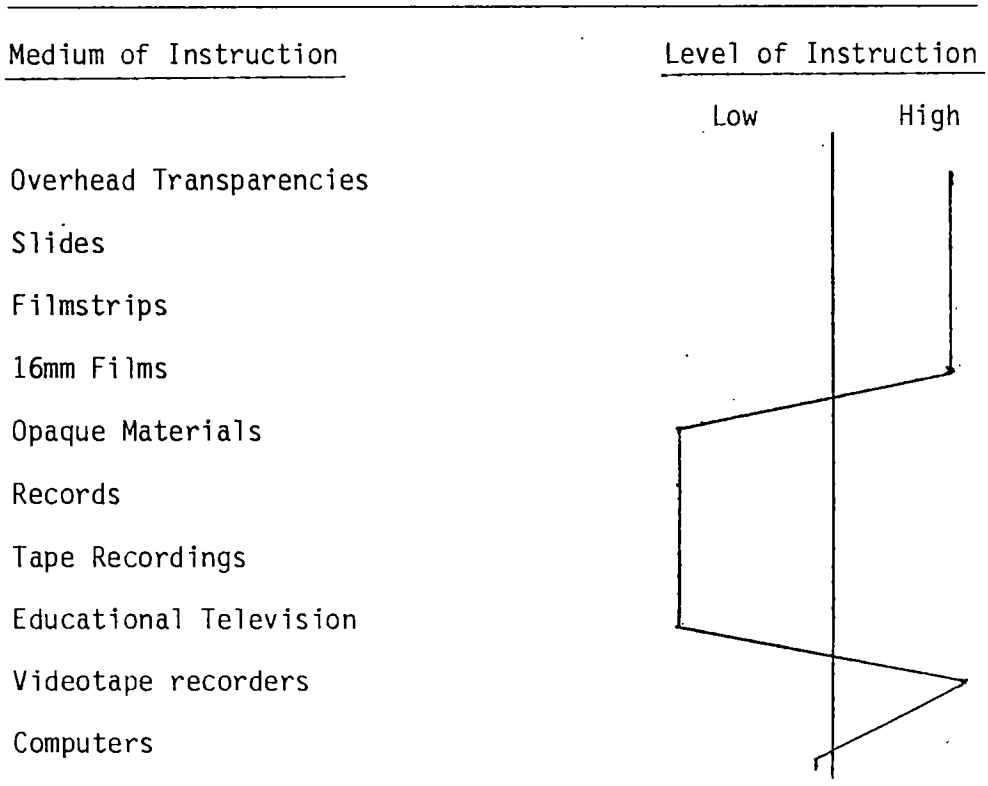


Figure 4. Profile of mean preferences for selected media of instruction.

Tables were constructed with high preference or low preference being cross-tabulated with two levels of usage for each question on the Media Utilization Checklist. Each question rather than each type of material was analyzed individually, since respondents may indicate high usage of one type of material in one situation, but very rare usage of the same type of material in other situations. Chi-square analyses were used to calculate the relationship between levels of usage and preference for each type of media. Seven significant ($\alpha = .05$) chi-square values were identified. The results of the analyses yielding significant results are reported in Table 5. Chisquare values were found to be significant between usage and prefer ence for overhead transparencies, slides, filmstrips, opaque materials, videotape, computers, and 16mm film. Nonsignificant values were found for audio recordings, educational television, and teaching devices.

Summary

The results of the statistical analyses of the data collected was reported in this chapter. Mean media usage, as reported by respondents in descending order from most to least used, is as follows: Overhead transparencies, filmstrips, teaching devices, 16-mm film, slides, videotape, computers, audio recordings, educational television, and opaque materials. Mean media preference, as reported by respondents in descending order from most to least preferred, is as follows: Overhead transparencies, 16-mm film, filmstrips, videotape, slides, computers, educational television, audio recordings, and opaque materials. Chi-square values were significant between usage and preference for overhead transparencies, slides, filmstrips, opaque materials, videotape, computers, and 16-mm film. Nonsignificant values were found for audio recordings, educational television, and teaching devices.

Table 5

Results of Chi-Square Analyses of Media Utilization by Preference

Types of Media		Usage		χ^2
		Infrequently	Frequently	
Overhead Transparency	High Preference	13	139	36.34**
	Low Preference	13	10	
Slides	High Preference	54	74	20.61**
	Low Preference	38	9	
Filmstrips	High Preference	22	115	32.53**
	Low Preference	24	25	
Opaque Materials	High Preference	13	11	10.96**
	Low Preference	114	22	
Videotape	High Preference	57	68	18.09**
	Low Preference	35	7	
Computers	High Preference	28	52	44.57**
	Low Preference	75	13	
16-mm Film	High Preference	45	96	6.67*
	Low Preference	18	14	

*($p < .01$)

**($p < .0001$)

CHAPTER VI

SUMMARY AND CONCLUSIONS

Summary of the Investigation

This study examined the extent to which Oklahoma area vocational-technical school teachers incorporate media or instructional materials into their coursework. Preference for specific types of materials was also surveyed. Chi-square tests were calculated to determine how closely usage and preference correlated. Additionally, variation in medium as related to area of specialization was also evaluated as reported by respondents. This study further sought to determine the extent to which two newer technologies, computers and videotape, were utilized and preferred by area vocational technical school teachers.

While previous research has been conducted for the purpose of determining utilization practices in public schools as well as colleges and universities, no research was found in this area in relation to vocational-technical school teaching practices. It was the purpose of this study to expand the existing data in media utilization as well as to establish documentation of research in an area of public education often overlooked--vocational-technical school education.

The questions addressed in the study were:

1. What types of instructional materials included on the Media Utilization Checklist are being used by teachers in area vocational-technical schools in Oklahoma?

2. Under ideal conditions, what types of instructional materials are preferred by teachers in area vocational-technical schools in Oklahoma?

3. Which instructional materials are most often used by teachers of the various subject areas in area vocational-technical schools in Oklahoma?

4. How extensively are the newer forms of instructional media being utilized by teachers of area vocational-technical schools in Oklahoma?

5. Is there a relationship between reported media usage and preference by area vocational-technical school teachers?

The null hypothesis tested was:

For each of the following types of media, there is no relationship between reported level of usage in the area vocational-technical schools and the indicated preference for that type of media used in teaching:

a. overhead transparencies

b. slides

c. filmstrips

d. motion picture films

e. opaque materials

f. sound recordings

g. teaching devices and programmed learning materials

h. educational television

i. videotape recorders

j. computers

A mailed questionnaire was used to obtain data from 332 vocational-technical school educators in Oklahoma. A postcard reminder was mailed two weeks later and was followed again two weeks later by a second questionaire with a cover letter (Appendix D). Frequency distributions and two-way chi-square analyses were calculated to answer the research questions and test the hypotheses. Profiles were also constructed for visual reference.

Conclusions

The types of instructional materials found to be the most frequently used by the largest number of respondents were transparencies and filmstrips. No other media received responses indicating frequent usage category. Correspondingly, the types of instructional materials found to be most preferred by the largest number of respondents were transparencies and filmstrips. Motion picture films (16-mm) were also cited as a highly preferred medium of instruction. Videotape and slides were cited by respondents as being highly preferred, although not to the same extent as filmstrips, transparencies, and films. Teaching devices were also rather highly preferred. These teaching devices are utilized in vocational-technical education in the form of cash registers, automotive engines, air conditioners, tools, etc. Many of these devices contain microprocessors and might be considered as computers used in teaching technological applications. For example, newer cash registers contain microprocessors. Many manufacturing and automotive processes involve robotics or diagnostic devices in which are contained microprocessors or computer processors.

Opaque materials and audio recordings were least preferred. Educational television also was in the low preference range. The 8-mm filmloops were used by very few respondents. Computers were neither highly utilized or preferred. The mean response on computer utilization was 5.6 (rarely used). Many respondents commented that computers had been requested but had not been received as yet; however, this did not seem to be reflected on the preference scale.

The respondents' teaching specialities were highly diversified, contributing to a rather wide range of choices. It is also obvious that the newer forms of instructional media surveyed (videotape and computers) were

absent from most of the choices of most highly utilized media for instruction. Videotapes and computers, of course, are not mentioned at all in previous studies found in the literature. Videotape and computers were ranked neither weak nor strong in this survey. Also, the fact that many respondents added notation about computers is an indication that if this study were replicated in two years, these media would probably be in a higher utilization category.

It is interesting to observe that the article written by Dyrenfurth and Miller (1984) presented results that very closely compared with the results of this study. Dyrenfurth and Miller predicted that vocational-technical school teachers would most often use transparencies, followed by slides, filmstrips, and films. They predicted that a little less than one-half (40%) would use videotape. No mention, however, was made of computers or teaching devices. This study found transparencies to be most widely used, filmstrips second, teaching devices and films were a close third, and slides and videotapes were fourth.

The null hypothesis that no relationship exists between usage and preference for various instructional materials tested was rejected in all tests except three. Usage and preference were found to be significantly ($\alpha = .05$) related for slides, transparencies, filmstrips, videotaped playback of prerecorded materials, computers, 16mm film, and opaque materials. The two variables, usage and preference, were not significantly related for audio recordings, educational television, and teaching devices. Types of media infrequently used by respondents were educational television, opaque projection, and audio recordings.

Recommendations for Media Utilization

The following recommendations might be considered in the area

vocational-technical school programs in extending some areas of media utilization. Newer forms of media such as computers are already strongly under strong consideration and should be implemented in curriculum as soon as financially feasible. Further recommendations for increasing appropriate media utilization in vocational-technical schools include:

1. Inclusion of instruction on the opaque projector in an inservice workshop in order to familiarize teachers with the capabilities of the machine; followed by

2. Placement of opaque projectors in schools not presently owning such a piece of equipment; and

3. Provision of facilities and instruction for the taping of pertinent course materials for use with manuals by students with low reading abilities.

Recommendation for Further Research

The following recommendations for future research would provide a larger, more complete data base concerning vocational-technical school teachers' media utilization practices and preferences:

1. The availability of media and materials to teachers in each area vocational-technical school in Oklahoma should be determined to provide a data base of interest to educators in area vocational-technical schools and media specialists.

2. The study should be replicated with clarification of what comprises computerized instructive materials and teaching devices.

3. A survey focusing only on instructional uses of computers and teaching devices would provide a more complete data base than this study provides.

4. The Media Utilization Checklist should be expanded to include videodiscs if the commercial production of educational videodisc materials becomes more widely used and prominent in educational settings.

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APPENDIXES

APPENDIX A

PILOT STUDY

Linda Dunham
8310 E. 75th St.
Tulsa, Oklahoma 74133
January 21, 1985

Dear Teacher:

I am requesting your help in a statewide research project involving Oklahoma Area Vocational-Technical Schools. This should take approximately 15 minutes of your time.

The attached questionnaire is concerning the instructional materials you may be using in teaching. The questionnaire is aimed at discovering your interests or preference concerning the types of teaching materials used in your area. This is, of course, expected to vary with the teaching situation. Mark the box which most nearly describes your situation. Your responses are very important to the success of the project and will be kept strictly confidential. Please circle any terms which you find confusing or unclear on this questionnaire.

Return the completed questionnaire at your earliest convenience.
Your cooperation is greatly appreciated.

Sincerely,

Linda Dunham
Project Director

Introduction to Evaluative Checklist

After you have carefully studied the criteria, mark one of the numbers at the left of the statement that most nearly represents the situation in your teaching position. If the statement accurately describes your teaching situation, mark one of the middle squares, 2, 5, 8, or 11. If, in your estimation, the situation is below what is described, mark number 1, 4, 7, or 10; if above, mark 3, 6, 9, or 12. In any event, mark only one of the numbers, 1 through 12.

EXAMPLE:

[1] [2] [3] In my teaching situation, I never make use of educational media.

[4] [5] [6] In my teaching situation, I rarely make use of educational media.

[7] [X] [9] In my teaching situation, I make occasional use of educational media.

[10] [11] [12] In my teaching situation, I use educational media whenever they are needed in the learning process.

GENERAL

CRITERIA

°Educational media should be used when they contribute to the clarity of a particular lesson and, subsequently, to the improvement of instruction.

°Continuous inservice education in the use of educational media, including new instructional devices and materials, should be carried on as a means of improving instruction.

A. The Role of Educational Media in Instruction

[1] [2] [3] In my teaching situation, I never use educational media as a means of improving instruction.

[4] [5] [6] In my teaching situation, I rarely use educational media even though they might contribute to the clarity of a particular lesson.

[7] [8] [9] In my teaching situation, I make occasional use of educational media when they contribute to the clarity of a particular lesson.

[10] [11] [12] In my teaching situation, I make extensive use of educational media when they contribute to the clarity of a particular lesson.

B. Provisions for Inservice Education in the Use of Educational Media

[1] [2] [3] In my teaching situation, there is never inservice education in the use of educational media or new instructional devices.

[4] [5] [6] In my teaching situation, there is rarely inservice education in the use of educational media or new instructional devices.

[7] [8] [9] In my teaching situation, there is occasional inservice education in the use of educational media and instructional devices.

[10] [12] [13] In my teaching situation, there is frequent inservice education in the use of educational media and instructional devices.

I. OVERHEAD TRANSPARENCIES

CRITERION

°Overhead transparencies should be used when:

a. it is necessary to show the development of a whole from separate parts or the cumulative growth of a whole;
b. it is desirable to write or mark on the projection material at the time of projection;
c. the teacher wishes to present illustrations while facing the class.

A. Use of Overhead Transparencies to Show Development of Wholes from Parts or the Cumulative Growth of a Whole, to Write on Projection Material at the Time of Projection, or to Present Illustrations While the Teacher is Facing the Class.

[1] [2] [3] In my teaching situation, overhead transparencies are never used to show development of wholes from parts or the cumulative growth of a whole, to write or mark on the projected material at the time of projection, or to present illustrations while the teacher is facing the class.

[4] [5] [6] In my teaching situation, overhead transparencies are rarely used to show the development of a whole from separate parts or the cumulative growth of a whole, to write or mark on the projection material at the time of projection, or to present illustrations while the teacher is facing the class.

[7] [8] [9] In my teaching situation, overhead transparencies are occasionally used to show the development of a whole from separate parts or the cumulative growth of a whole, to write or mark on the projection material at the time of projection, or to present illustrations while the teacher is facing the class.

[10] [11] [12] In my teaching situation, overhead transparencies are often used to show the development of a whole from separate parts or the cumulative growth of a whole, to write on the projection material at the time of projection, or to present illustrations while the teacher is facing the class.

II. SLIDES

CRITERION

°Slides should be used when:
a. it is desirable to reduce material for the purpose of easy storage and retrieval for future use;
b. it is desirable to document field trips and laboratory experiments.

A. Use of Slides for Reduction in Size for Easy Storage and Retrieval and to Document Field Trips and Laboratory Experiments

[1] [2] [3] In my teaching situation, slides are never used to reduce material for the purpose of easy storage and retrieval for future use or to document field trips and laboratory experiments.

[4] [5] [6] In my teaching situation, slides are rarely used to reduce material for the purpose of easy storage and retrieval for future use or to document field trips and laboratory experiments.

[7] [8] [9] In my teaching situation, slides are occasionally used to reduce material for the purpose of easy storage and retrieval for future use or to document field trips and laboratory experiments.

[10] [11] [12] In my teaching situation, slides are often used to reduce material for the purpose of easy storage and retrieval for future use or to document field trips and laboratory experiments.

III. FILMSTRIPS

CRITERION

°Filmstrips should be used when motion is not essential and when it is desirable to stop and discuss individual frames.

A. Use of Filmstrips for Photographs of a Sequential Nature and for Discussion of Individual Frames

[1] [2] [3] In my teaching situation, filmstrips are never used when motion is not essential or when it is desirable to stop and discuss individual frames.

[4] [5] [6] In my teaching situation, filmstrips are rarely used when motion is not essential or when it is desirable to stop and discuss individual frames.

[7] [8] [9] In my teaching situation, filmstrips are occasionally used when motion is not essential or when it is desirable to stop and discuss individual frames.

[10] [11] [12] In my teaching situation, filmstrips are often used when motion is not essential or when it is desirable to stop and discuss individual frames.

IV. MOTION PICTURE FILMS

CRITERIA

°Motion picture sound films should be used when:
- a. the experience presented vicariously contribute to the lecture;
- b. they provide student motivation;
- c. they present the material more effectively than the teacher can.

°Motion picture sound films should be used when:
- a. the combination of verbalization and motion are essential to the learning process;
- b. the modification of time, size, and space is needed;
- c. summarization and review are needed.

°Eight millimeter cartridge silent motion picture films should be used:
- a. when cost is a factor in procurement;
- b. when sound is not essential;
- c. mainly for small group and individual instruction.

A. Use of Motion Picture Films to Enhance Lecture, to Provide Motivation and for Effective Presentation of Material

[1] [2] [3] In my teaching situation, motion pictures are never used to enhance lectures, to provide student motivation, or to present material more effectively than the teacher can.

[4] [5] [6] In my teaching situation, motion picture films are rarely used to enhance lectures, to provide student motivation, or to present material more effectively than the teacher can.

[7] [8] [9] In my teaching situation, motion picture films are occasionally used to enhance lectures, to provide student motivation, or to present material more effectively than the teacher can.

[10] [11] [12] In my teaching situation, motion picture films are often used to enhance lectures, to provide student motivation, or to present material more effectively than the teacher can.

B. Use of Motion Picture Films for Verbalization and Motion, for Modification of Time, and for Review and Summarization

[1] [2] [3] In my teaching situation, motion picture films are never used when verbalization and motion are essential to the learning process, when modification of time, size, and space is needed, or for the purpose of review and summarization.

[4] [5] [6] In my teaching situation, motion picture films are rarely used when verbalization and motion are essential to the learning process, when modification of time, size, and space is needed, or for the purpose of review and summarization.

[7] [8] [9] In my teaching situation, motion picture films are occasionally used when verbalization and motion are essential to the learning process, when modification of time, size, and space is needed, or for the purpose of review and summarization.

[10] [11] [12] In my teaching situation, motion picture films are often used when verbalization and motion are essential to the learning process, when modification of time, size, and space is essential to the learning process, or for the purpose of review and summarization.

C. Use of Eight Millimeter Cartridge Silent Motion Picture Films for Small Group or for Individual Instruction and for Inexpensive Local Production

[1] [2] [3] In my teaching situation, eight millimeter cartridge silent motion picture films are never used for small group or individual instruction, when inexpensive local production is desirable, or when sound is not essential to the learning process.

[4] [5] [6] In my teaching situation, eight millimeter cartridge silent motion picture films are rarely used for small group or individual instruction, when inexpensive local production is desirable, or when sound is not essential to the learning process.

[7] [8] [9] In my teaching situation, eight millimeter cartridge silent motion picture films are occasionally used for small group or individual instruction, when inexpensive local production is desirable or when sound is not essential to the learning process.

[10] [11] [12] In my teaching situation, eight millimeter cartridge silent motion picture films are often used for small group or individual instruction, when inexpensive local production is desirable, or when sound is not essential to the learning process.

V. OPAQUE MATERIALS

CRITERIA

°Opaque materials should be used when non-transparent materials will contribute:
- a. group observation and/or evaluation;
- b. economy of time when it is unfeasible to prepare material for use with another medium.

°Opaque materials should be used to:
- a. enlarge small size still pictures to a large scale on various surfaces for reproduction;
- b. project three dimensional objects.

A. Use of Opaque Materials for Non-transparent Materials to Be Used for Group Observation and Economy of Time

[1] [2] [3] In my teaching situation, opaque materials are never used for non-transparent materials shown for group observation and/or evaluation or for economy of time when it is unfeasible to prepare material for use with another medium.

[4] [5] [6] In my teaching situation, opaque materials are rarely used for non-transparent materials shown for group observation and/or evaluation or for economy of time when it is unfeasible to prepare material for use with another medium.

[7] [8] [9] In my teaching situation, opaque materials are occasionally used for non-transparent materials shown for group observation and/or evaluation or for economy of time when it is unfeasible to prepare material for use with another medium.

[10] [11] [12] In my teaching situation, opaque materials are often used for non-transparent materials shown for group observation and/or evaluation or for economy of time it is unfeasible to prepare material for use with another medium.

B. Use of Opaque Materials to Enlarge Small Size Still Pictures and to Project Three Dimensional Objects

[1] [2] [3] In my teaching situation, opaque materials are never used to enlarge small size still pictures nor to project three dimensional objects.

[4] [5] [6] In my teaching situation, opaque materials are rarely used to enlarge small size still pictures to a large scale on various surfaces for reproduction and to project three dimensional objects.

[7] [8] [9] In my teaching situation, opaque materials are occasionally used to enlarge small size still pictures to a large scale on various surfaces for reproduction and to project three dimensional objects.

[10] [11] [12] In my teaching situation, opaque materials are often used to enlarge small size still pictures to a large scale on various surfaces for reproduction and to project three dimensional objects.

VI. RECORDINGS

CRITERIA

°Recordings should be used when repeated audio experiences enliven, enhance, and vivify impressions of the materials presented.

°Recordings should be used to provide students with:
- a. realistic and accurate musical experiences;
- b. unique and accurate narrative experiences;
- c. original sound reproduction;
- d. particular voices of the past in order to overcome time and distance when these voices enhance the learning proess.

°Tape recordings should be used:
- a. as a self-evaluation and improvement tool which can record and playback the voices of students and teachers to serve as models to be listened to, noted, and emulated or improved upon;
- b. to store prerecorded information and dramatize historical episodes with vividness and a sense of reality.

A. Use of Recordings to Enliven, Enhance, and Vivify Impressions of Materials

[1] [2] [3] In my teaching situation, recordings are never used to enliven, enhance, and vivify impressions of material being presented.

[4] [5] [6] In my teaching situation, recordings are rarely used to enliven, enhance, and vivify impressions of material being presented.

[7] [8] [9] In my teaching situations, recordings are occasionally used to enhance, enliven, and vivify impressions of material being presented.

[10] [11] [12] In my teaching situation, recordings are often used to enliven, enhance, and vivify impressions of materials being presented.

B. Use of Recordings to Provide Realistic Musical and Unique Narrative Experiences, to Capture Original Sounds, and to Overcome Barriers of Time and Distance

[1] [2] [3] In my teaching situation, recordings are never used to provide realistic and accurate musical and unique narrative experiences, to capture original sounds, and to overcome barriers of time and distance when particular voices enhance the learning process.

[4] [5] [6] In my teaching situation, recordings are rarely used to provide realistic and accurate musical and unique narrative experiences, to capture original sounds, and to overcome barriers of time and distance when particular voices enhance the learning process.

[7] [8] [9] In my teaching situation, recordings are occasionally used to provide realistic and accurate musical and unique narrative experiences, to capture original sounds, and to overcome barriers of time and distance when particular voices enhance the learning process.

[10] [11] [12] In my teaching situation, recordings are often used to provide realistic and accurate musical and unique narrative experiences, to capture original sounds, and to overcome barriers of time and distance when particular voices enhance the learning process.

C. Use of Tape Recordings for Self-Evaluation and Improvement, and the Reporting of Prerecorded Information

[1] [2] [3] In my teaching, tape recordings are not used for student self-evaluation and improvement, nor are they used to report pre-recoreded information.

[4] [5] [6] In my teaching situation, tape recordings are rarely used for student self-evaluation and improvement and to report prerecorded information.

[7] [8] [9] In my teaching situation, tape recordings are occasionally used for student self-evaluation and improvement, and to report prerecorded information.

[10] [11] [12] In my teaching situation, tape recordings are often used for student self-evaluation and improvement and to report prerecorded information.

VII. TEACHING MACHINES AND PROGRAMMED LEARNING MATERIALS

CRITERIA

°Teaching machines and/or programmed learning materials should be used when:
- a. the diversity of ability levels is present;
- b. immediate reinforcement of subject matter can be accomplished as satisfactorily as by the teacher.

°Teaching machines and/or programmed learning materials should be used for:
- a. the learning of routine skills;
- b. the learning of factual information when such information can be presented in a logical and sequential manner;
- c. the enhancement of individual instruction.

A. Use of Teaching Machines and/or Programmed Learning Materials in the Immediate Reinforcement of Subject Matter

[1] [2] [3] In my teaching situation, teaching machines and/or programmed learning materials are not used even though the diversity of ability levels is present and the immediate reinforcement of subject matter could be accomplished as satisfactorily as by the teacher.

[4] [5] [6] In my teaching situation, teaching machines and/or programmed learning materials are rarely used when the diversity of ability levels is present or in the immediate reinforcement of subject matter.

[7] [8] [9] In my teaching situation, teaching machines and/or programmed learning materials are occasionally used when the diversity of ability levels is present or in the immediate reinforcement of subject matter.

[10] [11] [12] In my teaching situation, teaching machines and/or programmed learning materials are often used when the diversity of ability levels is present or in the immediate reinforcement of subject matter.

B. Use of Teaching Machines and/or Programmed Learning Materials in Learning Routine Skills and Factual Information

[1] [2] [3] In my teaching situation, teaching machines and/or programmed learning materials are not used in the learning of routine skills and factual information nor are they used to enhance individual instruction.

[4] [5] [6] In my teaching situation, teaching machines and/or programmed learning materials are rarely used in the learning of routine skils and factual information or to enhance individual instruction.

[7] [8] [9] In my teaching situation, teaching machines and/or programmed learning materials are occasionally used in the learning of routine skills and factual information and to enhance individual instruction.

[10] [11] [12] In my teaching situation, teaching machines and/or programmed learning materials are often used in the learning of routine skills and factual information to enhance individual instruction.

VIII. EDUCATIONAL TELEVISION

CRITERIA

°Educational television should be used to disseminate information from sources that are not readily available.

°Educational television should be used to present live current events as they are happening when the pictorial aspect of the presentation enhances learning.

°Educational television should be used for:
- a. inservice education when a unit of material is of such a nature that it lends itself to mass dissemination to widely dispersed audiences;
- b. Learning groups which are sufficiently large to justify the cost.

°The television video tape recorder should be used:
- a. to record performance and to witness such performance through immediate playback;
- b. to accomplish self-evaluation of students and teachers of what is seen and heard.

A. Dissemination of Information by Educational Television

[1] [2] [3] In my teaching situation, educational television is never used to disseminate information.

[4] [5] [6] In my teaching situation, educational television rarely is used to disseminate information.

[7] [8] [9] In my teaching situation, educational television is occasionally used to disseminate information.

[10] [11] [12] In my teaching situation, educational television is often used to disseminate information.

B. Pictorial Current Events Depicted by Educational Television

[1] [2] [3] In my teaching situation, educational television is never used to depict current events even though the pictorial aspect may be valuable or might enhance learning.

[4] [5] [6] In my teaching situation, educational television is rarely used to depict current events even though the pictorial aspect may be valuable or enhance learning.

[7] [8] [9] In my teaching situation, educational television is occasionally utilized to depict current events when the pictorial aspect is valuable and enhances learning.

[10] [11] [12] In my teaching situation, educational television is often used to depict current events when the pictorial aspect is valuable and enhances learning.

C. Use of Educational Television to Reach Widely Dispersed Audiences

[1] [2] [3] In my teaching situation, educational television is never used for inservice education or to disseminate information to widely scattered audiences.

[4] [5] [6] In my teaching situation, educational television is rarely used for inservice education or to disseminate information to widely scattered audiences even though the learning groups are large enough to justify the cost.

[7] [8] [9] In my teaching situation, educational television is occasionally used for inservice education or to disseminate information to widely scattered audiences when the learning groups are large enough to justify the cost.

[10] [11] [12] In my teaching situation, educational television is often used for inservice education and to disseminate information to widely dispersed audiences when the learning groups are large enough to justify the cost.

D. Self-Evaluation Through the Use of the Television Video Tape Recorder

[1] [2] [3] In my teaching situation, the video tape recorder is never used to witness performance through immediate playback, nor is it used for self-evaluation of students and teachers.

[4] [5] [6] In my teaching situation, the video tape recorder is rarely used to witness performance through immediate playback or for self-evaluation of students and teachers.

[7] [8] [9] In my teaching situation, the video tape recorder is occasionally used to witness performance through immediate playback and for self-evaluation of students and teachers.

[10] [11] [12] In my teaching situation, the video tape recorder is often used to witness performance through immediate playback or for self-evaluation of students and teachers.

IX. COMPUTER APPLICATIONS

CRITERIA

Computers should be used as an instructor's aid in:
- a. generating instructional materials;
- b. computer-assisted instruction;
- c. information storage and retrieval.

Computers should be used as instructor in:
- a. tutorial learning situations;
- b. drill and practice learning situations;
- c. demonstration learning situations.

Computers should be used as the object of instruction in:
- a. computer literacy instruction;
- b. data processing instruction;
- c. computer science instruction;
- d. programming instruction.

Computers should be used as a laboratory of learning in:
- a. data analysis;
- b. problem solving;
- c. simulation;
- d. modeling.

Computers should be used in teaching technological applications in:
- a. electronics;
- b. computer-assisted manufacturing;
- c. climate control technology;
- d. computer-assisted drafting.

A. Use of computers as an instructor's aid in generation of instructional materials, computer-assisted instruction, or for information storage and retrieval.

[1] [2] [3] In my teaching situation, computers are never used in generation of instructional materials, computer-assisted instruction, or for information storage and retrieval.

[4] [5] [6] In my teaching situation, computers are rarely used in generation of instructional materials, computer-assisted instruction, or for information storage and retrieval.

[7] [8] [9] In my teaching situation, computers are occasionally used in generation of instructional materials, computer-assisted instruction, or for information storage and retrieval.

[10] [11] [12] In my teaching situation, computers are often used in generation of instructional materials, computer-assisted instruction, or for information storage and retrieval.

B. Use of computers as instructor in tutorial, drill and practice or demonstration learning situations.

[1] [2] [3] In my teaching situation, computers are never used in tutorial, drill and practice or demonstration situations.

[4] [5] [6] In my teaching situation, computers are rarely used in tutorial, drill and practice or demonstration situations.

[7] [8] [9] In my teaching situation, computers are occasionally used in tutorial, drill and practice or demonstration situations.

[10] [11] [12] In my teaching situation, computers are often used in tutorial, drill and practice or demonstration situations.

C. Use of computers as the object of instruction in computer literacy, data processing, computer science or programming instruction.

[1] [2] [3] In my teaching situation, computers are never used as the object of instruction in computer literacy, data processing, computer processing, computer science, or programming instruction.

[4] [5] [6] In my teaching situation, computers are rarely used as the object of instruction in computer literacy, data processing, computer science, or programming instruction.

[7] [8] [9] In my teaching situation, computers are occasionally used as the object of instruction in computer literacy, data processing, computer science, or programming instruction.

[10] [11] [12] In my teaching situation, computers are often used as the object of instruction in computer literacy, data processing, computer science, or programming instruction.

D. Use of computers in a laboratory setting for data analysis, problem solving, simulations, or modeling.

[1] [2] [3] In my teaching situation, computers are never used in a laboratory setting for data analysis, problem solving, simulation, or modeling.

[4] [5] [6] In my teaching situation, computers are rarely used in a laboratory setting for data analysis, problem solving, simulation, or modeling.

[7] [8] [9] In my teaching situation, computers are occasionally used in a laboratory setting for data analysis, problem solving, simulation, or modeling.

[10] [11] [12] In my teaching situation, computers are often used in a laboratory setting for data analysis, problem solving, simulation, or modeling.

E. Use of computers in teaching specialized technological applications in electronics, computer-assisted manufacturing, climate control technology or computer-assisted drafting.

[1] [2] [3] In my teaching situation, computers are never used in teaching technological applications such as electronics, computer-assisted manufacturing, climate control technology or computer-assisted drafting.

[4] [5] [6] In my teaching situation, computers are rarely used in teaching technological applications such as electronics, computer-assisted manufacturing, climate control technology or computer-assisted drafting.

[7] [8] [9] In my teaching situation, computers are occasionally used in teaching technological applications such as electronics, computer-assisted manufacturing, climate control technology or computer-assisted drafting.

[10] [11] [12] In my teaching situation, computers are often used in teaching technological applications such as electronics, computer-assisted manufacturing, climate control technology or computer-assisted drafting.

PLEASE INDICATE THE TYPE OF INSTRUCTIONAL MATERIALS YOU MOST PREFER(1), PREFER NEXT (2), NEXT (3), AND SO ON THROUGH (9).

	Types of AV Materials	Level of Preference
1	overhead transparencies	
2	films	
3	filmstrips	
4	slides	
5	records	
6	tape recordings	
7	educational television	
8	video tape	
9	computers	

Teaching Area(s)_____

APPENDIX B

STATE AREA VOCATIONAL-TECHNICAL SCHOOLS

AFTON
NORTHEAST OKLAHOMA AVTS

Mr. Ralph Ross, Director
Northeast Oklahoma Area Vocational-Technical School District No. 11
Drawer "P"
Afton, Oklahoma 74331
PHONE: 918-257-4251

ALVA
OKLAHOMA NORTHWEST AVTS

Mr. Austin Barragree, Superintendent
Oklahoma Northwest Area Vocational-Technical School District No. 10
Box 784
Alva, Oklahoma 73717
PHONE: 405-327-0344

ARDMORE
SOUTHERN OKLAHOMA AVTS

Mr. Jack Stone, Superintendent
Southern Oklahoma Area Vocational-Technical School District No. 20
Route 1
Ardmore, Oklahoma 73401
PHONE: 405-223-2070

ATOKA
KIAMICHI AVTS

Mr. Jim Kellogg, Director
Kiamichi Area Vocational-Technical School District No. 7
Box 220
Atoka, Oklahoma 74525
PHONE: 405-889-7321

BARTLESVILLE
TRI-COUNTY AVTS

Mr. Kenneth Phelps, Superintendent
Tri-County Area Vocational-Technical School District No. 1
Box 3428
Bartlesville, Oklahoma 74003
PHONE: 918-333-2422

BROKEN ARROW
TULSA COUNTY AVTS
SOUTHEAST SITE

Dr. Mary Ellis, Principal
Tulsa County Area Vocational-Technical School District No. 18
4600 S. Olive
Broken Arrow, Oklahoma 74012
PHONE: 918-455-1588

BURNS FLAT
WESTERN OKLAHOMA AVTS

Mr. Jerry Kirk, Superintendent
Western Oklahoma Are Vocational-
Technical School District No. 12
P.O. Box 149
Burns Flat, Oklahoma 73624
PHONE: 405-562-4812

CHICKASHA
CANADIAN VALLEY AVTS

Mr. James Moore, Assistant Superintendent
Canadian Valley Area Vocational-Technical
School District No. 6
Box 1292
Chickasha, Oklahoma 73018
PHONE: 405-224-7220

CHOCTAW
EASTERN OKLAHOMA AVTS

Mr. Bill Phillips, Superintendent
Eastern Oklahoma Area Vocational-
Technical School District No. 23
P.O. Box 967
Choctaw, Oklahoma 73020
PHONE: 405-390-9591

DRUMRIGHT
CENTRAL OKLAHOMA AVTS

Mr. John Hopper, Superintendent
Central Oklahoma Area Vocational-
Technical School District No. 3
3 CT Circle
Drumright, Oklahoma 74030
PHONE: 918-352-2551

DUNCAN
RED RIVER AVTS

Mr. Delbert Morrison, Superintendent
Red River Area Vocational-Technical
School District No. 19
3300 West Bois d' Arc
Box 1088
Duncan, Oklahoma 73533
PHONE: 405-255-2903

EL RENO
CANADIAN VALLEY AVTS

Mr. Roy Peters, Superintendent
Canadian Valley Area Vocational-
Technical School District No. 6
Box 579
El Reno, Oklahoma 73036
PHONE: 405-262-2629

ENID
O. T. AUTRY AVTS

Mr. J. W. Ridge, Superintendent
O. T. Autry Area Vocational-Technical
School District No. 15
1201 West Willow
Enid, Oklahoma 73701
PHONE: 405-242-2750 or 405-234-0193

FAIRVIEW
OKLAHOMA NORTHWEST AVTS

Mr. Merlin Freed, Assistant Superintendent
Oklahoma Northwest Area Vocational-
Technical School District No. 10
Box 250
Fairview, Oklahoma 73737
PHONE: 405-227-3708

FORT COBB
CADDO-KIOWA AVTS

Dr. Orbra Hulsey, Superintendent
Caddo-Kiowa Area Vocational-Technical
School District No. 2
P.O. Box 190
Fort Cobb, Oklahoma 73038
PHONE: 405-643-2387

HUGO
KIAMICHI AVTS

Mr. Charles Wibben, Director
Kiamichi Area Vocational-Technical
School District No. 7
Box 699
Hugo, Oklahoma 74743
PHONE: 405-326-6491

IDABEL
KIAMICHI AVTS

Mr. Troy Nichols, Director
Kiamichi Area Vocational-Technical
School District No. 7
Route 3, Box 50 V.T.
Idabel, Oklahoma 74745
PHONE: 405-286-7555

LAWTON
GREAT PLAINS AVTS

Dr. Mike Bailey, Superintendent
Great Plains Area Vocational-Technical
School District No. 9
4500 West Lee Boulevard
Lawton, Oklahoma 73505
PHONE: 405-355-6371

MCALESTER
KIAMICHI AVTS

Mr. Charles Boyd, Director
Kiamichi Area Vocational-Technical
School District No. 7
Box 308
McAlester, Oklahoma 74501
PHONE: 918-426-0940

MIDWEST CITY
MID-DEL AVTS

Mr. Jack Kale, Director
Mid-Del Area Vo-Tech Center
1621 Maple Drive
Midwest City, Oklahoma 73110
PHONE: 405-732-6804

MUSKOGEE
INDIAN CAPITAL AVTS

Mr. Chester Hendrix, Superintendent
Indian Capital Area Vocational-Technical
School District No. 4
Route 6, Box 206
Muskogee, Oklahoma 74401
PHONE: 918-687-6383

NORMAN
MOORE-NORMAN AVTS

Mr. Frank Coulter, Superintendent
Moore-Norman Area Vocational-Technical
School District No. 17
4701 N.W. 12th Street
Norman, Oklahoma 73069
PHONE: 405-364-5763

OKLAHOMA CITY
MARVIN YORK AVTS

Dr. Richard Holodick, Superintendent
Dr. Size More Bowlan, Administrative
Marvin York Area Vocational-Technical
School District No. 22
5904 North Villa
Oklahoma City, Oklahoma 73112
PHONE: 405-848-7747

FOSTER ESTES AVTS

Mr. Phil Myers, Director
Foster Estes Area Vocational-Technical
Center District No. 22
4901 South Bryant
Route 8, Box 195A
Oklahoma City, Oklahoma 73109
PHONE: 405-672-2371

FRANCIS TUTTLE AVTS

Mr. Bruce Gray, Superintendent
Francis Tuttle Area Vocational-Technical
School District 21
1277 N. Rockwell Avenue
Oklahoma City, Oklahoma 73142
PHONE: 405-722-7799

ADULT TRAINING CENTER

Mr. Andy Dement, Director
Oklahoma City Adult Area Vocational-
Technical School Training Center.
District No. 22
201 N.E. 48th Street
Oklahoma City, Oklahoma 73105
PHONE: 405-524-2319

PONCA CITY
PIONEER AVTS

Dr. James Carpenter, Superintendent
Pioneer Area Vocational-Technical School
District No. 13
2101 North Ash
P.O. Box 1418
Ponca City, Oklahoma 74601
PHONE: 405-762-8336

POTEAU
KIAMICHI AVTS

Mr. Dick Wilkerson, Director
Kiamichi Area Vocational-Technical Schools
District No. 7
Box 825
Poteau, Oklahoma 74953
PHONE: 918-647-4525

PRYOR
NORTHEAST OKLAHOMA AVTS

Administrative Office
Mr. Harold Anglin, Superintendent
Mr. Mack Earp, Director
Northeast Oklahoma Area Vocational-
Technical School District No. 11
Box 825
Pryor, Oklahoma 74361
PHONE: 918-825-5555

SALLISAW
INDIAN CAPITAL AVTS

Mr. Neil Pack, Principal
Indian Capital Area Vocational-Technical
School District No. 4
Box 23A
Sallisaw, Oklahoma 74955
PHONE: 918-775-9119

SAPULPA
CENTRAL OKLAHOMA AVTS

Mr. David Main, Coordinator
Central Oklahoma Area Vocational-Technical
School District No. 3
1720 South Main
Sapulpa, Oklahoma 74066
PHONE: 918-224-9302

SHAWNEE
GORDON COOPER AVTS

Dr. John Bruton, Superintendent
Gordon Cooper Area Vocational-Technical
School District No. 5
P.O. Box 848
Shawnee, Oklahoma 74801
PHONE: 405-273-7493

STILLWATER
INDIAN MERIDIAN AVTS

Dr. Fred Shultz, Superintendent
Indian Meridian Area Vocational-Technical
School District No. 16
1312 South Sangre Road
Stillwater, Oklahoma 74074
PHONE: 405-377-3333

STILWELL
INDIAN CAPITAL AVTS

Mr. Jerry Panter, Principal
Indian Capital Area Vocational-Technical
School District No. 4
Route 4, Box 366
Stilwell, Oklahoma 74960
PHONE: 918-774-3111

TALIHINA
Kiamichi AVTS

Ms. Natha Carman, Director
Kiamichi Area Vocational-Technical
School District No. 7
Box 674
Talihina, Oklahoma 74571
PHONE: 918-567-2264

TULSA
TULSA COUNTY AVTS
MEMORIAL DRIVE SITE

Dr. Joe Lemley, Superintendent
Mr. James Dobbins, Principal
Tulsa County Area Vocational-Technical
School District No. 18
3420 South Memorial Drive
Tulsa, Oklahoma 74145
PHONE: 918-627-7200

PEORIA AVENUE SITE

Dr. T. J. Allen, Principal
Tulsa County Area Vocational-Technical
School District No. 18
3802 North Peoria Avenue
Tulsa, Oklahoma 74106
PHONE: 918-428-2261

WAYNE
MID-AMERICA AVTS

Mr. Kenneth Carleton, Superintendent
Mid-America Area Vocational-Technical
School District No. 8
Box H
Wayne, Oklahoma 73095
PHONE: 405-449-3391

WILBURTON
KIAMICHI AVTS

Administrative Office
Mr. Bill Powers, Superintendent
Kiamichi Area Vocational-Technical
School District No. 7
P.O. Box 490
Wilburton, Oklahoma 74578
PHONE: 918-465-2323

WOODWARD
HIGH PLAINS AVTS

Dr. Ron Simmons, Superintendent
High Plains Area Vocational-Technical
School District No. 24
704 Main Street
Woodward, Oklahoma 73801
PHONE: 405-256-6618

APPENDIX C

FORMAL STUDY

VoTech OKLAHOMA STATE DEPARTMENT OF VOCATIONAL AND TECHNICAL EDUCATION

FRANCIS TUTTLE, DIRECTOR • 1500 WEST SEVENTH AVE., • STILLWATER, OKLAHOMA 74074-4364 • A.C. (405) 377-2000

October 1, 1985

Dear Teacher:

We are requesting your help in a statewide research project involving teachers in the Oklahoma Area Vocational-Technical Schools. We are particularly interested in obtaining your responses because of your experience as a vocational-technical school teacher in Oklahoma.

The attached questionnaire concerns the type of instructional materials you may be using in teaching your courses. The questions are designed to determine which machines and materials are most used by vocational-technical educators; however, the use listed on the questionnaire may not specifically describe your situation. The use is expected to vary according to your specific course content. Please mark the box in each section which, to the best of your knowledge, most nearly describes your situation. For example, if you use diagnostic equipment in the automotive area or cash registers in cashier training, consider these teaching devices (or computerized devices if the machine contains micro-processors). Please do not skip any section! The enclosed instrument has been tested with a sampling of vocational teachers, and, despite its lengthy appearance, the entire questionnaire should take approximately 10 minutes of your time.

Please return the completed questionnaire by October 15, 1985, in the enclosed stamped, addressed envelope. If you should have any questions regarding this project, do not hesitate to call Linda Dunham collect (918-252-1309) as your responses are vital to the success of the study. Your responses will be held in strictest confidence.

We will be pleased to send you a summary of the survey results if you will leave your name and mailing address on the last page of the questionnaire. Your cooperation is greatly appreciated. Thank you for assisting us.

Sincerely,

Victor Van Hook
Deputy State Director

Linda Dunham
Project Coordinator

82-000704

Introduction to Evaluative Checklist

After you have carefully studied the criteria, mark one of the numbers at the left of each section that most nearly represents the situation in your teaching position. If the statement accurately describes your teaching situation, mark one of the middle squares, 2, 5, 8, or 11. If, in your estimation, the situation is below what is described, mark number 1, 4, 7, or 10; if above, mark 3, 6, 9, or 12. In any event, mark only one of the numbers, 1 through 12.

EXAMPLE

Mark only one of the twelve boxes

[1] [2] [3]	In my teaching situation, I never make use of educational media.
[4] [5] [6]	In my teaching situation, I rarely make use of educational media.
[7] [X] [9]	In my teaching situation, I make occasional use of educational media.
[10] [11] [12]	In my teaching situation, I use educational media whenever they are needed in the learning process.

GENERAL

CRITERIA

°Educational media should be used when they contribute to the clarity of a particular lesson and, subsequently, to the improvement of instruction.

°Continuous inservice education in the use of educational media, including new instructional devices and materials, should be carried on as a means of improving instruction.

Mark only one of the twelve boxes

A. The Role of Educational Media in Instruction

[1] [2] [3]	In my teaching situation, I never use educational media as a means of improving instruction.
[4] [5] [6]	In my teaching situation, I rarely use educational media even though they might contribute to the clarity of a particular lesson.
[7] [8] [9]	In my teaching situation, I make occasional use of educational media when they contribute to the clarity of a particular lesson.
[10] [11] [12]	In my teaching situation, I make extensive use of educational media when they contribute to the clarity of a particular lesson.

B. Provisions for Inservice Education in the Use of Educational Media

Mark only one of the twelve boxes

[1] [2] [3] In my teaching situation, there is never inservice education in the use of educational media or new instructional devices.

[4] [5] [6] In my teaching situation, there is rarely inservice education in the use of educational media or new instructional devices.

[7] [8] [9] In my teaching situation, there is occasional inservice education in the use of educational media and instructional devices.

[10] [11] [12] In my teaching situation, there is frequent inservice education in the use of educational media and instructional devices.

I. OVERHEAD TRANSPARENCIES

CRITERION

"Overhead transparencies should be used when:
- a. it is necessary to show the development of a whole from separate parts or the cumulative growth of a whole;
- b. it is desirable to write or mark on the projection material at the time of projection;
- c. the teacher wishes to present illustrations while facing the class.

A. Use of Overhead Transparencies to show Development of Wholes from Parts or the Cumulative Growth of a Whole, to Write on Projection Material at the Time of Projection, or to Present Illustrations While the Teacher is Facing the Class.

Mark only one of the twelve boxes

[1] [2] [3] In my teaching situation, overhead transparencies are never used to show development of wholes from parts or the cumulative growth of a whole, to write or mark on the projected material at the time of projection, or to present illustrations while the teacher is facing the class.

[4] [5] [6] In my teaching situation, overhead transparencies are rarely used to show the development of a whole from separate parts or the cumulative growth of a whole, to write or mark on the projection material at the time of projection, or to present illustrations while the teacher is facing the class.

[7] [8] [9] In my teaching situation, overhead transparencies are occasionally used to show the development of a whole from separate parts or the cumulative growth of a whole, to write or mark on the projection material at the time of projection, or to present illustrations while the teacher is facing the class.

[10] [11] [12] In my teaching situation, overhead transparencies are often used to show the development of a whole from separate parts or the cumulative growth of a whole, to write on the projection material at the time of projection, or to present illustrations while the teacher is facing the class.

II. SLIDES

CRITERION

*Slides should be used when:
a. it is desirable to reduce material for the purpose of easy storage and retrieval for future use;
b. it is desirable to document field trips and laboratory experiments.

A. Use of Slides for Reduction in Size for Easy Storage and Retrieval and to Document Field Trips and Laboratory Experiments

Mark only one of the twelve boxes

[1] [2] [3] In my teaching situation, slides are never used to reduce material for the purpose of easy storage and retrieval for future use or to document field trips and laboratory experiments.

[4] [5] [6] In my teaching situation, slides are rarely used to reduce material for the purpose of easy storage and retrieval for future use or to document field trips and laboratory experiments.

[7] [8] [9] In my teaching situation, slides are occasionally used to reduce material for the purpose of easy storage and retrieval for future use or to document field trips and laboratory experiments.

[10] [11] [12] In my teaching situation, slides are often used to reduce material for the purpose of easy storage and retrieval for future use or to document field trips and laboratory experiments.

III. FILMSTRIPS

CRITERION

*Filmstrips should be used when motion is not essential and when it is desirable to stop and discuss individual frames.

A. Use of Filmstrips for Photographs of a Sequential Nature and for Discussion of Individual Frames

Mark only one of the twelve boxes

[1] [2] [3] In my teaching situation, filmstrips are never used when motion is not essential or when it is desirable to stop and discuss individual frames.

[4] [5] [6] In my teaching situation, filmstrips are rarely used when motion is not essential or when it is desirable to stop and discuss individual frames.

[7] [8] [9] In my teaching situation, filmstrips are occasionally used when motion is not essential or when it is desirable to stop and discuss individual frames.

[10] [11] [12] In my teaching situation, filmstrips are often used when motion is not essential or when it is desirable to stop and discuss individual frames.

IV. MOTION PICTURE FILMS

CRITERIA

*Motion picture sound films should be used when:
- a. the experience presented vicariously contribute to the lecture;
- b. they provide student motivation;
- c. they present the material more effectively than the teacher can.

*Motion picture sound films should be used when:
- a. the combination of verbalization and motion are essential to the learning process;
- b. the modification of time, size, and space is needed;
- c. summarization and review are needed.

*Eight millimeter cartridge silent motion picture films should be used:
- a. when cost is a factor in procurement;
- b. when sound is not essential;
- c. mainly for small group and individual instruction.

A. Use of Motion Picture Films to Enhance Lecture, to Provide Motivation and for Effective Presentation of Material

Mark only one of the twelve boxes

[1] [2] [3] In my teaching situation, motion pictures are never used to enhance lectures, to provide student motivation, or to present material more effectively than the teacher can.

[4] [5] [6] In my teaching situation, motion pictures are rarely used to enhance lectures, to provide student motivation, or to present material more effectively than the teacher can.

[7] [8] [9] In my teaching situation, motion pictures are occasionally used to enhance lectures, to provide student motivation, or to present material more effectively than the teacher can.

[10] [11] [12] In my teaching situation, motion pictures are often used to enhance lectures, to provide student motivation, or to present material more effectively than the teacher can.

B. Use of Motion Picture Films for Verbalization and Motion, for Modification of Time, and for Review and Summarization

Mark only one of the twelve boxes

[1] [2] [3] In my teaching situation, motion pictures films are never used when verbalization and motion are essential to the learning process, when modification of time, size, and space is needed, or for the purpose of review and summarization.

[4] [5] [6] In my teaching situation, motion pictures films are rarely used when verbalization and motion are essential to the learning process, when modification of time, size, and space is needed, or for the purpose of review and summarization.

[7] [8] [9] In my teaching situation, motion pictures films are occasionally used when verbalization and motion are essential to the learning process, when modification of time, size, and space is needed, or for the purpose of review and summarization.

[10] [11] [12] In my teaching situation, motion pictures films are often used when verbalization and motion are essential to the learning process, when modification of time, size, and space is needed, or for the purpose of review and summarization.

C. Use of Eight Millimeter Cartridge Silent Motion Picture Films for Small Group or for Individual Instruction and for Inexpensive Local Production

Mark only one of the twelve boxes

[1] [2] [3] In my teaching situation, eight millimeter cartridge silent motion picture films are never used for small group or individual instruction, when inexpensive local production is desirable, or when sound is not essential to the learning process.

[4] [5] [6] In my teaching situation, eight millimeter cartridge silent motion picture films are rarely used for small group or individual instruction, when inexpensive local production is desirable, or when sound is not essential to the learning process.

[7] [8] [9] In my teaching situation, eight millimeter cartridge silent motion picture films are occasionally used for small group or individual instruction, when inexpensive local production is desirable, or when sound is not essential to the learning process.

[10] [11] [12] In my teaching situation, eight millimeter cartridge silent motion picture films are often used for small group or individual instruction, when inexpensive local production is desirable, or when sound is not essential to the learning process.

PLEASE CONTINUE TO THE NEXT PAGE

V. OPAQUE MATERIALS

CRITERIA

°Opaque materials should be used when non-transparent materials will contribute:
- a. group observation and/or evaluation;
- b. economy of time when it is unfeasible to prepare material for use with another medium.

°Opaque materials should be used to:
- a. enlarge small size still pictures to a large scale on various surfaces for reproduction;
- b. project three dimensional objects.

A. Use of Opaque Materials for Non-transparent Materials to Be Used for Group Observation and Economy of Time

Mark only one of the twelve boxes

- [1] [2] [3] In my teaching situation, opaque materials are never used for non-transparent materials shown for group observation and/or evaluation or for economy of time when it is unfeasible to prepare material for use with another medium.
- [4] [5] [6] In my teaching situation, opaque materials are rarely used for non-transparent materials shown for group observation and/or evaluation or for economy of time when it is unfeasible to prepare material for use with another medium.
- [7] [8] [9] In my teaching situation, opaque materials are occasionally used for non-transparent materials shown for group observation and/or evaluation or for economy of time when it is unfeasible to prepare material for use with another medium.
- [10] [11] [12] In my teaching situation, opaque materials are often used for non-transparent materials shown for group observation and/or evaluation or for economy of time when it is unfeasible to prepare material for use with another medium.

B. Use of Opaque Materials to Enlarge Small Size Still Pictures and to Project Three Dimensional Objects

Mark only one of the twelve boxes

- [1] [2] [3] In my teaching situation, opaque materials are never used to enlarge small size still pictures nor to project three dimensional objects.
- [4] [5] [6] In my teaching situation, opaque materials are rarely used to enlarge small size still pictures to a large scale on various surfaces for reproduction and to project three dimensional objects.
- [7] [8] [9] In my teaching situation, opaque materials are occasionally used to enlarge small size still pictures to a large scale on various surfaces for reproduction and to project three dimensional objects.
- [10] [11] [12] In my teaching situation, opaque materials are often used to enlarge small size still pictures to a large scale on various surfaces for reproduction and to project three dimensional objects.

VI. TEACHING DEVICES AND PROGRAMMED LEARNING MATERIALS

CRITERIA

*Teaching devices and/or programmed learning materials should be used when:
- a. the diversity of ability levels is present;
- b. immediate reinforcement of subject matter can be accomplished as satisfactorily as by the teacher.

*Teaching devices and/or programmed learning materials should be used for:
- a. the learning of routine skills;
- b. the learning of factual information when such information can be presented in a logical and sequential manner;
- c. the enhancement of individual instruction.

A. Use of Teaching Devices and/or Programmed Learning Materials in the Immediate Reinforcement of Subject Matter

Mark only one of the twelve boxes

[1] [2] [3] In my teaching situation, teaching devices and/or programmed learning materials are not used even though the diversity of ability levels is present and the immediate reinforcement of subject matter could be accomplished as satisfactorily as by the teacher.

[4] [5] [6] In my teaching situation, teaching devices and/or programmed learning materials are rarely used when the diversity of ability levels is present or in the immediate reinforcement of subject matter.

[7] [8] [9] In my teaching situation, teaching devices and/or programmed learning materials are occasionally used when the diversity of ability levels is present or in the immediate reinforcement of subject matter.

[10] [11] [12] In my teaching situation, teaching devices and/or programmed learning materials are often used when the diversity of ability levels is present or in the immediate reinforcement of subject matter.

B. Use of Teaching Devices and/or Programmed Learning Materials in Learning Routine Skills and Factual Information

Mark only one of the twelve boxes

[1] [2] [3] In my teaching situation, teaching devices and/or programmed learning materials are not used in the learning of routine skills and factual information nor are they used to enhance individual instruction.

[4] [5] [6] In my teaching situation, teaching devices and/or programmed learning materials are rarely used in the learning of routine skills and factual information or to enhance individual instruction.

[7] [8] [9] In my teaching situation, teaching devices and/or programmed learning materials are occasionally used in the learning of routine skills and factual information and to enhance individual instruction.

[10] [11] [12] In my teaching situation, teaching devices and/or programmed learning materials are often used in the learning of routine skills and factual information to enhance individual instruction.

VII. RECORDINGS

CRITERIA

°Recordings should be used when repeated audio experiences enliven, enhance, and vivify impressions of the materials presented.

°Recordings should be used to p·ovide students with:
- a. realistic and accurate musical experiences;
- b. unique and accurate narrative experiences;
- c. original sound reproduction;
- d. particular voices of the past in order to overcome time and distance when these voices enhance the learning process.

°Tape recordings should be used:
- a. as a self-evaluation and improvement tool which can record and playback the voices of students and teachers to serve as models to be listened to, noted, and emulated or improved upon;
- b. to store prerecorded information and dramatize historical episodes with vividness and a sense of reality.

A. Use of Recording to Enliven, Enhance, and Vivify Impressions of Materials

Mark only one of the twelve boxes

[1][2][3] In my teaching situation, recordings are never used to enliven, enhance, and vivify impressions of material being presented.

[4][5][6] In my teaching situation, recordings are rarely used to enliven, enhance, and vivify impressions of material being presented.

[7][8][9] In my teaching situation, recordings are occasionally used to enliven, enhance, and vivify impressions of material being presented.

[10][11][12] In my teaching situation, recordings are often used to enliven, enhance, and vivify impressions of material being presented.

B. Use of Recordings to Provide Realistic Musical and Unique Narrative Experiences, to Capture Original Sounds, and to Overcome Barriers of Time and Distance

Mark only one of the twelve boxes

[1][2][3] In my teaching situation, recordings are never used to provide realistic and accurate musical and unique narrative experiences, to capture original sounds, and to overcome barriers of time and distance when particular voices enhance the learning process.

[4][5][6] In my teaching situation, recordings are rarely used to provide realistic and accurate musical and unique narrative experiences, to capture original sounds, and to overcome barriers of time and distance when particular voices enhance the learning process.

[7][8][9] In my teaching situation, recordings are occasionally used to provide realistic and accurate musical and unique narrative experiences, to capture original sounds, and to overcome barriers of time and distance when particular voices enhance the learning process.

[10][11][12] In my teaching situation, recordings are often used to provide realistic and accurate musical and unique narrative experiences, to capture original sounds, and to overcome barriers of time and distance when particular voices enhance the learning process.

C. Use of Tape Recordings for Self-Evaluation and Improvement, and the Reporting of Prerecorded Information

Mark only one of the twelve boxes

[1][2][3] In my teaching situation, tape recordings are not used for student self-evaluation and improvement, nor are they used to report pre-recorded information.

[4][5][6] In my teaching situation, tape recordings are rarely used for student self-evaluation and improvement and to report pre-recorded information.

[7][8][9] In my teaching situation, tape recordings are occasionally used for student self-evaluation and improvement and to report pre-recorded information.

[10][11][12] In my teaching situation, tape recordings are often used for student self-evaluation and improvement and to report pre-recorded information.

VIII. EDUCATIONAL TELEVISION

CRITERIA

°Educational television should be used to disseminate information from sources that are not readily available.

°Educational television should be used to present live current events as they are happening when the pictorial aspect of the presentation enhances learning.

°Educational television should be used for:
- a. inservice education when a unit of material is of such a nature that it lends itself to mass dissemination to widely dispersed audiences;
- b. learning groups which are sufficiently large to justify the cost.

°The television video tape recorder should be used:
- a. to record performance and to witness such performance through immediate playback;
- b. to accomplish self-evaluation of students and teachers.
- c. to play video tapes as an alternative to 16-mm motion pictures.

A. Dissemination of Information by Educational Television

Mark only one of the twelve boxes

[1][2][3] In my teaching situation, educational television is never used to disseminate information.

[4][5][6] In my teaching situation, educational television is rarely used to disseminate information.

[7][8][9] In my teaching situation, educational television is occasionally used to disseminate information.

[10][11][12] In my teaching situation, educational television is often used to disseminate information.

B. Pictorial Current Events Depicted by Educational Television

Mark only one of the twelve boxes

[1] [2] [3] In my teaching situation, educational television is never used to depict current events even though the pictorial aspect may be valuable or might enhance learning.

[4] [5] [6] In my teaching situation, educational television is rarely used to depict current events even though the pictorial aspect may be valuable or might enhance learning.

[7] [8] [9] In my teaching situation, educational television is occasionally used to depict current events when the pictorial aspect is valuable and enhances learning.

[10] [11] [12] In my teaching situation, educational television is often used to depict current events when the pictorial aspect is valuable and enhances learning.

C. Use of Educational Television to Reach Widely Dispersed Audiences

Mark only one of the twelve boxes

[1] [2] [3] In my teaching situation, educational television is never used for inservice education or to disseminate information to widely scattered audiences.

[4] [5] [6] In my teaching situation, educational television is rarely used for inservice education or to disseminate information to widely scattered audiences even though the learning groups are large enough to justify the cost.

[7] [8] [9] In my teaching situation, educational television is occasionally used for inservice education or to disseminate information to widely scattered audiences even though the learning groups are large enough to justify the cost.

[10] [11] [12] In my teaching situation, educational television is often used for inservice education or to disseminate information to widely scattered audiences even though the learning groups are large enough to justify the cost.

D. Self-Evaluation Through the Use of the Television Video Tape Recorder

Mark only one of the twelve boxes

[1] [2] [3] In my teaching situation, the video tape recorder is never used to witness performance through immediate playback, nor is it used for self-evaluation of students and teachers.

[4] [5] [6] In my teaching situation, the video tape recorder is rarely used to witness performance through immediate playback, nor is it used for self-evaluation of students and teachers.

[7] [8] [9] In my teaching situation, the video tape recorder is occasionally used to witness performance through immediate playback, nor is it used for self-evaluation of students and teachers.

[10] [11] [12] In my teaching situation, the video tape recorder is often used to witness performance through immediate playback, nor is it used for self-evaluation of students and teachers.

Mark only one of the twelve boxes

E. Television video taped playback of recorded materials

[1][2][3] In my teaching situation, the video tape recorder is never used to show video tapes as an alternative to 16-mm motion pictures.

[4][5][6] In my teaching situation, the video tape recorder is rarely used to show video tapes as an alternative to 16-mm motion pictures.

[7][8][9] In my teaching situation, the video tape recorder is occasionally used to show video tapes as an alternative to 16-mm motion pictures.

[10][11][12] In my teaching situation, the video tape recorder is often used to show video tapes as an alternative to 16-mm motion pictures.

IX. COMPUTER APPLICATIONS

CRITERIA

Computers should be used as an instructor's aid in:
- a. generating instructional materials;
- b. computer-assisted instruction;
- c. information storage and retrieval.

Computers should be used as instructor in:
- a. tutorial learning situations;
- b. drill and practice learning situations;
- c. demonstration learning situations.

Computers should be used as the object of instruction in:
- a. computer literacy instruction;
- b. data processing instruction;
- c. computer science instruction;
- d. programming instruction.

Computers should be used as a laboratory of learning in:
- a. data analysis;
- b. problem solving;
- c. simulation;
- d. modeling.

Computers should be used in teaching technological applications in:
- a. electronics;
- b. computer-assisted manufacturing;
- c. climate control technology;
- d. computer-assisted drafting.

PLEASE CONTINUE TO THE NEXT PAGE

A. Use of Computers as an instructor's aid in generation of instructional materials, computer-assisted instruction, or for information storage and retrieval

Mark only one of the twelve boxes

[1] [2] [3] In my teaching situation, computers are never used in generation of instructional materials, computer-assisted instruction, or for information storage and retrieval.

[4] [5] [6] In my teaching situation, computers are rarely used in generation of instructional materials, computer-assisted instruction, or for information storage and retrieval.

[7] [8] [9] In my teaching situation, computers are occasionally used in generation of instructional materials, computer-assisted instruction, or for information storage and retrieval.

[10] [11] [12] In my teaching situation, computers are often used in generation of instructional materials, computer-assisted instruction, or for information storage and retrieval.

B. Use of computers as instructor in tutorial, drill and practice or demonstration learning situations

Mark only one of the twelve boxes

[1] [2] [3] In my teaching situation, computers are never used in tutorial, drill and practice or demonstration situations.

[4] [5] [6] In my teaching situation, computers are rarely used in tutorial, drill and practice or demonstration situations.

[7] [8] [9] In my teaching situation, computers are occasionally used in tutorial, drill and practice or demonstration situations.

[10] [11] [12] In my teaching situation, computers are often used in tutorial, drill and practice or demonstration situations.

C. Use of computers as the object of instruction in computer literacy, data processing, computer science or programming instruction

Mark only one of the twelve boxes

[1] [2] [3] In my teaching situation, computers are never used as the object of instruction in computer literacy, data processing, computer processing, computer science, or programming instruction.

[4] [5] [6] In my teaching situation, computers are rarely used as the object of instruction in computer literacy, data processing, computer processing, computer science, or programming instruction.

[7] [8] [9] In my teaching situation, computers are occasionally used as the object of instruction in computer literacy, data processing, computer processing, computer science, or programming instruction.

[10] [11] [12] In my teaching situation, computers are often used as the object of instruction in computer literacy, data processing, computer processing, computer science, or programming instruction.

PLEASE CONTINUE TO THE NEXT PAGE

Mark only one of the twelve boxes

D. Use of computers in a laboratory setting for data analysis, problem solving, simulations, or modeling

[1] [2] [3] In my teaching situation, computers are never used in a laboratory setting for data analysis, problem solving, simulation, or modeling.

[4] [5] [6] In my teaching situation, computers are rarely used in a laboratory setting for data analysis, problem solving, simulation, or modeling.

[7] [8] [9] In my teaching situation, computers are occasionally used in a laboratory setting for data analysis, problem solving, simulation, or modeling.

[10] [11] [12] In my teaching situation, computers are often used in a laboratory setting for data analysis, problem solving, simulation, or modeling.

Mark only one of the twelve boxes

E. Use of computers in teaching specialized technological applications in electronics, computer-assisted manufacturing, climate control technology or computer-assisted drafting

[1] [2] [3] In my teaching situation, computers are never used in teaching technological applications such as electronics, computer-assisted manufacturing, climate control technology or computer-assisted drafting.

[4] [5] [6] In my teaching situation, computers are rarely used in teaching technological applications such as electronics, computer-assisted manufacturing, climate control technology or computer-assisted drafting.

[7] [8] [9] In my teaching situation, computers are occasionally used in teaching technological applications such as electronics, computer-assisted manufacturing, climate control technology or computer-assisted drafting.

[10] [11] [12] In my teaching situation, computers are often used in teaching technological applications such as electronics, computer-assisted manufacturing, climate control technology or computer-assisted drafting.

PLEASE INDICATE THE TYPE OF INSTRUCTIONAL MATERIALS YOU MOST PREFER (1), PREFER NEXT (2), NEXT (3), AND SO ON THROUGH (10).

	Types of AV Materials	Level of Preference
1	overhead transparencies	
2	films	
3	filmstrips	
4	slides	
5	records	
6	tape recordings	
7	educational television	
8	video tape	
9	computers	
10	opaque	

APPENDIX D

FOLLOW-UP

FOLLOW-UP POSTCARD

Dear Teacher;

Recently you received a questionnaire regarding your usage of instructional media. If this has not been returned as yet, I would like to encourage you to complete and return it as soon as possible as the results cannot be tallied until all questionnaires are in. If you have misplaced your questionnaire, please call me collect after 6 pm at 918-252-1309. Your response is very important to this study.

Linda Dunham
Project Director

OKLAHOMA STATE DEPARTMENT OF VOCATIONAL AND TECHNICAL EDUCATION

FRANCIS TUTTLE, DIRECTOR • 1500 WEST SEVENTH AVE.. • STILLWATER, OKLAHOMA 74074-4364 • A.C. (405) 377-2000

November 22, 1985

Dear Teacher:

I am mailing you a second copy of the Media Evaluation Checklist in the hopes that you will take a few minutes to let me know which educational media you prefer and use most. I know this is, perhaps, the busiest time of the year. However, as you look at one section of the checklist, you will realize that this will only take five minutes or so of your time to complete.

I appreciate the support Oklahoma vocational-technical teachers have given to this study. Thank you again.

Cordially,

Linda Dunham
Project Coordinator

VITA

Linda G. Dunham

Candidate for the Degree of

Doctor of Education

Thesis: MEDIA UTILIZATION PRACTICES AND PREFERENCES OF TEACHERS IN AREA VOCATIONAL-TECHNICAL SCHOOLS IN OKLAHOMA

Major Field: Curriculum and Instruction

Biographical:

Personal Data: Born in Hartshorne, Oklahoma, May 12, 1948, the daughter of Mr. and Mrs. Bill Baxter.

Education: Attended Broken Arrow High School, Broken Arrow, Oklahoma, from 1963 to 1966; received Bachelor of Arts degree in Elementary Education from Oral Roberts University, Tulsa, Oklahoma, in May, 1970; received Master of Library Science degree from the University of Michigan, Ann Arbor, Michigan, in 1971.

Professional Experience: Reference Librarian, Oral Roberts University, 1971-73; Learning Resources Librarian, Oral Roberts University, 1973-75; Director, Curriculum Media Center, Oral Roberts University, 1975-86; Graduate Assistant, Teaching Media Course, College of Education, Oklahoma State University, 1981-82. Courses taught at Oral Roberts University, 1982-86: Media, Children's Literature, Educational Psychology, Developmental Psychology, Social Studies Methods, Language Arts Methods.