

THE UTILIZATION OF AUDIOVISUAL NONPRINT  
MEDIA IN THE SECONDARY SCHOOL

---

SHERYL CHAMBERS MACKEY



THE UTILIZATION OF AUDIOVISUAL NONPRINT  
MEDIA IN THE SECONDARY SCHOOL

---

An Abstract  
Presented to  
the Graduate Council of  
Austin Peay State University

---

In Partial Fulfillment  
of the Requirements for the Degree  
Education Specialist

---

by  
Sheryl Chambers Mackey

January 1987

## ABSTRACT

This study was conducted at Northwest High School in Clarksville, Tennessee to determine if audiovisual nonprint media circulation data would indicate trends that could be used by the librarian to update present acquisition policies. Audiovisual nonprint circulation records and acquisition records for the years 1980-1983, obtained from the library at Northwest High School, were used to ascertain frequency of use data. Faculty questionnaires were administered to discover personal preferences toward the use of audiovisual nonprint media within this secondary school.

Audiovisual nonprint media was more often used when a multimedia approach was used, such as sound filmstrips, sound movies, or sound slide presentations. Single media approaches, such as cassettes, records, or captioned filmstrips were seldom used. The video recorder and camera were beginning to surface as a popular teaching tool and resource at Northwest High School.

For more effective use of the audiovisual nonprint media, an active inservice program to emphasize the efficient use and educational importance of audiovisual nonprint media within the classroom should be implemented. Incorporating this within the Tennessee Instructional

Model would help teachers more effectively use these resources in their classroom.



THE UTILIZATION OF AUDIOVISUAL NONPRINT  
MEDIA IN THE SECONDARY SCHOOL

---

A Field Study  
Presented to  
the Graduate Council of  
Austin Peay State University

---

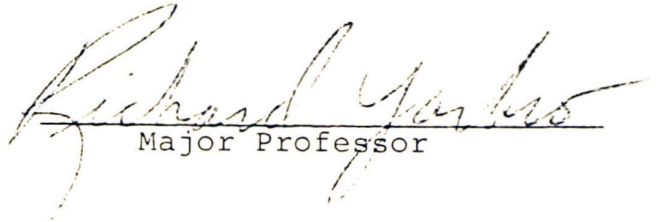
In Partial Fulfillment  
of the Requirements for the Degree  
Education Specialist

---

by  
Sheryl Chambers Mackey  
January 1987

To the Graduate and Research Council:

I am submitting herewith a field study written by Sheryl Chambers Mackey entitled "The Utilization of Audiovisual Nonprint Media in the Secondary School." I have examined the final copy of this paper for form and content, and I recommend that it be accepted in partial fulfillment of the requirements for the degree of Educational Specialist, with a major in Administration and Supervision.

  
Major Professor

We have read this field study and recommend its acceptance:

  
Second Committee Member

  
Third Committee Member

Accepted for the Graduate and Research Council:

  
Dean of the Graduate School



# TABLE OF CONTENTS

	Page
List of Tables . . . . .	viii
Chapter	
1. Introduction . . . . .	1
Hypothesis . . . . .	1
Problem . . . . .	2
Purpose . . . . .	2
Definition of Terms . . . . .	3
Limitations . . . . .	4
2. Review of the Literature . . . . .	5
Teachers Educational Philosophy . . . . .	5
Educational Objectives . . . . .	6
Learning Styles of Students . . . . .	8
Types of Learning . . . . .	10
Types of Learning Activities . . . . .	11
Roles of Audiovisual Nonprint Media . . . . .	13
Audiovisual Media Characteristics . . . . .	14
Capabilities of Audiovisual Media . . . . .	15
Selection of Audiovisual Materials . . . . .	16
Previewing Audiovisual Nonprint Media . . . . .	17
Implementing Instruction Audiovisuals . . . . .	19
Research . . . . .	20

3. Methodology . . . . .	24
Subjects . . . . .	24
Procedure . . . . .	24
Description of Evaluation Instrument . . . . .	25
4. Presentation of Data . . . . .	26
Questionnaire . . . . .	26
Circulation Data . . . . .	34
Media Acquisitions . . . . .	39
5. Summary and Recommendations . . . . .	41

#### Appendixes

A. Letter of Instruction . . . . .	46
B. Audiovisual Questionnaire . . . . .	47
C. Informed Consent Statement . . . . .	51

References . . . . .	52
----------------------	----



# TABLES

Table	Page
1. Curriculum Areas Represented . . . . .	27
2. Grade Level Represented . . . . .	27
3. Media Ranked by Preference (1-8) . . . . .	28
4. Reasons for Media Usage . . . . .	29
5. Frequency in Using Media in Testing . . . . .	30
6. Additional Media Needed . . . . .	30
7. Frequency of Use of Media in Classroom . . . . .	31
8. Valued Aspects of Media . . . . .	32
9. Video Cassette Usage . . . . .	33
10. Percent of Faculty Using AV . . . . .	34
11. Use of Media by Format . . . . .	35
12. Total Circulation of Media Software . . . . .	38
13. Number of Media Items Held by Library . . . . .	39
14. Comparison of Media Not Used . . . . .	40

## CHAPTER 1

### Introduction

Audiovisual items, such as filmstrips, 16 millimeter films, slides, cassette tapes, records, and transparencies are used in the secondary classroom to teach, motivate, and enrich the lives of students. Producers of these items have not only increased the availability, but also increased the quality of these materials. Since librarians are only able to purchase a limited amount of audiovisual materials for their school faculty, it is important not only to spend the audiovisual budget wisely but also to encourage the use of these educational resources within the classroom setting. Through the study of audiovisual nonprint media circulation records, trends of use can be ascertained to help the librarian promote more effective utilization of the resources presently in the collection and as a guide to future purchases.

### Hypothesis

The review of audiovisual nonprint media circulation patterns over a four-year period will not only help the librarian to formulate acquisition policies to reflect the changing needs of the secondary school, but also aid in more effective use of this resource within the secondary school.



## Problem

The study investigated the circulation patterns of audiovisual nonprint media items. This information was used to formulate a new acquisitions policy to reflect the needs of Northwest High School. The study attempted to determine how the faculty perceived their use of audiovisual nonprint media within the classroom and also the need of video tape equipment at Northwest High School. The study covered a four-year time span from 1980 to 1984.

## Purpose

Through this field study, an acquisitions policy may be formed which could aid the librarian in expanding the audiovisual collection to reflect the particular curriculum needs of Northwest High School. The trends set over a four-year period from 1981 to 1984 indicated possible future growth and curriculum needs.

The four-year study revealed areas of weakness within the audiovisual nonprint media collection itself. It showed patterns of usage by the teachers that might reflect the educational importance with which educators view audiovisual nonprint media. After studying these circulation patterns, the librarian was not only able to motivate and encourage teachers to use neglected materials but was also made aware of materials that should possibly be discarded.

The acquisition of videotape equipment and videotapes was a new area of interest. The teacher questionnaire addressed this issue and sought to find the degree of interest the faculty would have in using this medium within their classrooms.

### Definition of Terms

Audiovisual material. Any device by means of which the learning process may be encouraged or carried on through the senses of hearing and/or sight.

Software. The educational stimuli or messages, such as a televised lecture, a teacher-prepared audiotape, or a programmed textbook, which provide the content of instruction to the study.

Circulation library. The lending of books and library materials to library users.

Acquisition library. The branch of library service concerned with acquiring books, periodicals, and other library materials by purchase, exchange, gift, or deposit, together with the development and maintenance of essential records of these accessions.

Northwest High School. Secondary school located in the New Providence community in Northwest Montgomery County, Tennessee. There are approximately twelve hundred (1200) students in grades nine through twelve. There are sixty faculty members.

### Limitations

The study covered only data from Northwest High School during the years 1980 through 1984. Only nonprint audiovisual media was studied. Teachers were the sole source of opinions on the frequency of use of audiovisual nonprint media. The frequency of use of audiovisual nonprint media was studied from records kept by the library personnel.



## CHAPTER 2

### Review of the Literature

When researching the literature of how audiovisual nonprint materials were used in the classroom, the lack of research on the subject during the last decade was very apparent. Most of the current literature centered on computer-assisted instruction, and audiovisual nonprint instruction was virtually ignored. It can be seen through the research that there are as yet many unanswered questions about the role of audiovisuals in the classroom.

The use of audiovisuals within the classroom must take into consideration the teacher's teaching philosophy, the educational objectives, and the student's learning style. To correctly match media with content and audience helps to insure the student achieves the potential learning for which the audiovisual nonprint media was intended.

#### Teachers Educational Philosophy

When one discusses the use of audiovisual nonprint materials, one must take into consideration the educational philosophy of the teacher using the media. There were two major orientations that affect the way teachers teach.

John B. Haney's (1970) discussion of the differences in teaching orientation showed the educator how the difference in attitudes and philosophies of teachers

affected the selection and utilization of audiovisual media in the classroom.

Those teachers who maintained a stimulus or perceptual view gave primary importance to the technical or message of the materials. Haney (1970) found interesting content, careful writing, fine photography, and good picture composition very important to these teachers. Stimuli-centered teachers wanted programs that were rich in sensory stimuli. Visuals were used to illustrate concepts rather than illicit specific behavioral responses.

Behaviorists, on the other hand, desired learners to make visual discriminations. Naming different types of plants, identifying the different organs of the body, all required the student to make visual discriminations. They used audiovisual nonprint media for concrete matters.

The stimulus-oriented teacher wanted to use audiovisuals to show how something looked or to provide concrete experiences. He did not try to test over all the materials presented, as did the behaviorists.

### Educational Objectives

William J. Allen (1974:8) stated the "key to selection of appropriate instructional media lies in the effectiveness of that media to meet the desired educational objective." Allen believed there was an abundance of media research pointing to the effectiveness of films, filmstrips,

and television in meeting objectives, but the educator needed to know what types of audiovisual nonprint media to use under differing teaching conditions. Allen believed there was a high positive transfer of learning when the instructional situation was similar to the behavior to be learned. Stimulus representations of the associations to be learned should be similar to the behavior needed in the final task. G. L. Gropper in 1966 found totally visual presentations of the concepts to be learned, when preceded by a verbal presentation of the same concept, were significantly greater and took less learning time than when the verbal presentation preceded the visual one (Rakow, 1980).

Wehmeyer (1978b), suggested media specialists use Gagne's Hierarchy to choose appropriate audiovisual nonprint media for learning tasks. William E. Hug (1975), also emphasized the importance of media specialists and classroom teachers use of Gagne's Hierarchy to choose correct audiovisual nonprint materials for classroom use.

Audiovisual nonprint media, according to Michael J. Dyrenfurth (1984:13), should "be selected on the basis of its potential for implementing a stated objective." He found transparencies, both commercial and teacher-made, to be the most versatile media used within vocational classes. He also found students who made their own audiovisual nonprint media seemed to learn more.



## Learning Styles of Students

Audiovisual technologists advised matching the learning styles of the student to the applicable audiovisual media for maximum effectiveness. Derek Nunney (1974) called this personalized educational programs. He wished to discover the cognitive style of the student by determining the way he was aware of his total environment, how he sought meaning, and how he gained information as either a listener or a reader. Nunney also considered the family background, talent, life experience and personal goals when he designed a personal learning style map or program for the student (Nunney, 1974).

Wehmeyer (1978b) also felt individual learning characteristics should be considered when choosing media. While a field-dependent person might be easily confused by complicated illustrations, a field-independent student might not encounter the same confusion. Field-dependent learners were found to need guidance and reassurance while the field-independent students were better able to use self-directed materials. These learning styles might certainly affect the way in which the classroom teacher would select audiovisual materials for the individual student.

Some students learned more spontaneously and needed highly-complex visuals and sound. Other students were more deliberate in their learning styles and met with more

success when highly structured lessons were presented through structured presentations that used a single medium (Wehmeyer, 1978b).

Wehmeyer (1978b) suggested the Annhurst Classifications System which is a system to match audiovisual nonprint media with the appropriate learner by classifying elementary audiovisual nonprint media as to appropriate age level, experience levels, intelligence, motivation, emotion, personality, creativity, social qualities, verbal expression and auditory, visual, and motor perception. Teachers rated each student on the same variables and thus media and students were then matched.

Morris Freedman (1974) suggested media producers should check their media more carefully and include specific audience characteristics related to grade, achievement levels, and possible learning problems. This would save the teacher time and help him match the most suitable audiovisual for the student's individual learning style and needs.

Dr. Russell French and Dr. Gilley (Wehmeyer, 1978b) attempted to relate learning modality to teaching styles and instructional strategies. They hoped to verify print-oriented learners needed to read and write, aural learners benefited from audiotapes; visual learners gained from viewing motion pictures, slides, exhibits and the like. As one can see, very elementary concepts dealing with the use

of audiovisuals are just now being scientifically researched.

### Types of Learning

It was found to be very important to match the combination of method and media to the particular type of educational behavioral objective. Haney (1970) stated several methods of learning that could be found when dealing with audiovisual nonprint media.

Learning factual information entailed simple recall of materials introduced in the lesson. Haney found it important for the media used to proceed at the student's pace for best detail retention. Audio media could teach facts but could not be variably paced. He found visual aspect did not add to the retention of facts if these facts were not visual in nature (Haney, 1970).

Learning visual identification dealt with the ability to discriminate between visual objects. It could be learned through media that was very realistic. If motion was relevant to the learning, the movie seemed to be a good choice, however, if it were not important, slides were the preferred source of learning, suggested Haney (1970).

Concept learning involved the ability to identify members of a class. It depended on the referent as to whether media could be a learning help. Concepts that were physical could be taught with still pictures, slides, and



filmstrips. Abstract concepts were better taught with charts and graphs (Haney, 1970).

When learning principles involved relationships between concepts, learning became more complex and Haney felt it became harder to choose one media aspect to assist in learning.

Learning psychomotor skills involved learning a sequence of skills with a degree of accuracy or precision. Motion pictures seemed to aid in this. The movie must be slow paced and the teacher must provide time for practice (Haney, 1970).

Learning problem solving involved applying principles already learned to solve a new problem. Media gave a good means to present the problem, but the student needed to discover the answer for himself. Television and films presented problems in an effective manner (Haney, 1970).

Developing attitudes and values came from many sources which included family, friends, church, neighborhood, and the mass media. Motion pictures and television were excellent sources to show the emotions behind the actions of people. Haney (1970) believed the realistic dramatization could change attitudes.

### Types of Learning Activities

Many experiences have been found to lead children to learning. They have been grouped into four categories:

exposition, participation, interaction, and evaluation (Haney, 1970).

Exposition dealt with some perceptual experience the student must undergo to achieve learning. These might be field trips, media presentations, reading, lectures, and viewing displays.

Participation dealt with the student actually having a part in the learning activity. The most suitable form of activity must be paired with the student's abilities. To develop instructional strategies, such as writing, reporting, demonstrating, experimenting, dramatizing, one must be very aware of the learning style of the individual student.

Interaction sessions needed to be planned. Haney (1970) suggested discussions between students and teacher were invaluable to judge the understanding of materials. He advocated the students need to express themselves, ask questions, and participate in panel discussions. Audio-visual nonprint media was used as a starting point, not as the whole point.

Evaluation was the final type of learning. It was sometimes difficult to judge the effectiveness of audio-visual presentations. Measuring the effects on attitudes and values was found to be very difficult (Haney, 1970).

## Roles of Audiovisual Nonprint Media

How audiovisual nonprint media would be used was affected by the way one planned to use it and the desired outcome. Haney (1970) suggested the most common roles served by media were instruction, dramatization, documentation, performance analysis, and simulation.

In an instructional role, audiovisual nonprint media permitted the student to achieve specific goals that could be tested. It brought about specific changes in the student's behavior.

In a dramatizational role, audiovisual nonprint media provided a literary production or historical reenactment. Thus the student was able to be present at an important event. Usually in film or videotape form, the students were able to learn in the affective domain, thus experiencing struggle, pain, suffering, and excitement vicariously (Haney, 1970). This substantiated Wehmeyer's premise (1978a) that the nature of some learning tasks could not be read about but must be experienced.

Another role of audiovisual nonprint media was that of documentation. When the teacher needed an accurate recording of an event, accuracy and realism were of the most importance. It was very important that these portrayals were not biased and truly taught the basic facts (Haney, 1970).

When using audiovisual nonprint media for performance

analysis, the teacher wanted the students to study techniques to be improved or corrected. This was especially good as the use of videotapes began to be so widely used. Not only could the students view famous dancers, sports figures, actors, and speakers but they could also tape themselves for self study.

Audiovisuals could also simulate outside situations to allow students to view their reactions to future problems (Haney, 1970). This might be seen in driver's education, flight schools, or in problem-solving situations.

The final role for media used in the classroom is that of student production. Many students learned the techniques of producing their own media programs. Haney (1970) found this to not only enhance interest and motivation but also to improve communication skills.

### Audiovisual Media Characteristics

Although media could mean many things to many different people, media for the educator entailed films, television, slides, filmstrips, audiotapes, records, and various combinations of these in a classroom setting.

The media forms could be placed into two categories: verbal communications and pictorial display both visual and verbal (Haney, 1970).

The verbal communications capability was obvious. It was oftentimes used with printed materials to reinforce reading and comprehension skills.



Pictorial displays could be black and white, or color, and might show movement, enlargement, reduction, and visual sequence. Television, films, and filmstrips were found to have little flexibility and had a fixed sequence and pace. Slides and still photographs could be paced and were more advantageously used with those students who needed different amounts of exposure or a greater number of practice exercises.

Haney (1970) found when a teacher used a film, instructional time was paced to suit the film, not the capabilities of the student. The film lasted long enough to cover the topic and did not take into consideration the time it took a student to comprehend the materials. Haney (1970) suggested a teacher should be aware of this shortcoming and develop extra materials to insure desired learning takes place.

### Capabilities of Audiovisual Media

The primary capability of any media has been found to bring a variety of stimuli to the classroom. Because the media could be repeatedly used, the teacher had a source of information available to many students for an indefinite time period. This could free the teacher for other activities within the classroom. Haney(1970) experimented with the use of transparencies during 1960. He found the use of transparencies resulted in an average time savings of fifteen minutes per class period.

Media also allowed the instructor to manipulate activities and use time-lapse photography, slow motion, magnification, reverse and repeat features, and stop action to reinforce learning activities (Haney, 1970). Another major capability of media had to do with the availability of talented individuals and great teachers to any student, regardless of location. Television, audiotapes, and videotapes could be made by the world's foremost experts and brought into the classroom at the discretion of the teacher. Thus a virtual unlimited group of resource people were made available to the classroom teacher (Haney, 1970).

The use of media allowed a teacher to better teach larger classes through the use of slide shows and transparencies rather than numerous single copies of print materials (Wehmeyer, 1978a). Thus the audiovisual media was cost effective, time effective, and kept the students on task.

### Selection of Audiovisual Materials

When choosing audiovisual media the teacher needed to decide whether the use was for information or instruction (Anderson, 1976). Informational use gave overviews, supplied entertainment, generated interest, gave background information or promoted ideas. When audiovisual nonprint media was used for instructional purposes, the students needed to be able to demonstrate what was learned. The

teacher should then determine the transmission method, whether for instructional aids to be used by the teacher or instructional media to be used primarily by the student independently.

The final factor to be determined was the lesson characteristic, whether the behavioral objective for the lesson was in the cognitive, psychomotor, or affective domain. The teacher should then pick the appropriate media form, analyze the media, and if necessary, develop appropriate evaluation procedures (Anderson, 1976).

There were several sources used by teachers to aid in media selection. Phillip J. Sleeman (1979) found the main source was hearsay from other teachers. Catalogs and media reviews were the other main sources of information. Teacher guides that were included with the audiovisual materials were of prime importance in the selection of appropriate audiovisual nonprint materials. Some schools had personal previews which included not only informational data but also selectional data.

Sleeman (1979) also agreed the general criteria for selection were curricular decisions, analysis of learners, conditions of planning, professional preference, environmental conditions, time, and impact tolerances upon segments of the student population.

#### Previewing Audiovisual Nonprint Media

The main purpose in previewing materials was to make



sure the media meets the educational objectives. Sleeman (1979) emphasized the importance in selecting media to match the objectives, not making the learning objectives match the media.

Sleeman (1979) also stressed the importance of checking nonprint media for obsolescence and use of erroneous, outdated information.

The visual quality needed to be clear and precise as possible with significant details as large as needed for perceptibility and comprehension. The media needed to be attractive and planned for effective eye movement. The colors needed to be relevant. There should be no excessive decorations and detailed embellishments.

The sound quality needed to be relatively free from static, flutter, and vasillation. Sleeman (1979) also warned teachers to check the ability of the sound to be amplified to the needed loudness.

When previewing nonprint media, the teacher should check to see where overt responses could be solicited from the students. Sleeman (1979) found prior planning enabled the teacher to better question and emphasize points presented by the media.

Another quality Sleeman (1979) suggested teachers check was the pace of the presentation. The sequential learning needs of the students were not met when the presentation proceeded too quickly from concrete ideas to



those of a more abstract nature. One of the major concerns of teachers entailed the time frame needed by the audio-visual nonprint media. If the media took up more time than was allowed in a normal class period, the teacher must decide where the media could be edited, or if it could be shown in two different class periods without disrupting the flow of learning. Perhaps just a section of the program could be shown and achieve the necessary learning objective (Sleeman, 1979).

#### Implementing Instruction Audiovisuals

The key to any instruction was choosing the medium of instruction on the basis of its potential for meeting a specific behavioral objective (Ely, 1980). As the teacher began to mesh the behavioral objective, the learning styles of the students, and the learning strategies, the teacher became a planner and organizer of learning experiences. The teacher began to switch the responsibility of learning from the teacher to the student. Motivation to want to learn became the key to instruction (Dale, 1974).

When the teacher began to use media within the classroom, several things were incorporated within his lesson plan. The teacher carefully introduced the media program. While the program was being shown, pauses and stops could be made to clarify points and help students understand difficult concepts. Haney (1970) suggested showing the

film several times to improve comprehension. After the media presentation, the students could be active in some form of involvement to ensure his acquiring the desired competencies.

John B. Haney (1970) also suggested learning from media be tested. It was found possible to evaluate learning by several methods. Visuals could be evaluated by either verbal descriptions or by using the visuals themselves in a testing situation. The evaluation needed to be based upon the learning objectives. Since media presentations may cover several different objectives, it was very important that the student be made aware of the learning objective on which he was to focus. Measuring the effect of attitudes and values was probably the most difficult learning to be evaluated.

### Research

Upon further study of audiovisual utilization in the schools, the overwhelming finding pointed to the lack of research in this area of education. Wehmeyer (1978a) suggested there was little research to convince skeptics that any type of media was better than another nor was there any real proof that any audiovisual media enhanced learning. Even more adamant was Joel Rakow (1980:35) who went so far as to contend the use of audiovisuals, as far as research, theory, and practice was concerned, was as "unsupported today as they were in Edison's time."

In a time of educational accountability and a fervor for excellence in teaching, it may be prudent to reexamine the use of audiovisual nonprint media within the classroom and reassess the reasons and purposes for its presence.

Studies based on the use of audiovisual-aided learning took place as far back as the 1920's when Joseph Weber tried to determine how much of our knowledge of verbal concepts was contributed by each of man's five senses. Rakow contended the results of Weber's studies, which have been quoted in textbooks and used as a basis for many theories, was based on faulty research. Weber's research was more a result of judgments about the relationship than it was a test of it. Weber's study was taken for granted and quoted in educational textbooks as a foundational study for the use of audiovisuals. Tod C. Cobu also quoted numbers and percentages of how much we learn through our senses. Rakow contended these numbers were not substantiated. Elizabeth Laine wrote on AV theories in 1938 and asserted since experience is the beginning of learning, audiovisual nonprint media should be the beginning of instruction. Laine was also quoted often in the literature, yet her assumptions were also accepted without question (Rakow, 1980).

Rakow discovered unfounded facts repeatedly within the textbooks used to teach learning theory concerning the use of audiovisuals. Charles Hoban, Jr., a noted author



of audiovisual textbooks and audiovisual-related literature, questioned teachers nationwide and discovered that indeed educators did assume the worth of film and the impact and influence on learning. Hoban found them to be misled (Rakow, 1980).

The researchers who contend audiovisual materials were used without sufficient research to prove their worth, however, do not want these materials to be abandoned until research can prove their capabilities.

Wehmeyer (1978a:152) suggested:

We cannot wait for research to tell us how to educate this generation for the generation does not wait. We cannot wait for researchers to ascertain media affectiveness. We must rely on thoughtful critical observation and analysis of education in action.

Rakow suggested teachers question the validity and effectiveness of instruction using audiovisual media and not take for granted what other educators deem as educationally sound judgments concerning instruction, media, instructional development, and needs analysis.

Keeping in mind the educationally-bleak proof of audiovisual worth, the educator must be especially alert to the wise choice and utilization of audiovisual media within the classroom. There were many areas of learning identified and used each day. Those identified areas must be considered when the teacher chooses to use audiovisuals to instruct students.



J. A. Molstad (1974) reviewed media research from 1954-1974 and found there were significantly greater learning results when media was integrated into traditional programs. He also found that equal amounts of learning were accomplished in significantly less time using instructional technology. As one can see, the research findings were more subjective surmises than hard data-backed facts.

R. R. Wedt and G. K. Butts (Hyland, 1979) reported teaching world history and comparing one group of students who used an integrated series of films with another group who used traditional methods. The traditional class lasted two semesters, while the film-oriented class lasted one semester. The film-oriented class was found to have learned eighty-six percent as much history as did the traditionally-taught class in half the time.

Lillian B. Wehmeyer (1978a:150) stated there was little research to convince anyone of the superiority of one medium over another or that any media improves learning. The case for nonprint media "rests on logic rather than empirical data." The educators must rely on thoughtful critical observation and analysis of education in action.

## CHAPTER 3

### Methodology

#### Subjects

The field study was conducted at Northwest High School, which is a secondary school located in the northwestern area of Montgomery County. The curriculum offers vocational, general, and college preparatory courses. There is an average of fifty (50) classroom teachers and an average school population of 1200 students each year.

The audiovisual nonprint materials dealt with in this paper are located within the library with the exception of 16 millimeter films. These are centrally housed and are used by all teachers within Montgomery County. When a teacher needs to use audiovisual materials, he comes to the library and checks the item out. A circulation record is kept by the library of who checks out each audiovisual item.

#### Procedure

The circulation records from 1981-1984 were used to record each audiovisual nonprint item, the frequency of its circulation, and who checked it out. A record was developed for each teacher to ascertain the types of audiovisual nonprint items they used. By comparing these

records over the four year time span, usage trends should be discovered. Curriculum areas as a whole were studied for usage patterns.

Because each audiovisual nonprint item had the frequency of use recorded, the item could be judged for its worth as a part of the audiovisual nonprint collection. Each form of audiovisual nonprint media was studied to ascertain its frequency of use among the teachers.

#### Description of Evaluation Instrument

After studying the qualities of audiovisual education in several textbooks, a questionnaire was developed to reflect the audiovisual nonprint media features authorities have found to be important for the classroom teacher's effective use of this resource. The instrument was then reviewed and revised by Dr. Richard Yarbrow, Professor of Education at Austin Peay State University.

The teachers were requested to fill out questionnaire. This instrument consisted of twenty questions devised by the evaluator to gain information on how and why teachers use audiovisual nonprint media. It was also used to evaluate how the teachers perceive their use of audiovisual nonprint media. A comparison was then made of their perception of use and their actual utilization of the audiovisual nonprint media.

## CHAPTER 4

### Presentation of Data

#### Questionnaire

There were fifty questionnaires distributed to the faculty at Northwest High School, and twenty-five were returned. The majority of those participating in this study have taught over fifteen years as shown in these results:

Number of Years Taught	Number of Teachers
16+	11
12-15	7
8-11	2
4-7	0
0-3	5

The group was made up of twelve males and thirteen females.



Curriculum areas represented can be seen in Table 1.

Table 1  
Curriculum Areas Represented

Curriculum	Number of Responses
Language Arts	7
Vocational	6
Mathematics	4
Resource	3
Social Studies	2
Science	2
Health/PE	1

All grade levels were represented, with most teachers teaching several grade levels within their classes (see Table 2).

Table 2  
Grade Level Represented

Grade	Number of Responses
9	11
10	17
11	13
12	10

As shown in Table 3, teachers chose sound filmstrips as their audiovisual nonprint media of preference. Motion pictures and transparencies were also favored by many teachers. Slides, records and cassette tapes were the least favored audiovisual media.

Table 3  
Media Ranked by Preference (1-8)

Media	Average Rank
Sound filmstrips	2.35
16mm Movies	2.50
Transparencies	2.64
Video Cassettes	3.55
Audio Cassettes	3.78
Silent filmstrips	4.00
Slides	4.75
Records	5.36

The chief reasons for using audiovisual nonprint media were for instruction and reinforcement. Teachers also used audiovisuals for introducing materials, visualizing concepts, and enrichment. Entertainment was not a prevalent use of audiovisuals within the classroom (see Table 4).

Table 4  
Reasons for Media Usage

Reason	Number of Teachers
Reinforcement	18
Instruction	18
Introduce Lesson	16
Visualize Concepts	13
Enrichment	12
Entertainment	3

Ten teachers professed to always previewing the audiovisual media before presenting them to the class. Fifteen teachers, however, only previewed audiovisual materials occasionally.

As seen in Table 5, teachers did not always test over materials covered in an audiovisual nonprint media presentation.

Table 5  
Frequency in Using Media in Testing

Frequency	Number of Teachers
Always	7
Sometimes	17
Never	1

Over half the teachers (13) felt they did not have sufficient audiovisual materials for their needs. The teachers requested more 16mm movies and video tapes for classroom use. Sound filmstrips and slide sets were also mentioned as needed audiovisual nonprint media (see Table 6).

Table 6  
Additional Media Needed

Media	Teachers' Desire
16mm Movies	11
Video Tapes	10
Sound Filmstrips	7
Slides	2



Most of the teachers estimated they used audiovisual nonprint media two to three times each six weeks. One fourth of the teachers, however, estimated they used media once a week. Only two teachers in this sample never used audiovisual nonprint media in their classrooms (see Table 7).

Table 7

## Frequency of Use of Media in Classroom

Frequency	Number of Teachers
2-3 Times/Week	3
1 Time/Week	6
2-3 Times/6 Weeks	9
2-3 Times/Semester	4
2-3 Times/Year	1
Never	2

Northwest teachers chose audiovisual nonprint materials because of their instructional value. Others looked for subject matter that reflected their lesson plans. The ability to use equipment was the least important consideration when choosing audiovisuals. Only three teachers professed to feeling incompetent when using audiovisual equipment (see Table 8).

Table 8  
Valued Aspects of Media  
(ranked 1-5 in importance)

Aspect	Ranking
Instructional Value	1.72
Subject Matter Reflected	2.18
Appropriate Grade Level	2.77
Visualization	3.40
Ability to use Equipment	4.50

Only two teachers felt they were unaware of the audiovisual nonprint materials available to them at Northwest High School.

Most of the teachers (14) thought there was sufficient audiovisual equipment at Northwest to fulfill their needs. Eleven teachers, however, felt there needed to be additional equipment.

Teachers at Northwest professed the ability to use audiovisual equipment. Only four teachers admitted they did not feel competent to use audiovisual equipment.

Twenty-one of those participating felt they would use video cassette recording equipment if it were available. Those teachers who had VCR equipment at home felt they would use it at school. Those teachers who did not have VCR equipment at home were less likely to anticipate using it at school. When asked about using the camera attachment with the VCR, half the teachers thought they would use this equipment within their classroom (see Table 9).

Table 9  
Video Cassette Usage

Location	Number of Teachers
At Home	10
At School	9
With Camera	13

Twenty-one teachers displayed interest in attending inservice training stressing more effective and efficient use of both audiovisual equipment and nonprint materials within their classroom.



### Circulation Data

When comparing the data for Northwest High School, female teachers were found to use audiovisual nonprint media more than male teachers. At least seventy percent of the teachers at Northwest used audiovisual nonprint media in their classroom each year (see Table 10).

Table 10  
Percent of Faculty Using AV

Sex	1981	1982	1983	1984
Male	12	20	19	19
Female	23	23	21	17
Total	35 (70%)	43 (86%)	40 (80%)	36 (72%)

The sound filmstrips were used more than all other audiovisual nonprint forms. Motion pictures (16mm) were the second most popular audiovisual form to be used in the classroom. Their totals, however, are only a fraction of the total use of sound filmstrips.

Both cassette tapes and records were virtually used in equal amounts by the teachers. However, neither format is used frequently. Slides circulated practically the same amount each year. They were not circulated often (see Table 11).

Table 11  
Use of Media by Format

Form	Year and Frequency			
	1981	1982	1983	1984
16mm	n/a	181	117	133
Filmstrips	44	113	100	113
Sound FS	281	675	837	801
Cassettes	38	30	41	28
Records	24	43	44	23
Slides	19	14	28	15
Transparencies	5	11	25	31
Totals	411	1067	1192	1144

Table 12 has been included to illustrate the following data on each curriculum area at Northwest High School.

The social studies department was the most frequent user of audiovisual nonprint media materials at Northwest High School. Each year the total number of audiovisual items increased. In 1981, one hundred one (101) items were

used. By 1984, four hundred thirty-nine (439) items were circulated by the social studies department. Sound filmstrips were used most frequently. Cassette tapes, records, slides, and transparencies were used infrequently.

After a significant increase in 1982, the language arts teachers practically used the same amount of audio-visual nonprint media each year. This department used both cassette tapes and records on an infrequent basis. Sound filmstrips were used at a steady, but low rate. Both slides and transparencies were practically ignored.

The science department used sound filmstrips more than any other form of audiovisual nonprint media. Over the four-year time span, the use of audiovisuals rose dramatically. While only nine (9) items of any type were used in 1981, one hundred (100) items were used in 1984. Slides, cassette tapes, and 16mm movies saw a decrease in use over these years.

In 1981, the resource teachers increased their audio-visual usage from fifty-four (54) items to two hundred seven (207) items in 1982. The department now uses approximately the same amount each year. Resource teachers relied heavily on the use of sound filmstrips, making them 77.2 percent of the total audiovisuals circulated by this department. Records, cassette tapes, and slides were rarely used.

Vocational classes used sound filmstrips the majority

of the time, but slides and transparencies were also used frequently by this group. Cassettes and records were used little. Filmstrips and 16mm movies supplied by the school system were not used by vocational teachers.

The health classes made use of many varied types of audiovisual nonprint media. Once again the majority of the audiovisuals used were sound filmstrips. They were used three times as often as 16mm movies. Slides were used if they were accompanied by a sound format, either record or cassette tape. Few records or cassettes were used by themselves.

The art department used little audiovisual nonprint media within its class structure. Nevertheless, the use of audiovisuals doubled over the four year period. Sound filmstrips were the media form preferred. Slides, transparencies, cassette tapes and records were not used.



The overall use of audiovisual materials rose dramatically from 1981 to 1982. The yearly totals slightly declined in 1983 and 1984 (see Table 12).

Table 12  
Total Circulation of Media Software

Curriculum Areas	Year/Circulation			
	1981	1982	1983	1984
Science	9	65	99	97
Language Arts	148	266	284	259
Social Studies	101	372	411	439
Health	42	52	57	65
Resource	54	207	215	202
Art	19	31	47	33
Vocational Classes	38	74	79	49
Totals	411	1067	1192	1144

### Media Acquisitions

The audiovisual media collections grew during these years. Filmstrips were the most frequently bought format. Information for Table 13 was taken from yearly inventory records and showed a slight increase in other formats, as well.

Table 13  
Number of Media Items Held by Library

Format	1981	1982	1983	1984
FS (silent/sound)	1382	1831	1899	1942
Cassettes	170	177	179	185
Slides/Transparency	134	156	154	151
Records	103	172	171	170
Totals	1789	2336	2403	2448

Some media was not used during this four year time span. In Table 14 those items not used at all are compared to the total collection holdings. Filmstrips were used most frequently. Less than half the record or cassette collection were used one time during this time period.

Table 14  
Comparison of Media Not Used - 1981-84

Format	Holdings 1984	Number	Percentage
FS (silent/sound)	1942	241	12.4
Cassettes	185	106	57.0
Records	170	90	52.0
Slides/ transparencies	151	64	42.4

## CHAPTER 5

### Summary and Recommendations

The faculty at Northwest High School seemed to take advantage of the audiovisual nonprint media collection located within their school. They used it extensively and seemed to be knowledgeable of its holdings. The large increase in use from 1982 to 1983 may have been caused by the creation of a comprehensive catalog of all audiovisuals. This catalog was divided into subject areas and helped make the teachers aware of the resources available to them. Each teacher was given a copy of the seventy-five page catalog.

The teachers used audiovisual nonprint media more than they realized. Multimedia formats were preferred over single dimensional audiovisual presentations. The number of audiovisual nonprint media items checked out seemed to reflect their use more than two to three times each six weeks. Most teachers estimated their audiovisual nonprint media use at two to three times each six weeks. This is compounded by the fact that many sound filmstrip sets contain from two to twelve filmstrips and cassettes each.

Much class time is dedicated to the use of audiovisual materials. As research shows, no absolute benefits can be found that would cause a teacher to choose one audiovisual nonprint media form over another. It would be of benefit



for the teachers to review the reasons for using audio-visual nonprint media and reassess their reasons for their inclusion in the educational process. It is imperative classroom time be centered around quality learning experiences.

Research showed students benefit by being tested over materials introduced in audiovisual nonprint media presentations. This would not only help their attending behaviors but also direct the teacher into more closely correlating the audiovisual nonprint media with the lesson objectives. Few teachers seemed to test over materials covered in audiovisual nonprint media presentations at Northwest High School. Once again with the frequency of audiovisual nonprint media use, the time spent using this resource must be made into quality educational experiences that are evaluated.

After studying the circulation data from this four year time span, several suggestions can be made:

1. Greatly reduce buying cassette tapes and records. They are not used and the money could be better spent on another media form. Perhaps the purchase of these items should be only on a specific request from a classroom teacher.

2. The captioned or nonsound filmstrips need to be carefully reevaluated. Many are outdated and need to be discarded.

3. A networking of the libraries in the Clarksville-Montgomery County School System would allow libraries to share audiovisual materials that are infrequently used, but useful to some teachers. There will always be a necessity to have a basic collection of audiovisual non-print media available within the school; however, as basic collections have now been established, certain curriculum areas could well share media used with other schools. Resource classes could benefit from having some elementary level media available to them. It would not be cost-effective for each secondary school to have a wide variety of low level media available. Art classes would also be an area that could benefit by sharing specialized audiovisual nonprint media with other schools. The availability and use of audiovisuals could be expanded if all schools were aware of the media available within the local school system. Networking would help all schools better use their audiovisual nonprint media budget to the best advantage for all students.

4. The desire for video-cassette recordings and equipment seems to have appeal at Northwest High School. The use of the camera attachment for classroom use, however, is not as prevalent. Perhaps two video cassette recorders could be purchased for the school and the camera attachment could be rented from a local agency when needed. This would take the burden of maintenance and security away from

the school.

5. The 16mm movie holdings at the Central Office should phase out outdated and damaged movies. Both movies and projectors are hard to use. Video cassettes could replace the needed 16mm movies. Two copies could be purchased for the price of a single movie. There is an ever expanding selection of video cassettes available for selection from audiovisual vendors. Many video cassettes are made by experts in their particular fields and afford the students outstanding and otherwise impossible expert instruction.

6. A one-time greatly increased audiovisual nonprint media budget may cause acquisitions to be made that are not necessarily the wisest. There is a limited quantity of quality materials available each year. In the haste to spend a large budget, less than choice materials may be purchased. These sit on shelves and do not necessarily meet the needs of the faculty and students.

7. The Tennessee Instructional Model of the Better School Plan (TIMS) could well incorporate a module on the use of audiovisuals in the classroom. Within this module techniques used in effective instruction using audiovisuals could be reviewed and emphasized. Perhaps a review of Blooms Taxonomy as it relates to instruction using audiovisuals would be helpful. The role of audiovisuals within the instructional program needs to be reviewed and each

teacher needs to be aware of how he personally views audiovisuals within his own personal teaching philosophy. This would thus enable him to change or adapt to a more efficient use of these educational resources.

After studying the research on audiovisual nonprint media use in the classroom and the actual usage patterns of one high school, it is evident that although there may be conflicting data on the worth of audiovisual nonprint media it is used widely in the schools. It appears that a vast amount of instructional time, in many classes, is spent viewing audiovisual presentations. Its fundamental use should be reviewed by each teacher to ascertain if the media is actually fulfilling the instructional purposes set out by the learning objectives of the lesson. It is too easy to get into habits and routines and thus forgetting the overall objectives of learning.

The use of computers is being lauded in the schools, yet educators are still uncertain as to the worth of filmstrips in the classroom. As Lillian B. Wehmeyer (1978a) suggests, teachers cannot wait for research, but must go ahead on their own perceptions of worth and motivational appeal.



## APPENDIXES

APPENDIX A  
Letter of Instruction

TO: Faculty of Northwest High School  
FROM: Sheryl Mackey  
RE: Audiovisual Questionnaire

Please fill out the attached questionnaire and return it to Mrs. Settle. The information obtained from this questionnaire will be used to improve service and instructional materials available from the library at Northwest High School. Please do not put your name on the questionnaire.

## APPENDIX B

### Audiovisual Questionnaire

1. How many years have you taught?

(a)	0- 3 years	<u>5</u>
(b)	4- 7 years	<u>0</u>
(c)	8-11 years	<u>2</u>
(d)	12-15 years	<u>7</u>
(e)	16+ years	<u>11</u>

2. Male 12  
 Female 13

3. Curriculum area in which you teach the majority of the time:

(a)	Social Studies	<u>2</u>
(b)	Language Arts	<u>7</u>
(c)	Vocational	<u>6</u>
(d)	Math	<u>4</u>
(e)	Science	<u>2</u>
(f)	Performing Arts	<u>0</u>
(g)	Health/PE	<u>1</u>
(h)	Resource	<u>3</u>

4. Grade level you teach the majority of the time:

(a)	9th grade	<u>11</u>
(b)	10th grade	<u>17</u>
(c)	11th grade	<u>13</u>
(d)	12th grade	<u>10</u>

5. Which types of audiovisual media do you prefer to use (rank 1-8, 1 most liked):

(a)	16mm movie	<u>2.50</u>
(b)	silent filmstrip	<u>4.00</u>
(c)	sound filmstrip	<u>2.35</u>
(d)	slide	<u>4.75</u>
(e)	cassettes	<u>3.78</u>
(f)	transparencies	<u>2.64</u>
(g)	records	<u>5.36</u>
(h)	video-tapes	<u>3.55</u>

6. Reasons for using audiovisual media in the classroom (check appropriate ones):
- |     |                     |           |
|-----|---------------------|-----------|
| (a) | reinforcement       | <u>18</u> |
| (b) | introduce materials | <u>16</u> |
| (c) | enrichment          | <u>12</u> |
| (d) | entertainment       | <u>3</u>  |
| (e) | instruction         | <u>18</u> |
| (f) | visualize concepts  | <u>13</u> |
7. Do you preview AV media before showing it to the class?
- |     |           |               |
|-----|-----------|---------------|
| (a) | always    | <u>10</u>     |
| (b) | sometimes | <u>15</u>     |
| (c) | never     | <u>      </u> |
8. Do you test over materials covered in an AV media presentation?
- |     |           |           |
|-----|-----------|-----------|
| (a) | always    | <u>7</u>  |
| (b) | sometimes | <u>17</u> |
| (c) | never     | <u>1</u>  |
9. Do you have sufficient AV media materials for your curriculum needs?
- |     |     |           |
|-----|-----|-----------|
| (a) | yes | <u>12</u> |
| (b) | no  | <u>13</u> |
10. If you could improve the audiovisual media collection at Northwest High School, what would you add?
- |     |                  |           |
|-----|------------------|-----------|
| (a) | sound filmstrips | <u>7</u>  |
| (b) | 16mm movies      | <u>11</u> |
| (c) | video-tapes      | <u>10</u> |
| (d) | slides           | <u>2</u>  |
11. How often do you use commercially prepared audiovisual materials within your lesson plans?
- |     |                     |          |
|-----|---------------------|----------|
| (a) | 2-3 times/week      | <u>3</u> |
| (b) | 1 time/week         | <u>6</u> |
| (c) | 2-3 times/six weeks | <u>9</u> |
| (d) | 2-3 times/semester  | <u>4</u> |
| (e) | 2-3 times/year      | <u>1</u> |
| (f) | never               | <u>2</u> |



12. When choosing audiovisual materials, which features do you feel are most important (rank 1-5, 1 most desired):

- |   |          |
|---|----------|
| (a) appropriate grade level   | <u>3</u> |
| (b) instructional value   | <u>2</u> |
| (c) subject matter reflects teacher's lesson plans  | <u>1</u> |
| (d) visualization is of high quality  | <u>4</u> |
| (e) able to use audiovisual equipment that is required by the commercially prepared audiovisual materials available | <u>5</u> |

13. Are you aware of the audiovisual media available to you in the library?

- |         |           |
|---------|-----------|
| (a) yes | <u>23</u> |
| (b) no  | <u>2</u>  |

14. Do you feel competent to use the audiovisual equipment?

- |         |           |
|---------|-----------|
| (a) yes | <u>22</u> |
| (b) no  | <u>3</u>  |

15. Is there sufficient audiovisual equipment at Northwest High School?

- |         |           |
|---------|-----------|
| (a) yes | <u>14</u> |
| (b) no  | <u>11</u> |

16. Would you use a video-cassette recorder (VCR) if it were available?

- |         |           |
|---------|-----------|
| (a) yes | <u>21</u> |
| (b) no  | <u>4</u>  |

17. Have you ever used a VCR at home?

- |         |           |
|---------|-----------|
| (a) yes | <u>10</u> |
| (b) no  | <u>15</u> |

18. Have you ever used a VCR at school?

- |         |           |
|---------|-----------|
| (a) yes | <u>9</u>  |
| (b) no  | <u>16</u> |

19. Would you ever use a camera attachment for the VCR to make tapes of your classes?

- |         |           |
|---------|-----------|
| (a) yes | <u>13</u> |
| (b) no  | <u>12</u> |

20. Would you attend an inservice on using audiovisual equipment and audiovisual materials within the classroom, if it were available?

(a) yes 21  
(b) no 4

## APPENDIX C

### Informed Consent Statement

The purpose of this investigation is to study the usage of audiovisual materials at Northwest High School and to make recommendations on how to better utilize these educational resources. Your responses are confidential. At no time will you be identified nor will anyone other than the investigator have access to your responses. The information collected will be used only for purposes of analysis. Your participation is completely voluntary.

Thank you for your cooperation.

---

I agree to participate in the present study being conducted under the supervision of a faculty member of the Department of Education at Austin Peay State University.

---

Name

---

Signature

---

Date

## REFERENCES

- Allen, W. J. (1974). Media stimulus and types of learning. In H. Hitchens (Ed.), Selecting media for learning (pp. 8-12). Washington, DC: Association for Educational Communications and Technology.
- Anderson, R. H. (1976). Selecting and developing media for instruction. New York: Van Nostrand Reinhold.
- Dale, E. (1974). Toward excellence in instruction. In H. Hitchens (Ed.), Selecting media for learning (p. 7). Washington, DC: Association for Educational Communications and Technology.
- Dyrenfurth, M. J., & Miller, F. M. (1984, October). Media use in vocational/technical education. Methods and Media, pp. 10-13.
- Ely, D. P. (1980). Guidelines for media production. U. S., Educational Resources Information Center, ERIC Document ED 186 260.
- Freedman, M. (1974). Media for individualized instruction: A guide for producers. In H. Hitchens (Ed.), Selecting media for learning (p. 87). Washington, DC: Association for Educational Communications and Technology.
- Good, C. V. (1973). Dictionary of education. New York: McGraw Hill Book Company.
- Haney, J. B., & Ullmer, E. J. (1970). Educational media and the teacher. Dubuque, Iowa: Wm. C. Brown Company Publishers.
- Hug, W. E. (1975). Instructional design and the media program. Chicago: American Library Association.
- Hyland, A., & Meyers, J. K. (1979, Winter). Selected media research to support media programs. Ohio Medium Spectrum, pp. 18-27.
- Molstad, J. A. (1974). Selective review of research studies showing media effectiveness. In AV communication review (pp. 387-407). New York: Johnson Reprint Corporation.



- Nunney, D. N., & Hill, J. E. (1974). Personalized educational programs: Which medium for which student? In H. Hitchens (Ed.), Selecting media for learning (pp. 29-33). Washington, DC: Association for Educational Communications and Technology.
- Rakow, J. (1980, Fall). The audiovisual myth in America: Filling the cracks of educational technology. Journal of Education, 162, 34-54.
- Sleeman, P. J., Cobun, T. C., & Rockwell, D. M. (1979). Instructional media and technology. New York: Longman, Inc.
- Wehmeyer, L. B. (1978). Media and learning: Present and future, Part I: Present. Catholic Library World, 59(3), 150-152.
- Wehmeyer, L. B. (1978). Media and learning: Present and future, Part II: The future. Catholic Library World, pp. 205-211.