Spring 1988

Factors Affecting Policy in Educational Media Services

Diane S. Barker
Old Dominion University

FACTORS AFFECTING POLICY IN EDUCATIONAL MEDIA SERVICES

by

Diane S. Barker
B.A. May 1974, Old Dominion University
M.S. December 1976, Old Dominion University

A Dissertation Submitted to the
Faculty of Old Dominion University
in Partial Fulfillment of the Requirements
for the Degree of

DOCTOR OF PHILOSOPHY

URBAN SERVICES

OLD DOMINION UNIVERSITY
May, 1988

Approved by:

Robert H. MacDonald,
Dissertation Chair

James R.K. Heinen,
Member

William E. Cunningham,
Concentration Area Graduate
Program Director

Ulysses V. Spiva,
Member

Donald A. Myers,
Dean

ABSTRACT

FACTORS AFFECTING POLICY IN
EDUCATIONAL MEDIA SERVICES

by

Diane S. Barker
Old Dominion University, 1988

Teachers use a variety of resources to motivate students and to enrich and expand learning experiences in the classroom. Media, including films, videotapes, and other audiovisual materials, are some of those resources.

Over the years, as teacher access to media increased, researchers began to investigate factors which encouraged or discouraged its use. Factors which had an impact on teacher use or lack of use of media were and are important indicators to administrators responsible for allocating resources and for establishing policy concerning how media are organized and distributed.

The purpose of the study was to investigate current factors involved in teacher use of media in order to suggest policy concerning how media services are organized. Centralization vs. decentralization of services was explored; and attention was given to the direction of staff development programs which encourage effective media use.

A survey questionnaire was designed and used to gather data about teachers' perception of factors which affected

their use of media services. Subjects were a randomly selected sample of teachers at the elementary, junior high, and senior high school levels.

The first part of the questionnaire was used to gather demographic data including number of years of teaching experience, amount of media training, and academic degrees. The second part of the questionnaire asked respondents to indicate their use of media from several available sources including the central media center, the school library/media center, their department or grade level collection, and their classroom or personal collection. The last part of the questionnaire asked teachers to respond to factors identified in earlier studies as deterrents to media use in order to determine if those same factors were viewed as deterrents today.

Results from individual t-tests and a fixed one-way analysis of variance indicated that central media centers still play a vital role in teachers' access and use of media in the classroom; individual schools' media collections are becoming increasingly important; staff development for administrators could play an important role in teacher use of media and other resources; and that media should be considered as a means of delivering staff development to teachers.

DEDICATION

To Rob

ACKNOWLEDGEMENTS

My special thanks to the members of my doctoral committee for their invaluable assistance and support. To Dr. Robert MacDonald, who agreed to serve as chairman of my dissertation committee, I am deeply grateful for the time, effort, and unfailing support he gave. To Dr. James Heinen, I am grateful to have had the guidance and friendship of such a gifted teacher and researcher. My deepest appreciation to Dr. Van Spiva for his encouragement, patience, and insistence on precision and excellence. All three have served not only to guide the development of this dissertation, but to offer profound insight and support throughout the process.

To members of my doctoral guidance committee, Dr. Petra Snowden, Dr. Maurice Berube, and Dr. Leonard Ruchelman, I want to express my sincere appreciation for their part in overseeing and shaping my early doctoral work. They generously gave their time and support, and I am thankful for their contributions.

To Dr. William Cunningham, I offer my thanks for his guidance and friendship, and to Dr. Donald Myers, for sharing his expertise and assistance. I am especially grateful for the help and support I received from Ms. Jane

Roberts, Ms. Beverly Wilson, Ms. Sarah Murphy, and Ms. Norma Russell. Throughout the dissertation process, they were always helpful and supportive, and I am truly thankful for their contributions. To Dr. Ellen Miller, I offer my sincere appreciation for her friendship, support, and help.

My deepest appreciation goes to the teachers in Virginia Beach, who took the time to fill out and return my questionnaire. Their professionalism and dedication contributes greatly to my feeling of pride at being a part of the teaching and learning process in Virginia Beach.

To Mr. Walter Carroll, I am deeply grateful for the encouragement and support he offered throughout this dissertation. His friendship, especially during some of the most difficult times, enriched my life and strengthened my resolve to finish. To Dr. Benjamin Troutman, I offer my thanks for his unfailing belief in me and the encouragement and support he gave throughout the process. To Dr. K. Edwin Brown and Dr. Sidney Vaughn, I offer my thanks for their assistance, friendship, and support.

To Ms. Claire Cooper, who generously offered her time and assistance in preparing my first draft, I offer my heartfelt thanks. And to Dr. Deborah Dyer, who was never too busy to stop and help me, I am deeply grateful for the time so generously given and the friendship that helped brighten this process.

To Dr. Andrew Carrington, I offer my sincere

appreciation for his time, expertise, and encouragement. His personal and professional friendship has been invaluable to me.

To Mrs. Ann Davis, I sincerely appreciate the contributions she made to my knowledge of media and media services. Her dedication to the field of educational media has been significant and her impact on my work is gratefully recognized.

To the memory of Dr. James Mounie, I offer my deepest appreciation for the unyielding support and friendship he gave and truly wish he could be here to share in the joy of my accomplishment.

And finally to my greatest supporter, Robert Eric Barker, my husband, I offer my deepest appreciation for the encouragement and support he has always given to this project and to all of my endeavors. I thank him for sharing my joy, for providing the support I needed to get through it all, and for offering me joy and fulfillment in the process.

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER I

INTRODUCTION

Central educational media centers were established in most mid to large size school districts to meet the needs of administrators and teachers seeking solutions to a variety of complex challenges. Primary among these challenges was the need for greater efficiency and effectiveness in teaching and learning. Educators discovered that to make learning effective, the same communication techniques that served the needs of society outside of school could also be used for programs in schools.[1] Central media centers served to provide educators access to the new technology through the distribution of films and, later, videotapes, and through the dissemination of information about effective media use.

A survey of urban school districts conducted by the National Education Association in 1953-54 revealed that at that time most large metropolitan school districts had established centers of audiovisual education.[2] Smaller school districts formed cooperative programs or turned to state departments of education for media materials. Today, through the continued expansion of these centers, more teachers have greater access to more media than ever before.

Purpose

As teacher access to media increased, researchers began to investigate factors which encouraged or discouraged its use. Larry reported that studies done by Couch (1941), Hyler (1952), Meiser (1952), McPhail (1968), and Gavette (1981) found correlations between teacher use of media and such factors as years of teaching, degree of audiovisual training, traditional teaching styles, administrative policy, attitudes toward educational innovation, equipment availability, material appropriateness, and perceived value of using media in the classroom.[3]

The purpose of this study was to investigate current factors involved in teacher use of media in order to suggest policy concerning how media services are organized. Centralization vs decentralization of services was explored; and attention was given to the direction of staff development programs which encourage effective media use. In particular, this study was designed to investigate if factors suggested by earlier studies were still significant today; what factors not included in earlier studies now play a role in teacher decisions to use or not use media; to suggest what considerations need to be given to policy decisions affecting media services; and to suggest what considerations need to be given to staff development that supports the organization, distribution, and use of media.

Theoretical Framework

The administration of any service delivery program requires problem solving and decision making in order to meet client needs. Decisions must be made to continue, modify, or discontinue existing programs or to create new ones that more adequately meet program goals.

Questions about client use of services need to be addressed. Factors which affect the use of the service, need to be investigated. Decisions must reflect the needs of a large and often diverse client population.

The economic reality is that frequently, only limited resources are available to meet ever increasing demand for services. Therefore, administrators must find ways of providing adequate programs within the constraints of budgets that are perhaps insufficient for hiring new personnel, purchasing equipment and materials, and maintaining and developing programs.

William Gorham of the Urban Institute proposed consideration of program analysis as a better approach to administrators when faced with deciding ". . . what programs might be best suited to present and future needs."[4] Program analysis is the systematic examination of existing programs and alternative strategies with attention to the facilitators of and the barriers to implementation.[5]

Urban educational administrators must continue to develop, provide, and maintain effective educational

programs often with inadequate federal, state, and local funds. Educational media service delivery programs operate within the framework of an overall educational program and competition is strong for both personnel and funding. They must vie for limited resources amid many educational programs and services, all of which are seeking to provide support to teachers and to demonstrate productivity by means of greater efficiency and increased student learning.

Educational media, the broad range of materials and resources (films, filmstrips, filmloops, audio recordings, charts, maps, graphs, globes, pictures, television, realia, programmed instruction, multimedia kits, computer-assisted instruction, remote-access retrieval systems, posters, slides, and transparencies) that are used in education today are important tools in teaching. In order for teachers to use modern technology in the classroom, equipment and materials must be available.

Individual schools usually purchase and maintain equipment and materials for building level collections of media. These collections may be stored in school libraries, audiovisual departments, or in various departments throughout the school. Building level media equipment collections include 16mm film projectors, television sets, video recorders, slide projectors, filmstrip projectors, and overhead projectors. The materials for this equipment are usually maintained at a central distribution center or

media center and distributed to schools upon request. Generally, 16mm films are too expensive for individual schools to purchase. The variety and number of films needed by one school is often too great for each school to purchase and maintain their own film collection. Central media centers serve all and can, therefore, purchase films for use throughout the district. The center can also maintain costly film inspection and cleaning machines and the required personnel to repair damaged films and process them for use.

With the advent of video recording technology, media centers became the distributors of videotape recordings to schools. Expensive 16mm films could be purchased in a video format or converted to videotape. With the purchase of duplicating rights, films/tapes could be copied many times to allow several copies of the same film to be sent to schools on videotape. Again, because of the cost and storage factors, individual schools could not maintain the equipment and personnel necessary to duplicate tapes but a central media center could serve an entire school district.

Central media distribution centers can provide schools with trained technical expertise. These individuals can offer in-service programs to educate teachers in the effective use of materials and to help them develop the skills and competencies necessary in a changing technology.

Urban educators, seeking to provide sound educational programs, know that media are an important and effective teaching resource. The availability and use of media equipment and materials in the classroom is an integral part of today's education. Media administrators, however, are faced with a crisis: the spiralling cost of equipment and materials. Technological advances occur so rapidly that expensive equipment is soon obsolete, and concerns over the degree of use and the effectiveness of that use, suggest that media administrators must examine many of the assumptions that originally brought about the establishment of central media centers. New technology has brought about questions concerning the availability and use of media. Just as expensive computational equipment is now relatively inexpensive and portable, 16mm films converted to video films may soon be inexpensive enough for individual schools to purchase and maintain in their own film libraries, thus eliminating the need for central services. Decentralization of media services may be a more appropriate alternative.

In order to address important issues such as these and to determine policy, effective administrators use various methods of data collection to provide information needed in decision making. Survey research, utilizing carefully constructed and tested written questions can provide invaluable support to assist administrators in

determining policy and direction. Policy concerning how media are organized, centralization vs. decentralization of services, and directions in staff development to support effective use of services, are areas where data are useful.

A survey allows systematic data collection from a sample of a given population. It offers the researcher a tool for determining the current status of a phenomena in relation to certain variables. Conscientiously executed survey research can provide valuable data unavailable from other sources. Findings based on responses from the sample population can be generalized to the larger population to the degree that the sample population is representative of the larger population and to the degree that extraneous variables are considered and controlled.

Problem

Recently, a proliferation of educational reports, including A Nation at Risk,[6] Action for Excellence,[7] Educating Americans for the 21st Century,[8] and A Place Called School,[9] has focused the nation's attention on critical issues in education. School systems all over the nation have undertaken changes based on report recommendations to improve academic standards and to implement curriculum changes. Increased emphasis has been placed on the school administrator's role as the instructional leader of the school.[10] Emphasis has also been placed on staff-development or training for professional improvement of

both administrators and teachers. Both of these areas have been targeted as key components to effective educational change. National reports on education also have stressed the need to identify and use resources that are already available. Spady and Marx summarized nine of the major reports and compiled a list of seven operational components as guidelines for school divisions. In recommendation six they state:

> Schools have at their disposal a broad range of resources for addressing their priority goals for students. These resources include teachers, other staff, volunteers, parents, experts in the community, other students, organizations and institutions in the community, new technology and media, textbooks, other instructional materials, and, of course, the funds necessary to acquire or provide access to these other resources. Using this broad variety of resources creatively may require modifying many traditional features of school organization, instructional delivery, and staff and student roles.[11]

In August 1981, CRC Education and Human Development, Inc., with funds from the U.S. Department of Education, published A Guide to the Use of Technology in Basic Skills Education. In a section of the publication "Issues for Administrators," the authors state that most schools have audiovisual equipment. The typical problem for administrators, however, is not ". . . whether or not to acquire audiovisual equipment, but, rather, how to ensure that the equipment is used."[12]

Coursen reported on the use of instructional media in schools for the National Association of Elementary School Principals. He wrote that while most areas of American

society have been drastically transformed by the fruits of new technology, education in general, and instructional methods in particular, remain virtually unchanged from a century ago.[13] And DuMolin reported that not more than 5 percent of classroom time at all levels of American education was in any way affected by the use of television, films, and programmed texts.[14]

ENDNOTES

[1]Walter A. Wittich and Charles F. Schuller, Instructional Technology: Its Nature and Use, 5th ed. (New York: Harper & Row, 1973), xix.

[2]James W. Brown and Kenneth D. Norberg, Administering Educational Media (New York: McGraw-Hill, 1965), 282.

[3]Jesolyn F. Larry, "Factors Affecting Faculty Utilization of Audio-Visual Services at Purdue University: An Assessment" (Ph.D. diss., Purdue University, 1983), 8-13.

[4]Harry Harty and others, Program Analysis for State and Local Government (Washington, D.C.: The Urban Institute, 1976), iii.

[5]Ibid.

[6]David P. Gardner, "The Imperative for Educational Reform," Report of the National Commission on Excellence in Education (Washington, D.C.: Government Printing Office, April 1982), 16.

[7]Educational Commission of the States (ESC), Action for Excellence (Education Commission of the States, May 1983), 3.

[8]National Science Foundation, Educating Americans for the 21st Century (Washington, D.C.: National Science Foundation, 1983), 7.

[9]John I. Goodland, A Place Called School (New York: McGraw-Hill, 1983), 10-16.

[10]Lawrence W. Lezotte, "Characteristics of Effective Schools and Programs for Realizing Them," Citizen Action in Education IX (June 1982): 10-11.

[11]William G. Spady and Gary Marx, Excellence in Our Schools: Making It Happen (Arlington, Va. & San Francisco, Ca.: American Association of School Administrators (AASA), and the Far West Laboratory, 1984), 9.

[12]Kristina Engstron, A Guide to the Use of Technology in Basic Skills Education (Belmont, Mass.: CRC Education and Human Development, Inc., 1981), 28.

[13]David Coursen, "Use of Instructional Media in the Schools," School Leadership Digest (1976): 1.

[14]J. R. DuMolin, Instructional Television Utilization in the United States (St. Louis: Washington University Press, 1971), 12-14.

CHAPTER II

REVIEW OF LITERATURE

To provide a foundation for this investigation, a review of the literature pertaining to media in education was conducted. Information from this review was organized into three categories: (1) Media Centers, (2) Media in Instruction, and (3) Teacher Use of Media.

Media Centers

Seibert and Ullmer, writing for the Encyclopedia of Educational Research state:

> Before 1918 educators had little interest in the nonprint media and their uses, although, as Saettler (1968) indicates, the first educational film catalog had been published in 1910 and Thomas Edison had gone on record in 1913 as saying, "Books will soon be obsolete. Scholars will soon be instructed through the eye. It is possible to teach every branch of human knowledge with the motion picture. Our school system will be completely changed in ten years."[1]

Erickson writes that Edison's belief in the educational possibilities of visual education, or exact information through films, was strong. Edison was disappointed, therefore, when educators failed to respond to the degree he had anticipated.[2] Brown and Norberg traced audiovisual use in education with the following:

> School museums and bureaus of visual education were organized in some large cities in the first three

> decades of this century. The St. Louis educational museum was established in 1904, and Saettler notes that it was the first organization for visual education in a city school system. By 1923, sixteen city school systems had established bureaus or departments of visual education, as reported in a survey by F. Dean McClusky. These progenitors of the modern educational media programs consisted mainly of slides, museum exhibits, pictures, charts, and models; they changed gradually as motion pictures grew in importance during the 1920s and 1930s.[3]

By 1946 three-fourths of all cities in the United States with populations over 100,000 had special agencies to oversee audiovisual instruction. One-third of all cities with populations of 30,000 to 100,000 had audio-visual centers. By 1954 there had been an 11 percent increase in the establishment of formal departments of audiovisual instruction in school districts, and 51 percent of 1,310 school districts surveyed reported central coordination of the audiovisual program where no formal department existed.[4]

Erickson writes that in 1963 Finn, Perrin, and Compion reported comprehensive surveys and estimates of technological development, and made the following interpretation of the growth patterns of overall audiovisual equipment invested by the public schools:

> After a slow start, the rise was fairly consistent after 1948 until the fateful 1957-58 period (Sputnik-NDEA). Since that time the rise has been explosive. Expenditures have almost doubled since 1958.[5]

Brown and Norberg reported that by 1965,

> Most urban school districts have their own centralized services or benefit from a cooperating program serving a number of smaller districts. Likewise, a very large

> number of small rural districts (and consolidated districts) are now served by centralized educational media programs.[6]

Central media centers provided a distribution center for expensive films and other audiovisual materials which could be shared by many schools. Less expensive materials such as filmstrips, audio-tapes, and transparencies, began to appear as part of individual school library collections. School libraries kept not only the 16mm film projectors and television sets that were used for the material from the central media center, but they also began to distribute other, less expensive media to classroom teachers. The library thus became known as the media center and librarians began to be called media specialists or school library/media specialists. These terms denoted the change in perspective from a school library collection which consisted mainly of books and other printed material to a more balanced collection of books and audiovisual materials.

Teachers within a department or grade level as well as individual teachers in their own classrooms began to build collections of media materials. Teachers in the English department that always used a particular filmstrip or teachers that always used a particular record or audio-tape, began to purchase and keep their own materials.

The volume of these collections grew as expenditures for media increased, as more and more media appeared on the market, and as the relative cost of materials decreased.

This resulted in some overlap in types of material available and, in some cases, actual duplication of materials.

Media in Instruction

Wilkinson states that research on the instructional use of media "began near the end of World War I and grew with the development of commercial films and radio."[7] Wilkinson writes that Freeman conducted the first major study in 1924 with a series of experiments on the use of motion pictures in schools. His conclusions, still considered noteworthy today, emphasized that the value of films lies in their ability to provide a particular type of experience, an experience not otherwise available to the student.[8]

The Chicago studies were followed by countless investigations conducted as media comparison studies, (film instruction vs. television instruction); media attribute studies; and studies to determine under what conditions one medium may be superior to another. Wilkinson summarized sixty years of research on media in instruction as exhaustive examinations of the wrong questions.[9] Yet, in spite of the problems with existing research, Wilkinson feels that several general conclusions can be made. Namely, that carefully selected or produced media can have a significant impact on student achievement, that teacher training in the use of media is critical, that a well staffed media center is important, and that the integration of media collections

and services into the curriculum and instructional program of schools is necessary for the greatest impact.[10]

Winn writes that media and learning are unrelated and that the confusion comes from the attempt to confuse media, messages, and methods. Media, according to Winn, is nothing more than the device for getting information from one place to another. Its importance should not be attributed to its ability as an instructional method but rather to its ability to assist in the delivery of information.[11]

Educational media offers the classroom teacher accessibility to material otherwise unavailable. Presentations by noted speakers, documentaries of current and past events, the interior of ordinarily inaccessible places, close-ups, slow-motion, and animated sequences all provide a classroom experience outside the realm of traditional face-to-face instruction.

Films provide all students in a classroom with a common experience. Even at widely different reading levels, all students can view the same film, and vocabulary or concepts that may prove difficult in written form may be more easily understood through the film. Brown, Lewis, and Harcherod write:

> Films help to bypass some intellectual barriers to learning. They communicate effectively--and directly--without requiring much word-reading skill. The student who experiences difficulty in comprehending such terms as "electricity" or "nuclear fission" through the verbal print medium alone, for example, will usually be

> helped to achieve such understanding through viewing sound films on these subjects.
>
> Films aid in overcoming certain physical barriers to human experiencing. Special motion-picture techniques--microphotography, photomicrography, telephotography, and animation--provide examples of ways in which films permit the viewing of actions in motion which the unaided human eye would be incapable of perceiving.
>
> Films provide a continuity of action as it occurs or as it is purposely changed to provide some special visual experience essential to understanding. For example, films can show action as it takes place normally, and they can speed up, slow down, or "freeze" the action as desired.
>
> Films enable us to recreate real or imagined events, actions, or processes that have occurred, that may possibly occur, or that may not even be capable of occurring in real life, whether or not they are visible.[12]

Effectiveness of films in the classroom, as with all forms of media, depends on the ways teachers use them. To achieve maximum effectiveness, students must become actively involved during the pre-viewing, viewing, and post-viewing stages of the film. As early as 1946, Wittich and Fowlkes demonstrated that films used in large group instruction are most effective if students are told the purpose for viewing the film before it is shown and are given a review after the film is shown.[13] Further, their studies indicated:

> Even without any kind of prefilm preparation, pupils learn substantially more from film experiences than from traditional no-film ones. The children who engaged in prefilm readiness planning and became more involved in the film learning process gained nearly twice the information from subsequently viewing a given film as those who approached film viewing "cold."[14]

Pre-viewing, viewing, and post-viewing activities and the teacher's attention to details such as students'

ability to see the screen clearly and to hear the sound well are all important components to effectively using media in the classroom. Involvement of both the learner and the teacher is the key to media effectiveness. Media can be used effectively for instruction but the role films and other media play can be greatly enhanced by active involvement of the viewer.

Television, too, is a unique form of communication and offers the classroom teacher many unique advantages. Wittich and Schuller write:

> Instructional television, to be effective, must employ the particular and specific strengths of the medium--its ability to visualize, to magnify demonstrations and illustrative materials, to give every learner a "front seat," to bring into the classroom learning experiences that the local teacher cannot arrange (costly experiments, complicated demonstrations, visual excursions to remote places), to bring current events, experienced instantaneously, into the classroom, and so on.[15]

Television offers an opportunity to incorporate many forms of media into one single medium. Therefore, one television presentation may include a variety of objects, realia, film clips, slides, charts, diagrams, pictures, graphs, demonstrations, and maps. This offers experiences not always available or accessible to the average classroom, and offers them more easily and economically than would otherwise be possible. Newman writes that ". . . the teaching effectiveness of both instructional television (programs designed for classroom use) and open broadcast television (programs designed for general viewing) is well

documented by over twenty years of research."[16]

Research on the use of television in instruction has confirmed that, together with sound principles of television utilization, television can produce learning results in the classroom. Wittich and Schuller state that in particular, research has revealed the following facts:

> 1. The use of instructional television in the classroom can result in significant advantages when television is planned and produced in terms of the known principles of media learning systems analysis and applications.
> 2. Goals and objectives to be achieved by learners from instructional television (ITV) must be known. That is, learners and teachers must know why they are using television and what purpose it will serve.
> 3. ITV is most likely to communicate effectively when lessons are so planned as to use, in context, interrelated and appropriate other visual and audio experiences needed by and useful to learners. (These experiences are provided by using films, audio tapes, community study, classroom discussion, classroom demonstrations, flat pictures and maps.)
> 4. To be effective, televised material must be easily seen and heard. The best possible seeing and listening conditions must be provided for all students.
> 5. Television is most effective when it is in color. Color is inherently interesting; and more important, it often provides the final clue essential to unlocking meaning and understanding.
> 6. The classroom teacher who accepts and uses television as a useful and effective means of more successfully accomplishing curriculum and course-of-study goals achieves significant results.
> 7. The classroom teacher who encourages ITV preparatory and follow-up activities and learner involvement in putting to use new-found information in creative and inventive ways achieves significant results.

Newman concludes:

> Thus, ITV, to be effective, must be an integral part of the overall classroom learning environment. When it is, it produces great student response and involvement.[17]

By the mid-1970s, landmark studies by the Children's Television Workshop and twenty years of pre-test/

> post-test studies of instructional television had established the capacity of television to teach. . . . Summing up other research, communications expert Wilbur Schram and others concluded in a 1975 study by the Stanford Institute for Communications Research: "Given favorable conditions, children learn efficiently from instructional television . . . the effectiveness of television has now been demonstrated in well over 100 experiments, and several hundred separate comparisons, performed in many parts of the world, in developing as well as industrialized countries, at every level from pre-school through adult education and with a great variety of subject matters and methods." This research includes studies demonstrating specific success with ethnic minority and handicapped children.[18]

Films, television, and other media, used effectively and within the principles of sound media utilization, provide the classroom teacher and students valuable communications tools for teaching and learning. Research on media in instruction found that under favorable conditions, students can learn from any form of instructional media currently available.[19] The key to effective utilization is how teachers use the various forms of media. Effective utilization is determined by recognition of the specific strengths and weaknesses of the medium, the development of high levels of involvement of students in pre-utilization, utilization, and post-utilization activities, and the selection of appropriate media. Wittich and Schuller conclude:

> 1. Effective learning begins with firsthand or concrete experiences and proceeds toward more abstract experiences. Thus a student who has the advantage of reacting to well-selected and wisely used media and materials can learn more effectively than one who is provided with largely verbal information and materials.
> 2. A learner profits most from instruction when he becomes involved through his own interest and desires.

> Well-chosen educational media present concepts in such a way as to incite interest and stimulate involvement.
> 3. A student who is knowledgeable and whose interests are aroused is better able to perform as a creative, inventive human being.
> 4. The most objective evidence that a learner has accomplished his goals is to be found as one observes and evaluates the quality of the responses he makes to instruction. Observable behaviors shown by learners after they have responded to media instructional opportunities present tangible evidence that can be measured, evaluated, and used by teachers as a basis for continual replanning and improvement.[20]

Teacher Use of Media

In 1983, Proctor reported:

> The present review of the literature pertaining to the use of media by teachers has identified a major difference between pedagogical theory and classroom practice. The prescriptive literature, based largely on the results of empirical studies, outlines the benefits attributable to the use of media; but, the descriptive literature, based largely on the results of surveys and questionnaires, reveals one almost universal theme: media are seldom used.[21]

In 1982, Larry reported on a full range of research conducted to determine possible deterrents to the use of media in public school teaching including studies by Hyler (1952), Meiser (1952), McPhail (1968), and Gavette (1981), (1982); and in higher education Hailer (1955), Hubbard (1960), Ittelson (1978), and Stephens (1981). Hyler's investigation looked at factors beyond availability which separated users of films from nonusers. Important deterrents were lack of accessibility, unsuitable content, poor projection conditions in the classroom. Meiser's study of public elementary schools analyzed why some teachers do and do not take advantage of media when it is available. This

study indicated a relationship between number of years of media training, style of teaching, and administrative policy. McPhail's study investigated background factors affecting teacher attitudes toward media, and Gavette studied other factors which contributed to use. Significant factors determined by McPhail included college faculty's use of media, reliability of equipment, and accessibility of materials. Gavette's investigation revealed that teacher exposure to media courses had a positive relationship to their use of media. Comparison of the results of the investigations of media use by the faculty of institutions of higher education and the faculty of public schools revealed evidence of distinct similarities and differences.[22]

Smith and Ingersoll conducted a random sampling of 5,000 teachers and 1,000 administrators at all grade levels throughout the country in 1983 to determine the availability and use of audiovisual materials. Their results were compared to an earlier study conducted in 1982. They found that audiovisual kits were available in 71 percent of the nation's schools, down from 79.2 percent in 1982 and their rate of use was 37 percent, down from 42 percent the previous year.[23]

Their study indicated that teachers were becoming increasingly dissatisfied with 16mm films and that videotapes, though unavailable and complex, were seen as the

replacements for films. Use of videotapes remained essentially unchanged. In 1983, 43.9 percent of the teachers reported that prerecorded videotapes were at least moderately available. This was a decline from 47 percent in 1982. Use of videotapes remained essentially the same. In 1983, 9.3 percent of the teachers reported at least weekly use. However, 41 percent of the teachers in both years reported that they never used videotapes. The relative use ratio of videotapes was at the lowest level of all audiovisual material studied.

The largest school utilization study, however, was conducted in 1982-83 by the Corporation for Public Broadcasting. The study surveyed 619 school superintendents, 1,350 principals, and 2,700 teachers about in-school instructional applications of programming and equipment in the areas of audio/radio, instructional television, computers, and other media.[24] This research indicated that the media under examination were used by more than half of the teachers to whom they were available. However, percentages of teachers using instructional television regularly showed a much greater reduction in numbers. These figures indicated the great discrepancy between figures that reported the number of teachers who used any form of media at least once in their classrooms during a school year and those who made media a more regular part of their instructional program.

In Teachers and Machines: The Classroom Use of Technology Since 1920, Larry Cuban discussed the "paradox facing public schools: constancy amidst change."[25] Cuban states:

> Nowhere is this paradox more apparent than in the interplay between the classroom teacher and technology. Since the mid-nineteenth century the classroom has become home to a succession of technologies (e.g., textbook, chalkboard, radio, film, and television) that have been tailored to the dimensions of classroom practice. Yet the teacher has been singled out as inflexibility resistant to "modern" technology, stubbornly engaging in a closed-door policy toward using new mechanical and automated instructional aids.[26]

Cuban found that definite patterns exist in the literature of technology in education. First, with each new technological innovation introduced into the classroom there would be predictions of the extraordinary changes that would take place in teaching and learning. Next, academic studies would be conducted to demonstrate effectiveness. After the studies, teacher complaints about logistical problems or technical problems would surface. And, finally, a survey would document how infrequently teachers were using the new device.[27] Cuban writes:

> The exhilaration/scientific-credibility/disappointment/teacher-bashing cycle described here drew its energy from an unswerving, insistent impulse on the part of nonteachers to change classroom practice. Reformers branded stability in teacher practice as inertia or knee-jerk conversatism. They viewed teacher reluctance as an obstacle to overcome. Seldom did investigators try to adopt a teacher's perspective or apprentice the duality of continuity and change that marked both schools and classrooms.[28]

Clark and Solomon state:

> The final ethical question raised by the history of media use in teaching is the pattern of its use by educators. In the past there has been a pattern of adoption by schools in response to external pressures from commercial and community special interest rather than as a result of an identified and expressed need. Most new media are not developed with educational applications as their foremost goal. Consequently, decisions to adopt them occur before there is clear evidence about their efficacy or the availability of superior materials. This was certainly the case with television and is as clearly the case with microcomputers. While the enthusiasms that surround the introduction of a new medium lend a certain currency and legitimacy to schools, they also take scarce resources away from identified priorities.[29]

Seibert and Ullmer considered the difficulty in determining the magnitude and variety of teachers' actual use of media. They write:

> Although many media uses leave some visible trace or clue, as the borrowing of a film from a lending library or a school's purchase of several audio recorders will, others can remain invisible to almost everyone outside a given classroom. Teachers can and do prepare and use their own sets of instructional slides, they prepare or simply improvise their own transparencies, and they can even assume the roles of author-producer-cameraman-technician-in short, become a one person television production company--to prepare their own instructional videotape recordings.[30]

ENDNOTES

[1]Harold E. Mitzel, ed., Encyclopedia of Educational Research, 5th ed. (New York: The Free Press, 1983), 1192.

[2]Carlton W. H. Erickson, Administering Instructional Media Programs (New York: Macmillan, 1968), 14.

[3]James W. Brown and Kenneth D. Norberg, Administering Educational Media (New York: McGraw-Hill, 1965), 282.

[4]Erickson, Administering Instructional Media Programs, 16.

[5]Ibid., 16-17.

[6]Brown, Administering Educational Media, 283.

[7]Gene L. Wilkinson, Media in Instruction: 60 Years of Research (Washington, D.C.: Association for Educational Communications and Technology, 1980), 6.

[8]Ibid.

[9]Ibid., 39.

[10]Ibid.

[11]William Winn, "Why Media?" Instructional Innovator 29, (February 1984): 31-32.

[12]James W. Brown, Richard B. Lewis, and Fred F. Harcherod, AV Instruction: Technology, Media, and Methods, 4th ed. (New York: McGraw-Hill, 1973), 180-83.

[13]Walter A. Wittich and Charles F. Schuller, Instructional Technology: Its Nature and Use, 5th ed. (New York: Harper and Row, 1973), 482.

[14]Ibid.

[15]Ibid., 524.

[16]John A. Newman, "Television in the Classroom: What the Research Says" (ERIC Document Reproduction Service, No. ED 206 263), 1983, 3.

[17]Wittich, Instructional Technology, 525.

[18]Newman, "Television in the Classroom," 3.

[19]Robert L. Hillard and Hyman H. Freed, Television and the Teacher, Communication Arts Books (New York: Hastings House Publications, 1976), 18.

[20]Wittich, Instructional Technology, xiv-xv.

[21]Leonard F. Procter, "Student Teacher Utilization of Instructional Media" (Ph.D. diss., Indiana University, 1983), 3.

[22]Jesolyn F. Larry, "Factors Affecting Faculty Utilization of Audio-Visual Services at Purdue University: An Assessment" (Ph.D. diss., Purdue University, 1983), 8-12.

[23]Carl B. Smith and Gary M. Ingersoll, "Audio-Visual Materials in U.S. Schools: A National Survey on Availability and Use" Educational Technology 24, (September 1984): 36-38.

[24]John A. Riccobono, School Utilization Study: Availability, Use and Support of Instructional Media. 1982-83 Final Report (Washington, D.C.: Corporation for Public Broadcasting, 1985), 2.

[25]Larry Cuban, Teachers and Machines: The Classroom Use of Technology Since 1920 (New York: Teachers College Press, 1986), 1.

[26]Ibid., 2.

[27]Cuban, Teachers and Machines, 5.

[28]Ibid., 5-6.

[29]Merlin C. Wittrock, ed., Handbook of Research on Teaching, 3d ed. (New York: Macmillan, 1986), 475.

[30]Harold E. Mitzel, ed., Encyclopedia of Educational Research, 5th ed., (New York: The Free Press, 1983), 1191.

CHAPTER III

METHODOLOGY

Policy issues concerning the use of media resources today include the ability of media centers to adjust to meet changing needs. For example, is current material closely related to new curricular changes, and therefore, seen as appropriate or useful to classroom teachers? Have increased standards, class load, and changes in curriculum altered the perceived usefulness or desirability of media to support instruction?

Apart from instructional considerations, current technological advances and economic considerations have rapidly changed the format of media equipment and materials available to teachers. Earlier media utilization studies relied heavily on film technology and instructional television usage. Today, video films are replacing screen-projected films, videotaped instructional television programs are supplementing direct broadcast programs, and inter-active television is gaining more and more attention.

Entirely new issues of accessibility, ease of use, and teacher knowledge and comfort with use need to be explored. Policy decisions concerning how media are organized for teacher access and how teachers are trained and supported

in its use, need to be addressed.

Urban school divisions that have implemented centralized media service delivery now need to determine if these programs are functioning effectively. Are centralized centers the best vehicle for getting media in classrooms, or should increased emphasis be placed on building level media collections. What changes in policy, if any, should be considered? What knowledge can be gathered from urban service delivery programs that would assist educators who have questions about media service delivery? And, what factors involved in implementation need to be addressed by urban administrators to promote effective use of existing or new service delivery programs?

Research Questions

In order to determine policy affecting media services, the research questions addressed by this study were as follows:

1. What factors now exist that encourage, enhance, or inhibit the use of media in the classroom?

2. Are factors identified in earlier studies still relevant today?

3. What factors now play a key role in determining if media resources will be used?

While earlier studies looked at such factors as media's accessibility, classroom value, and required teacher training time, this study investigated other

factors which had not been considered. If media are one of many resources teachers should bring to classroom instruction, is there a correlation between teacher use of media and teacher use of resources in general? What is the perception of teachers concerning the support they feel they have from superiors to use media and other resources?

Another key area is the relationship between an individual's personal and professional use of media outside the classroom or school. For instance, are teachers who use media at home more likely to use media at school, and if they use audio or video programs for their own personal or professional growth, are they more likely to use films and videotapes in the classroom?

1. Is there a relationship between teachers' use of media for instruction and their use of other resources such as speakers from the community?

2. Are teachers who use media for their own personal enjoyment more likely to use media in the classroom?

3. Are teachers who use media for their own professional development more likely to use media in the classroom?

4. Does the support and encouragement of superiors increase teachers' use of media and other resources in the classroom?

5. Are factors identified in earlier media use studies such as availability of media, appropriateness of

media, and teachers' knowledge of media still significant today?

Methods and Procedures

To address the research questions raised by this study, the following hypotheses were developed for each grade level; elementary, junior, and senior high school.

Statistical Hypotheses

1. There is no significant difference between teachers' use of media for instruction and their use of other resources.

2. There is no significant difference between teachers' personal use of media at home and their use of media for instruction.

3. There is no significant difference between teachers' use of media for their own professional development and their use of media for instruction.

4. There is no significant difference between teachers' perception of the support available from superiors to use media and other resources and their use of media.

5. There are no significant differences in response of teachers by grade-level to factors identified in earlier media use studies including availability of media, appropriateness of media, and teachers' knowledge of media and those same factors today.

Borg and Gall state that survey research is not

limited to description. "In fact, though, survey research utilizes a variety of instruments and methods to study relationships, effects of treatments, longitudinal changes, and comparisons between groups."[1] In order to test the hypotheses generated for this study, a survey instrument based on the Purdue model designed by Larry[2] was developed and administered to a stratified random sample of teachers in the Virginia Beach City Public School System.

Subjects from three subgroups, elementary, junior, and senior high teachers, were randomly selected; and the survey was sent to each subject through the school division's inner-division mail system.

Virginia Beach is Virginia's largest city. It has a population of more than 321,000 people and, with the addition of nearly 1,000 people each month, it is one of the fastest growing cities in the nation.

The Virginia Beach public school system is the largest city school system in Virginia, the second largest overall in the state, and ranks about 50th in size in the nation. There are 46 schools in the system, over 6,000 employees, and 3,700 teachers.

Virginia Beach schools offer a rich mixture of students from different racial, ethnic, and socio-economic backgrounds. Some of the larger elementary, junior, and senior high schools in the city have been referred to as cities within cities. This characteristic offered an excellent laboratory for the study.

Survey questions for this investigation were developed from four key areas. First, the Purdue model developed by Larry for the investigation of factors affecting faculty utilization of audiovisual services at Purdue University[3] served as a major source. Second, a review of pertinent literature was used to help shape and direct the investigation. Next, representatives from each of the subgroups were interviewed, and finally, experts in the field of educational media were consulted.

The questionnaire for this study consisted of thirty-two items. The instrument was designed to collect demographic or quantitative, and attitudinal data concerning use of media services.

Before the questionnaire was prepared in its final form, a pilot study was conducted with a random sampling of secondary and elementary classroom teachers. Wiersma states that the results of a pilot study or "pilot run should identify misunderstandings, ambiguities, and useless or inadequate items."[4] Gay states that "even a small-scale pilot study, based on a small number of subjects, can help in refining procedures, such as instrument administration and scoring routines, and in trying out analysis techniques."[5] Final preparation of the questionnaire reflected changes that resulted from the pilot study findings.

The questionnaire containing an introduction was sent to subjects. A follow-up letter was prepared but, because of the high rate of return, not used.

Planning for this study was done in cooperation with the Planning, Assessment, and Research Department of the Virginia Beach City Public Schools and with assistance from research advisors at Old Dominion University.

Data were collected and analyzed using statistical procedures. T-tests were used to determine whether two means were significantly different at the selected level of probability. Significance was set at a value of .05 or below; anything above .05 was not considered significant. An analysis of variance was used to investigate two or more independent variables and the interactions between them. The Duncan's new multiple range test was used as a multiple comparison technique to determine which means within the analysis of variance were significantly different from each other.

ENDNOTES

[1]Walter R. Borg and Meredith Damien Gall, Educational Research: An Introduction, 4th ed. (New York: Longman, 1983), 405.

[2]Larry, Jesolyn F., "Factors Affecting Faculty Utilization of Audio-Visual Services at Purdue University: An Assessment" (Ph.D. diss., Purdue University, 1983): 31.

[3]Ibid.

[4]William Wiersma, Research Methods in Education: An Introduction, 3d ed. (Ithasca, Ill.: F. E. Peacock, 1980), 151.

[5]L.R. Gay, Educational Research: Competencies for Analysis and Application (Columbus, Ohio: Charles E. Merrill, 1976), 58.

CHAPTER IV

PRESENTATION OF FINDINGS

A field-tested questionnaire was designed for computer analysis of data. The Statistical Package for the Social Sciences was used for the analysis. Following the Purdue model developed by Larry,[1] the questionnaire was divided into three parts. Questions 1-9 requested demographic or quantitative data from respondents. Frequency distribution and percentages were formulated.

Questions 10-13 were used to gather data on the frequency of teacher use of media. Using a Likert scale from one or more times a week to never, respondents were asked to indicate their use of media from the central media center, from their school library/media center, from their department or grade level, and from their own personal or classroom collection. A fixed one-way analysis of variance was used for each question using three levels of teaching; elementary, junior, and senior high school. Each frequency of use analysis of variance was then compared to question 14 using a t-test in order to address hypothesis 1.

Hypothesis 2 was addressed by using each frequency of use analysis of variance and a t-test with question 15.

Hypothesis 3 was addressed by using each frequency of

use analysis of variance and a t-test with questions 16-18.

Hypothesis 4 was addressed by using each frequency of use analysis of variance and a t-test with questions 19 and 20.

Hypothesis 5 was addressed by the last part of the survey. Questions 21-32 were used to gather data on deterrents to media use as identified in earlier media studies. Using a Likert scale from strongly agree to strongly disagree, teachers were asked to rate factors such as availability of media for teacher use. A fixed one-way analysis of variance was used as a means of comparing responses across these groups; elementary, junior, and senior high teachers. The Duncan's multiple-range test was used for greater clarification and results.

Response Rate

The response rate to the survey questionnaire was very high. Of the 343 questionnaires sent, 301 were returned. This represented an 88% return rate. This rate is high but not unusual for questionnaires sent to teachers from the school division's Planning, Assessment, and Resource Development Office.

The Data

Questions 1-9 requested demographic or quantitative data from respondents. Frequency distributions and percentages were formulated for each question. Question 1

requested that respondents indicate the highest academic degree they had earned. Results showed that 172 (57.1%) of the teachers had bachelor's degrees, 116 (38.5%) had master's degrees, 11 (3.7%) had certificates of advanced study or the equivalent, and 2 (.7%) had doctoral degrees (see table 1).

Table 1.--Highest Degree Earned

	Bachelors Degree	Masters Degree	CAS or Equivalent	Doctoral Degree	Total
Elem.	106 (66.7%)	50 (31.4%)	3 (1.92%)	0 (0.0%)	159 (100%)
Jr. High	32 (45.7%)	31 (44.3%)	5 (7.1%)	2 (2.9%)	70 (100%)
Sr. High	34 (47.2%)	35 (48.5%)	3 (4.2%)	0 (0.0%)	72 (100%)
All	172 (57.1%)	116 (38.5%)	11 (3.7%)	2 (0.7%)	30 (100%)

The second question requested information about total number of years of teaching experience. Responses indicated that 8 teachers (2.7%) were first year teachers, 24 (8%) had from one to three years of experience, 33 (11%) had from four to six years of experience, 51 (16.9%) had from seven to nine years of teaching experience, and 185 (61.5%) had ten or more years of experience (see table 2).

Question 3 requested information about the amount of

Table 2.--Total Number of Years Teaching

	0-1	1-3	4-6	7-9	10 or More	Total
Elem.	3 (1.9%)	17 (10.7%)	17 (10.7%)	30 (18.9%)	92 (57.9%)	159 (100%)
Jr. High	4 (5.7%)	5 (7.1%)	7 (10.0%)	11 (15.7%)	43 (61.4%)	70 (100%)
Sr. High	1 (1.4%)	2 (2.8%)	9 (12.5%)	10 (13.9%)	50 (69.4%)	72 (100%)
All	8 (2.7%)	24 (8.0%)	33 (11.0%)	51 (16.9%)	185 (61.5%)	301 (100%)

media training teachers had received in college. Responses indicated that 71 (23.6%) had received no media training, 119 (39.5%) had taken one course, 79 (26.2%) had taken two courses, and 32 (10.6%) had taken three or more courses in college (see table 3).

Table 3.--Media Training in College

	None	1 Course	2 Courses	3 or More Courses	Total
Elem.	30 (18.9%)	68 (42.8%)	44 (27.7%)	17 (10.7%)	159 (100%)
Jr. High	16 (22.9%)	24 (34.3%)	21 (30.0%)	9 (12.9%)	70 (100%)
Sr. High	25 (34.7%)	27 (37.5%)	14 (19.4%)	6 (8.3%)	72 (100%)
All	71 (23.6%)	119 (39.4%)	79 (26.2%)	32 (10.6%)	301 (100%)

Question 4 asked respondents to indicate the most helpful aspect of their media training. Their responses show that 65 (21.6%) felt that college courses had provided the most help, 12 (4%) felt noncollege credit courses were the most helpful, 65 (21.6%) indicated workshops as the most helpful, 117 (38.9%) indicated that personal help from others had been the most helpful aspect of their media training, 7 (2.3%) indicated other training had been the most helpful, 28 (9.3%) felt there had not been any helpful aspect of media training and 7 (2.3%) failed to respond to that question (see table 4).

Questions 5-8 called for yes/no responses from teachers on their use of various types of media from four different sources; the central media center, their school library/media center, their department or grade level collection, and their personal or classroom collection. Responses indicated that transparencies from the central media center are used by 53 (17.6%) of the respondents, films from the central media center are used by 240 (79.7%) of the respondents, videotapes from the central media center are used by 230 (76.4%) of the respondents, filmstrips from the central media center are used by 128 (42.5%) of the respondents, slides from the central media center are used by only 43 (14.3%) of the respondents, kits from the central media center are used by 91 (30.2%) of the respondents, audiotapes from the central media center are

Table 4.--Most Helpful Aspect of Media Training

	Academic Courses	Non-College Credit	Work-Shops	Personal Help From Others	Other	None	No Response	Total
Elem.	36 (22.6%)	10 (6.3%)	39 (24.5%)	56 (35.2%)	3 (1.9%)	9 (5.7%)	6 (3.8%)	159 (100%)
Jr. High	16 (22.9%)	2 (2.9%)	15 (21.4%)	28 (40.0%)	2 (2.9%)	7 (10.0%)	0 (0.0%)	70 (100%)
Sr. High	13 (18.1%)	0 (0.0%)	11 (15.3%)	33 (45.8%)	2 (2.8%)	12 (16.7%)	1 (1.4%)	72 (100%)
All	65 (21.6%)	12 (4.0%)	65 (21.6%)	117 (38.9%)	7 (2.3%)	28 (9.3%)	7 (2.3%)	301 (100%)

used by 29 (9.6%) of the respondents, and other material from the central media center, including art prints, are used by 11 (3.7%) of the respondents.

Transparencies from the school library/media center are used by 111 (36.9%) of the respondents, videotapes from the school library/media center are used by 204 (67.8%) of the respondents, filmstrips from the school library/media center are used by 248 (82.4%) of the respondents, slides from the school library/media center are used by 71 (23.6%) of the respondents, kits from the school library/media center are used by 150 (49.8%) of the respondents, records from the school library/media center are used by 134 (44.5%) of the respondents, audiotapes are used by 124 (41.2%) of the respondents, and other media material is used by 20 (6.6%) of the respondents.

Transparencies from department or grade level collections were used by 129 (42.9%) of the respondents, films from department or grade level collections were used by 59 (19.6%) of the respondents, filmstrips from department or grade level collections were used by 142 (47.2%) of the respondents, slides from department or grade level collections were used by 44 (14.6%) of the respondents, kits from department or grade level collections were used by 90 (29.9%) of the respondents, records from department or grade level collections were used by 86 (28.6%) of the respondents, audiotapes from

department or grade level collections were used by 83 (27.6%) of the respondents, and other media materials from department or grade level collections were used by 30 (10%) of the respondents.

Transparencies from a personal or classroom collection were used by 117 (38.9%) of the respondents, videotapes from a personal or classroom collection were used by 87 (28.9%) of the respondents, filmstrips from a personal or classroom collection were used by 72 (23.9%) of the respondents, slides from a personal or classroom collection were used by 81 (26.9%) of the respondents, kits from a personal or classroom collection were used by 44 (14.6%) of the respondents, records from a personal or classroom collection were used by 148 (49.2%) of the respondents, audiotapes from a personal or classroom collection were used by 104 (34.6%) of the respondents, and other media materials from a personal or classroom collection were used by 33 (11%) of the respondents (see tables 5-13).

Question 9 asked that teachers indicate what media they personally owned. Their responses show that 289 (96%) own a television, 214 (71.1%) own a video recorder/player, 65 (21.6%) own a video or movie camera, 280 (93%) own a stereo, 289 (96%) own a radio, 194 (64.5%) own an audio tape recorder/player, 176 (58.5%) own a 35 mm camera, 88 (29.2%) own a slide projector, 60 (19.9%) own a movie

Table 5.--Use of Transparencies

	Central Media Center		School Library/ Media Center		Grade Level or Department Collection		Classroom or Personal Collection	
	Yes	No	Yes	No	Yes	No	Yes	No
Elem.	29 (18.2%)	130 (81.8%)	73 (45.9%)	86 (54.1%)	45 (28.3%)	114 (71.7%)	60 (37.7%)	99 (67.3%)
Jr. High	12 (17.1%)	58 (82.9%)	23 (32.9%)	47 (67.1%)	44 (62.9%)	26 (37.1%)	30 (42.0%)	40 (57.1%)
Sr. High	12 (16.7%)	60 (83.3%)	15 (20.8%)	57 (79.2%)	40 (55.6%)	32 (44.4%)	27 (37.5%)	45 (62.5%)
All	52 (17.6%)	248 (82.4%)	111 (36.9%)	190 (63.1%)	129 (42.9%)	172 (57.1%)	117 (38.9%)	184 (61.1%)

Table 6.--Use of Films

	Central Media Center	
	Yes	No
Elem.	129 (81.1%)	30 (18.9%)
Jr. High	56 (80.0%)	14 (20.0%)
Sr. High	55 (76.4%)	17 (23.6%)
All	240 (79.7%)	61 (20.3%)

Table 7.--Use of Videotapes

	Central Media Center		School Library/ Media Center		Classroom or Personal Collection	
	Yes	No	Yes	No	Yes	No
Elem.	128 (80.5%)	31 (19.5%)	119 (74.8%)	40 (25.2%)	36 (22.6%)	123 (77.4%)
Jr. High	50 (71.4%)	20 (28.6%)	41 (58.6%)	29 (41.4%)	19 (27.1%)	51 (72.9%)
Sr. High	52 (72.2%)	20 (27.8%)	44 (61.1%)	28 (38.9%)	32 (44.4%)	40 (55.6%)
All	230 (76.4%)	71 (23.6%)	204 (67.8%)	97 (32.2%)	87 (28.9%)	214 (71.1%)

Table 8.--Use of Filmstrips

	Central Media Center		School Library/ Media Center		Grade Level or Department Collection		Classroom or Personal Collection	
	Yes	No	Yes	No	Yes	No	Yes	No
Elem.	68 (42.8%)	91 (57.2%)	145 (91.2%)	14 (8.8%)	61 (38.4%)	98 (61.6%)	58 (36.5%)	101 (63.5%)
Jr. High	33 (47.1%)	37 (52.9%)	55 (78.6%)	15 (21.4%)	51 (72.9%)	19 (27.1%)	8 (11.4%)	62 (88.6%)
Sr. High	27 (37.5%)	45 (62.5%)	48 (66.7%)	24 (33.3%)	30 (41.7%)	42 (58.3%)	6 (8.3%)	66 (91.7%)
All	128 (42.5%)	173 (57.5%)	248 (82.4%)	53 (17.6%)	142 (47.2%)	159 (52.8%)	72 (23.9%)	229 (76.1%)

Table 9.--Use of Slides

	Central Media Center		School Library/ Media Center		Grade Level or Department Collection		Classroom or Personal Collection	
	Yes	No	Yes	No	Yes	No	Yes	No
Elem.	10 (6.3%)	149 (93.7%)	22 (13.8%)	137 (86.2%)	7 (4.4%)	152 (95.6%)	41 (25.8%)	118 (74.2%)
Jr. High	17 (24.3%)	53 (75.7%)	25 (35.7%)	45 (64.3%)	26 (37.1%)	44 (62.9%)	20 (28.6%)	50 (71.4%)
Sr. High	16 (22.2%)	56 (77.8%)	24 (33.3%)	48 (66.7%)	11 (15.3%)	61 (84.7%)	20 (27.8%)	52 (72.2%)
All	43 (14.3%)	258 (85.7%)	71 (23.6%)	230 (76.4%)	44 (14.6%)	257 (85.4%)	81 (26.9%)	220 (73.1%)

Table 10.--Use of Kits

	Central Media Center		School Library/ Media Center		Grade Level or Department Collection		Classroom or Personal Collection	
	Yes	No	Yes	No	Yes	No	Yes	No
Elem.	70 (44.0%)	89 (56.0%)	111 (69.8%)	48 (30.2%)	52 (32.7%)	107 (67.3%)	31 (19.5%)	128 (80.5%)
Jr. High	17 (24.3%)	53 (75.7%)	25 (35.7%)	45 (64.3%)	25 (35.7%)	45 (64.3%)	5 (7.1%)	65 (92.9%)
Sr. High	4 (30.2%)	210 (69.8%)	150 (49.8%)	151 (50.2%)	90 (29.9%)	211 (70.1%)	44 (14.6%)	257 (85.4%)
All	91 (30.2%)	210 (69.8%)	150 (49.8%)	151 (50.2%)	90 (29.9%)	211 (70.1%)	44 (14.6%)	257 (85.4%)

Table 11.--Use of Audiotapes

	Central Media Center		School Library/ Media Center		Grade Level or Department Collection		Classroom or Personal Collection	
	Yes	No	Yes	No	Yes	No	Yes	No
Elem.	17 (10.7%)	142 (89.3%)	85 (53.5%)	74 (46.5%)	39 (24.5%)	120 (75.5%)	62 (39.0%)	97 (61.0%)
Jr. High	8 (11.4%)	62 (88.6%)	19 (27.1%)	51 (72.9%)	30 (42.9%)	40 (57.1%)	26 (37.1%)	44 (62.9%)
Sr. High	4 (5.6%)	68 (94.4%)	20 (27.8%)	52 (72.2%)	14 (19.4%)	58 (80.6%)	16 (22.2%)	56 (77.8%)
All	29 (9.6%)	272 (90.4%)	124 (41.2%)	177 (58.8%)	83 (27.6%)	218 (72.4%)	104 (34.6%)	197 (65.4%)

Table 12.--Use of Records

	School Library/ Media Center		Grade Level or Department Collection		Classroom or Personal Collection	
	Yes	No	Yes	No	Yes	No
Elem.	87 (54.7%)	72 (45.3%)	55 (34.6%)	104 (65.4%)	105 (66.0%)	54 (34.0%)
Jr. High	22 (31.4%)	48 (68.6%)	18 (25.7%)	52 (74.3%)	22 (31.4%)	48 (68.6%)
Sr. High	25 (34.7%)	47 (65.3%)	13 (18.1%)	59 (81.9%)	21 (29.2%)	51 (70.8%)
All	134 (44.5%)	167 (55.5%)	86 (28.6%)	215 (71.4%)	148 (49.1%)	153 (50.8%)

projector, and 13 (4.3%) own other types of media equipment (see table 14).

Questions 10-13 were used to gather data on teachers' perception of their own use of media. Using a Likert scale from one or more times a week to never, respondents were asked to indicate their use of media from the central media center, from their school library/media center, from their department or grade level collection, and from their personal or classroom collection.

Question 10 requested information concerning the teachers' perception of their use of media from the central media center. Responses indicate that elementary teachers feel they used media from the central media center much more than junior or senior high teachers. While 21.4% of

Table 13.--Use of Other Media

	Central Media Center		School Library/ Media Center		Grade Level or Department Collection		Classroom or Personal Collection	
	Yes	No	Yes	No	Yes	No	Yes	No
Elem.	5 (3.1%)	154 (96.9%)	11 (6.9%)	148 (93.1%)	10 (6.3%)	149 (93.7%)	11 (6.9%)	148 (93.1%)
Jr. High	4 (5.7%)	66 (94.3%)	3 (4.3%)	67 (95.7%)	8 (11.4%)	62 (88.6%)	14 (20.0%)	56 (80.0%)
Sr. High	2 (2.8%)	70 (97.2%)	6 (8.3%)	66 (91.7%)	12 (16.7%)	60 (83.3%)	8 (11.1%)	64 (88.9%)
All	11 (3.7%)	290 (96.3%)	20 (6.6%)	281 (93.4%)	30 (10.0%)	271 (90.0%)	33 (11.0%)	268 (89.0%)

Table 14.--Personally Owned Media

	Television		Video Recorder/ Player		Video or Movie Camera		Stereo		Radio	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Elem.	151 (95.0%)	8 (5.0%)	116 (73.0%)	43 (27.0%)	37 (28.3%)	122 (76.7%)	146 (91.8%)	13 (8.2%)	155 (97.5%)	4 (2.5%)
Jr. High	68 (97.1%)	2 (2.9%)	47 (67.1%)	23 (32.9%)	16 (22.9%)	54 (77.1%)	66 (94.3%)	4 (5.7%)	65 (92.9%)	5 (7.1%)
Sr. High	70 (97.2%)	2 (2.8%)	51 (70.8%)	21 (29.2%)	12 (16.7%)	60 (83.3%)	68 (94.4%)	4 (5.6%)	69 (95.8%)	3 (4.2%)
All	289 (96.0%)	12 (4.0%)	214 (71.1%)	87 (28.9%)	65 (21.6%)	236 (78.4%)	280 (93.0%)	21 (7.0%)	289 (96.0%)	12 (4.0%)

Table 14.--Continued

	Audiotape Recorder/ Player		35mm. Camera		Slide Projector		Movie Projector		Other	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Elem.	106 (66.7%)	53 (33.3%)	98 (61.6%)	61 (38.4%)	45 (28.3%)	114 (71.7%)	33 (20.8%)	126 (79.2%)	3 (1.9%)	159 (98.1%)
Jr. High	42 (60.0%)	28 (40.0%)	41 (58.6%)	29 (41.4%)	25 (35.7%)	45 (64.3%)	14 (20.0%)	56 (80.0%)	5 (7.1%)	65 (92.9%)
Sr. High	46 (63.9%)	26 (36.1%)	37 (51.4%)	35 (48.6%)	18 (25.0%)	54 (75.0%)	13 (18.1%)	59 (81.9%)	5 (6.9%)	67 (93.1%)
All	194 (64.5%)	107 (35.5%)	176 (58.5%)	125 (41.5%)	88 (29.2%)	213 (70.8%)	60 (19.9%)	241 (80.1%)	13 (4.3%)	288 (95.7%)

the elementary teachers reported use of the central media center one or more times a week, only 10% of the junior high teachers and 2.8% of the senior high teachers reported such frequent use.

Question 11 requested information concerning teachers' use of media from their school library/media center. Again, elementary teachers reported greater use of media from that source than did junior or senior high teachers. Whereas 52.8% of all elementary respondents reported use of the school library/media center one or more times a week, only 14.3% of junior high teachers and 4.2% of senior high teachers reported such high use.

Question 12 asked respondents to indicate their use of media from their department or grade level collection. Junior high teachers reported the highest use with 31.4% responding that they used media from the source one or more times a week. Elementary teachers' responses indicated that 25.2% felt they used media from their grade level collections one or more times a week. Senior high teachers' responses indicated that 15.3% used media from their department collections one or more times a week.

Question 13 asked respondents to indicate their use of media from their personal or classroom collection. Elementary teachers reported 29.6% used media from the source one or more times a week. Junior high teachers reported 25.7% and senior high teachers reported 25%.

Question 14 checked respondents use of other resources including central office personnel, outside speakers, consultants, volunteers, parents, and organizations in the community. Elementary teachers reported the most frequent use with 11.3% indicating that they used other resources one or more times a week. Junior high teachers reported 1.4% and senior high teachers 1.4%

Question 15 asked teachers to indicate their use of media for personal entertainment. All groups reported high use with 79.9% of the elementary teachers, 84.3% junior high teachers, and 79.2% senior high teachers reporting use of media for personal entertainment one or more times a week.

Question 16 requested that teachers indicate their use of audio or videotapes for their own professional development. Senior high teachers reported the highest use with 13.9% responding that they used media for their own professional development one or more times a week. Junior high teachers reported 8.6% use media for professional development that often and elementary teachers reported 6.3%.

Question 17 asked respondents to indicate their use of television or radio for taking college credit courses. Only junior high teachers reported that 2.9% had taken three or more courses by either television or radio. There were no elementary or senior high teachers who reported

taking this many courses by media. Elementary teachers reported 4.4% had taken two or more courses by media and 18.9% had taken at least one course by either television or radio. Junior high teachers reported that 1.4% had taken two or more courses and 11.4% had taken at least one. Senior high teachers reported 6.9% having taken two or more courses and 20.8% having taken at least one. Still the largest percentage in each of the three groups indicated that they have never taken a course by television or radio.

Question 18 asked teachers to indicate their willingness to take a course by either television or radio. Elementary teachers' responses indicate that 75.5% agreed or strongly agreed that they would take a course offered by media. Junior high teachers indicated that 77.1% agreed or strongly agreed and senior high teachers indicated that 76.4% agreed or strongly agreed.

Question 19 asked respondents to indicate the amount of support they felt they received from superiors to use media in the classroom. Teachers at all three levels reported that they felt a high degree of support. Elementary teachers accounted for 84.9% who felt superiors were supportive or highly supportive of their use of media in the classroom. Junior high teachers in these categories showed 77.1% and senior high teachers 58.4%.

Question 20 requested that teachers indicate the amount of support they felt they had from superiors to use

other resources in the classroom including central office personnel, outside speakers, volunteers, and other community resources. Elementary teachers who felt they had supportive or highly supportive superiors accounted for 90.6% of the elementary teacher respondents. Junior high teachers showed 78.6% and senior high teachers showed 65.3%.

The last part of the questionnaire was used to gather data concerning teachers' perceptions of deterents to media use. Factors used were those identified as deterents in earlier media use studies. Using a Likert scale from strongly agree to strongly disagree, teachers were asked to rate factors such as availability of media, their knowledge of media use, and quality of media equipment. Questions 21-32 were used to gather data for their part of the study. While the majority of teachers at all three levels disagreed or strongly disagreed with the statement that materials were not available from the central media center; and school library/media center; only elementary and junior high teachers disagreed or strongly disagreed with the statement that materials were not available from their department or grade level.

Questions concerning teacher knowledge of media or use showed that 87.4% of the elementary teachers, 91.4% of the junior high teachers, and 84.8% of the senior high teachers disagreed or strongly disagreed with the statement

that they did not have the knowledge or training needed to use audiovisual equipment. Data on reliability of audio-visual equipment indicated that 70.9% of the senior high teachers, 60% of the junior high teachers, and 64.8% of the elementary teachers disagreed or strongly disagreed with the statement that equipment was unreliable or obsolete.

Testing the Hypotheses

The statistics used to test the hypotheses for the study were the t-test, the fixed one-way analysis of variance, and the Duncan's multiple-range post-hoc test. Three levels of teaching were used for each analysis of variance; elementary, junior high, and senior high school. A probability of .05 or less was used to reject a hypothesis. For anything higher than .05, the hypothesis was accepted.

Hypothesis 1

Hypothesis 1 stated that there is no significant difference between teachers' use of media for instruction and their use of other resources. Tables 15-18 show the mean scores from teachers' use of media from four sources; the central media center (see table 15), the school library/media center (see table 16), their grade-level or department collections (see table 17), and their classroom or personal collections (see table 18) and their use of other resources.

Table 15.--Central Media Contrasted with Other Resources

	Use of Media From Central Media Center	Use of Other Resources	t-value	p
Elem.	2.76	2.42	3.60	.000*
Jr. High	2.51	1.78	6.15	.000*
Sr. High	2.29	1.81	4.60	.000*
All	2.59	2.13	7.42	.000*

*$p < .05$.

Table 16.--School Library/Media Contrasted with Other Resources

	Use of Media From School Library/Media Center	Use of Other Resources	t-value	p
Elem.	3.39	2.42	12.50	.000*
Jr. High	2.77	1.78	8.37	.000*
Sr. High	2.56	1.81	7.33	.000*
All	3.05	3.67	9.56	.000*

*$p < .05$.

Individual t-test by grade levels show there is a significant difference in teachers' use of media from the central media center and the use of other resources. Elementary, junior, and senior high teachers all felt they used more media from the central media center than they

Table 17.--Grade Level or Department Collection Contrasted with Other Resources

	Use of Media From Grade Level or Department Collection	Use of Other Resources	t-value	p
Elem.	2.34	2.42	.70	.483
Jr. High	2.98	1.78	9.75	.000*
Sr. High	2.48	1.81	4.86	.000*
All	2.52	2.13	4.87	.000*

*$p < .05$.

Table 18.--Classroom or Personal Collection Contrasted with Other Resources

	Use of Media From Classroom or Personal Collection	Use of Other Resources	t-value	p
Elem.	2.81	2.42	3.97	.000*
Jr. High	2.77	1.78	7.43	.000*
Sr. High	2.61	1.81	5.66	.000*
All	2.75	2.13	8.88	.000*

*$p < .05$.

used other resources. All felt they used their school library/media center more than they used other resources. Junior and senior high teachers felt they used their department collection more than they used other resources

while elementary teachers showed no significant difference in use of media from their grade level collection and other resources. There was a significant difference at all three levels in use of media from classroom or personal collections (higher use) than use of other resources.

An analysis of variance to compare the responses of elementary, junior, and senior high teachers followed by a post-hoc test for greater clarification, showed there was a significant difference (higher use) in use of the central media center by elementary teachers than by junior and senior high teachers (see tables 19 and 20). There is a significant difference (higher use) in their use of the school library/media center by elementary teachers than by junior and senior high teachers (see tables 21 and 22). There was a significant difference (higher use) between junior high teachers use of their department media collection and that of elementary or senior high teachers (see tables 23 and 24). There was no significant difference in use of classroom or personal media collections between any of the teachers.

Decision

Reject the null hypothesis that there is no significant difference between teachers use of media for instruction and their use of other resources. There is a significant difference in use of media for instruction (higher use) and use of other resources.

Table 19.--Use of Media From the Central Media Center

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	2	11.4586	5.7293	7.7157	.0005*
Within Groups	298	221.2790	.7425		
Total	300	232.7375			

*$p < .05$.

Table 20.--Duncan's Multiple Range Test Results

Mean	Group	Sr. High	Jr. High	Elem.
2.2917	Sr. High			
2.514	Jr. High			
2.7610	Elem.	*	*	

* Denotes pairs of groups significantly different at the .05 level

Table 21.--Use of Media From the School Library/Media Center

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	2	41.1161	20.5581	37.8089	0.0*
Within Groups	298	162.0334	.5437		
Total	300	203.1495			

*$p < .05$.

Table 22.--Duncan's Multiple Range Test Results

Mean	Group	Sr. High	Jr. High	Elem.
2.5694	Sr. High			
2.7714	Jr. High			
3.3962	Elem.	*	*	

* Denotes pairs of groups significantly different at the .05 level

Table 23.--Use of Media From Grade Level or Department Collections

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	2	20.0633	10.0316	6.7490	.0014*
Within Groups	298	442.9467	1.4864		
Total	300	463.0100			

*$p < .05$.

Table 24.--Duncan's Multiple Range Test Results

Mean	Group	Elem.	Sr. High	Jr. High
2.3459	Elem.			
2.4861	Sr. High			
2.9857	Jr. High	*	*	

* Denotes pairs of groups significantly different at the .05 level

Hypothesis 2

Hypothesis 2 stated that there is no significant difference between teachers' personal use of media at home and their use of media for instruction. Again, using data gathered from teachers' use of media from the central media center (see table 25), their school library/media center (see table 26), their department or grade level collections (see table 27), and their classroom or personal collection (see table 28) and comparing those to the data gathered through question 15 showing teachers' personal use of media, individual t-test by grade level show that there is a significant difference in teachers' use of media from all four sources and their personal use of media. At all three levels, teachers use significantly more media for their personal entertainment then they do from any of the four sources.

Table 25.--Central Media Contrasted with Personal Entertainment

	Use of Media From Central Media Center	Use of Media for Personal Entertainment	t-value	p
Elem.	2.76	3.67	10.67	.000*
Jr. High	2.51	3.74	9.41	.000*
Sr. High	2.29	3.58	9.11	.000*
All	2.59	3.67	16.64	.000*

*$p < .05$

Table 26.--School Library/Media Contrasted with Personal Entertainment

	Use of Media From School Library/Media Center	Use of Media for Personal Entertainment	t-value	p
Elem.	3.39	3.67	3.50	.000*
Jr. High	2.77	3.74	7.96	.000*
Sr. High	2.56	3.58	7.14	.000*
All	3.05	3.67	9.56	.000*

*$p < .05$.

Table 27.--Grade Level or Department Collection Contrasted with Personal Entertainment

	Use of Media From Grade Level or Department Collection	Use of Media for Personal Entertainment	t-value	p
Elem.	2.34	3.67	11.34	.000*
Jr. High	2.98	3.74	5.85	.000*
Sr. High	2.48	3.58	7.04	.000*
All	2.52	3.67	14.40	.000*

*$p < .05$.

An analysis of variance showed no significant difference in use of media for personal entertainment by teachers at any grade level.

Table 28.--Classroom or Personal Collection Contrasted with Personal Entertainment

	Use of Media From Classroom or Personal Collection	Use of Media for Personal Entertainment	t-value	p
Elem.	2.81	3.67	9.40	.000*
Jr. High	2.77	3.74	7.12	.000*
Sr. High	2.61	3.58	6.95	.000*
All	2.75	3.67	13.70	.000*

*$p < .05$.

Decision

Reject the null hypothesis that there is no significant difference between teachers personal use of media at home and their use of media for instruction. There is a significant difference in personal use of media (higher use) than in media for instruction.

Hypothesis 3

Hypothesis 3 stated that there is no significant difference in teachers' use of media for their own professional development and their use of media for instruction. Using data from teachers' use of media from the central media center (see table 29), from their school library/ media center (see table 30), from their department or grade level collection (see table 31), and from their personal or classroom collection (see table 32) and comparing those to

data gathered from question 16, individual t-test were used for all three grade levels. Elementary, junior, and senior high teachers reported a significant difference in their use of media from all sources (higher use) and their use of media for professional development except in one area. Senior high teachers reported no significant difference in use of media from the central media center and their use of media for professional development.

Data gathered from question 17 indicated a significant difference in teachers' use of media from all sources (higher use) and their use of media for taking college courses (see table 33). Elementary, junior, and senior high teachers all reported higher use of media for instruction than their own use of media for professional development.

Table 29.--Central Media Contrasted with Audio/Videotapes for Professional Development

	Use of Media From Central Media Center	Use of Audio/ Videotapes for Professional Development	t-value	p
Elem.	2.76	2.05	7.72	.000*
Jr. High	2.51	2.15	2.64	.010*
Sr. High	2.29	2.09	1.40	.167
All	2.59	2.08	7.45	.000*

*$p < .05$.

Table 30.--Classroom or Personal Collection Contrasted with Audio/Videotapes for Professional Development

	Use of Media From Classroom or Personal Collection	Use of Media for Personal Entertainment	t-value	p
Elem.	3.39	2.05	16.46	.000*
Jr. High	2.77	2.15	4.49	.000*
Sr. High	2.56	2.09	3.34	.001*
All	3.05	2.08	14.35	.000*

*$p < .05$.

Table 31.--Grade Level or Department Collection Contrasted with Audio/Videotapes for Professional Development

	Use of Media From Grade Level or Department Collection	Use of Audio/ Videotapes for Professional Development	t-value	p
Elem.	2.34	2.05	2.40	.018*
Jr. High	2.98	2.15	5.82	.000*
Sr. High	2.48	2.09	2.64	.010
All	2.52	2.08	5.40	.000*

*$p < .05$.

Data gathered from question 33 (see table 34) showed that junior and senior high school teachers indicated a significant difference in their interest to take courses offered by media and their use of media from the central

media center. Elementary teachers reported a significant difference in use of media from their grade level (higher use) than their interest in courses by media (see table 35). There was a significant difference in senior high

Table 32.--Classroom or Personal Collection Contrasted with Audio/Videotapes for Professional Development

	Use of Media From Classroom or Personal Collection	Use of Audio/ Videotapes for Professional Development	t-value	p
Elem.	2.81	2.05	7.54	.000*
Jr. High	2.77	2.15	4.39	.000*
Sr. High	2.61	2.09	3.71	.000*
All	2.75	2.08	9.44	.000*

*$p < .05$.

Table 33.--Central Media Contrasted with TV/Radio for College Credit Courses

	Use of Media From Central Media Center	Use of TV/ Radio for College Credit Courses	t-value	p
Elem.	2.76	1.26	17.80	.000*
Jr. High	2.98	2.15	11.23	.000*
Sr. High	2.29	1.31	8.98	.000*
All	2.59	1.26	22.40	.000*

*$p < .05$.

Table 34.--Central Media Contrasted with Course by Television

	Use of Media From Central Media Center	Willingness to Take a Course by Television	t-value	p
Elem.	2.76	2.94	1.92	.057
Jr. High	2.51	2.98	3.32	.001*
Sr. High	2.29	2.91	4.54	.000*
All	2.59	2.94	5.13	.000*

*$p < .05$.

Table 35.--Grade Level or Department Collection Contrasted with Course by Televison

	Use of Media From Grade Level or Department Collection	Willingness to Take a Course by Television	t-value	p
Elem.	2.34	2.94	4.59	.000*
Jr. High	2.98	2.98	0.00	1.000
Sr. High	2.48	2.91	2.72	.008*
All	2.52	2.94	4.80	.000*

*$p < .05$.

teachers' responses to interest in taking courses by media (higher interest) and their use of media from their school/ library media center (see table 36). Both elementary and senior high teachers reported a significant difference in their interest to take courses by media (higher interest)

and their use of their grade level or department collections of media. Senior high teachers reported a significant difference in their interest to take courses by media (higher interest) and their use of media from their classroom or personal collections (see table 37).

Table 36.--School Library/Media Contrasted with Course by Television

	Use of Media From School Library/Media Center	Willingness to Take a Course by Television	t-value	p
Elem.	3.39	2.94	4.94	.000*
Jr. High	2.77	2.98	1.63	.108
Sr. High	2.56	2.91	2.77	.007*
All	3.05	2.94	1.57	.119

*$p < .05$.

Table 37.--Classroom or Personal Collection Contrasted with Course by Television

	Use of Media From Classroom or Personal Collection	Willingness to Take a Course by Television	t-value	p
Elem.	2.81	2.94	1.20	.231
Jr. High	2.51	2.98	3.32	.171
Sr. High	2.61	2.91	2.09	.040*
All	2.75	2.94	2.54	.012*

*$p < .05$.

An analysis of variance used for questions 16-18 and each of the three levels; elementary, junior, and senior high, showed no significant differences in response to questions by grade level.

Decision

Reject the null hypothesis that there is no significant difference in teachers' use of media for professional development and their use of media for instruction. Teachers reported a significant difference in use of media for instruction (higher use) and their use of media for professional development, except senior high teachers who reported no significant difference.

Hypothesis 4

Hypothesis 4 stated that there is no significant difference between teachers' perceptions of the support available from superiors to use media and other resources and their use of media. Using data gathered from teachers' use of media from the central media center (see tables 38 and 39), from their school library/media center (see tables 40 and 41), from their department or grade level collection (see tables 42 and 43), and from their classroom or personal collection (see tables 44 and 45) and from superiors to use media (higher support) and their use of media from the central media center, their grade level collections, and their classroom or personal collections. They

Table 38.--Central Media Contrasted with Support From Superiors to Use Media

	Use of Media From Central Media Center	Support From Superiors to Use Media	t-value	p
Elem.	2.76	3.12	3.96	.000*
Jr. High	2.51	2.95	3.19	.002*
Sr. High	2.29	2.54	1.64	.106
All	2.59	2.94	5.17	.000*

*$p < .05$.

Table 39.--Central Media Contrasted with Support From Superiors to Use Other Resources

	Use of Media From Central Media Center	Support From Superiors to Use Other Resources	t-value	p
Elem.	2.76	3.21	4.98	.000*
Jr. High	2.51	2.98	3.10	.003*
Sr. High	2.29	2.75	2.83	.006*
All	2.59	3.04	6.47	.000*

*$p < .05$.

indicated a significant difference in use of media from their school library/media center (higher use) and the support they felt they had from superiors to use media. Junior high teachers reported a significant difference in support from superiors (higher support) and their use of

Table 40.--School Library/Media Contrasted with Support From Superiors to Use Media

	Use of Media From School Library/Media Center	Support From Superiors to Use Media	t-value	p
Elem.	3.39	3.12	3.68	.000*
Jr. High	2.77	2.95	1.44	.155
Sr. High	2.56	2.54	0.21	.835
All	3.05	2.94	1.80	.074

*$p < .05$.

Table 41.--School Library/Media Contrasted with Support From Superiors to Use Other Resources

	Use of Media From School Library/Media	Support From Superiors to Use Other Resources	t-value	p
Elem.	3.37	3.21	2.45	.016*
Jr. High	2.77	2.98	1.63	.108
Sr. High	2.56	2.75	1.19	.240
All	3.05	3.04	0.05	.958

*$p < .05$.

media from the central media center. There was no significant difference in support from superiors and use of media from any other source for junior high teachers. Senior high teachers reported no significant difference in support and use of media from any source.

Table 42.--Grade Level or Department Collection Contrasted with Support From Superiors to Use Media

	Use of Media From Grade Level or Department Collection	Support From Superiors to Use Media	t-value	p
Elem.	2.34	3.12	6.49	.000*
Jr. High	2.98	2.95	0.20	.840
Sr. High	2.48	2.54	4.34	.732
All	2.52	2.94	4.98	.000*

*$p < .05$.

Table 43.--Grade Level or Department Collection Contrasted with Support From Superiors to Use Other Resources

	Use of Media From Grade Level or Department Collection	Support From Superiors to Use Other Resources	t-value	p
Elem.	2.34	3.21	7.31	.000*
Jr. High	2.98	2.98	0.00	1.000
Sr. High	2.48	2.75	1.55	.125
All	2.52	3.04	6.13	.000*

*$p < .05$.

Elementary teachers reported a significant difference in perceptions of support from superiors to use other resources (higher support) and their use of media from the

Table 44.--Classroom or Personal Collection Contrasted with Support From Superiors to Use Media

	Use of Media From Classroom or Personal Collection	Support From Superiors to Use Media	t-value	p
Elem.	2.81	3.12	3.14	.002*
Jr. High	2.77	2.95	1.30	.198
Sr. High	2.61	2.54	0.43	.668
All	2.75	2.94	2.60	.010*

*$p < .05$.

Table 45.--Classroom or Personal Collection Contrasted with Support From Superiors to Use Other Resources

	Use of Media From Classroom or Personal Collection	Support From Superiors to Use Other Media	t-value	p
Elem.	2.81	3.21	4.11	.000*
Jr. High	2.77	2.98	1.41	.163
Sr. High	2.61	2.75	0.76	.447
All	2.75	3.04	3.86	.000*

*$p < .05$.

central media center, their grade level collections, and their classroom or personal collections. They indicated a significant difference in the use of media from the school library/media center (higher use) and their support from

superiors to use other resources. Junior and senior high teachers indicated a significant difference in their perceptions of support from superiors to use other resources (higher support) and their use of media from the central media center. From all other sources, both junior and senior high teachers showed no significant differences.

An analysis of variance and post-hoc test used with question 19 and the three different levels of teaching, showed a significant difference in elementary and junior high teachers and senior high teachers. Elementary and junior high teachers felt there was a greater support from superiors to use media than did senior high teachers (see tables 46 and 47).

An analysis of variance and post-hoc test used with question 20 and the three different levels of teaching, showed a significant difference in the responses of elementary teachers to those of senior high teachers. Elementary teachers felt there was greater support from

Table 46.--Superiors' Support to Use Media

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	2	16.9188	8.4594	12.2237	.0000*
Within Groups	298	206.2307	.6920		
Total	300	223.1495			

*$p < .05$.

Table 47.--Duncan's Multiple Range Test Results

Mean	Group	Sr. High	Jr. High	Elem.
2.5417	Sr. High			
2.9571	Jr. High	*		
3.1258	Elem.	*		

* Denotes pairs of groups significantly different at the .05 level

superiors to use other resources (see tables 48 and 49).

Decision

Reject the null hypotheses that there is no significant difference in teachers' perception of the support available from superiors to use media and other resources and their use of media. There is a significant difference in elementary teachers' perceptions of the support they feel they have from superiors to use media and other resources (higher support) and their use of media from the central media center, from their grade level collections, and from their classroom or personal collections. There is a significant difference in elementary teachers use of media from their school library/media center (higher use) and the support they feel they have from superiors to use media and other resources. There is a significant difference in junior high teachers' perception of the support they feel they receive from superiors to use media

Table 48.--Superiors' Support to Use Other Resources

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	2	11.0372	5.5186	7.5020	.0007*
Within Groups	298	219.2153	.7356		
Total	300	230.2525			

*$p < .05$.

Table 49.--Duncan's Multiple Range Test Results

Mean	Group	Sr. High	Jr. High	Elem.
2.7500	Sr. High			
2.9857	Jr. High			
3.2138	Elem.	*		

* Denotes pairs of groups significantly different at the .05 level

and other resources (higher support) and their use of media from the central media center. There is a significant difference in the support senior high teachers feel they have from superiors to use other resources (higher support) and their use of media from the central media center.

Hypothesis 5

Hypothesis 5 stated that there is no significant difference in responses of teachers by grade level to

factors identified in earlier studies and those same factors today. Tables 50-57 present data gathered from questions 21-32 which were designed to address this part of the study. An analysis of variance across the three grade levels and post hoc test indicated a significant difference in teachers' responses as follows:

Table 50.--Materials Not Available From Central Media Center

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	2	5.6839	2.8419	5.0143	.0072*
Within Groups	298	168.8942	.5668		
Total	300	174.5781			

*$p < .05$.

Table 51.--Duncan's Multiple Range Test Results

Mean	Group	Elem.	Sr. High	Jr. High
1.9623	Elem.			
2.1944	Sr. High	*		
2.2714	Jr. High	*		

* Denotes pairs of groups significantly different at the .05 level

Table 52.--Few Commercially Produced Materials

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	2	3.0723	1.5362	2.1608	.0170
Within Groups	298	211.8513	.7109		
Total	300	214.9236			

*p < .05.

Table 53.--Duncan's Multiple Range Test Results

Mean	Group	Jr. High	Elem.	Sr. High
1.9143	Jr. High			
2.0566	Elem.			
2.2083	Sr. High	*		

* Denotes pairs of groups significantly different at the .05 level

Table 54.--Overload with Other Duties

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	2	3.1611	1.5805	2.1694	.0160
Within Groups	298	217.1114	.7286		
Total	300	220.2724			

*p < .05.

Table 55.--Duncan's Multiple Range Test Results

Mean	Group	Jr. High	Sr. High	Elem.
1.9714	Jr. High			
2.1528	Sr. High			
2.2264	Elem.	*		

* Denotes pairs of groups significantly different at the .05 level

Table 56.--Equipment Unreliable or Obsolete

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	2	6.7832	3.3916	4.4251	.0128*
Within Groups	298	228.3995	.7664		
Total	300	235.1827			

*p < .05.

Table 57.--Duncan's Multiple Range Test Results

Mean	Group	Sr. High	Elem.	Jr. High
1.9861	Sr. High			
2.2579	Elem.			
2.4143	Jr. High	*		

* Denotes pairs of groups significantly different at the .05 level

1. Junior and senior high teachers' responses were significantly different from elementary teachers' responses. Secondary teachers mean scores of 2.3 (junior high) and 2.2 (senior high) were significantly different from elementary teachers' score of 2.0. Elementary teachers felt a greater degree of satisfaction with the availability of materials from the central media center than did junior and senior high teachers.

2. Senior high teachers' mean score of 2.2 was significantly different from junior high responses at 2.0 when responding to availability of commercially produced materials. At 2.1 for elementary teachers, there was no significant difference between the responses of elementary and junior high teachers and between elementary and senior high. Senior high teachers, however, expressed more concern over the availability of materials from this source.

3. Elementary teachers' mean score of 2.2 was significantly higher than junior high teachers of 2.0 when asked about overload of duties as a deterrent to media use.

4. Junior high teachers and elementary teachers' mean scores of 2.4 and 2.3 were significantly higher than senior high teachers' scores of 2.0 when asked if equipment was unreliable or obsolete.

Decision

Reject the null hypothesis that there is no significant difference in factors identified in early

studies and those same factors today. In four examples, as indicated, there were significant differences in the responses of elementary, junior high, and senior high teachers.

CHAPTER V

CONCLUSIONS

In this study a survey questionnaire was used to gather information about factors affecting faculty use of media services. The subjects were a randomly selected sample of teachers from three levels of teaching; elementary, junior high, and senior high school. The selection was done using a computer program designed to generate random numbers.

The first part of the questionnaire was designed to provide demographic or quantitative data including number of years of teaching experience, amount of media training, and academic degrees.

The second part of the questionnaire asked respondents to indicate their perceptions of their use of media from all of the sources where teachers obtain media, the central media center, their school library/media centers, their grade level or department collection, and their classroom or personal collection. Teachers were asked to rank their perceptions of their use of media from each of these sources. Further, they were asked to provide the same ranking information to other questions such as use of other resources, perceptions of support from superiors, and

perceptions of their willingness to use media for their own professional development. Individual t-tests were used to compute differences in teacher use of media and their use of other resources; teacher use of media and their perception of support from superiors; and teacher use of media and their use of media for professional development. An analysis of variance was used to compare the responses of teachers by grade level to determine if there were differences in the responses of elementary, junior and senior high school teachers.

Finally, teachers were asked to respond to questions which indicated deterrents to the use of media which had been identified by earlier studies. Mean values indicated the perceptions of teachers today. Further, an analysis of variance was used to determine any significant difference between grade levels. Significance was set at a value of .05 or below. Anything above .05 was not considered significant.

Hypothesis 1 stated that there was no significant difference between teachers' use of media for instruction and their use of other resources. Questions 10-14 were used to gather data on teachers' perceptions of the frequency of their use of media and other resources. Responses at all grade levels indicated that there was a significant difference in teachers' use of media for instruction and their use of other resources. Teachers

felt they used media from the central media center, from their school library/media center, from their department of grade level collections, and from their personal or classroom collections, far more than they used other resources. These results indicated that teachers felt they used media as a resource significantly more than all other resources.

Hypothesis 2 stated that there is no significant difference between teachers' personal use of media at home and their use of media for instruction. Data from questions 10-13 and question 15 were used to gather information on teachers' perception of the frequency of their use of media for instruction and away from school. Teachers at all three levels reported significantly higher use of media for personal use than for use of media in instruction.

Hypothesis 3 stated that there was no significant difference in teachers' use of media for professional development and their use of media for instruction. Data from questions 10-13 and questions 16-18 were used to address this hypothesis. Elementary and junior high school teachers reported significantly higher use of media for instruciton than their use of media for their own professional development. Senior high teachers reported no significant difference.

Hypothesis 4 stated that there was no significant difference between teachers' perceptions of the support

available from their superiors to use media and other resources and their use of media. Data from questions 10-13 and questions 19 and 20 were used to gather information to address this hypothesis.

Elementary teachers reported feeling a significantly higher degree of support from superiors to use media and other resources than their use of media from the central media center, their department or grade level collection, and their personal or classroom collection. Their use of their school library/media center, however, was significantly higher than the support they felt they had from superiors to use media. There was a significant difference in junior high teachers' perceptions of the support they felt they received from superiors to use media and other resources (higher support) and their use of media from the central media center. There was a significant difference in the support senior high teachers felt they had from superiors to use other resources (higher support) and their use of media from the central media center.

Hypothesis 5 stated that there was no significant difference in responses of teachers by grade level to factors identified in earlier studies as deterrents to media use, and those same factors today. Questions 21-32 were used to address this hypothesis. Elementary teachers felt a greater degree of satisfaction with the availability of materials from the central media center than did junior

or senior high school teachers. Senior high school teachers expressed greater concern over the availability of materials from commercial sources. Elementary teachers expressed significantly high feelings of being overloaded with duties to the extent that it affected media use than did junior high teachers. Junior high and elementary teachers expressed significantly higher concern that media equipment was unreliable or obsolete than did senior high teachers.

Summary

The purpose of this study was to investigate current factors involved in teacher use of media in order to suggest policy concerning how media services are organized. Demographic data collected revealed that the largest percentage of teachers at all three levels; elementary, junior, and senior high, were teachers with ten or more years of experience and that 45.9% had advanced degrees. The greatest number of respondents at all levels had taken only one media course in college and indicated that the most helpful aspect of their media training had been help from others.

Data gathered from teachers' perceptions of their media use indicated that elementary teachers felt they used the central media center, their school library/media center, and media from their classroom or personal collection more than junior or senior high school teachers.

Teachers at all three levels used media from their school library/media center and from their classroom or personal collection more than they used media from the central media center. Junior high school teachers indicated the greatest use of media from the department collection. Senior high teachers showed the lowest use of media from all sources except media from the department collection. Senior high school teachers' used media from their department collection slightly more than elementary teachers.

Teachers at all levels revealed greater use of media than use of other resources. All indicated high use of media for personal entertainment, very little use of media for professional development, but very high degree of interest in taking courses by television. All indicated feeling a high degree of support from superiors to use media and other resources. Elementary teachers indicated the highest support from superiors to use media and other resources.

Of the deterrents to media use that had been identified by earlier studies (results from using media do not justify the time and effort required; difficulty in getting materials; unavailability of materials; materials dated or obsolete; lack of teacher knowledge of services, equipment, and materials; lack of knowledge or training in use of media; overload with other duties; difficulty in getting equipment; and equipment unreliable or obsolete), only four

showed a significant difference between grade levels. Elementary teachers felt there was more media available from the central media center than did junior or senior high teachers. Senior high teachers reported too few commercially produced materials for their grade level. Elementary teachers were significantly different from junior high teachers in their feelings of being overloaded with other duties to the extent that they did not feel they had time to use media. Elementary and junior high teachers were significantly different in their feelings that equipment was unreliable or obsolete than senior high teachers. Senior high teachers indicated a higher degree of satisfaction with media equipment.

Conclusions

Central media centers were established to help teachers gain access to media. Films had enormous teaching potential, but they were expensive. Media centers could buy films and circulate them throughout a school division, thus more teachers had access to a larger number of films.

Individual schools began building collections of other media. School library media centers housed transparencies, filmstrips, records, audiotapes, and other materials. Grade level and department collections also grew. English teachers, for example, kept the transparencies and audio-tapes that they used throughout the school year in a department collection. Individual teachers built their own

classroom collections usually of records, audiotapes, and transparencies. The closer the collection was to the individual teacher, the easier it was for the teacher to use when needed.

Video technology began to change some of that structure. Central media centers started buying the rights to transfer films to video tape and to duplicate video tapes so that more and more copies of a film could be available. Old fashioned 3/4" videotapes were replaced with 1/2" video tapes. The 1/2" videotape revolution began to sweep the consumer market and more and more households bought 1/2" video tape recorders. Films, once available only as 16mm films, now became available as 1/2" video tapes. Prices began to drop drastically resulting in many 1/2" video tapes which were no more expensive than filmstrips. These changes and the results of the study indicate a restructuring of the role of the central media center and the school library/media center. Policy makers are offered the following suggestions:

1. The role of the central media center is still an important one. Teachers depend on the media center for films and videotapes. In the future, as less use is made of films in favor of 1/2" videotapes, the role of the media center will change. The central media center will continue to serve as an important resource to schools. Their role will be to duplicate and distribute videotapes so that

schools can build individual collections. The media centers will still serve as the main clearing house for films and videotapes selected to support the curriculum, for division wide selection of equipment, and for training to support the use of media and other resources.

2. The role of the school library/media center will increase in importance. As more materials are housed in schools, the school library/media center will maintain that collection and provide training to teachers interested in using the materials.

3. Increased emphasis should be placed on building the collection of media available for secondary teachers, especially senior high school teachers.

4. Media are used far more than other resources by teachers at all levels because media have been organized for accessibility. There is no such organization available for other resources such as community speakers. One service the central media center, school library/media center, or other department might consider would be the organization of information on other resources that teachers could use in the classroom.

5. The role of superiors in supporting the use of media and other resources is an important one. Teachers at all levels indicated that they felt a high degree of support form their superiors in using media and other resources. Staff development programs for administrators

should stress the importance of this support and offer administrators guidelines in serving as role-models for using media and other resources.

6. Teachers at all levels indicated a high degree of willingness to take courses offered by television. Investigation should be made of this important medium for professional growth.

7. Staff development programs for secondary teachers should emphasize not only what resources are available but also how media and other resources can be used effectively.

Recommendations for Further Research

To limit the scope of the investigation, the role of computers and other high technology in schools was not considered. A complete look at the role of media in schools should include these important new technologies.

Individual teachers and schools differ in their use of media. Interviews of teachers who are high users of media and those who seldom use media would provide helpful data in determining a more complete picture of media use. Perceptions of teachers would also help clarify the role of the school library/media specialists in facilitating media use.

APPENDIX

FACTORS AFFECTING POLICY IN
EDUCATIONAL MEDIA SERVICES

This questionnaire has been designed to collect information about factors which influence the use of media in the classroom. Faculty are being contacted to assist with the study. Information from this questionnaire will remain strictly confidential. Please answer every question. Your input is crucial to the completion of this study. Questionnaires are to be returned to the Office of Planning, Assessment, and Resources Development by **JUNE 6, 1987.**

1.Highest degree earned:

_____ (4) Doctoral Degree
_____ (3) Certificate of Advanced Study (or equivalent)
_____ (2) Master's Degree
_____ (1) Bachelor's Degree

2.Total number of years of teaching:

_____ (5) 10 or more
_____ (4) 7-9
_____ (3) 4-6
_____ (2) 1-3
_____ (1) 0-1

3.Amount of media training in college:

_____ (4) 3 or more courses
_____ (3) 2 courses
_____ (2) 1 course
_____ (1) none

4.Most helpful aspect of your media training:

_____ (6) Academic courses
_____ (5) Noncollege credit course
_____ (4) Workshops
_____ (3) Personal help from others

_____ (2) Other
_____ (1) None

5.Check all resources you use from the central media center:

_____ (8) Transparencies
_____ (7) Films
_____ (6) Videotapes
_____ (5) Filmstrips
_____ (4) Slides
_____ (3) Kits
_____ (2) Audiotapes
_____ (1) Others (please specify)

6.Check all resources you use from your school library/ media center:

_____ (8) Transparencies
_____ (7) Videotapes
_____ (6) Filmstrips
_____ (5) Slides
_____ (4) Kits
_____ (3) Records
_____ (2) Audiotapes
_____ (1) Others (please specify)

7.Check all resources you use from your department or grade level:

_____ (8) Transparencies
_____ (7) Films
_____ (6) Filmstrips
_____ (5) Slides
_____ (4) Kits
_____ (3) Records
_____ (2) Audiotapes
_____ (1) Others (please specify)

8.Check all resources you use from your personal collection including media you have in your classroom or that you bring from home:

_____ (8) Transparencies
_____ (7) Videotapes
_____ (6) Filmstrips
_____ (5) Slides
_____ (4) Kits
_____ (3) Records
_____ (2) Audiotapes
_____ (1) Others (please specify)

9.Indicate which of the following you own:

_____ (10) Television
_____ (9) Video Recorder/Player
_____ (8) Video or Movie Camera
_____ (7) Stereo
_____ (6) Radio
_____ (5) Audiotape Recorder/Player
_____ (4) 35mm Camera
_____ (3) Slide Projector
_____ (2) Movie Projector
_____ (1) Other (please specify)

10.How would you categorize your use of media from the central media center:

_____ (4) One or more times a week
_____ (3) Once or twice a month
_____ (2) Once or twice a year
_____ (1) Never

11.How would you categorize your use of materials from your school library/media center:

_____ (4) One or more times a week
_____ (3) Once or twice a month
_____ (2) Once or twice a year
_____ (1) Never

12.Indicate your use of media from your department or grade level collection:

_____ (4) One or more times a week
_____ (3) Once or twice a month
_____ (2) Once or twice a year
_____ (1) Never

13.Indicate your use of media (in the classroom) from your personal collection including media you have in your classroom or that you bring from home:

_____ (4) One or more times a week
_____ (3) Once or twice a month
_____ (2) Once or twice a year
_____ (1) Never

14.Indicate your use of other resources in the classroom including central office personnel, outside speakers, consultants, volunteers, parents, and organizations in the community:

_____ (4) One or more times a week
_____ (3) Once or twice a month

_____ (2) Once or twice a year
_____ (1) Never

15.Indicate your personal use of media for entertainment (TV, movies, radios, audiotapes, records, videotapes and slides):

_____ (4) One or more times a week
_____ (3) Once or twice a month
_____ (2) Once or twice a year
_____ (1) Never

16.Indicate your use of audiotapes or videotapes for your own professional development:

_____ (4) One or more times a week
_____ (3) Once or twice a month
_____ (2) Once or twice a year
_____ (1) Never

17.Indicate your use of television or radio for taking a college credit course:

_____ (4) One or more times a week
_____ (3) Once or twice a month
_____ (2) Once or twice a year
_____ (1) Never

Indicate your reaction to the following:

18.I would take a college credit course, noncollege credit course, or workshop using television for recertification or professional development:

_____ (4) Strongly Agree
_____ (3) Agree
_____ (2) Disagree
_____ (1) Strongly Disagree

19.Rate the support and encouragement you receive from superiors for you to use media in the classroom:

_____ (4) Highly Supportive
_____ (3) Supportive
_____ (2) No Support
_____ (1) Discourages Use

20.Rate the support and encouragement you receive from superiors for you to use other resources in your classroom such as central office personnel, outside speakers, volunteers, and other community resources:

_____ (4) Highly Supportive
_____ (3) Supportive
_____ (2) No Support
_____ (1) Discourages Use

The following have been suggested as deterrents to the use of media in the classroom. Please rate each as it applies to your personal situation by checking the appropriate response. (check one on each item.)

21.I do not feel that the results from using media justify the required time and effort.

_____ (4) Strongly Agree
_____ (3) Agree
_____ (2) Disagree
_____ (1) Strongly Disagree

22.It is difficult for me to get material from the central media center when needed.

_____ (4) Strongly Agree
_____ (3) Agree
_____ (2) Disagree
_____ (1) Strongly Disagree

23.Materials I need are not available from the central media center.

_____ (4) Strongly Agree
_____ (3) Agree
_____ (2) Disagree
_____ (1) Strongly Disagree

24.Materials I need are not available in my school library/media center.

_____ (4) Strongly Agree
_____ (3) Agree
_____ (2) Disagree
_____ (1) Strongly Disagree

25.Materials I need are not available in my department or grade level.

_____ (4) Strongly Agree
_____ (3) Agree
_____ (2) Disagree
_____ (1) Strongly Disagree

26.There are few commercially produced materials appropriate for my grade level/subject.

_____ (4) Strongly Agree
_____ (3) Agree
_____ (2) Disagree
_____ (1) Strongly Disagree

27.Materials are dated or obsolete.

_____ (4) Strongly Agree
_____ (3) Agree
_____ (2) Disagree
_____ (1) Strongly Disagree

28.I lack knowledge concerning availability of media services, equipment, and materials.

_____ (4) Strongly Agree
_____ (3) Agree
_____ (2) Disagree
_____ (1) Strongly Disagree

29.I do not have the knowledge or training to use audio-visual media.

_____ (4) Strongly Agree
_____ (3) Agree
_____ (2) Disagree
_____ (1) Strongly Disagree

30.I am too overloaded with other duties to take on the task of using media.

_____ (4) Strongly Agree
_____ (3) Agree
_____ (2) Disagree
_____ (1) Strongly Disagree

31.It is difficult to get audiovisual equipment when needed.

_____ (4) Strongly Agree
_____ (3) Agree
_____ (2) Disagree
_____ (1) Strongly Disagree

32.Equipment is unreliable or obsolete.

_____ (4) Strongly Agree
_____ (3) Agree
_____ (2) Disagree
_____ (1) Strongly Disagree

BIBLIOGRAPHY

Blakely, R. J. The Use of Instructional Television in Adult Education: A Review of Some Recent Developments. Syracuse, N.Y.: Publications in Continuing Education, Syracuse University, 1974.

Borg, Walter R., and Meredith Damien Gall. Educational Research: An Introduction. 4th ed. New York: Longman, 1983.

Brown, James W., Richard B. Lewis, and Fred F. Harclerod. AV Instruction: Technology, Media, and Methods (4th ed.). New York: McGraw-Hill, 1973.

Brown, James W., and Kenneth D. Norberg. Administering Educational Media. New York: McGraw-Hill, 1965.

Campbell, Donald T., and Julian C. Stanley. "Experimental and Quasi-Experimental Design for Research on Teaching," Handbook of Research on Teaching. Chicago: Rand McNally, 1963.

Couch, W. H. "Factors Hindering the Development of Audio-Visual Programs." Master's thesis, Yale University, 1941.

Coursen, David. "Use of Instructional Media in the Schools." School Leadership Digest, 1976.

Cuban, Larry. Teachers and Machines: The Classroom Use of Technology Since 1920. New York: Teachers College Press, 1986.

DuMolin, J. R. Instructional Television Utilization in the United States. St. Louis: Washington University Press, 1971.

Edmonds, Ronald. "A Discussion of the Literature and Issues Related to Effective Schooling." Paper presented at the National Conference of Urban Education, St. Louis, Missouri, July 1978.

Education Commission of the States (ECS). Action for Excellence. Education Commission of the States, May 1983.

Engstrom, Kristina. A Guide to the Use of Technology in Basic Skills Education. Belmont, Mass.: CRC Education and Human Development, Inc., 1981.

Erickson, Carlton, W. H. Administering Instructional Media Programs. New York: Macmillan, 1968.

Gardner, David P. "The Imperative for Educational Reform." Report of the National Commission on Excellence in Education. Washington, D.C.: Government Printing Office, April 1982.

Gavette, J. O. "An Investigation of Mississippi Teachers' Attitudes Toward the Use of Educational Media Equipment and Material.

Gay, L. R. Educational Research: Competencies for Analysis and Application. Columbus, Ohio: Charles E. Merrill, 1976.

Goodlad, John I. A Place Called School. New York: McGraw-Hill, 1983.

Harty, Harry and others. Program Analysis for State and Local Government. Washington, D.C.: The Urban Institute, 1976.

Hilliard, Robert L., and Hyman H. Field. Television and the Teachers. Communication Arts Books, Hastings House Publications, 1976.

Hyler, A. L. "A Study of Possible Deterrents to the Use of Motion Pictures Within a School System Where Films and Facilities for Use are Provided." Ph.D. dissertation, Purdue University, 1983.

Larry, Jesolyn F. "Factors Affecting Faculty Utilization of Audio-Visual Services at Purdue University: An Assessment" Ph.D. dissertation, Purdue University, 1983.

Lezotte, Lawrence W. "Characteristics of Effective Schools and Programs for Realizing Them." Citizen Action in Education IX (June 1982): 10-11.

McPhail, J. H. "An Investigation of Teachers' Attitudes Toward the Use of Audio-Visual Materials and Equipment." Report for the Mississippi School Study Council, 1968.

Meiser, R. O. "Exploration of Factors Affecting the Utilization of Audio-Visual Materials." Ph.D. dissertation, Indiana University, 1952.

Mitzel, Harold E., ed. Encyclopedia of Educational Research. 5th ed. New York: The Free Press, 1983.

National Science Foundation. Educating Americans for the 21st Century. Washington, D.C.: National Science Foundation, 1983.

Newman, J. A. Television in the Classroom: What the Research Says. (ERIC Document Reproduction Service No. ED 206 263), 1981.

Nie, Norman K. and others. Statistical Package for the Social Sciences (SPSS). 2nd ed. New York: McGraw-Hill, 1975.

Procter, Leonard F. "Student Teacher Utilization of Instructional Media." Ph.D. dissertation, Indiana University, 1983.

Riccobono, John A. School Utilization Study: Availability, Use and Support of Instructional Media. 1982-83 Final Report. Washington, D.C.: Corporation for Public Broadcasting, 1985.

Smith, Carl B., and Gary M. Ingersoll. "Audio-Visual Materials in U.S. Schools: A National Survey on Availability and Use." Educational Technology (September 1984).

Spady, William G., and Gary Marx. Excellence in our Schools: Making It Happen. Arlington, Va. and San Francisco, Cal.: American Association of School Administrators (AASA), and the Far West Laboratory, 1984.

Wiersma, William. Research Methods in Education: An Introduction. 3rd ed. Ithasca, Ill.: F. E. Peacock, 1980.

Wilkinson, Gene L. Media in Instruction: 60 Years of Research. Washington, D.C.: Association for Educational Communications and Technology, 1980.

Winn, William. "Why Media?" Instructional Innovator, February, 1984, 31-32.

Wittich, Walter A., and Charles F. Schuller. Instructional Technology: Its Nature and Use. 5th ed. New York: Harper and Row, 1973.

Wittrock, Merlin C., ed. Handbook of Research on Teaching. 3rd ed. New York: Macmillan, 1986.

AUTOBIOGRAPHICAL STATEMENT

Diane S. Barker was born in Norfolk, Virginia, on March 31, 1943. She attended Longwood College and Old Dominion University, where she received a Bachelor of Science degree, magna cum laude, in Education in 1974 and a Master of Science degree in Education, with a concentration in Library/Media, in 1976.

She was a librarian at Princess Anne High School in Virginia Beach, Virginia, from 1977-1980; a media specialist with the Virginia Beach City Public Schools Educational Media Center, from 1980-1984; and from 1984 to the present, she has been a staff development specialist with the Virginia Beach City Public Schools, Curriculum and Staff Development Service Office.