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# SELECTED FACTORS INFLUENCING THE USE OF INSTRUCTIONAL MEDIA BY MALE FACULTY MEMBERS AT THE COLLEGES OF EDUCATION IN SAUDI ARABIAN UNIVERSITIES

By

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A DISSERTATION

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Submitted to Michigan State University in partial fulfillment of the requirements for the degree of .

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DOCTOR OF PHILOSOPHY

Department of Counseling, Educational Psychology, and Special Education

# ABSTRACT

# SELECTED FACTORS INFLUENCING THE USE OF INSTRUCTIONAL MEDIA BY MALE FACULTY MEMBERS AT THE COLLEGES OF EDUCATION IN SAUDI ARABIAN UNIVERSITIES

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#### Purpose

The major purpose of the study was to determine the influence of selected individual and institutional factors on the frequency of instructional media use by male faculty members at the colleges of education in Saudi Arabian universities.

#### Procedure

Data for the study were collected by the survey method using a questionnaire. Of 558 questionnaires distributed, 467 or 83.7% were returned completed and used in data analysis. Statistical procedures used in data analysis included descriptive statistics, one-way analysis of variance, Pearson coefficients, and multiple regression.

#### Findings

- 1. There has been a low rate of instructional media utilization by faculty members.
- 2. There were no significant differences among the colleges surveyed concerning frequency of media use by faculty members.

- 3. Other than educational media and Islamic studies, academic fields did not yield significant differences concerning the frequency of media use by faculty members.
- 4. Significant positive correlations were found between media use and each of the following factors: (a) years of teaching experience, (b) attitude toward media, (c) previous media training, (d) perception of administrative support for media use, and (e) amount of information faculty receive about media resources.
- 5. A significant negative correlation was found between frequency of media use and perceived deterrents to media utilization.
- 6. No significant correlation was found between attitude toward media and perceived deterrents to media use.
- 7. A significant relationship was found between frequency of media use and the independent variables taken together.
- 8. Major deterrents to media utilization were related to: (a) improperly designed classrooms for media use, (b) more time is needed to prepare for class using media, (c) lack of information about media, (d) difficulty of obtaining media when needed, (e) inefficient or lack of communication between media staff and faculty members, (f) inadequate training, (g) shortage of media materials and equipment, (h) heavy teaching load, (i) materials not organized for easy reference and use, and (j) difficulty of obtaining assistance in selecting media.

## Major Conclusion

Frequency of instructional media use tends to be higher among faculty who

have one or more of the following characteristics:

- 1. a greater number of years of teaching experience,
- 2. more favorable attitude toward instructional media,
- 3. media training,
- 4. more favorable perception of administrative support for media utilization,
- 5. more information about media resources, and
- 6. perceive fewer deterrents to media use.

# DEDICATION

# To my mother, my brothers and sisters, and my wife and children

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#### CHAPTER I

#### THE PROBLEM

#### Introduction

As a developing country, the Kingdom of Saudi Arabia has felt an urgent need for education as a means for social, cultural, and economic development. The Third Development Plan (1980-85) stated that "the development of Saudi human resources stands at the heart of the development process" and that the Plan "aims at the formulation of policies necessary for the development of these human assets" (Ministry of Planning, 1980, p. 287). The recognition of this need, coupled with a strong commitment on the part of the Saudi government to quicken the pace of educational development, having available at her disposal adequate financial resources, have played a remarkable role in developing the country's educational system. As a result of state support, this system has witnessed a period of vast and rapid growth in recent years. Presently, the Saudi educational system is highly diversified, with more varied educational training opportunities available than during any time in the history of Saudi education.

The present study investigates the use of instructional media by male faculty members at the six colleges of education presently existing in Saudi Arabian universities in an attempt to identify the factors influencing such use.

The beginning of organized instructional media services in Saudi Arabia dates back to 1954 when an audiovisual section was established at the Ministry of Education. In 1964, this section was expanded into the Department of Educational Aids and Science Laboratories. Presently, the Department of Educational Materials assumes the responsibility of providing boys' public schools with their

needs in instructional media resources. However, until 1973, these schools received limited media supplies (Abu Ras, 1979). Further, Bakri (1983) and Abu Ras found limited utilization of instructional media in public schools due to lack of media resources and inadequate training on the part of teachers.

The realization of the potential of instructional media in Saudi higher education was evident when educational technology centers came into existence in Saudi universities during the early 1970s. During that period, King Abdulaziz University established two educational technology centers, one at the Jeddah campus and the other at the college of education in Mekkah (Hafiz, 1976). Recently, the college in Mekkah became part of Umm Al-Qura University. Similarly, King Saud University established an educational technology center at the College of Education in Riyadh during the early 1970s. The major objectives of the centers in Mekkah and Riyadh are (a) to provide instructional media courses and training for students; (b) to provide media equipment, materials, and facilities for faculty and students; (c) to provide technical assistance in the use of instructional media; (d) to transmit live lectures to female students via closed-circuit television; and (e) to videotape university activities and ceremonies (Hafiz, 1976, pp. 151, 156-7). Recognition of the importance of instructional media was further demonstrated when King Saud, King Abdulaziz, and King Faisal Universities established media centers at their colleges of education in Abha, Medina, and Hufof, respectively. These centers work toward objectives similar to those mentioned above.

Since their inception, these educational technology centers have been playing a considerable role in providing college education for females via closedcircuit television. This situation is unique to Saudi Arabia whose religious traditions require that females be taught by female instructors but who has a shortage of those instructors at the college level, while having an increased

demand for college education by Saudi women. However, regardless of the success of educational technology centers in this area, their influence on teaching methods and styles of instruction at the colleges of education where they exist is minimal. Traditional teaching methodology which relies on a combination of lecture, discussion, and print materials still characterizes instruction at these colleges to a large extent. Al-Ismaeel (1981) criticized teacher-training institutions and colleges for their heavy reliance on lecture methods in the preparation of public school teachers, stating, "A major deficiency of the Saudi Arabian educational system is the lack of preparation on the part of the teachers for the effective utilization of a variety of teaching skills and styles of instruction. Major emphasis is placed on the methods of lectures and discussions..." (p. 5). He added:

Despite marked progress within the educational system, the quality of the curriculum offerings and methods of instruction present serious problems due to their lack of diversity. Presently, teaching methods do not encourage students to seek answers to questions by consulting a variety of resources. (p. 11)

Issa-Fullata (1982) blames the curriculum of teacher training programs in Saudi Arabia for being "insufficiently modernized and not well developed" (p. 51). He also adds that teacher training institutions "are not able to provide the number of teachers needed either in quantity or in quality" (p. 49), that "modern instructional technology software, hardware, and the process of instruction . . . are not utilized well in Saudi Arabian schools" (p. 49), and that "appropriate instructional media in Saudi higher education are in very short supply and utilization" (p. 104).

Nyrop et al. (1977) described instruction in Saudi Arabian schools, stating,

Despite marked progress in the development and provision of curricula, Saudi education generally has been criticized for the quality of instruction which observers believe adversely influences the student. Instruction at all levels emphasizes rote learning and memorization of assigned readings. (pp. 111-2)

Shaker (1980), who worked at the Educational Research Center (ERC) at the College of Education, King Saud University, argued for a wider application of instructional media in Saudi education. He presented his argument when he discussed a proposal of introducing computer assisted instruction (CAI) in Saudi schools:

Researchers at the ERC saw this proposal as having considerable promise. First, Saudi Arabia is caught in a chronic teacher shortage and judicious automation of some aspects of instruction would be helpful. Secondly, as befits a traditional society, instructional methodology tends to be traditional with special reliance on rote and recitation. Educational technology is widely perceived in Riyadh as a means to fruitfully vary the tenor of instruction. (p. 10)

However, this proposal was not approved. Shaker continued:

To the frustration of some, this project was not approved. The college of education's council (made up largely of department heads) rejected it after study . . . It remains the opinion of this observer that, good intentions aside, a valuable opportunity was missed and that CAI has a place in Saudi education. (p. II)

The emphasis being given to traditional teaching methods in Saudi education, generally, has its roots in a profound tradition, a tradition which highly values the teacher as the sole source of information. Within such a context of tradition, alternative means of instruction (i.e., instructional media) have received little attention. Traditions, according to Gooler (1978-79) present an obstacle to instructional development in developing nations because traditions "carry with them certain assumptions about how education is most effectively conducted, how people learn, and what is important to learn" (p. 10).

In this vein, Abu Ras (1979), a former supervisor of the Educational Materials Department at the Ministry of Education, wrote:

The traditions of the long history of Islamic education which stressed the paramount role of the teacher, form a substantial part of Saudi Arabia's inheritance from the past. Therefore, teachers and students alike have traditionally interacted in an atmosphere of unchallenged teacher authority. The teacher has been and is still viewed as the ultimate and unquestioned source of information. (p. 1) He added:

The introduction of new learning materials and techniques, i.e., the use of "educational technology," has been extremely difficult because these innovations often disrupt and potentially threaten the teacher's traditional role. This conflict is partially due to the insufficient training of teachers in the use of the newer media and methods as a supplement to the traditional methods. (p. 1)

The above paragraphs indicate the need for improving methods of instruction in Saudi schools in general and in teacher training programs in particular. Not only do these methods lack diversity, but they also encourage students' passivity. While there are many approaches for improving instruction, the researcher believes, based on research in media, that special consideration should be given to proper utilizations of instructional media as a means of improving the effectiveness and efficiency of teaching and learning in Saudi education.

Until recently, the issue of improving the quality of instruction in Saudi Arabia has been given insufficient attention due to the pressing need for infrastructure. This issue must now be given priority as the Third Development Plan (1980-85) explains:

Pressures for physical development of the system have impeded adequate qualitative improvement of instruction . . . Qualitative improvement has been given insufficient attention in the past decade . . . This issue must now be given priority considering the fact that measures to improve quality takes several years to take roots. (Ministry of Planning, 1980, p. 289)

Further, the Plan recognizes the role of instructional media in efforts directed toward improving the quality of instruction in Saudi schools:

Present conditions, thus, reflect certain opportunities for improvement in qualitative programs, particularly in implementation of major development project such as an educational technology center, educational television, and multi-purpose classrooms. (p. 293)

The problem of limited utilization of instructional media in Saudi higher education in general and colleges of education in particular can become more significant for two reasons. First, colleges of education in Saudi Arabia are teacher training institutions which primarily aim at preparing intermediate and secondary school teachers in the country. The point to be made in this regard is the researcher's belief that the emphasis being given to conventional instructional methodology with special reliance on lecturing and textbook has a direct influence on teaching styles of prospective intermediate and secondary school teachers. As Moore and Hunt (1980) state:

Teacher educators may have created a feeling of resistance in their own teacher trainees for the use of instructional technology for several reasons: (1) many do not properly train new teachers in the use of technologies in their own classrooms, and (2) they may not be good examples themselves in demonstrating good teaching techniques and proper use of media in their own classrooms. The old cliche "teachers teach as they are taught" may be even more valid when the use of media is concerned. (pp. 43-44)

In their report "Education in Saudi Arabia: Findings, Recommendations, and Proposed Projects," Egbert and Khan (1974) described teaching methods in Saudi public schools.

Teaching is almost entirely verbal with the teacher always in strict control. Learning, in short, is totally teacher-dependent. Teachers tend to give short lectures followed by factual convergent question/answer periods or give lectures interspersed with questions requiring one-word answers. (pp. 4-6)

Al-Ismaeel (1981) pointed to the effect that the traditional instruction

employed by teachers at colleges of education in Saudi universities has on

secondary school teaching styles. He stated:

Social studies teachers in Saudi Arabia at the secondary level have become dependent upon the strategies of lectures and discussions as a result of the encouragement given these strategies by the colleges and universities in Saudi Arabia. Discussion and lecture strategies represent the basic teaching strategies presented to prospective teachers in Saudi Arabia. (pp. 5-6)

The second reason is related to the low proportion of Saudi faculty members in higher education as compared to foreign faculty members. The Directorate General for the Development of Higher Education (1980) indicated that the increasing demand for higher education in Saudi Arabia has made staffing a serious situation:

The rapid expansion of higher education during the decade 1970-80 has made staffing the most difficult problem for the authority... There is a heavy preponderance of foreign teachers in the Kingdom. The authorities have been legitimately concerned about this serious situation. (pp. 59-60)

The Directorate indicated that in 1979-80 the Saudis comprised only 33.6% of the total teaching staff working in all Saudi universities and colleges (p. 60).

One of the alternatives to deal with staffing difficulty in Saudi universities according to the Third Development Plan was to increase the number of students per faculty member (Ministry of Planning, 1980). This is a situation in which instructional media can hardly be overlooked.

During the late 1950s and early to mid-1960s when a shortage in faculty was expected in colleges and universities in the United States of America, instructional media was seen as a means of spreading education over a larger number of college students (Carnegie Commission, 1972). As cited by Stephens (1971), Ely (1968) described the difficulties which faced American higher education during the 1960s and the role of instructional technology in coping with these difficulties. He stated:

Many of the problems which have confronted elementary and secondary education over the past decade have transformed their focus to institutions of higher education. A quick review of the problems will help to show why instructional technology is being considered more seriously today by college administrators than ever before:

- I. an increasing student population,
- 2. a decreasing availability of faculty,
- 3. an increasing concern for the quality of instruction, and
- 4. a shortage of funds. (p. l)

In fact, many developing countries which face similar situations have seen instructional media as a means of reaching a greater number of students equally, of upgrading education, and of quickening the pace of instructional improvements (Schramm, 1977).

#### Statement of the Problem

The fact that instructional media resources have been introduced into colleges of education in Saudi Arabian universities does not necessarily assure their acceptance and utilization. Indeed, these resources have been introduced into these colleges without adequate consideration of the individual and institutional factors which encourage or discourage faculty use of instructional media. The mode of instruction at these colleges is still largely traditional with heavy reliance on the lecture method and print materials. Conversely, utilization of instructional media as an alternate means of instruction is limited and far from challenging the prevailing, conventional teaching method. This method is criticized for its "lack of diversity" (Al-Ismaeel, 1981, p. 11) as well as its encouragement of students' passivity. "Students reportedly show little curiosity, initiative, or critical ability ... " (Nyrop, 1977, p. 112). Further, as the colleges of education are teacher training institutions, the traditional teaching methodology emphasized at them has a direct influence on teaching styles employed in public schools by their graduates.

Based on research evidence, this researcher believes that proper utilization and integration of instructional media into teaching methods at colleges of education in Saudi universities can help improve the effectiveness and efficiency of instruction at these colleges. However, in order to encourage the use of instructional media, an investigation of the factors influencing such use is needed. It is to the investigation of selected individual and institutional factors related to media use by male faculty members at the colleges of education in

Saudi universities that this study was conducted.

#### Purpose of the Study

The study was designed to:

1

- 1. determine the extent to which instructional media are being used by male faculty members at the colleges of education in Saudi Arabian universities and the nature of the media used for instruction; and
- 2. determine the factors which influence the use of instructional media by male faculty members at the colleges of education in Saudi Arabian universities. More specifically, the study was designed to examine the relationship between the frequency of instructional media use by faculty members and each of the following factors:
  - a. faculty academic field of specialization,
  - b. faculty teaching experience,
  - c. faculty attitude toward instructional media,
  - d. faculty previous media training,
  - e. faculty perception of administrative support for media utilization,
  - f. amount of information faculty receive about instructional media, and
  - g. faculty perception of deterrents to media use.

#### Importance of the Study

This study is important and needed for a number of reasons. First, while the topic of instructional media utilization and factors affecting faculty use of media in colleges and universities in the United States and elsewhere have been investigated by many researchers, research about the use of instructional media in Saudi Arabian education in general and higher education in particular is very scarce. Perhaps of more importance is that no prior study about factors related to the use of instructional media by male faculty members at colleges of education in Saudi universities has been conducted. To confirm that statement, an updated list of all doctoral and Master's theses done by Saudi students majoring in education in the United States was obtained from the Saudi Arabian Educational Mission in Houston, Texas. In addition, a list of doctoral and Master's research in Saudi education was obtained from the Educational Research Center at the College of Education, King Saud University. Further, a computer search about education in Saudi Arabia was performed through the ERIC at Michigan State University. Regarding this scarcity of research in instructional media in the Kingdom, Moshaikeh (1982) states that "there is almost no research in instructional media use in Saudi Arabia" (p. 40). Therefore, among his recommendations. Moshaikeh stressed the need for carrying out research in the use of instructional media in the country when he said, "there are growing needs for more research examining the use of instructional media at all levels of education in Saudi Arabia and more importantly in teacher training institutes" (p. 41). In this sense, the present study is not only a response to the scarcity of media research in Saudi education, but also an attempt to provide scientifically derived baseline data about media use at an educational level that has not been investigated.

Second, a review of literature related to change in education reveals that successful implementation of instructional innovations requires, among other things, a particular attention to the forces facilitating and those hindering a certain innovation. Ignorance of such forces may lead a promising innovation to failure. Within this general framework, a number of studies examined the factors influencing the use of instructional media by college and university teachers (e.g., Hubbard, 1960; McIntyre, 1963; Stephens, 1971; among others). The results of these studies indicate that there are many reasons behind faculty resistance to the use of instructional media and that the identification of such reasons is the first important step in any effort concerned with optimizing utilization of instructional media in higher education. In this vein, this study is needed to provide data bout the factors influencing media use at the male colleges of education in Saudi universities. By identifying these factors, this researcher believes that educational leaders in the country's higher education system, particularly those concerned with the improvement of instruction at teacher training institutions, will be in a better position to plan, design, develop, and implement instructional media support systems. Therefore, the study's findings can be valuable and beneficial to many individuals in Saudi higher education. Among these individuals are the following:

- 1. deans of all male colleges of education in Saudi universities,
- 2. heads of academic departments at these colleges,
- 3. directors of instructional media centers and media staff at these colleges, and
- 4. various educators at the Directorate General for the Development of Higher Education in the Ministry of Higher Education in the country.

Third, many writers have addressed the problems of instructional media in developing countries. Hurst (1980) discussed such problems in his article "Educational Technology in the Middle East," focusing on such countries as Saudi Arabia, Kuwait, Iran, and others. The most pressing problems or factors of frustration, according to Hurst, are the hardware/software shortage, the shortage in utilization skills, and the lack of evaluation studies. While the present study is not evaluative in focus, it certainly sheds light on the present level of media use at colleges of education in Saudi universities as well as on the factors affecting such use, thus providing data necessary for future action. Finally, the study may serve as a model or guideline for other studies undertaken to investigate the use of instructional media at other colleges in Saudi universities.

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#### Generalizability of the Study

The study findings can be generalized to male faculty members who teach at the male colleges of education in Saudi Arabia universities.

#### Framework for the Study

As indicated previously, this study focuses on factors related to the use of instructional media by male faculty members at colleges of education in Saudi Arabian universities. To put it into perspective, the study is based on models of diffusion of instructional innovations. While there exist a number of change or innovation models, Abedor and Sachs' (1978) model, "Readiness for Instructional Innovation in Higher Education," which has addressed the factors affecting the adoption of innovation in higher education, provides a useful general framework for the study. In their model, the authors have attempted to shed light on the relationship between the concepts of faculty development (FD), organizational development (OD), and instructional development (ID) which have drawn the attention of many educators in recent years. To explain that relationship, the authors emphasize what they call "readiness for innovation."

### **Readiness for Innovation**

This concept is defined as the "critical combination of characteristics prerequisite to the adoption of an innovation" (p. 5). There are two types of characteristics which affect the adoption of an innovation: individual and organizational characteristics. A combination of individual characteristics contributes to the readiness of an individual for innovation, a combination of

organizational characteristics contributes to the readiness of the organization for innovation, and a combination of the individual and organizational characteristics contributes to the overall readiness for innovation.

Individual readiness is a combination of the following characteristics:

- --attitudes which are positive toward self, teaching, and change
- --values that place importance on teaching and student learning
- --beliefs that instructional improvement is possible and worthwhile
- --skills in organizing and delivering information
- --knowledge of subject matter, innovations, and teaching methods and strategies

Organizational readiness is a combination of the following characteristics:

- --structure which allows open and free communication
- --rewards for teaching and related activities
- --norms to support innovations
- --resources to support innovations
- --policies that permit trial of innovations

The overall readiness is the total combination of prerequisites composed of the individual and organizational characteristics which must be present to facilitate the adoption of a particular innovation. Thus, in order for an innovation to be successfully adopted, both the individual and organization should be ready. The level of readiness needed depends on the innovation itself. Innovations which require a greater departure of the status quo require a greater level of readiness. Thus, innovations which are more likely to be adopted are those which bring change consistent with the existing level of readiness. FD and OD activities can be conducted to increase the level of individual and organizational readiness respectively. That is, if an innovation requires certain levels of individual and/or organizational readiness which do not exist, then FD and/or OD activities are needed to provide readiness for innovation produced by

ID. Figure I shows a framework for the study.



Figure I: Framework for the study: factors in media utilization.

As may be seen, this framework suggests that faculty members' use of instructional media is a function of a combination of individual and institutional factors. Some of these factors were based on Abedor and Sachs' model of readiness for innovation, while others were based on previous media studies. Specifically, the individual factors related to attitudes toward instructional media and previous media training were inspired by certain aspects of individual readiness in the model. Similarly, the institutional factors related to administrative support for media utilization and information dissemination about instructional media were based on certain aspects of the model's concept of organizational readiness for innovation.

According to the model, individual readiness for an innovation requires, among other things, a positive attitude toward innovation. Thus, it is hypothesized in this study that the frequency of instructional media use by faculty will be related to their attitude toward instructional media. Research hypothesis number 4 and section C of the questionnaire deal with faculty attitude toward instructional media. In addition, the model indicates that faculty with skills and knowledge about an innovation are more likely to adopt it than those who lack these characteristics. Therefore, it is hypothesized in this study that the frequency of instructional media use by faculty will be related to their previous media training. Research hypothesis number 5 and section D of the questionnaire deal with faculty previous media training and media skills.

Further, the model indicates that for an innovation to be successfully adopted, the organization itself should be ready. That is, policies, rewards, and resources should be provided to support an innovation. Based on this proposition, it is hypothesized in this study that the frequency of instructional media use by faculty will be related to their perception of college administrative support of Research hypothesis number 6 and section E of the media utilization. questionnaire deal with faculty perception of administrative support. This section is composed of items related to rewards (item #5), policy (item #10), and resources (items #1, 2, 3, 4, 6, 7, 8, 9). In addition, the model indicates that the organizational structure should allow open and free communication in order for faculty to become aware of potential benefits of an innovation and obtain accurate information about it. Since communication is a function of information exchange and related literature including the model point to the importance of information as an element in the diffusion of an innovation, it is hypothesized that the frequency of instructional media use by faculty will be related to the amount of information they receive about instructional media. Research hypothesis number 7 and section F of the questionnaire deal with information

sources and amount of information which faculty receive about instructional media.

In addition, other factors in media utilization have been inspired by previous media studies. They include faculty academic field of specialization and teaching experience as individual factors and perceived deterrents to media utilization which are related to both individual and institutional factors. Research hypotheses number 2, 3, and 8 deal with these factors, respectively. Section F of the questionnaire contained 18 statements representing various types of deterrents to media use. Statements number 2, 3, 5, 11, 13, 15, and 17 represent deterrents related to individual faculty members, while statements number 1, 4, 6, 7, 8, 9, 10, 12, 14, 16, and 18 represent institutional constraints.

Finally, since the model suggests that it is the critical combination of individual and organizational characteristics that affect the adoption of an innovation, it is hypothesized in this study that when taken together, the individual and institutional factors (independent variables) included in the study will contribute to the variation in the frequency of instructional media use. Research hypothesis number 10 deals with this concern.

### **Research Questions**

This study was directed toward the investigation of selected factors related to the use of instructional media by male faculty members at the colleges of education in Saudi Arabian universities. More specifically, the study attempted to answer the following research questions.

- 1. What is the extent of use of instructional media by male faculty members at the male colleges of education in Saudi Arabian universities?
- 2. Are there significant differences among the colleges concerning the frequency of instructional media use by faculty members?

- 3. What is the relationship between the frequency of instructional media use (dependent variable) and each of the following factors (independent variables): (a) academic field, (b) teaching experience, (c) attitude toward media, (d) previous media training, (e) perception of college administrative support, (f) amount of information about instructional media, and (g) perception of deterrents to media use?
- 4. Is faculty attitude toward instructional media related to their perception of deterrents to media use?
- 5. What is the relationship between frequency of instructional media use and the combined independent variables?

#### **Research Hypotheses**

To answer the above research questions, the following research hypotheses were tested. (Hypothesis number I is related to research question number 2, hypotheses 2 through 8 are related to research question number 3, hypothesis number 9 is related to research question number 4, and hypothesis number 10 is related to research question number 5).

- I. The frequency of instructional media use by faculty members will vary from one college to another.
- 2. The frequency of instructional media use by faculty members will vary from one academic field to another.
- 3. The frequency of instructional media use by faculty members will be related to their years of teaching experience.
- 4. There will be a positive correlation between the frequency of instructional media use by faculty and their attitude toward instructional media.
- 5. There will be a positive correlation between the frequency of instructional media use by faculty and their previous media training.
- 6. There will be a positive correlation between the frequency of instructional media use by faculty and their perception of college administrative support for media utilization.
- 7. There will be a positive correlation between the frequency of instructional media use by faculty and the amount of information they receive about instructional media.

- 8. The frequency of instructional media use by faculty will be related to their perception of deterrents to media use.
- 9. Faculty attitude toward instructional media will be related to their perception of deterrents to media use.
- 10. There will be a positive relationship between the frequency of instructional media use and the combined independent variables.

#### Limitations of the Study

This study had the following limitations.

- 1. It did not examine the qualitative use of instructional media by male faculty members at the colleges of education in Saudi universities.
- 2. It did not examine the use of instructional media by female faculty members at the colleges surveyed.
- 3. It did not investigate the effect of using instructional media on students' learning.
- 4. It did not investigate students' attitudes toward instructional media.
- 5. The data for the study were obtained by means of the questionnaire method and the conclusions are based on such data. Thus, the study is limited to the extent that such a method yields accurate and honest responses.

# **Definition of Terms**

<u>Academic fields</u>. For the purpose of the study, academic fields are categorized as follows (a) educational studies (education, curriculum and instruction, educational psychology, physical education, art education, educational administration, and vocational education); (b) educational media; (c) mathematics; (d) Islamic studies; (e) science studies (physics, chemistry, and biology); (f) social studies (history and geography); and (g) language studies (Arabic and English). <u>Attitude</u>. This term is defined as the internal state (mental and/or emotional) of faculty members which affect their position (negatively or positively) toward instructional media (Stephens, 1971).

<u>Deterrent</u>. This refers to any factor (physical, mental, or attitudinal) that interferes with faculty use of instructional media (Stephens, 1971).

<u>Educational technology center</u>. Also referred to as an educational media center, this is an area, room, or department allocated more or less to the following functions related to educational media: consultation, production, storage, maintenance, and distribution.

<u>Faculty development</u>. Faculty development is the process of enhancing the talents, expanding the interests, improving the competence, and otherwise facilitating the professional and personal growth of faculty members, particularly in their roles as instructors (Gaff, 1975).

<u>Faculty or faculty members</u>. These are the men assigned to teaching positions at the male colleges of education in Saudi Arabian universities.

<u>Higher education</u>. As used in this study, higher education refers to university education.

<u>Instructional development (ID)</u>. This is a systemic design, development, implementation, and evaluation of instructional materials, lessons, courses, or curricula employed to improve teaching and learning (Abedor & Sachs, 1978).

Instructional innovation. Also referred to as educational innovation, this is an instructional idea, technique, content, or process which is new to the adopting individual or group (Abedor & Sachs, 1978).

<u>Instructional media</u>. Also referred to as educational media and audiovisual media, this term refers to materials and equipment used in instruction that does not exclusively depend upon printed word to convey meaning. It includes motion pictures, video and audio tape recordings, graphic materials, overhead transparencies, opaque materials, programmed materials, slides, filmstrips, etc., and associated equipment.

Instructional technology. Also referred to as educational technology, this is a complex, integrated process involving people, procedures, ideas, devices, and organization for analyzing problems and devising, implementing, evaluating, and managing solutions to those problems in situations in which learning is purposive and controlled (AECT, 1979).

<u>Organizational development</u>. This term describes an effort to create a more effective environment for teaching and learning, to improve interpersonal relationships, to enhance team functioning, and to create policies that support effective teaching and learning (Gaff, 1975).

<u>Teaching experience</u>. As used in this study, teaching experience refers to the number of years spent in university teaching.

<u>Traditional teaching method</u>. Also referred to as conventional teaching, traditional or conventional instruction, etc., is a teaching method which mainly relies on face-to-face lecturing, discussion, and print materials.

#### Summary

The realization of the potential of instructional media in Saudi higher education in general and in teacher training institutions in particular was apparent when educational technology or media centers were established at colleges of education in Saudi universities during the past decade. However, at the present, instructional media enjoys little or limited utilization as compared with traditional teaching methodology which still characterizes instruction at those colleges to a large extent. This methodology lacks diversity and encourages students' passivity. It also has an influence on teaching styles employed in public schools by teachers graduating from these colleges. As a first step toward encouraging the use of instructional media by male faculty members at colleges of education in Saudi universities, an investigation of the factors which hinder or facilitate such use should be attempted. This study was conducted for the purpose of identifying these factors.

The study is based on literature related to instructional innovation as well as previous research studies in media use in higher education. Abedor and Sachs' (1978) model, "Readiness for Instructional Innovation in Higher Education," was used as a general framework for the study.

The need for the study was strengthened by the scarcity of instructional media research in Saudi Arabian education, particularly at the university level. The findings were anticipated to be valuable for media personnel at colleges of education in Saudi universities as well as for heads of academic departments and college deans.

The study did not address the qualitative use of instructional media by faculty members and the effect of such use on students' learning.

#### Organization of the Study

Chapter II contains a review of literature related to this study. Chapter III contains an explanation of the research methodology and procedures used to collect and analyze the data. Chapter IV presents an analysis of the data and the findings of the study. Chapter V contains a summary of the study, conclusions, and recommendations based on the findings of the study.

# CHAPTER II

# REVIEW OF RELATED LITERATURE

## Introduction

This chapter contains a review of literature related to the present study.

The review is organized into sections covering the following topics:

- 1. rationale for instructional media in higher education,
- 2. an overview of the Saudi Arabian educational system,
- 3. instructional media services at the male colleges of education in Saudi Arabian universities,
- 4. instructional media research in Saudi education,
- 5. instructional media innovations in higher education, and
- 6. review of previous research studies.

Rationale for Instructional Media in Higher Education

Currently, there exist numerous research studies which investigated the relative effectiveness and efficiency of utilizing instructional media in the teaching-learning process. A large number of these studies were comparative in nature, comparing one type of media with another medium or other media, and most often with conventional classroom instruction. While many of these comparative studies reported "no significant difference," reviews and summaries of media research conducted by Hoban and Van Ormer (1950, Scramm (1962), Chu and Scramm (1967), Moldstad (1974), and others suggested that instructional media, selected and used carefully, can contribute to higher education in both quantitative and qualitative measures.
Quantitatively, some argue that instructional media can be employed to educate a greater number of students in response to increased enrollment and faculty shortage (e.g., Brown & Thornton, 1963; Mayhew, 1963). The Carnegie Commission on Higher Education (1972) predicts an increase in college enrollment in the United States during the 1990s and recommends expanded investment in instructional technology. The Commission stated:

By investing faculty resources now--when they are in relative abundance--in the development and introduction of instructional programs using expanded technologies, we can reduce to some extent the need in years to come to expand physical facilities and faculties to accommodate rising enrollment in the 1990s. (p. 46)

The contributions of instructional technology have been described by the Commission on Instructional Technology (1970). Instructional technology, the Commission maintains, "... can make education more productive, individual, and powerful, make learning more immediate, give instruction a more scientific base, and make access to education more equal" (p. 7).

Another argument for using instructional media, according to Miller (1957), is its ability to provide auditory and visual stimuli because learning, he stated, ". .. cannot take place in a sensory vacuum ... " and that "... the student must notice something" (p. 117).

Travers (1960) discussed research about learning through audio channels, visual channels, and a combination of audio-visual channels. According to him, research in this area warrants the following conclusions.

- 1. A combined visual and auditory presentation of materials leads to more efficient comprehension than presentation of either auditory or visual materials alone. (p. 6.12)
- 2. Such organized and related materials as prose and factual information are better understood with an auditory presentation; materials such as code that is comparatively discrete and unrelated is more efficiently received with visual presentation. (p. 6.14)

3. One of the most significant advantages of the visual type presentation system is the relatively greater referability or opportunity for reviewing the material that it affords. It has been found that the less the referability afforded by a visual presentation, the less is its advantages over an auditory presentation. (p. 6.14)

As early as 1949, Dale et al. concluded, based on findings of media research, that using audiovisual materials in the classroom has the following advantages.

- 1. They supply a concrete basis for conceptual thinking and, hence, reduce meaningless word response of students.
- 2. They have a high degree of interest for students.
- 3. They supply the necessary basis for developmental learning and, hence, make learning more permanent.
- 4. They offer a reality of experience which stimulates self-activity on the part of pupils.
- 5. They develop continuity of thought; this is especially true of motion pictures.
- 6. They provide experiences not easily secured by other materials and contribute to the efficiency, depth, and variety of learning.. (p. 255).

Heinich et al. (1982) indicate that research in instructional media since 1949

tends to confirm and expand the above findings.

Another argument for using instructional media is their ability to adapt

instruction to students of varying abilities, interests, and learning styles. Brown

et al. (1983) explain.

There is continuing emphasis in schools and industry upon ways and means of individualizing instruction and learning. The goal of this emphasis is to provide all students with experiences and resources they need to work to the best of their abilities and at tasks that interest them and in which they can succeed at their own rates of progress. Educational media of all types play increasingly important role in enabling students to reap benefits from individualized learning. It is fortunate that the potential of modern technology may be combined with educational planning to provide resources needed for this purpose. The desired results of this effort should be a viable system involving purposes, processes, people, materials, machines, facilities, and environments leading to "the best for all"---the cornerstone of a democratic society. (p. 17)

In his paper "Learning Theory, Educational Media, and Individualized Instruction," Gagne (1971), a noted learning psychologist, pointed out that individualized instruction is "the route of efficient learning."

Modern studies of learning suggest the clear implication that some idiosyncratic processing of information is done by the learner. This provides a fundamental reason to view learning as individualized process and strongly suggests that individualized instruction is the route of efficient learning. If arrangements for the individual learning are not made by the system, they will presumably be made by the learner himself. In doing so he will presumably use whatever media are available, although some may be better for some purpose than for others. (p. 70)

Reviews and summaries of research about learning from different types of

instructional media have been done by several educators. In regard to learning

from instructional television (ITV), an extensive review of research in this area

has been conducted by Chu and Schramm (1967). Based on their review, the

authors arrived at the following conclusions.

- I. Given favorable conditions, students learn efficiently from ITV.
- 2. Problem solving instruction on television is more efficient than lecturing where the materials taught involve the solving of a problem.
- 3. If saving time is important, television programs can probably be shortened and still achieve the minimum requirement of teaching.
- 4. There is ample evidence that the new media, particularly television, are effective for inservice training of teachers for developing regions. (p. 179-182)

Schramm (1962) summed up the findings of 393 studies that compared learning from ITV with classroom instruction in schools and colleges. Of these studies, 265 showed no significant difference, 83 were significantly superior in favor of ITV, and 55 were significantly superior in favor of classroom instruction. Based on his review, Schramm stated: There can no longer be any doubt that students learn effectively from instructional television. The fact has been demonstrated in hundreds of schools, by thousands of students, in every part of the United States and in several other countries. (p. 52)

Hoban and Van Ormer (1950) reviewed and summarized research findings

about learning from instructional films during the period of 1918-1950. According

to the authors, instructional film research warrants the following conclusions.

- 1. People learn from film; they can learn factual knowledge, concepts, motor skills, attitudes, and opinions.
- 2. When effective and appropriate films are properly used, people can learn more in less time and be better able to retain what they have learned.
- 3. Instructional films may stimulate other activities, e.g., discussion, voluntary readings, etc.
- 4. Certain films may facilitate thinking and problem solving.
- 5. Appropriate films are equivalent to at least an average teacher and sometimes at even an excellent instructor insofar as the instructor's function is communicating the procedures presented in the film. (pp. 9.1-9.2)

Moldstad (1974) reviewed instructional media research in various areas, e.g., programmed instruction, multimedia, computer assisted instruction, etc. Among the studies he reviewed were those conducted by Roe (1962), Grubb and Silfridge (1964), Cartwright et al. (1972), and Chance (1960). These studies are discussed in the following paragraphs.

Studies on learning from programmed instruction compared its effectiveness with traditional teaching involving lecture, textbook, and discussion. Roe (1962) studied the relative effectiveness of various programming approaches in the teaching of elementary probability to 186 freshman engineering students at the University of California in Los Angeles. When comparing the test results with students' achievements using non-programmed lectures, it was found that all programmed methods proved significantly superior to the lecture approach on criterion measures. Evaluative programmed instruction studies were reviewed by Lysaught and Williams (1963), Schramm (1964), and Silberman (1962). According to Moldstad (1974), these reviews tend to agree on the following conclusions in regard to learning from programmed instruction.

- I. Students can learn effectively, often more effectively, from all types of programmed materials whether in the form of branching or linear programming, and from programs on machines or in texts, than from conventional instruction.
- 2. Frequently students learn equal amounts of materials using programmed instruction in far less time than conventional instruction. (p. 396)

In regard to learning from computer assisted instruction (CAI), Grubb and Selfridge (1964) used CAI in teaching the first half of beginning descriptive statistics to a small number of students. The midterm mean score of the CAI students was 94.3% as compared to 58.4% for students who received instruction in the traditional lecture-discussion approach. In addition, the CAI students spent a mean of 5.8 hours in instructional and review time, while students in the traditional approach spent a mean of 54.3 hours in lecture, homework, and review time.

In another study, Cartwright et al. (1972) compared the relative effectiveness of CAI with conventional classroom instruction in special education at the Pennsylvania State University. The CAI group performed significantly better on the final criterion test (p < .001). Their mean score was 24% higher than that of the conventional instruction group. Further, the CAI students completed the course in 12 hours' less time than the control group.

Chance (1960) and two other instructors of engineering and descriptive geometry at the University of Texas examined the effect that an additional use of 200 especially prepared overhead transparencies would have on students' learning. In comparing this approach (lecture-discussion plus transparencies) with their traditional lecture-discussion approach, covering identical content, the researchers obtained the following findings.

- 1. The group having the added transparencies did significantly better on mean final course examination scores and final course grades (p<.05).
- 2. The three instructors unanimously agreed on the desirability of using these transparencies in their teaching.
- 3. Use of transparencies resulted in an average savings of 15 minutes per class period.
- 4. Students reported preference for instruction using transparencies. (p. 392)

Based on his selective review of media research, Moldstad (1974) concluded

the following:

Fortunately, 20 years of decision oriented media research has produced significant evidence to justify the following claims when instructional technology is carefully selected and used.

- 1. Significantly greater learning often results when media are integrated into the traditional instructional program.
- 2. Equal amounts of learning are often accomplished in significantly less time using instructional technology.
- 3. Multimedia instructional programs based on a "systems' approach" frequently facilitate students' learning more effectively than traditional instruction.
- 4. Multimedia and/or audiotutorial instructional programs are usually preferred by students when compared with traditional instruction. (p. 390)

In a descriptive study of instructional media utilization at the College of Education, Indiana University, Librero (1981) asked 94 faculty members to evaluate the contribution of audiovisual media they used in the courses they taught. Of the respondents 35 or 37.3% indicated that such contribution was "extremely significant," 28.7% of the respondents said the contribution was "moderately significant," 15.9% regarded the contribution as "minimally significant," and only 6.4% rated the contribution of media they used as "not significant."

In <u>Media in Instruction: 60 Years of Research</u>, Wilkinson (1980) reviewed various types of media studies. In the area of multimedia instruction, he discussed a study conducted by Edwards et al. (1968). The study explored the use of multimedia in a beginning typing and business machine operation. The experimental group was taught in an open lab consisting of programmed materials, printed instruction sheets, continuous-loop sound films, tape-slide sets, and drill tapes. The control group was taught by conventional classroom instruction. The results showed that the experimental group learned significantly more as measured by the final examinations (p < .05). Based on his review of media research, Wilkinson concluded:

When they are carefully selected and/or produced--taking into account both media attributes and student characteristics--and systematically integrated into the instructional program, educational media have a significant impact on student achievement and selfimage.

## He added:

Media are the tools of teaching and learning. These tools must be available when and where they are needed to meet the needs of the teacher and students who must use them. In order to meet the needs of a varied curriculum and individual students, a wide variety and a large number of media are necessary. If the workman is not provided the tools necessary to do his job, he cannot be held accountable if the job is not completed properly. (p. 39)

In their <u>Guides for the Improvement of Instruction in Higher Education</u>, Davis and Alexander (1977) described three types of objectives that instructional media can serve in university or college instruction. These are "(1) to facilitate the learning of concepts, principles and perceptual motor skills; (2) to create an emotional response; and (3) to enhance student motivation" (p. 2). Instructional media, the authors maintain, can be used to facilitate student learning in various ways. Media may be used to (a) demonstrate tasks, (b) stimulate an experience, (c) improve student perception, (d) demonstrate a perceptual motor skills, (e) illustrate attributes of concepts, (f) illustrate relationships among concepts, (g) provide feedback, and (h) provide stimulus materials.

## Educational System in Saudi Arabia: An Overview

Before the founding and unifying of the kingdom in 1925, education in Saudi Arabia was run by private schools known as the "khuttab." Nyrop et al. (1977) described this early form of education.

At first, private teachers received students in their homes. Eventually, however, the custom developed of giving lessons in a special room devoted to that purpose, often within the community mosque; the school was known as the maktab or khuttab from the Arabic root "to write" . . . In substantial parts of the country, these were the only educational institutions. (p. 97)

The first step toward modern education in Saudi Arabia was taken soon after the founding of the kingdom in 1925. During that year, the General Directorate for Education was established as part of the Ministry of Interior. The Directorate was the earliest educational organization to be responsible for boys' education. However, the development of education during the 1930s and 1940s was rather slow and limited. By 1949 the number of students enrolled in Saudi public schools did not exceed 20,000 students (Nyrop, 1977, p. 99). In 1953 a major shift in Saudi education took place. In that year, the Ministry of Education, with which modern Saudi education is associated, was founded.

In 1959 the government undertook to organize girls' education by establishing the General Presidency for Girls' Education. The delay in girls education was due to opposition from some conservative elements in the country. The present girls' educational system is credited to the Saudi government whose determination to provide education for both sexes and the assurance that girls' education would be conducted in accordance with the values and teachings of Islam made girls' public schools an accepted and supported phenomenon. The above statements draw attention to the fact that Islamic religion has a profound impact on education in Saudi Arabia. In fact, religion was described as "... the single most important factor in Saudi culture" (Nyrop, 1977, p. 113). In the educational policy of the kingdom, the general purpose of Saudi education is described as follows:

. . . to have the student understand Islam in a correct, comprehensive manner; to plan and spread the Islamic creed; to furnish the student with the values, teaching, and ideals of Islam; to equip him with the various skills and knowledges; to develop his conduct in constructive directions; to develop the society economically, socially, and culturally; and to prepare the individual to become a useful member in the building of his community. (Ministry of Higher Education, 1978, p. 10)

Therefore, "Religious education in the kingdom is a basic component in all the phases of general education" and that... "Islamic culture is a basic course in all the years of higher education" (p. 7).

Education in the kingdom is almost entirely government-sponsored and is free at all levels including college education. The state provides transportation, meals, textbooks, and other educational materials. The state's commitment to provide free education for all is explicitly stated in the country's educational policy which reads, "It is the duty of the state to provide and spread education within the state's capacity and resources" (p. 7).

Since the state took responsibility, Saudi education has expanded gradually, particularly during the past three decades. However, major expansion and development in the system took place during the 1970s with the advent of the national development plans. Having been faced with a critical shortage in qualified manpower needed for national development, education was seen by concerned authorities as the primary solution to this problem; thus, it received top priority in the development process. This concern for trained manpower has continued throughout the third development plan (1980-85).

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As a result, governmental appropriations for education have increased substantially during the past decade. In its "Statistical Indicator," the Ministry of Finance and National Economy (1982) indicated that while the country's total educational budget did not exceed S.R. 591.8\* million in 1969-70, this figure jumped to S.R. 12,946 billion in 1975-6. Further, the 1981-82 fiscal year's allocation for education was S.R. 25,823,3 billion. Due to this support, the periods of 1975-6 and 1981-2 have witnessed an increase in the number of public schools from 4959 to 8652 and an increase in student enrollment from 863,918 to 1.388,399 (pp. 183, 185-7). Governmental support for education reflects both its ambition to accelerate the development process and the availability of financial resources brought by oil production.

The major authorities responsible for education in the kingdom include the Ministry of Education, which administers male education at all stages below the university level; the General Presidency for Girls' Education, which runs female schools at all levels including college education at the university level; and the Ministry of Higher Education, which coordinates higher education in the country. Besides these three educational organizations, there are other ministries and departments--i.e., the Ministries of Defense, Labor, and Social Affairs, etc.--which provide education on a limited basis. There are also some private organizations which maintain a number of schools at the elementary, intermediate, and secondary stages.

Due to state support, Saudi education has grown into a complex and diversified system, embracing institutions from preschool to graduate school. Figure 2 highlights the main units of the Saudi educational system. As the figure shows, general education consists of three stages: elementary (six years),

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intermediate (three years), and secondary (three years). Kindergarten which precedes the elementary stage is optional. In recent years efforts have been made to modernize general education. Modern mathematics, for example, has replaced traditional mathematics in secondary schools. There are also a number of "comprehensive" secondary schools which have adopted the credit point system.

In addition to general education, there are several types of technical and vocational programs. Industrial, commercial, and agricultural secondary schools admit students with intermediate education certificates. Graduates from these schools are eligible for admission in higher institutes of technical and vocational programs for further training. These institutes award diplomas upon successful completion of two year programs.

Other types of education include special, health, religious, and adult education, in addition to nursing schools, teacher training programs, and higher education.

## Higher Education

The history of university education in Saudi Arabia is relatively short. Most universities came into existence during the past two decades. The College of Islamic Law established in Mekkah in 1949 was the first institution of higher education in the kingdom. Higher education in a modern sense, however, began with the founding of King Saud University in 1957 (Hammad, 1974).

The Saudi higher educational system is fairly conventional except in two respects. First, males and females are taught separately, and girls are accepted into universities only as external students or in segregated facilities. Second, two of the seven universities that presently exist are devoted almost entirely to religious study and the Arabic language. The other universities offer academic programs similar to those found elsewhere. This dichotomy of religious and modern universities is found in other Arab countries as Qubain (1965) who described higher education in those countries indicated.

There are two systems of higher education: the traditional Muslim institutions for the training of religious leaders, Muslim judges, and Arabists; and the new modern universities patterned mostly after French, British, and American experiences. (p. 48)

As indicated above, there are seven universities in Saudi Arabia.

- 1. King Saud University, established in 1957, was the first university in Saudi Arabia. The main campus is located in the capital city of Riyadh, with branches in Abha and Qassim. The university consists of 13 colleges and other institutes.
- 2. Islamic University in Medina was established in 1961–62 and consists of five colleges.
- 3. University of Petroleum and Minerals was first established as a college in 1963 and became a university in 1974–75. It is located in Dhahran on the east coast and consists of six colleges.
- 4. King Abdulaziz University was established in the late 1960s as a private university, then became public in 1971–72. Its main campus is located in Jeddah on the west coast with a branch in Medina. It consists of nine colleges and other institutes.
- 5. Immam Mohammad Ibin Saud Islamic University was established in 1974. the main campus is located in the capital city of Riyadh with branches in Al-Ahssa, Abha, Medina, and Qassim. It consists of nine colleges and other institutes of higher learning.
- 6. King Faisal University was established in 1974 in Al-Ahssa in the eastern part of the country with a branch in Dammam. Presently, it consists of six colleges.
- 7. Umm Al-Qura University was established in 1981 and is the latest university founded in the country. Its main campus is located in Mekkah with a branch in Tayef. Presently, it consists of eight colleges and other institutes.

In addition to these universities, there are women's colleges under the General Secretariat for Girls' Colleges. Further, there are some public institutions which impart higher education but not leading to the first university degree. These institutions include mathematics and science centers, junior colleges for teachers, centers for English language, and post-secondary commercial and technical institutes.

Since higher education is a major source for trained and gualified personnel for which the kingdom is in critical need, it has been and is still given full support by the government. All Saudi universities are public and are fully financed by the state. Students pay no fees or tuitions for their college education. In fact, incentives in the form of monthly salaries and free housing are provided for students to pursue their college education. In its report "Progress of Higher Education in the Kingdom of Saudi Arabia in Ten Years: 1970–1980," the General Directorate for the Development of Higher Education (1980) indicated that the total expenditure on Saudi higher education rose from S.R. 1,984 billion in 1975-78 to S.R. 5,539 billion in 1979-80, an annual average rate of increase of 29.3% (p. 98). Further, the Directorate stated that student enrollments in higher education increased from 5,942 students in 1970 to 47,990 in 1980, an average annual rate of increase of 21.3% (p. 31). Increased enrollment has necessitated a parallel increase in teaching staff. According to the Directorate, teaching staff in Saudi universities has increased from 1741 faculty members in 1974-75 to 4786 in 1979-80 (p. 59).

Lack of qualified native teaching staff has been and is still the most difficult problem facing Saudi higher education. The system depends largely on non-Saudi teaching staff. During the past decade, there has been an increase in teaching staff in favor of Saudis; however, their proportion remains low in comparison with expatriates. The General Directorate indicated that by 1979-80, Saudis comprised only 33.6% of teaching staff working in Saudi universities and colleges (p. 60).

The third development plan (1980-85) has spelled out the challenges that face Saudi higher education.

Higher education in Saudi Arabia is affected by a number of conditions which in turn help to define the particular steps that can be taken to develop the post-secondary education system in an effective way. These include: the requirement of the Saudi labor market for highly educated manpower; the demand for an everincreasing number of secondary school graduates for places in higher education; the productivity level of the Saudi post-secondary education system; the low proportion of Saudi nationals for professional jobs in that system; and the rapid growth of Saudi universities over the recent past. (Ministry of Planning, 1980, p. 297).

The plan has also described the measures to be taken to improve the

system:

... the goal will be to focus on qualitative improvements in admission and in assignments of students, instruction, research, better recruitment and staff development (in country and overseas), and in general improvement in the monitoring and evaluation of performance of the subsector as a whole. Other important improvements relate to improved university master planning and campus designs which take into account the educational specifications of individual programs, and the establishment of a national library and information system. (p. 300)

> Instructional Media Services at the Male Colleges of Education in Saudi Universities

One of the difficulties facing the Saudi general education system has been and is still the shortage of Saudi teachers, particularly at the secondary school level. Governmental efforts to respond to the urgent need and increasing demand for teachers in public schools have concentrated on teaching contracts with teachers from Arab countries as well as on expanding teacher-training programs across the country. These programs operate at different educational levels. The two-year junior colleges for boys--run by the Ministry of Education-were established during the mid-1970s to replace the teacher-training institutes. These colleges train and prepare male teachers for teaching jobs at the elementary school level. The General Presidency for Girls' Education administers a similar pattern for females. At the university level, colleges of education in Saudi universities provide preservice and inservice teacher training programs. In addition, women's colleges of education exist which are run by the General Secretariate for Girls' Colleges to train females for teaching in intermediate and secondary schools.

The present study investigated the use of instructional media by male faculty members at the six colleges of education presently existing in Saudi universities. The primary goal of these colleges is the training and preparation of both males and females for teaching positions at the intermediate and secondary school levels. Females are taught in separate facilities by female instructors and/or by male faculty via closed-circuit television. Since the study is concerned with media use by male faculty members, the following discussion deals with male colleges of education in Saudi universities.

The colleges of education surveyed in the study are parts of the seven universities described earlier. The colleges in Riyadh and Abha are parts of King Saud University. The first was established in 1966 at the main campus of the university. The college in Abha was established in 1976 as a branch in the southern region of the country. The colleges in Mekkah and Tayef are parts of Umm Al-Qura University. The college in Mekkah, formerly the Teacher Training Institute, is the oldest college of education in the Kingdom and was founded in 1952. The college in Tayef was established in 1981-82. The college of education in Medina was established in 1978 as a branch of King Abdulaziz University. In 1981, the college of education in Hufof was established at the main campus of King Faisal University.

These colleges of education award Bachelor of Arts and Bachelor of Science degrees in education depending on the graduates' fields of study, except the college in Mekkah which awards only a Bachelor of Arts degree because its science departments were recently separated to form the College of Science and Applied Engineering. Thus, these colleges are made up of educational departments (i.e., curriculum and instruction, educational psychology, educational media, etc.), science departments (physics, chemistry, and biology), social studies departments (history and geography), language studies (Arabic and English), mathematics, art education, physical education, and Islamic studies.

In recent years some of these colleges began offering programs that lead to the Master of Arts degree in education in some fields of study. The length of undergraduate study is approximately four years. However, these colleges have adopted the credit point system, implying that there is no fixed period of time for graduating. The academic year consists of three semesters, and the student is required to complete about 120-130 semester hours for graduation.

Instructional media services, materials, and equipment at the colleges of education are provided through organized educational technology or media centers or departments.

The Educational Technology Center at Umm Al-Qura University was established in 1973 as part of the Curriculum Department at the College of Education in Mekkah. The center began small and has developed to the extent that the university administration has recently decided to extend its services to all the colleges in the university including the colleges of education. Presently, the center is administratively part of the university service department; geographically, it is still located at the college of education (Umm Al-Qura University, 1982-83).

The center is organized into divisions of media library, motion pictures, equipment storage, graphics, still photography, and instructional television (King Abdulaziz University, 1976).

Since its inception, the center has been working toward the following objectives:

- I. providing educational media courses and training for students,
- 2. adapting modern educational technology to curriculum development,
- 3. training students in the use of educational media equipment to upgrade their skills and experiences,
- 4. involving students and instructors in the production of educational films designed to simplify the teaching-learning process,
- 5. using television to respond to the limited facilities, and
- 6. using television to train teachers in modern educational technology methods. (Hafiz, 1976, p. 151)

In the early 1970s, King Saud University established an Audiovisual Center at the College of Education in Riyadh. Later the name of the center was changed to Educational Technology Center. Until 1979, the objective of the center was to "identify practical applications of the teaching-learning process by providing..."

- I. equipment and facilitities for teachers and students,
- 2. technical assistance in the use of educational media,
- 3. courses in the field of educational media,
- 4. conferences for educators and administrations in cooperation with the Ministry of Education to introduce and utilize new media,
- 5. research to investigate the adaptability of educational technology to Saudi cultural and educational conditions,
- 6. lectures for women students by means of closed-circuit television, and
- 7. educational films and other aids to enhance the transfer of content of learning. (Hafiz, 1976, pp. 156-7)

In 1979, the university's Supreme Council founded the Department of Media and Educational Technology which took over the responsibilities previously assumed by the center. The department "... has been charged with a broad based responsibility of supporting the academic programs at the college of education and the university at large ... "by maintaining "... a comprehensive instructional materials library, radio/TV, silk screen, graphics, photography, motion pictures, closed-circuit television, and equipment divisions" (Department of Media and Educational Technology, 1983, p. 6).

The Educational Technology Center at the College of Education in Abha was established in 1976 to work toward the following objectives:

- I. providing instructional media courses for students;
- 2. supporting the academic departments at the college by providing materials, equipment, facilities, and technical assistance in equipment operation and media production;
- 3. providing media services for students during their practice teaching sessions; and
- 4. videotaping ceremonies conducted by the college and governmental agencies in the cities of Abha and Khames Mushait (Shihab, 1984).

The center consists of motion pictures and television, graphics, silk screen printing, models and specimens, equipment, and media library divisions (Shihab, 1984).

The College of Education in Medina, a branch of King Abdulaziz University, established its educational media center in the late 970s. Presently, the center provides (a) instructional media courses for undergraduate and graduate students, (b) media services for the instructional media unit at the females' section of the college, (c) technical assistance in media utilization, (d) catalogues of instructional media for faculty members and assists in the acquisition of media in an arrangement with academic departments, and (e) the supervision, maintenance, and operation of closed-circuit television in the female section of the college (Hassan, 1984).

In 1981–82, King Faisal University established an educational technology center at the College of Education in Hufof to be in charge of the following:

- I. providing instructional media courses;
- 2. providing media services for faculty and students, e.g., media library, equipment, technical assistance, delivery services, etc.;
- 3. transmitting live lectures for female students via closed-circuit television;
- 4. videotaping academic and social events at the college, the university at large, and the region; and
- 5. cooperating with school districts in conducting inservice media training (Educational Technology Center, 1984).

As can be seen from the above descriptions of instructional media services at the colleges of education in Saudi universities, the media centers at these colleges play an active role in regard to the administration and operation of closed-circuit television designed to transmit live lectures presented by male instructors to female students in segregated educational facilities. This role has been necessitated by the following conditions:

- cultural and religious traditions which require the separation of the sexes in schools; "co-education is prohibited in all stages of education with the exception of nurseries and kindergarten" (Ministry of Higher Education, 1978, p. 29);
- 2. a shortage of female instructors at the college level; and
- 3. the growing demand for college education by Saudi women.

While the adaptation of technology to the local needs of Saudi society has made college education easily accessible to female students across the country, some Saudi educators have expressed their dissatisfaction with the use of television as being too impersonal since it lacks student-teacher face-to-face interaction (Riyadh daily news paper, 1981). Hafiz (1976) stated after an interview with a television lecturer that "... it has been felt that the absence of the students adversely influences the performance of the lecturer." However, those who criticize the use of television in teaching female students agree that given the shortage of female college instructors, television remains the only and best means of teaching a greater number of female college students (Riyadh daily news paper, 1981). It should be noted, however, that teaching females exclusively by television in Saudi higher education is used only for courses where there are no female instructors. Further, two way audio communication between the televised lecturer and the students is provided via telephones which are installed on students' desks or on the classroom walls.

Another contribution by educational technology centers at the colleges of education lies in preservice and inservice education. In regard to inservice education, these centers cooperate with the Ministry of Education in conducting workshops and training sessions in the use of instructional media for school teachers.

In the area of preservice education, the centers provide instructional media curricula in response to the college requirement that teacher trainees must complete at least one 2-3 credit course in instructional media. Such a course introduces the student to the field of instructional media and the communication process and provides him with practical experiences in the production of inexpensive materials as well as in the operation of audiovisual equipment. Prospective teachers are encouraged to utilize micro-teaching during their teaching practice sessions for evaluative and diagnostic purposes.

In addition to providing undergraduate media courses, the colleges of education in Riyadh and Medina offer programs leading to the Master of Arts' degree in educational technology. Further, in 1974, the college in Riyadh approved a proposal introduced by the Ministry of Education to initiate one year of media training beyond the university level (Hafiz, 1976). The Department of Media and Educational Technology (1983) indicated that this program entitled qualified inservice teachers for media specialist degrees. Trainees are required

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to complete 24 semester hours in theory, application, and practice which prepare them to develop and supervise media programs in school districts.

> Review of Instructional Media Research in Saudi Education

Research on instructional media in Saudi education is a recent phenomenon. Most studies were conducted during the past five years. One of the earliest studies was carried out by Hafiz in 1976. In an analytical approach, the study sought to adapt experiences and research evidence on television and other media in both advanced and developing countries to higher education and human resource development in the kingdom. Hafiz indicated that Saudi higher education is subverted by an acute shortage of faculty and facilities. Thus the major theme of his study was that with careful planning and evaluation, television and other media can help the kingdom to:

--extend higher education resources to accommodate rising enrollment demands for both men and women students,

--provide inservice training for teachers,

--accelerate the development of Saudi human resources, and

--multiple available higher education and training resources when married to new technology. (p. 8)

To achieve these goals, Hafiz proposed a multi-media open university to be established in the west region of the country. His proposal was backed up by extensive review of the application of television and other media in technologically advanced countries (e.g., the United States, Great Britain, West Germany, etc.) as well as developing countries (e.g., Algeria, Korea, Ghana, etc.).

Abu Ras (1979) conducted a study which investigated some variables related to the use of educational technology by elementary school teachers in AlBaha rural area in Saudi Arabia. Questionnaires and interviews were used to collect data in this study. Selected findings of this study were the following.

- 1. Fewer than three percent of the study's participants were familiar with the operation of various types of educational media equipment.
- 2. Less than 40% of the respondents were able to produce inexpensive instructional materials.
- 3. A significant relationship  $(x^2, p < .05)$  was found between teachers' previous media training and their acquaintance with 16mm, filmstrip, and slide projectors.
- 4. Over 70% of the respondents indicated that theoretical issues dominate teacher education in elementary teacher training institutes.

Based on the study's findings, Abu Ras concluded that the elementary teacher training institutes in Saudi Arabia did not provide trainees with practical experience in media utilization and that instructional media were inadequately available in schools.

Moshikeh (1982) conducted a survey which investigated the status quo of instructional media as used in the preparation of male elementary school teachers in Saudi Arabian junior colleges. The major findings of his study were the following.

- I. Instructional media were generally available but not adequate and thus not widely utilized by faculty members.
- 2. Teacher-produced media were deemed too time consuming.
- 3. Faculty participation in selecting instructional media and curriculum planning was very limited.
- A significant positive correlation (p < .05) was found between media utilization and teachers' attitudes toward instructional media.
- 5. A significant positive correlation (p < .05) was found between media use and faculty prior media training.
- 6. Faculty members with Bachelor's degree used instructional media more often than did those with Master's or doctoral degrees.

- 7. No significant relationship (p < .05) was found between faculty use of instructional media and their teaching experience.
- 8. Other than instructional media and art education, academic fields did not produce significant differences in the use of instructional media.

Issa-Fullata (1982) conducted an experimental study in junior high schools in Al-Medina school districts in the kingdom. The study included 120 subjects who were randomly selected and assigned to three teaching methods. The control group consisted of regular teaching method with classroom teachers. Experimental Group I was assigned to a slide-tape instructional programs with teacher participation, and experimental Group II was assigned to a self-contained slide-tape program without teacher participation. Paper-pencil and visual-tape instruments were used to measure students' achievement. The study's findings indicated that only the experimental I paper-pencil sub-group showed a significant difference at the .05 level of confidence. In addition, teacher response to post-workshop questionnaires indicated that they had developed positive attitudes toward instructional media. Based on these findings, Issa-Fullata concluded that

... an assigned tape-slide instructional program designed and produced to augment learning and then used by a classroom teacher who is trained in the process of instructional design and instructional media will increase student learning to a significantly higher level than will the conventional teaching method. (p. 183)

Bakri (1983) conducted a study which dealt with the factors influencing the use of instructional media by middle school teachers in two school districts in Saudi Arabia. A total of 486 respondents completed the questionnaire used in the study. Major findings of the study were as follows:

- 1. Over 50% of teachers in both school districts indicated that instructional media are not available in their schools, that school administrators discourage teachers from using instructional media in teaching, and that schools lack basic facilities to house instructional media.
- 2. The use of instructional media by teachers in both schools districts was limited.

- 3. A significant positive relationship was found between the use of instructional media and prior media training (p∠.05) in Riyadh school district (r = .58) and in Jizan (r = .35).
- 4. No significant relationship was found between the number of years spent in teaching and the use of instructional media (p.05).
- 5. The most important factors affecting media use as perceived by the middle school teachers in this study are (a) media availability, (b) media training, (c) inservice training, and (d) physical management of schools.
- 6. Social studies teachers in both school districts had (p .01) a higher frequency of media use than teachers in other subject areas.

Al-Debassi (1983) carried out a survey which investigated the impact of training, availability of media, and school facilities on the use of instructional media in Saudi intermediate and secondary schools. The major findings of this study are the following.

- I. Teachers with previous media training used significantly (p < .01) more instructional media than those with no training.
- 2. No significant difference was found in the correlation between the use of instructional media and its availability for trained and untrained teachers (p<.05).
- 3. A significant positive correlation was found between media availability and instructional media use for trained and untrained teachers.
- 4. A strong positive correlation was found between the availability of facilities and the use of instructional media for trained teachers. (p. 2321A)

Resistance to Instructional Media Innovations in Higher Education

During the 1960s, proponents of instructional media in the United States had a great deal of optimism regarding the impact of such media on educational practices. Kemp (1981) quoted R. Louis Bright (1967), former Associate Commissioner for Research in the U. S. Office of Education, as saying, "It is my prediction that within 10 years almost the entire academic portion of instruction will be on an individualized basis, using computers in most schools." Kemp comments:

R. Louis Bright's (1967) prediction was supported by many during the halcyon days of the '60s. But 14 years later, we are still far from achieving it. While technological development has been important in American society, their effect on education continue to be minimal, except for scattered outstanding exceptions. (p. 27)

In "The Fourth Revolution: Instructional Technology in Higher Education," the Carnegie Commission (1972) projected that instructional technology would revolutionize the teaching profession in higher education; encourage campus-tocampus sharing of curricula, faculty, and other resources; and free teachers from repetitious tasks to permit more time for small group instruction. Findings of several studies, however, indicated that the impact of instructional technology on American higher education during the late '60s and early '70s was not as originally envisioned by its proponents (Tickton, 1970, 1971; Commission on Instructional Technology, 1970). The Carnegie Commission (1972), for example, found little systematic use of instructional technology. In a study of 70 colleges, Eable (1972) found that classroom instruction was largely dominated by the lecture method. Similarly, Demerath and Daniels (1973), in a study of 1000 universities and colleges, found moderate, little, or no use of instructional media.

At the present, moving toward more systematic application of instructional media and other instructional approaches designed to improve the teachinglearning process is evident by increased attention to instructional improvement or development centers in American universities and colleges. According to Diamond (1971), "There can be little doubt that, as far as the media profession is concerned, instructional development is 'in'" (p. 6). As quoted in Gaff (1975), Alexander and Yelon (1972) stated: In response to increasingly widespread dissatisfaction with the quality of undergraduate education, several colleges and universities have created a unique kind of agency whose function is to assist college faculty to improve their instruction. Those agencies may vary in the scope of their activities from one institution to another, but they all have one goal in common: to contribute to the development of improved college instruction. (p. 104)

As a result of these developments, various types of instructional approaches have been applied in different educational settings. However, despite this progress, schools of higher education in general are viewed by many as being hesitant and slow, particularly in making large scale adoption of instructional innovations. Kozma (1978) stated that, despite the fact that schools of higher education were the place in which many innovations (e.g., Postelwaite's audio-tutorial systems, Keller's personalized systems, etc.) were first developed, they make relatively little use of such innovations. He added that "... even though innovative practices are found almost on every campus, the dominant mode of instruction remains the lecture" (p. 438).

Feldhusen (1980), director of instructional development at Purdue University, predicted a profound impact of instructional technology on higher education.

Spurring the movement for change are several forces which appear on many campuses. They include teaching improvement services; courses and workshops for faculty; small grants' programs for course development; course and instruction evaluation systems which stimulate change; teaching rewards; and administrators who are developing policies which rest on emphasis for quality instruction. (p. 55)

He added:

The future of educational technology . . . is its forthcoming invasion of higher education on a large scale. (p. 57)

However, he was cautious:

... we recognize many classrooms in which technology and innovations seem to be unknown. Humanities disciplines in particular are renowned for their reluctance to move toward technology and

innovations . . . progress is much slower than many instructional developers would like, and sizable pockets of resistance remain on many campuses. (p. 55)

A review of literature related to instructional media innovations reveals that there are many reasons behind faculty resistance to the adoption of such innovations. Lack of an organizational climate inducive for change has very often been cited in the literature as an important source of resistance to instructional innovations (Evans, 1967; Zaltman et al., 1977; Abedor & Sachs, 1978; and others). Within such a climate, a major barrier to instructional innovations is inadequate or lack of institutional commitment and administrative Reference was made in Chapter I to Abedor and Sachs' model, support. "Readiness for Instructional Innovation in Higher Education" (1978). As indicated, the model emphasizes organizational readiness for innovation in terms of resources, policies, rewards, structure, and norms to support innovations. Similarly, Zaltman et al. (1977) stressed the need for a strong institutional commitment to support innovations when they stated, "There should be top-level support in the system for the proposed innovation or change or resistance will be encountered" (p. 88).

Hooper (1969) who served as a special staff consultant to the Committee on Instructional Technology expressed similar concern related to administrative support needed to promote the growth and development of instructional technology.

Educational technology will remain on the periphery without resources unless educational administrators . . . give it top-level commitment. Without top-level commitment, there will be no favorable climate in which change can happen, and money inside which the teacher may be able to make the change. (p. 263)

Abedor and Sachs (1978) point out that lack of rewards may represent one of the reasons behind faculty reluctance to adopt instructional innovation, "Lack

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of rewards for teaching related activities will probably have a negative influence on faculty who otherwise might explore instructional innovations" (p. 9).

To Moore and Hunt (1980), innovations involving instructional media suffer a great deal from lack of rewards or incentives. They explain:

Good teaching, development of mediated techniques and faculty development programs are often praised and encouraged but in many cases not rewarded. Many college and university faculty perceive the attitude toward printed materials as a basic consideration for promotion and tenure and are not encouraged to get involved with television or other instructional media. Faculty are reluctant to spend time on such activities when they may jeopardize chances for advancement and pay increase. Because the faculty reward system is based upon research and publication, then it follows that unless the use of and development of instructional media, i.e., videotapes, slide tape, etc., become part of the reward structure, the use at the college level probably will continue to be quite low. (p. 143)

In a Ford Foundation report "An Inquiry into the Uses of Instructional Technology," Armsey and Dahl (1973) discussed another point related to administrative support needed to encourage instructional technology. They indicated that a substantial reason for teachers' resistance to the use of instructional technology is that frequently, "... they have been assigned a secondary or no role ... " in decision making related to its planning, development, and use.

The Carnegie Commission on Higher Education (1972) proposed 15 recommendations to encourage and promote the growth and development of instructional technology. Three of these 15 recommendations are pertinent to administrative support to instructional technology in higher education. The Commission suggested that (a) the advancement of instructional technology in higher education would be encouraged by "... adequate commitment of colleges and universities to its utilization and development ... " (p. 46); (b) universities and colleges may help the development of instructional technology by "... placing the responsibility for its introduction and use at the highest possible level of academic administration . . . " (p. 51); and (c) " . . . universities and colleges should provide incentives to faculty members who contribute to the development of instructional technology . . . " (p. 66).

Literature on change and innovation clearly emphasizes the importance of planned information dissemination strategies for gaining acceptance of and publicizing innovations. The fact that potential adopters must first become aware of the existence of innovation is a vital and primary element in the innovation process. Rogers and Shoemaker (1971), Havelock (1973), and Zaltman et al. (1977) stress the importance of carefully planning and utilizing effective communication channels for passing information concerning an innovation. Havelock stated that "... gaining acceptance of innovations is in large part a matter of effective communication " (p. 124). Abedor and Sachs (1978) indicated that a prerequisite for organizational readiness for innovation is that the structure should allow open and free communication or "... there will be resistance to the innovation because faculty are not aware of potential benefits or they may have inaccurate information about it" (p. 8).

An individual readiness for innovation requires, among other things, a positive attitude toward the innovation (Abedor & Sachs, 1978). A review of related literature indicated that certain notions or beliefs concerning teaching may underlie some of the negative attitudes toward innovations. First, there is a feeling on the part of some teachers that an instructional innovation may force a sudden change in their roles and responsibilities. Armsey and Dahl (1973) indicated that one reason for teachers' resistance to adopt instructional technology is their "... fear of the effects of instructional technology on their roles and responsibilities may not be welcomed by teachers who "... may not be professionally equipped to handle (them)..." (p. II). According to Silber (1981),

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when seen in a "holistic way," educational technology "... vastly changes the role of the teacher from that of a dispenser of information in non-systematic, teacher-led classroom to that of a person who is involved in the design, evaluation, or implementation of systematic instruction ..... " (p. 23).

Other notions concerning teaching are related to the teacher's fear of the innovation as a threat to his/her status, control, and authority in the classroom. McKeachie (1978), a former president of the American Psychology Association, described what he considered the most important barriers to faculty change.

One barrier is simply effort. Usually it is easier to teach a class as you've done in the past than to try something new .... A far more important barrier to change is fear of loss of status. To most instructors the status of the teacher is a cherished reward for years of study. To be an authority who dispenses crumbs of wisdom to the multitudes is a very satisfying role. Trying a new technique may involve a threat to your status. If the new method fails, the students are likely to feel that you don't know what you are doing. But even if it works, it may mean change in your status . . . . A third barrier is simply fear of failure. Teachers who try new techniques are not likely to be skilled in its use and are likely to imagine consequences far more catastrophic than any which are likely to occur. In using new techniques instructors may feel that they are losing control and that any thing can happen. Another barrier is fear of unfavorable reactions from colleagues. Even when a new teaching method is successful, experimenting instructors are likely to feel that other professors feel they are deserting the tried and true academic traditions in order to carry student or administration favor. (p. 277)

In addition, some teachers have the feeling that instructional technology

may dehumanize the teaching-learning process and negatively influence the teacher-student, face-to-face, traditional communication patterns (Brown &

Norberg, 1965). Heinich et al. (1982) stated:

More than a few observers of the educational scene have argued that the widespread use of instructional technology in the classroom must lead to teaching students as if they too are machines rather than individual human beings--that is, technology dehumanizes the teaching-learning process. (p. 28)

Another important factor in the adoption or rejection of innovation is

related to the skills and training necessary to use it. As pointed out in Chapter I,

Abedor and Sachs (1978) regard knowledge and skills for using the innovation a prerequisite characteristic of the individual readiness for innovation.

Kosma (1978) attributed faculty reluctance to the adoption of instructional innovations to the reason that most of them are either untrained in or unfamiliar with such innovations. Armsey and Dahl (1973) indicated that one of the reasons for teachers' "aloofness, hostility, or active opposition" to the use of instructional technology is that they lack skills and adequate training in its use (p. 12).

Heinich (1971) added another dimension related to the limited impact of instructional technology on education. To him, improper application of instructional technology resulting from inadequate understanding of the three faces of technology--process, product, and technological setting--represents a major deterrent toward successful integration of instructional technology in education.

One major factor was and is an inadequate understanding and failure to distinguish between the three faces of technology--the science of technology (technological process), the resulting product, and the technological setting or facilitating structure that encourages technological solutions to problems. Successful technological systems combine all three so thoroughly that the first and third, the process and the setting, are often ignored in education with disastrous results. (p. 79)

The reason for inadequate understanding of the three faces of technology,

according to Heinich, is that:

We generally think of technology in terms of its specific technological products--its inventions developed to solve particular technical problems. The most obvious and most pervasive manifestations of technology are machines, so much that to many people technology means machinery. (p. 79)

Rose (1982) classified the barriers to instructional technology innovations

into four categories. Selected aspects of each category are described below.

- I. Institutional economic barriers
  - a. Funding may not be available to buy and maintain equipment. Thus, the technologies are not accessible to teachers as true alternatives to traditional methods.
  - b. Schools may not provide money for technologies if they do not recognize an urgent need for them.
  - c. An ongoing and continuous commitment of human and nonhuman resources is needed to produce quality, nonconventional, innovative instructional technology programs. Administrators and educators may not be willing to make such a commitment.
- 2. Technological barriers
  - a. Characteristics and nature of technology may require a change in traditional teaching patterns. Instructors may feel incompetent to accommodate such change if they lack the skills necessary to use the technology.
  - b. Teachers' fear of dependence on the functioning of the equipment with no control over its possible "embarrassing" breakdown.
  - c. Teachers may feel it is too much bother to adapt course content to instructional technology, to prepare and develop software, and to operate equipment.
  - d. Technologies have tended to be regarded as tools for teaching rather than integrated alternatives in the teaching-learning process.
  - e. Availability, accessibility, and/or scheduling equipment may be problems.
- 3. Administrative/institutional barriers
  - a. Administrators and educational technologies' eagerness to encourage instructional technologies may have oversold them: "Showing the finished product and what it can do but not the effort that went into producing the product" (p. 13)
  - b. Administrators, while proclaiming their encouragement of innovations, fail to support and reward innovative users of instructional technology.
  - c. Inadequate or lack of systematic and controlled evaluation of the application of instructional technologies.
  - d. Ambiguous role of specialists in educational communications or technology departments.

- "Institutional leaders often are not leading. They do not e. focus educators' attention on the attitudinal, learning, and motivational potentials inherent in the use of educational technology; they do not identify existing teaching-learning deficiencies that educational technologies might help innovation and do not support remedy: they experimentation, or set up channels for the diffusion of innovation, and they do not help educational communication personnel fulfill their own leadership roles." (p. 13)
- 4. The educator
  - a. Educators know little about the potential of instructional technology; they may lack an understanding of the nature of instructional technology, its philosophical assumptions underlying its uses, and its relevance to objectives and learning outcomes.
  - b. Educators' feeling that instructional technology may force a radical change in their roles.
  - c. "Educators may experience conflict between their ideals and self-interest/preservation . . . an educator may feel that students learn more in a non-traditional system, but he or she enjoys the personal involvement of the old system and teaching pattern." (p. 13)
  - d. "A fairly generous time commitment is required for the development of quality programs using educational technologies. If this is not available to the educator, and poor quality programs with poor reception by clientele result, this may deter educators from using the alternative system." (p. 13)
  - e. "When seeking help, advice, or technical assistance, educators may have expectations of rapid production and support. When this does not happen, they often become disillusioned with the whole notion of using alternative instructional approaches" (p. 13). In addition, when they approach specialists for help, educators may have to admit that they are not competent at doing certain tasks. Some may be reluctant to do this.

**Review of Previous Research Studies** 

Studies were conducted by researchers who investigated instructional media utilization by universities' and colleges' instructors. These studies focused more or less on the factors hindering or facilitating the adoption of instructional innovations which have been described in the previous section. Other studies addressed other factors such as academic discipline, teaching experience, academic degree, age, etc., in relation to media utilization. The following review is divided into sections related to the factors addressed by the present study.

## Faculty Perception of Administrative Support for Instructional Media Utilization

Some researchers sought to determine whether or not faculty use of instructional media is related to their perception of administrative support to encourage media utilization. Imogie (1979), who addressed the factors affecting instructional media innovations in a Zaria university, examined the relationship between the two variables. He listed eight types of university support for instructional media and asked respondents to indicate the frequency of each type of support which they feel the university is providing to encourage media utilization. Perception scores were computed using a five point scale: very often, sometimes, do not know, seldom, and never. The results showed a significant relationship ( $x^2$ , p < .05), indicating that the frequency of instructional media use was highest among faculty members who had more favorable perception of the university administrative support for media utilization.

Stephens (1971) conducted a comprehensive national study which investigated instructional media use in 204 colleges and universities in the United States. Unlike Imogie, Stephens approached the effects of administrative support on faculty use of instructional media in a different manner. He listed 22 statements representing recommended administrative and physical change related to media use and asked respondents (media personnel, academic deans, and faculty members) to indicate if these changes, when initiated, would have a major, moderate, or minor effect on their frequency of media utilization. The results showed significant differences ( $x^2$ , p < .001) among the three types of respondents. Instructional media personnel perceived the greatest percentages of major effects, academic deans perceived the smallest, and faculty members ranked in between. Further, 38% of faculty members reported that, when initiated, the recommended administrative and physical changes would have a major positive effect on their rate of media utilization while 42% of faculty said that such changes would have a moderate effect, and only 20% said that recommended changes would have a minor or no effect. In addition, when combining responses from all respondents, Stephens found the following 10 types of administrative and/or physical changes as having the greatest effect on their use of instructional media. In order of effect, they are

- I. increased academic departmental budgets for audiovisual services;
- 2. increased audiovisual departmental budgets;
- 3. more and better classroom facilities designed for using audiovisual methods;
- 4. an increased variety of materials to coordinate with the curriculum;
- 5. increased educational media personnel to assist teachers;
- 6. provision for demonstrations and workshops to faculty groups;
- 7. more equipment;
- 8. more commercially produced materials appropriate for higher education;
- 9. more released time for faculty to devote to course planning and development of materials; and
- 10. more information on available services, materials, and equipment. (pp. 187, 189)

In addition, respondents also perceived other types of support as moderately important. they include more faculty involvement in selection and evaluation of media equipment and materials; more assistance in selection, production, and
utilization of instructional media; and more efficient delivery service. Based on his finding, Stephens stated:

Administrative support and public commitment of the administration to improved instruction involving educational media are musts. The administration, by increased financial support, by involving the media director in curriculum development and facility planning, and by rewarding and recognizing excellent teaching (especially when it involves the use of media), can demonstrate its support and commitment to the media program . . . Administrative support can have an effect on faculty attitude toward media also. (p. 249)

Abdi (1981) investigated the factors influencing faculty use of instructional media at public universities and community colleges in Southeastern Michigan. In this study, Abdi found a significant correlation (r = .17, p<.05) between faculty use of instructional media and their perception of administrative support. Faculty who were satisfied with the support and assistance provided by media staff used instructional media on a more regular and frequent basis than did those who were dissatisfied with the guality of support.

## Information Dissemination Concerning Instructional Media Resources

Some studies of media use in higher education attempted to shed light on the importance of information dissemination concerning available instructional media resources. An early study by Hubbard (1960) found that faculty lack of information about available media was a major barrier to media utilization at Syracuse University. Hubbard commented:

Before a faculty can be expected to fully use audio-visual techniques, it must know the materials that are available in the individual fields, services offered by the audio-visual service, the recent audio-visual developments in their own fields, and the different types and values of all audio-visual materials. Therefore, effective lines of communicating must be developed, promoted, executed, and evaluated. (in Stephens, 1971, p. 246)

Stephens (1971) investigated the sources through which faculty members receive information about instructional media. He found that department files were the major source of information for faculty in most institutions he surveyed and that newsletter was a prevailing source of information about media services available at those institutions. In addition, Stephens asked respondents to indicate the extent to which information they received concerning available media services, equipment, and materials increased their rate of media utilization. No statistical test of significance was employed; findings were reported in the form of frequency and percentages. The data showed that more than 30% of faculty members at private and public colleges and 40% of faculty members at public universities said that the information they received about media resources increased their frequency of media use moderately, while 33% of academic deans at public colleges checked the "much" category in regard to increased media usage as a result of the information they received about instructional media. Stephens also noted, "The foremost deterrent ranked by respondents was related to a lack of knowledge of the services of the media center, available materials, and equipment and media methods" (p. 245).

He also found that 138 persons from 88 institutions said that there were no media services available for their use; however, the data also showed that 58 of these 88 institutions had some person with some form of educational media responsibilities. This implies, according to Stephens, that in many cases the existence of media center was not known to the faculty. Therefore, he added, "Faculty need to be informed about a service before they can know of or use it except in the case of faculty who actively search out information and services. Even they would appreciate their job made easier" (p. 163).

Imogie (1979) sought to determine whether or not faculty members who receive more information about instructional media make a higher frequency of media use than those who receive less information. Respondents were asked to check the frequency with which they receive information about instructional media from eight possible sources, using a five point scale: very often, sometimes, don't know, seldom, and never. Analysis of the data showed a significant relationship  $(x^2, p_{<.}05)$  indicating that faculty members who received more information used media in instruction more often than did those who received little or no information. Imogie also noted that more than 50% of respondents did not receive information from many of the sources, 59% of respondents said they had never received any information on instructional media from the educational technology center at the university he surveyed, 67% said they had never received any correspondence from the center, and more than 45% of faculty reported that they had never received information on media from department heads or by talking to colleagues within the department or college. Based on his finding, Imogie recommended that there should be an effective communication system among academic departments, the educational technology center, and the instructional media units at the university. The system can utilize newsletters, faculty seminars, exhibitions, bulletin boards, etc., to disseminate information about instructional media.

#### Faculty Attitudes Toward Instructional Media

The relationship between teachers' attitudes toward instructional media and their frequency of using media in instruction was examined by researchers. Most studies found a significant relationship between the two variables in favor of the notion that teachers with more positive attitudes toward instructional media tend to use media more frequently than those with less positive attitudes.

First, one needs a definition of the concept. Gagne and Briggs (1979) define attitude as "an internal state which affects an individual's choice of action

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toward some object, person, or event." Other definitions of attitude have been cited: "A mental and neutral state of readiness organized through experience exerting a directive or dynamic influence upon the individual's response to all objects and situations with which it is related" (Allport, 1935, in Stephens, 1971, p. 100); "A relatively enduring organization of an individual's beliefs about an object that predisposes his actions" (Rogers & Shoemaker, 1971, p. 109).

As can be seen from these definitions, and as Gagne and Briggs (1979) indicate, "attitude is not the behavior itself," but, rather, an internal state which influences one's behavior or choice of action toward something. How, then, is attitude measured? Gagne and Briggs point out two methods. In one method, attitude is inferred from observation from the individual's behavior or action over a period of time. The other method is the most commonly used in which attitude is self-reported by the individual him/herself as in the case of making choices among questionnaire statements.

An early study about teachers' attitude toward instructional media was conducted by Kelley (1960) who found a significant and positive relationship (x<sup>2</sup>, p.01) between teachers' attitudes toward instructional media and the frequency with which they use them in the classroom. In addition, Kelley found that teachers' attitude was also related to other factors, i.e., media availability, age, grade level, years of formal education, and training in production of media. Based on his findings, he concluded that,

The results of this study emphasize the importance of recognizing the place of attitude in any attempt to analyze the utilization of audiovisual materials. Teachers' attitudes may be more important in determining the use of audiovisual materials than knowledge about materials and skills in their use. (p. 121)

Stephens (1971) tested 22 hypotheses related to the use of instructional media in higher education. In regard to faculty attitude toward media utilization, his findings indicated that the frequency of instructional media use

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was highest (r = .401, p < .01) among faculty members with more favorable attitudes toward instructional media. Similarly, Abdi (1981) found a significant correlation (r = .37, p < .001) between faculty attitude toward instructional media and the frequency with which they utilize media in their teaching. Comparable findings were reported by McIntyre (1963), Rohrlick (1972), and Imogie (1979).

Prudy (1975) approached the study of faculty attitudes toward instructional media in a different manner. Using a sociological, anthropological approach, he was a participant observer in a study which investigated the attitudes toward instructional media of faculty at a community college in California focusing on some of their basic attitudes toward the teaching process. From his observations of how faculty members made choices of instructional techniques, Prudy found two distinct attitudes toward teaching. The first is the notion that teaching is a "solo activity" or a "lonely job" that is not be shared with anyone or anything, and the second is that in order to teach, the instructor must have complete control over the teaching-learning environment.

In regard to faculty attitude toward teaching as a "lonely job," Prudy observed:

Some teachers completely refused to participate in audiotutorial courses, not because they required use of technology, but because they moved away from the situation of one course/one teacher where the instructor was solely responsible. (p. 10)

In regard to the second notion, some faculty felt comfortable with traditional teaching methods because they could rely on their personalities to direct and control the learning situation. Faculty members who held these two attitudes were found reluctant to use instructional media because of their feeling that such use may lessen their face-to-face relationship with students and may weaken their control over the teaching-learning environment.

### Prior Training in Instructional Media

The relationship between the frequency of instructional media use by faculty and their training in its use has been examined by several studies. Most studies reported consistent findings in support of the notion that faculty who have prior media training tend to have a higher frequency of media use than those who had no prior training, indicating that training is a predictive factor in media utilization.

Imogie (1979) investigated the relationship between these two variables. His finding showed a significant relationship (p < .05), indicating that those with more skills and training in media use had a higher frequency of instructional media use than those with less or no skills and training.

Similar finding was obtained by Abdi (1981) who found a significant positive correlation between faculty prior instructional media training and the frequency with which they are used in instruction. Formal training in media, he stated, was far more related to the frequency of media use (r = .53, p<.01) than were faculty characteristics or perception and that as training in media use increased so did frequency of media use. In his study, the data showed that of faculty who took one seminar in instructional media, 42% reported utilization of media above the mean frequency of use (21.7); of faculty who attended two seminars, 85% used media above the mean frequency; and 100% of faculty who completed three seminars used media above the mean frequency of use. Further, several respondents in Abdi's study commented that their frequency of media use would increase if they were given inservice or formal training in the use of instructional media. Based on his finding, Abdi concluded that "the primary factor in use of media by college faculty, assuming availability of it, is amount of training in such use" (p. 63).

Parallel findings of significant and positive relationship between prior media training by faculty and their frequency of media use were reported by Hubbard (1960), Arterbury (1971), Morton (1979), and Mashiakeh (1982).

Kozma (1978) reported on a faculty fellowship program conducted at the University of Michigan. The program was designed to increase the use of instructional technologies by faculty participating in the program as well as to involve them in the dissemination of these innovations to their colleagues. The extent to which the fellows increased their use of 16 instructional techniques (i.e., Keller Plan, CAI, instructional video, etc.) was measured by a questionnaire that was given to participants at the beginning of their tenure and again at the end. the findings indicated that faculty who participated in the program significantly increased their use of instructional technologies (p < .01).

Acquino (1970) reported similar findings indicating increased use of instructional media by teachers after participating in an inservice media training.

#### Teaching Experience and Media Utilization

Unlike training and attitude which were found to be positively related to media use by several researchers, studies' findings of whether or not media utilization is related to the number of years of teaching were inconsistent. Kelley (1960), Felty (1975), Abdi (1980), and Moshaikeh (1982) found no relationship between frequency of using instructional media and the length of teaching experience.

Other researchers obtained different results, indicating that the rate of media utilization is positively related to teaching experience. Hubbard (1960) found that more teaching experience indicated more utilization of media. McIntyre (1963), who investigated media use at the University of North Carolina, reported similar findings when he found that faculty with more teaching experience used media more frequently than did faculty with less teaching experience. Similarly, Stephens (1971) found significant differences between media utilization by faculty and the length of their teaching experience (x<sup>2</sup>, p .01), indicating that the frequency of media use was highest among faculty members with more teaching experience. Arterbury (1971) and Pennywell (1980) reported similar findings, indicating that teachers with more teaching experience were found more frequent users of media than those with less teaching experience.

#### Academic Discipline and Media Utilization

The relationship between the frequency of instructional media use and academic disciplines was examined by some researchers. Most findings indicated that media utilization is related to the nature of subject matter taught. While Kelley (1960) and Moshaikeh (1982) found no link between subject taught and frequency of media use, Abdi (1981) found that natural science faculty used instructional media more often than did social science instructors who, in turn, used media more frequently than faculty in the language arts. Further, Abdi found that the types of media used by faculty were significantly related to academic disciplines. Media such as computer terminals, graphic equipment, photographic equipment, models, and audiovisual self-instructional materials were used more frequently by faculty in natural science; whereas microcomputers, television, display boards, and games and simulations were used more often by social science faculty; and faculty in language arts used audio equipment more frequently than their fellows in natural and social sciences. Abdi concluded that "different disciplines require different media" (p. 66). Comparable findings were reported by Teather and Collingwood (1978) who surveyed the types of media used by faculty members at two New Zealand universities. In both universities, they found that the use of media varied significantly between different academic departments. Of the 19 disciplines taught in both universities, education had the highest index of use for all media and law the lowest. Further, faculty in different disciplines varied considerably in regard to the types of media used. Psychologists were found to be the most frequent users of films, while geographers and geologists made extensive use of 35mm slides. Based on these findings, they concluded that "the discipline taught is an important determinant of the pattern of media use" and that the study "emphasizes the need, in the planning of media facilities for a university as a whole, to take adequately into account the requirements of specific disciplines" (p. 157).

Obetz (1980) obtained similar findings and concluded that the academic field of study is a strong predictor of whether or not media will be used in instruction. She also found that certain types of media were significantly related (p < .05) to the nature of subject matter taught.

Humphrey (1980), in a study of media use in faculty grants for the improvement of undergraduate education, found comparable results. In his study, media use was highest among fine arts faculty (87% used media in their grants), followed by faculty in social science (78%), professions (75%), natural science (70%), and humanities (59%). Humphrey also found that type of media used varied among these disciplines.

# Faculty Perception of Deterrents to Media Utilization

Several researchers attempted to determine the deterrents to media utilization as perceived by faculty members. An early study was conducted by

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Hailer (1955) who examined the instructional media program at the University of Wisconsin and identified the following deterrents: unavailability of materials, inadequate facilities and budget, poor planning, poor communication to faculty about available media services, incompatibility with certain subjects, unfamiliarity with audiovisual methods, shortage of time to prepare media materials as compared to lecture-preparation time, reluctance to change, and teachers' fear that non-print materials might inhibit good reading habits (Abdi, 1981).

Hubbard (1960) sought to identify the deterrents to media use as perceived by faculty at Syracuse University. The greatest deterrents were found to be lack of classroom with adequate facilities to use instructional media, difficulty of getting materials when needed, lack of appropriate materials at the college level, lack of adequate budget to keep inexpensive media on a decentralized basis, and lack of information on media sources.

Stephens (1971), cited earlier, sought to identify perceived deterrents to media utilization in 204 colleges and universities in the United States. Of 30 deterrents listed, faculty members perceived the following 10 deterrents as the major barriers to media use. In rank order, they are the following:

- I. the faculty is overloaded with other duties to the extent that they are reluctant to take on the task of preparing to use audiovisual methods;
- 2. the faculty lacks knowledge and training in the preparation of materials and utilization of audiovisual methods;
- 3. the faculty lacks knowledge concerning available services, equipment, and materials;
- 4. academic departments do not have sufficient budget to rent or pay for materials, equipment, or services;
- 5. the college or university does not have a sufficient variety of materials to correlate with the curriculum;

- 6. it is difficult to have the materials or equipment at the right time in the right place;
- 7. the classrooms are not designed or equipped to use audiovisual methods;
- 8. insufficient released time from administrative and teaching duties prevent faculty from exploring the use of audiovisual programming and development for their courses;
- 9. lethargy or resistance to change or improvement exists among faculty and administration; and
- there is a shortage or lack of personnel to assist in selection, preparation, and utilization of equipment and materials. (pp. 178, 182-3)

Abdi (1981) identified deterrents to media utilization as perceived by faculty at public universities and community colleges in Southeastern Michigan. In rank order, the 10 major deterrents to media use were found to be the following:

- 1. it takes much longer to prepare for class using instructional media than using more traditional methods,
- 2. classrooms and laboratories are not properly equipped to use instructional media,
- 3. available audiovisual materials are frequently out of date,
- 4. there is insufficient staff to set up and operate instructional media equipment,
- 5. academic departments are not given an adequate budget to obtain audiovisual media,
- 6. audiovisual materials available on the market are often not suitable for use in higher education,
- 7. the college or university does not provide adequate inservice training in the use of audiovisual media,
- 8. audiovisual materials are often incomplete,
- 9. the instructional media staff is not adequately informed about technological improvement in instructional media, and
- 10. there is little opportunity for faculty to participate in selection of audiovisual media. (p. 38)

Librero (1981) identified deterrents to media utilization at the College of Education at Indiana University where 58.6% of respondents considered their lack of time to select, locate, and preview commercially produced materials to be the major deterrent to media use. Other deterrents, according to importance, were (a) too much "red tape" involved in ordering and obtaining audiovisual media (perceived by 32% of faculty), (b) lack of information on appropriate materials (29.8%), (c) lack of budget (28.7%), (d) lack of materials in certain content areas (27.7%), (e) unavailability of media materials when needed (26.6%), and (f) unavailability of media equipment when needed (22.3%).

The relationship between faculty perception of deterrents to media use and their frequency of media utilization has been reported with conflicting findings. While Rohrlick (1972) found no significant relationship between these two variables, Stephens (1971) found a positive relationship ( $x^2$ , p<.001) indicating that faculty with the highest frequency of media use perceived the greatest percentages of major and moderate deterrents.

Imogie (1979) found a significant relationship ( $x^2$ , p < .05) between media utilization and perceived deterrents. However, his finding stands at the contrary of that reported by Stephens indicated above. Imogie reported that faculty who perceived less deterrents used instructional media more frequently than did faculty who perceived more deterrents.

The finding reported by Abdi (1981) support the one indicated by Imogie. Abdi examined the correlation between frequency of media use by faculty and their perception of deterrents related to availability of media, ease of media use, media support staff, and desirability of using instructional media. He found that frequency of media use correlated significantly with each of the sub-scale deterrents mentioned above, indicating that faculty who perceived instructional media to be available, easy to use, supported by media staff, and desirable to use, used instructional media more often than did faculty who rated these characteristics low.

# Faculty Attitudes Toward Media as Related to Perceived Deterrents to Media Use

Research findings in regard to whether or not teachers' attitudes toward media are related to perceived deterrents to media use are inconsistent. Kelley (1960) found a significant positive relationship between teachers' attitudes toward instructional media and the following factors: ease of ordering media, amount of equipment available, amount of materials available, training in production, conditions of materials, and supervisors' assistance.

In their study of teachers' attitudes toward instructional media, Knowlton and Hawes (1962) found that the unfavorable attitudes toward media were related to physical utilization barriers and not necessarily to media themselves.

Acquino (1974) reported different results in his study of teachers' attitudes toward media teaching environment, finding that those with more favorable attitudes toward the use of media were more critical of the availability of media equipment and materials than those with less favorable attitudes. In other words, teachers who have less positive attitudes toward media were found to be less frustrated by barriers to media utilization.

Stephens (1971) reported similar findings when he found a positive and significant correlation between faculty attitude toward media use and perceived deterrents to media utilization.

### Summary

In this chapter, a review of literature related to this study was presented. This review covered the following topics:

1. rationale for instructional media in higher education,

- 2. an overview of the educational system in Saudi Arabia,
- 3. instructional media services at the male colleges of education in Saudi universities,
- 4. instructional media research in Saudi education,
- 5. resistance to instructional media innovations in higher education, and
- 6. previous and similar studies which dealt with media utilization in universities and colleges.

The first topic discussed research findings related to the effectiveness and efficiency of utilization of instructional media in the teaching-learning process. A review of these findings suggested that instructional media, selected and used carefully, can serve an important and complementary role in higher education.

The review also included an overview of Saudi education. This review indicated that, although modern education in Saudi Arabia has a relatively short history, it has nonetheless witnessed a period of vast and rapid growth, particularly during the past decade, due to the unlimited support given by the Saudi government. This growth is evident in increased student populations at all educational levels, better and more schools and colleges, and a substantial increase in funds allocated for education.

In addition, the review covered instructional media services at the six male colleges of education presently existing in Saudi universities. At these colleges, instructional media are provided through educational technology or media centers. The major objectives of these centers are to provide various types of instructional media resources for supporting academic programs, to provide media curricula for students, and to transmit live lectures for female students via closed-circuit television.

A review of research in the use of instructional media in Saudi education indicated that such research is scarce, particularly at the university level. Most of the few studies presently existing dealt with teachers' utilization of instructional media at the elementary, intermediate, and secondary school levels.

The review also included a section which discussed the nature of resistance to instructional media innovations in higher education. Lack of organizational climate inducive for change is viewed by many as an important source of resistance. In addition, lack of training and knowledge on the part of teachers, lack of proper understanding of the nature of instructional technology, and the fear that instructional technology may dehumanize the teaching-learning process and impose a threat to one's control, status, and authority in classrooms represent other reasons of resistance.

A closer review of the studies which investigated the factors affecting faculty use of instructional media in universities and colleges was presented in the last section of this chapter. Most studies reported consistent findings in regard to attitudes toward media and prior media training as influential factors in media utilization. In regard to other factors such as perceived deterrents to media use, teaching experience, etc., conflict findings were reported.

# CHAPTER III

# METHODOLOGY

# Introduction

This study investigated the use of instructional media by male faculty

members at the colleges of education in Saudi Arabian universities. Specifically,

the study was primarily designed to determine the following:

- 1. the extent to which instructional media are being used by male faculty members at the male colleges of education in Saudi Arabian universities and the nature of media used for instruction;
- 2. the factors which influence the use of instructional media by male faculty members at the colleges of education in Saudi Arabian universities. More specifically, the study examined the relationship between the frequency of instructional media use by faculty members and each of the following factors:
  - a. faculty academic field of specialization,
  - b. faculty teaching experience,
  - c. faculty attitude toward instructional media,
  - d. faculty previous media training,
  - e. faculty perception of administrative support for media utilization,
  - f. amount of information faculty receive about instructional media, and
  - g. faculty perception of deterrents to media use.

## **Research Questions**

Data collected for this study were used to answer the following research questions.

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- I. What is the extent of use of instructional media by male faculty members at the male colleges of education in Saudi Arabian universities?
- 2. Are there significant differences among the colleges concerning the frequency of instructional media use by faculty members?
- 3. What is the relationship between the frequency of instructional media use (dependent variable) and each of the following factors (independent variables): (a) academic field, (b) teaching experience, (c) attitude toward media, (d) previous media training, (e) perception of college administrative support, (f) amount of information about instructional media, and (g) perceptions of deterrents to media use?
- 4. Is faculty attitude toward instructional media related to their perception of deterrents to media use?
- 5. What is the relationship between frequency of instructional media use and the combined independent variables?

## Null Hypotheses

The following null hypotheses were tested. (Hypothesis number 1 is related

to research question number 2, hypotheses numbers 2 through 8 are related to

research question number 3, hypothesis number 9 is related to research question

number 4, and hypothesis number 10 is related to research question number 5.)

- 1. There will be no significant differences among the colleges of education concerning the frequency of instructional media use by faculty members.
- 2. There will be no significant differences among the academic fields concerning the frequency of instructional media use by faculty members.
- 3. There will be no significant correlation between the frequency of instructional media use by faculty and their teaching experience.
- 4. There will be no significant correlation between the frequency of instructional media use by faculty and their attitude toward instructional media.
- 5. There will be no significant correlation between the frequency of instructional media use by faculty and their previous media training.

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- 6. There will be no significant correlation between the frequency of instructional media use by faculty and their perception of college administrative support for media utilization.
- 7. There will be no significant correlation between the frequency of instructional media use by faculty and the amount of information they receive about instructional media.
- 8. There will be no significant correlation between the frequency of instructional media use by faculty and their perception of deterrents to media use.
- 9. There will be no significant correlation between faculty attitude toward instructional media and their perception of deterrents to media use.
- 10. There will be no significant relationship between the frequency of instructional media use and the combined independent variables.

## Target Population and Study Subjects

The target population in this study was comprised of male faculty members who teach at the colleges of education in Saudi Arabian universities. The study subjects consisted of the entire target population; thus, no sampling procedures were used. This method was adopted for two reasons. First, the entire target population was relatively small (558 faculty members). Second, and more importantly, the size of the colleges participating in this study ranged from 35 to 231 faculty members (see Table I). Therefore, taking proportional samples from the colleges would have resulted in a small number of subjects representing each small college which would limit a comparison of the colleges as well as of the academic fields in terms of frequency of media use by faculty members (hypotheses I and 2, respectively).

The population comes from six colleges of education presently existing in Saudi universities. Table I shows the name of the university to which each college belongs, the city in which the college is located, and the total number of faculty members at each college.

#### Table I Distribution of Colleges of Education by University and City

University	College	<u>City</u>	Total # of Faculty Members
King Saud University	College of Education College of Education	Riyadh Abha	231a 61b
Umm Al-Qura University	College of Education College of Education	Mekkah Tayef	114b 35c
King Abdulaziz University	College of Education	Medina	74 <sup>b</sup>
King Faisal University	College of Education	Hufof	43d
TOTAL:			558
Key to sources: a = individua b = dean's of c = office of d = vice dear	l departments at the college fice student affairs I's office		

For reasons of simplicity, throughout the study each college will be identified by the city in which it is located; for example, Riyadh College of Education, Medina College of Education, and so forth.

#### **Research Instrument**

Data for this study were collected by the survey method using a questionnaire (see Appendix E). The questionnaire's items and scales were constructed with reference to the following sources:

1. review of related literature and prior studies. Specifically, the questionnaire's items were constructed with reference to the studies done by Stephens (1971), Imogie (1979), Abdi (1980), Liberero (1981), and Moshaikeh (1982). The items were selected on the basis of their clarity and relevance;

- 2. three experts in instructional media who were asked to rate the individual items in terms of their clarity and relevance (see section on validation of research instrument p. 80); and
- 3. advice of a research consultant at the Office of Research Consultation, College of Education, Michigan State University, concerning the appropriateness of the scales in each section of the questionnaire.

The questionnaire was composed of seven sections. <u>Section A</u> was designed to collect such demographic data as university, college, academic department, academic field of specialization, academic rank, academic degree, age, nationality, teaching experience, and administrative/academic-related position. Respondents were asked to place a check mark in the appropriate box or fill in the appropriate blank.

<u>Section B</u> contained questions designed to determine frequency of instructional media use. The following scale was used: zero, 1-3, 4-6, 7-9, 10 or more. Respondents were asked to indicate the average number of times they use each item of instructional media per academic semester. Responses on the scale were coded numerically and given the following weights: zero = 0, 1-3 = 1, 4-6 = 2, 7-9 = 3, and 10 or more = 4. Points on the scale were summed to yield an individual frequency score of media use.

<u>Section C</u> consisted of 14 statements representing varying points of view about instructional media. Six were negative statements, and eight were positive statements. The statements were randomly ordered. The following five point Likert-type attitude scale was used: strongly agree, agree, uncertain, disagree, strongly disagree. Each response on the scale was coded numerically to yield an individual attitudinal score. A positive statement's responses were coded 5, 4, 3, 2, 1, respectively, and a negative statement's responses were coded 1, 2, 3, 4, 5, respectively. Each participant's responses to each statement was summed to obtain his attitudinal score. <u>Section D</u> contained questions designed to determine the levels of instructional media training that respondents have previously completed and the media skills they have acquired from their training. Five levels of media training and four types of media skills were listed. Respondents were asked to check the highest level of media training they have attained and as many as apply of media skills. Levels of media training were assigned numerical values from 0 to 5, where 5 was assigned to the highest level of training.

<u>Section E</u> was designed to determine faculty perception of college administrative support for instructional media utilization. Ten types of administrative support were listed using the following five point scale: very often, sometimes, do not know, seldom, and never. Points in the scale were coded numerically and given the weights of 5, 4, 3, 2, 1, respectively. Respondents were asked to indicate the frequency with which each type of support is provided. Each participant's responses to each type of support were summed to yield his perception score.

<u>Section F</u> was designed to determine the frequency with which respondents received information about instructional media at their colleges. Seven sources of information were listed, and respondents were asked to indicate the frequency with which they received information about instructional media from each source. The scale and methods of computation in Section E were used to determine each respondent's score of the amount of information he received.

<u>Section G</u> contained two parts. Part I was designed to determine deterrents to the use of instructional media as perceived by faculty members. Eighteen statements representing various types of deterrents to media use were listed using the following five point scale: strongly agree, agree, uncertain, disagree, strongly disagree. Points on the scale were coded numerically and given the weights 5, 4, 3, 2, 1, respectively. Each participant was asked to

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indicate his degree of agreement or disagreement with each statement as it applied to his own situation at the college in which he taught. Each participant's responses to each statement were summed to obtain his perception score of deterrents to media use. Part II of this section contained one question which asked respondents to indicate the extent to which they thought they would use instructional media if deterrents to such use were overcome. Respondents were asked to check one of four responses: much, some, little, or none.

<u>Section H</u> consisted of two parts designed to determine the level of interest on the part of respondents to participate in inservice media training and the training areas they were most interested in. In Part I, respondents were asked to check one of the following four responses regarding their interest in media training: very interested, moderately interested, slightly interested, and not interested. In Part II, respondents were asked to check as many applicable training areas as they were interested in.

The questionnaire was translated into the Arabic language after a study of face validity was conducted (see Appendix F).

### Validation of the Research Instrument

A study of the face validity of the English version of the questionnaire was conducted by the researcher at Michigan State University. Three faculty members in the field of instructional media were asked to rate the content relevancy as well as the clarity of the questionnaire's items using the following scale: strongly agree, agree, uncertain, disagree, strongly disagree. The raters were provided with a letter describing the purpose of the study, the target population, and instructions to fill out the answer sheets which accompanied the questionnaire (see Appendix A). Raters were also asked to provide comments concerning additions of certain items. Items on which at least two raters agreed were retained. An analysis of responses indicated that the three raters agreed on almost all of the questionnaire's items. Two items were added on the basis of suggestions from two raters. These were items number 6 and 18 on Sections E and G, respectively.

The above procedures were suggested by a research consultant at the Office of Research Consultation at the College of Education at Michigan State University.

#### Pilot Testing the Research Instrument

After a study of the face validity of the English version of the questionnaire was conducted and necessary revisions were made, the questionnaire was translated into the Arabic language by the researcher. The translated version was then revised and checked against the English version by an Arabic instructor at Michigan State University (see Appendix B).

In order to ensure the clarity of the Arabic version of the questionnaire for the study subjects, a pilot test of this version was conducted in Saudi Arabia. Fifteen faculty members were selected randomly from the target population. Respondents were asked to rate each item of the questionnaire as "clear" or "not clear" and to provide reasons concerning items rated as "not clear." Respondents were provided with answer sheets and a letter (see Appendix C) explaining the intent of the main study, the purpose of the pilot test, and instructions for completing the test. Based on analysis of the responses, only minor revisions were made concerning changes in some words in some items of the questionnaire.

## Administration of the Questionnaire

Data for this study were collected during March and April, 1984. Various steps were undertaken to facilitate administration of the questionnaire and to get as many responses as possible. First, a letter from the vice rector for academic affairs at King Faisal University (the researcher's sponsoring university) was addressed to the deans of the other colleges participating in this study (see Appendix H). The letter introduced the researcher and requested assistance during the course of data collection. This letter was passed to each dean personally by the researcher. Second, during a meeting with each dean, the researcher requested and obtained letters addressed to faculty members at the corresponding colleges requesting their cooperation and responses (see Appendix 1).

Two letters were enclosed with the questionnaires, the one from the college dean and a letter from the researcher. The researcher's letter explained the purpose of the study, provided directions for completing the questionnaire, specified a date for returning the questionnaire, and requested participants' cooperation and responses (see Appendix D).

The questionnaire accompanied by these two letters were distributed to and collected from respondents through the secretaries of the academic departments at each college. The secretaries distributed and collected the questionnaires either by personal contact with respondents or through their departmental mailboxes.

Additional copies of questionnaires accompanied by follow-up letters (see Appendix G) were sent to participants who did not return the original questionnaires by the specified date. Upon request from the researcher, the secretaries sent reminders to those who did not respond to the follow-up letter. In some cases, the researcher contacted heads of academic departments who passed on oral messages to faculty who did not respond the follow-up letter. These efforts by the researcher, secretaries, and heads of academic departments contributed to the high response rate for the questionnaire.

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## Percentage of Responses

Since the study included the entire target population which consisted of 558 male faculty members at colleges of education in Saudi Arabian universities, every faculty member was administered the questionnaire. Of the 558 questionnaires distributed, 494 or 88.5% were returned. Of these 494, 27 or 5.8% were almost completely blank and, thus, excluded from the study. Therefore, the final number of questionnaires used in the analysis of data was 467 which constituted a response rate of 83.7%. Table 2 shows the number and percentage of respondents from each college.

Table 2		•
Number	and Percentage of Respondents from Each	College

	Total # of	<u>Total Number o</u>	f Quest	ionnaires
College	Members	Number Distributed*	Net <u>N</u>	<u>%</u>
Riyadh Col. of Ed.	231	231	186	80.5
Abha Col. of Ed.	61	61	53	86.9
Mekkah Col. of Ed.	114	114	97	85.1
Tayef Col. of Ed.	35	35	29	82.9
Medina Col. of Ed.	74	74	59	79.7
H⊎fof Col. of Ed.	43	43	43	100.0
TOTAL:	558	558	467	83.7

\*The entire target population is included in the study.

#### Data Analysis

In treating data for this study, four statistical techniques were employed utilizing the Statistical Package for the Social Sciences (SPSS) at the Michigan State University Computer Center. First, descriptive statistics in the form of percentages, frequency distributions, means, and standard deviations were used to present data related to the first research question concerning the extent of use of instructional media as well as to describe the distributions of the demographic and independent variables included in this study.

Second, a one way analysis of variance was used as a measure of differences. Specifically, to answer the second research question concerning frequency of media use among the colleges, a test of the first null hypothesis was conducted using a one-way analysis of variance. One way analysis of variance was also employed in testing null hypothesis number two (research question 3, a) regarding frequency of media use among the academic fields. The Schefee post hoc multiple comparison technique was used to determine the sources of significant differences.

Third, in dealing with null hypotheses three through eight (research question 3, b-g), the Pearson Product Moment Correlation Coefficient was employed to determine the degree of correlation between the frequency of media use (dependent variable) and each of the following factors (independent variables):

- I. teaching experience,
- 2. attitude toward instructional media,
- 3. instructional media training,
- 4. perception of administrative support for media utilization,
- 5. amount of information about instructional media, and
- 6. perception of deterrents to media use.

The Pearson coefficient was also used in dealing with the fourth research question and null hypothesis number nine to determine whether or not faculty attitudes toward instructional media were related to their perception of deterrents to media use.

Fourth, and finally, to answer the fifth research question concerning the relationship between frequency of media use and the independent variables taken together, null hypothesis number 10 was tested using multiple regression techniques. A blockwise/stepwise regression technique was used. Academic fields were entered first into a regression equation as a block of dummy variables. Stepwise regression procedures were then used for the remaining independent variables. A one way analysis of variance test was used to evaluate the statistical significance of the predictive power of the combined independent variables.

The null hypotheses were tested at the .05 level of significance.

## Summary

The research methodology used in this study was designed to determine the factors which influence the use of instructional media by male faculty members at colleges of education in Saudi Arabian universities. To achieve this purpose, the study focused on five research questions and 10 null hypotheses which addressed faculty use of instructional media as related to academic fields, teaching experience, attitude toward media, prior media training, perception of administrative support for media use, information about instructional media, and perception of deterrents to media use.

The study included the entire target population which consisted of male faculty members who teach at the six colleges of education presently existing in Saudi Arabian universities. Data for this study were collected by the survey method using a questionnaire. Designed with seven sections, the questionnaire was rated in terms of its clarity and content relevance (face validity) by three faculty members at Michigan State University. Prior to its administration, a pilot test was conducted in Saudi Arabia.

Of the 558 questionnaires distributed, 467 or 83.7% were returned and used in the analysis.

The statistical techniques used in the analysis of data included descriptive statistics in the form of percentages, frequency distributions, means, and standard deviations, one-way analysis of variance, the Pearson product moment correlation coefficient, and a blockwise/stepwise multiple regression technique.

## CHAPTER IV

#### FINDINGS AND DISCUSSION

## Introduction

Findings of this study are analyzed and discussed in this chapter. The primary objective of the study was to determine the individual and institutional factors which have influence upon the use of instructional media by male faculty members at the colleges of education in Saudi Arabian universities. The data in this chapter are presented in the form of descriptive statistics (e.g., percentages, frequency distributions, etc.), analysis of variances, correlations, and multiple regression techniques. These data are based on the responses of 467 respondents to a questionnaire distributed to male faculty members at colleges of education in Saudi universities. The 467 questionnaires included in data analysis comprised 83.7% of the total number of faculty members teaching at those colleges.

This chapter is organized into three parts. The first part presents demographic information related to the respondents' ages, academic fields, teaching experiences, academic degrees, academic ranks, and adminstrative/academically-related positions. In the second part, findings of the study are presented in the form of answers to research questions and tests of null hypotheses. In the third part, the study's findings are discussed.

## Demographic Information

# <u>Age</u>

Respondents were asked to indicate their actual ages by filling in a blank provided on the questionnaire. Ages categorized into five-year intervals are shown in Table 3. Of the 467 respondents, more than half or 241 participants (51.6%) were 36 to 45 years of age. The mean age of respondents was 41.5 years.

			the second s
Age in Years	N	<u>%</u>	
26 - 30	16	3.4	
31 - 35	88	18.8	
36 - 40	135	28.9	
41 - 45	106	22.7	
46 - 50	69	14.8	
51 - 55	25	5.4	
56 - 60	18	3.9	
61 - 65	6	1.2	
66 - 70	4	0.9	
TOTAL:	467	100.0	

Table 3 Distribution of Respondents by Age

#### Academic Fields

Academic fields in this study were grouped into seven categories. Table 4 summarizes the number and percentage of respondents in each academic field.

#### Teaching Experience

Faculty members were asked to indicate the total number of years they taught at the university level. Respondents' years of teaching were then categorized into five-year intervals as shown in Table 5. The lowest number of years of teaching was one, and the highest number of years was 39. Approximately 50% of the respondents had seven or fewer years of teaching experience. The mean number of years of teaching experience was 9.47 with a standard deviation of 7.63.

Table 4			
Distribution of	Respondents by	Academic	Field

	-		
Academic Fields*	<u>N</u>	<u>%</u>	
Educational studies	185	39.6	
Educational media	20	4.3	
Social studies	65	13.9	
Science studies	65	13.9	
Language studies	80	17.1	
Islamic studies	35	7.5	
<b>Mathematics</b>	17	3.6	
TOTAL:	467	100.0	

\*See definition of academic field in Chapter I, p. 18.

## Table 5

Distribution of Respondents by Years of Teaching Experience

Years of Teaching Experience	N	<u>%</u>	
1 - 5	189	40.5	
6- 10	115	24.6	
11 - 15	66	14.1	
16 - 20	56	12.0	
21 - 25	24	5.2	
26 - 30	11	2.3	
31 - 35	5	1.1	
36 - 40	1	0.2	
TOTAL:	467	100.0	

# Nationality

In this study, the Saudis comprised only 26.3% or 123 of the 467 respondents, as shown in Table 6.

Table 6				
Distribution	of	Respondents	by	Nationality

	Nationality	N	<u>%</u>	
	Saudis	123	26.3	
	Non-Saudis	344	73.7	
TOTAL:		467	100.0	

# Academic Degree

Respondents were asked to indicate the highest academic degrees they had earned. Table 7 displays the academic degrees of all respondents. As shown in this table, more than four-fifths or 361 respondents (81.6%) hold doctorate degrees, while 77 or 16.5% hold Master's degrees, and only eight or 1.7% hold Bachelor's degrees as their highest academic degrees.

Academic Degree	N	%	
Bachelor's	8	1.7	
Master's	77	16.5	
Doctorates	361	81.6	
Other	l	0.2	
TOTAL:	467	100.0	

Table 7Distribution of Respondents by Academic Degree

# Academic Rank

Table 8 shows academic ranks of respondents. As can be seen from this table, more than one-half or 56.3% of respondents were assistant professors, followed by lecturers and associate professors with 17.6% each, while only 40 or 8.6% were full professors.

Academic Rank	<u>N</u>	<u>%</u>	
Lecturer	82	17.6	
Assistant professor	263	56.3	
Associate professor	82	17.6	
Professor	40	8.6	$L_{1}$
TOTAL:	467	100.0	

Table 8 Distribution of Respondents by Academic Rank

## Administrative/Academically-Related Positions

Respondents were asked to indicate the administrative/academic positions they held, if any. Table 9 presents a distribution of these positions among the respondents. As shown in this table, more than 80% of respondents were not involved in any type of administrative position. Among other administrative positions indicated by 41 respondents were vice-chairmen of academic departments, directors of media centers, deans and vice deans of admission and registration, chairmen and vice-chairmen of English language centers, and supervisors of students' teaching practice offices.

Administrative Position	N	<u>%</u>
College dean	2	0.4
College vice-dean	3	0.6
Head of academic department	34	7.3
Other	41	8.8
None	387	82.9
DTAL:	467	100.0

Table 9 Distribution of Respondents by Administrative/Academically-Related Position

#### Answers to Research Questions and Results of Hypotheses Testing

In this section, answers to the research questions and results of testing the null hypotheses are presented. In addition, a description of the independent variables in the form of percentages, frequency distributions, means, and standard deviations are given.

## Extent of Use of Instructional Media

Research Question One

What is the extent of use of instructional media by male faculty members at the male colleges of education in Saudi Arabian universities?

Respondents were asked to indicate the average number of times they used 14 types of instructional media per academic term. Frequency of media use was divided into five categories: 0 times, 1-3 times, 4-6 times, 7-9 times, and 10 or more times. Table 10 summarizes the extent of use of each instructional medium by faculty members per academic semester.

The frequency category "0 times" for all instructional media listed received the highest rate of responses from all participants. The medium used 10 or more times per academic semester more frequently than any other medium listed was "chart and graph" with 40 respondents or 8.6% using this medium 10 or more times per semester, followed by "models and specimens" with 32 participants or 6.9% reporting using them 10 or more times per semester.

In the I-3 times frequency category, charts and graphs received the highest rate of responses with 70 participants or 15.0% saying they used them I-3 times per semester. In fact, charts and graphs were the form of media most frequently used by faculty members across all frequency categories. The second form of media used I-3 times per semester more often than other media was 8mm or 16mm instructional films, with 68 respondents or 14.6% reporting using them I-3
times per semester, followed by slides (51 respondents or 10.9%) and overhead transparencies (47 respondents or 10.1%).

# Table 10 Frequency of Use of Instructional Media by Faculty Members per Semester

	Number of Times Used Per Term										
	<u>0</u>		<u>I-3</u>		4	<u>4-6</u>		7-9		<u>10 or more</u>	
	N	<u>%</u>	N	<u>%</u>	N	<u>%</u>	N	<u>%</u>	<u>N</u>	<u>%</u>	
8mm or 16mm instruc. film	362	77.5	68	14.6	25	5.4	4	0.9	8	1.7	
Filmloop	439	94.0	19	4.1	6	1.3	2	0.4	I	0.2	
Filmstrips	418	89.5	22	4.7	21	4.5	5	1.1	I	0.2	
Slides	375	80.3	51	10.9	21	4.5	9	1.9	11	2.4	
Television/ videotapes	377	80.7	41	8.8	23	4.9	18	3.9	6	1.7	
Overhead trans- parencies	356	76.2	47	10.1	25	5.4	23	4.9	16	3.4	
Opaque projector and materials	405	86.9	28	6.0	20	4.3	8	1.7	5	1.1	
Audiotape recordings	388	83.1	36	7.7	13	2.8	6	1.3	24	5.1	
Programmed instruc- tional materials	411	88.0	33	7.1	9	1.9	2	0.4	12	2.6	
micro-computer	435	93.1	19	4.1	3	0.6	4	0.9	6	1.3	
Charts/graphs	292	62.5	70	15.0	38	8.1	27	5.8	40	8.6	
Maps/globes	378	80.9	35	7.5	17	3.6	6	1.3	31	6.6	
Models/specimens	347	74.3	34	7.3	30	6.4	24	5.1	32	6.9	
Flannel, bulletin, or magnetic boards	427	91.4	21	4.5	12	2.6	3	0.6	4	0.9	
Other (All categories total 4	430 67 res	92.1 sponde	9 ints o	1.9 r 100.0	7 %.)	1.5	5	1.1	16	3.4	

On the other hand, the medium used less frequently than any other listed was film loop, with 439 respondents or 94.0% saying they did not use it during the semester. The second least frequently used medium was micro-computer, with 435 respondents or 93.1% reporting no use of it, followed by instructional boards--flannel, bulletin, or magnetic--(91.4%) and filmstrips (89.5%). Table II presents a rank order of instructional media by frequency of use.

Instructional <u>Media</u>	# Faculty Using Each <u>Medium</u>	% Faculty Using Each <u>Medium</u>	Rank <u>Order</u>	
Charts/graphs	175	37.5	ł	
Models/specimens	120	25.7	2	
Overhead transparencies	111	23.8	3	
8mm or 16mm instructional films	105	22.5	4	
Slides	92	19.7	5	
Television/videotapes	<b>9</b> 0	19.3	6	
Maps/glob <del>es</del>	89	19.0	7	
Audiotape recordings	79	16.9	8	
Opaque projector and materials	61	13.0	9	
Programmed instructional materials	56	12.0	10	
Filmstrips	49	10.5	11	
Flannel, bulletin, or magnetic boards	40	8.6	12	
Micro-computers	32	6.9	13	
Filmloop	28	6.0	14	

Table II Rank Order of Instructional Media by Frequency of Use

It can be inferred from the data shown in Tables 10 and 11 that more than 60% of all participants did not use any one of the forms of instructional media listed. Further, Table 10 clearly indicates the heavy concentration of responses in the "0 times" frequency category for all media listed. In addition, since the media frequency score for any respondent ranges from 0 to 56, the mean frequency of media use (5.08) was far below the maximum media score possible. These findings as well as figures in Tables 10 and 11 justify the answer to Research Question One that there was a low rate of instructional media use by male faculty members at the colleges of education in Saudi Arabian universities.

#### Research Question Two

Are there significant differences among the colleges concerning frequency of instructional media use by faculty members?

The six colleges of education participating in this study were compared in terms of the frequency of media use by faculty members per semester using oneway analysis of variance. Table 12 shows the mean frequency of media use score by faculty members at each college.

College	N	Mean	<u>S.D.</u>
Riyadh College of Education	186	4.89	5.55
Abha College of Education	53	6.62	6.25
Mekkah College of Education	97	4.91	4.68
Tayef College of Education	29	4.03	4.97
Medina College of Education	59	5.47	6.71
Hufof College of Education	43	4.51	6.01
TOTAL:	467	5.08	5.64

Table 12 Mean Frequency of Media Use by Faculty Members at Each College

Data in Table 12 indicate that on the average faculty members at Abha College used media more often than did faculty members at the other colleges, followed by faculty at Medina College. To determine if the mean frequency of media use differed significantly among the colleges, null hypothesis one was tested using one-way analysis of variance.

#### Null hypothesis one

There will be no significant differences among the colleges concerning the frequency of instructional media use by faculty members.

Results of testing null hypothesis one are displayed in Table 13. The test results indicate that the level of significance produced by the calculated f-ratio is .31. Since this level is greater than the .05 level of significance, null hypothesis one was not rejected. Therefore, the answer to Research Question Two is that there were no significant differences among the colleges of education at Saudi universities concerning frequency of media use by faculty members.

Source of Variance	df	<u>Mean S.</u>	<u>F-ratio</u>	<u>P(F)</u>	
Between colleges	5	38.08	1.20	.31	
Within colleges	461	31.76			
TOTAL:	466				

Table 13

Analysis of Variance Results Comparing Media Utilization by College

# **Research Question Three**

What is the relationship between the frequency of instructional media use (dependent variable) and each of the following factors (independent variables): (a) academic field, (b) teaching experience, (c) attitude toward media, (d) previous media training, (e) perception of college administrative support, (f) amount of information about instructional media, and (g) perception of deterrents to media use?

To answer Research Question Three, seven null hypotheses (hypotheses two through eight) were generated. A one-way analysis of variance was used to test null hypothesis two, while a Pearson product moment correlation coefficient was employed to test null hypotheses three through eight. Table 14 shows the results of testing null hypothesis 2. Table 15 shows the results of testing null hypotheses three through eight.

 Table 14

 Analysis of Variance Results Comparing Media Utilization by Academic Fields

Source of Variance	df	<u>Mean S.</u>	<u>F-ratio</u>	<u>P(F)</u>
Between academic fields	6	712.59	31.08	0000*
Within academic fields	466	22.95		
TOTAL:	467			

\*Significant at the alpha = .05 level of confidence.

Table I
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Relationship Between Faculty Use of Instructional Media and Other Independent Variables

Independent Variables	<u>R Values</u>	
Teaching experience	.16*	
Attitude toward instructional media	.54*	
Previous media training	<b>.</b> 53*	
Perception of college administrative support	.38*	
Amount of information about instructional media	.42*	
Perception of deterrents to media use	29*	

\*Significant at the alpha = .05 level of confidence

# Relationship Between Media Use and Academic Field

Faculty members' academic fields of specialization were grouped into seven categories: educational studies, educational media, social studies, science studies, language studies, Islamic studies, and mathematics (see definition in Chapter I, p. 18). Null hypothesis two was tested to determine if significant differences existed among these academic fields concerning frequency of instructional media use by faculty members.

#### Null Hypothesis Two

There will be no significant differences among academic fields concerning the frequency of instructional media use by faculty members.

To test this hypothesis, a one-way analysis of variance was employed. Table 14 showed the results of comparing media utilization among academic fields. The value calculated for the F-ratio was significant at the .05 level of confidence. Therefore, null hypothesis two was rejected, indicating that there were significant differences among academic fields in regard to faculty use of media.

To determine the sources of significant differences, a Schefee post hac multiple comparison technique was employed. Analysis of the results showed that faculty members in the field of educational media had a higher frequency of media use than faculty in all other academic fields. On the other hand, faculty teaching Islamic studies had a lower frequency of media use than faculty members in all other disciplines except mathematics. Further, there were no significant differences in the frequency of media use among the academic fields of educational studies, social studies, science studies, language studies, and mathematics. Therefore, it can be concluded that other than educational media and Islamic studies, academic fields did not yield significant differences concerning frequency of media use by faculty members. Table 16 shows the mean frequency of media use by faculty members in each academic fields.

Data in Table 16 indicate that on the average sampled faculty in social and science studies used media more often than did those in language, educational, and Islamic studies or mathematics. However, the finding mentioned above indicated no significant differences among these academic fields.

Acodemic Field	N	Mean	<u>S.D.</u>
Educational studies	185	4.34	4.35
Educational media	20	17.50	9.09
Social studies	65	6.05	3.94
Science studies	65	5.92	5.13
Language studies	80	4.95	5.80
Islamic studies	35	0.14	0.69
Mathematics	17	2.35	3.14
TOTAL:	467	5.08	5.64

Table 16								
Mean Frequency	of	Media	Use by	Faculty	Members	in Each	Academic	Field

#### Relationship Between Media Use and Teaching Experience

Teaching experience has been defined as the total number of years spent in university teaching. It should be noted that faculty members' actual years of teaching were correlated with their frequency of media use; that is, categorizing years of teaching experience into five-years intervals as shown in Table 17 was done later to put them into a readable form. The relationship between media use and teaching experience was tested in null hypothesis three.

# Null Hypothesis Three

There will be no significant correlation between the frequency of instructional media use by faculty and their teaching experience.

The result of testing this hypothesis showed a small but significant correlation (r = .16, p < .001) between the frequency of media use by faculty members and their years of teaching experience. Thus, null hypothesis three was rejected. Faculty members with a greater number of years of teaching experience used media more often than did those who had less teaching experience. Table 17 shows the mean frequency of media use by faculty in each category of teaching experience. This table indicates that as the number of years spent in university teaching increased, so did the mean frequency of media use.

Years of Teaching Experience	N	Mean	<u>S.D.</u>
I - 5	189	4.12	5.38
6 - 10	115	5.20	5.22
11 – 15	66	5.23	5.40
16 - 20	56	6.64	6.86
21 - 25	24	7.04	5.41
26 - 30	11	6.45	6.12
31 - 35	5	7.60	8.26
36 - 40	I	0.00	0.00
TOTAL:	467	5.08	5.64

 Table 17

 Mean Frequency of Media Use by Number of Years of Teaching Experience

# Relationship Between Media Use and Attitude Toward Media

To determine faculty members' attitude toward instructional media, 14 statements representing various points of view about media utilization were developed based on a review of related literature. Eight were positive statements (1, 3, 4, 6, 7, 9, 11, 13) and six were negative statements (2, 5, 8, 10, 12, 14). The statements were randomly ordered. Respondents were asked to indicate their degrees of agreement or disagreement with each statement using a five point Likert-type attitudinal scale. Table 18 shows participants' responses to each statement. The relationships between faculty use of media and their attitudes toward media was tested in null hypothesis four.

Table 18	3				
Faculty	Members'	Perception o	f Instructional	Media	(IM)

	Stron <u>Agr</u>	gly ee	<u>Agr</u>	ee	Unce	ertain	Disa	gree	Stroi Disa	ngly gree
<u>Statement</u>	N	<u>%</u>	<u>N</u>	<u>%</u>	N	<u>%</u>	N	<u>%</u>	N	<u>%</u>
l. IM motivate stu- dents to learn.	190	40.7	194	41.5	65	13.9	16	3.4	2	0.4
2. IM are more suit- able for elementary and secondary than higher education.	<b>9</b> 8	21.0	120	25.7	29	6.2	147	31.5	73	15.6
*3. IM help to teach a greater number of students equally at the same time.	75	16.1	235	50.3	110	23.6	36	7.7	9	1.9
4. IM help to clarify concepts and impor- tant details of a lesson.	200	42.8	234	50.1	20	4.3	13	2.8	0	0.0
5. The time and effort required to plan to use IM are out of pro- portion to their educational value.	5	1.1	21	4.5	37	7.9	293	62.7		23.8
6. IM provide for individual differ- ences in the learn- ing needs of students.	67	14.3	189	40.5	158	33.8	49	10.5	4	0.9
7. IM should be an essential element of the teaching method.	131	28.1	254	54.4	51	10.9	28	6.0	3	0.6
*8. The personal re- lationship between the teacher and stu- dent is lost when IM are used.	6	1.3	19	4.1	41	8.8	287	61.5	112	24.0
9. IM help students gain a better understanding of subject matter.	193	41.3	236	42.8	30	6.4	7	1.5	ł	.02

Table 18, continued

	Stron <u>Agr</u>	igly ee	Agr	ee	Unce	ertain	Disa	gree	Stroi Disa	ngly gree
Statement	N	<u>%</u>	N	<u>%</u>	N	<u>%</u>	N	<u>%</u>	N	<u>%</u>
10. The use of IM tends to weaken the teacher's role and control in his classroom.	I	0.2	14	3.0	43	9.2	295	63.4	113	24.2
<ol> <li>There is a need</li> <li>for a wider use of IM</li> <li>in higher education.</li> </ol>	92	19.7	183	39.2	121	25.9	63	13.5	8	1.7
<ul><li>12. Instructional</li><li>technology tends to</li><li>dehumanize education.</li></ul>	10	2.1	44	9.4	58	12.4	224	48.0	131	28.1
13. IM save time for both teaching and learning.	58	12.4	207	44.3	145	31.0	51	10.9	6	1.3
14. The cost of IM is out of proportion to their educational value.	I	0.2	40	8.6	38	8.1	240	51.4	147	31.5

\*All totals equal 467 respondents (100.0%) except those which equal 465 respondents (99.6%).

#### Null Hypothesis Four $n^{b}$

There will be significant correlation between the frequency of instructional media use by faculty and their attitude toward instructional media.

In testing this hypothesis, participants' attitudinal scores indicated by their responses to 14 statements were correlated with their frequency of media use employing a Pearson coefficient. An analysis of the results showed a significant correlation (r = .54, p < .001) between the two variables. Therefore, null hypothesis four was rejected. The frequency of instructional media use was

higher among faculty members with more positive attitudes toward instructional media.

# Relationship Between Media Use and Previous Media Training

In determining faculty previous media training, five levels of training were listed in Section D of the questionnaire (see Appendix E). Respondents were asked to indicate the highest level of media training they had previously completed. In addition, they were asked to indicate the media-related skills they acquired from their training by checking as many of those skills as applied. Table 19 shows the number and percentage of respondents trained at each level, while Table 20 shows the number and percentage of respondents acquiring each type of skill.

Table 19

Number and Percentage of Faculty Trained at Each Level of Media Training

Level of Media Training	N	<u>%</u>
A degree program in instructional media	34	7.3
Two or more academic courses in instructional media	70	15.0
One academic course in instructional media	97	20.8
One-seven day workshop in instructional media	20	4.3
Other	16	3.4
No training at any level	229	49.0
TOTAL:	466	99.8

From Table 19 it can be seen that about 50% of all respondents did not have any media training. The other levels of media training reported by 16 respondents fell into two categories: conscious self-instruction and on-the-job training. Table 20 shows that of the 467 respondents, only 188 or 40.3% were familiar with the operation of instructional media equipment. From this data it can be inferred that more than 65.0% of all participants did not have skills in production, selection, and evaluation of instructional media.

Table 20 Number and Percentage of Faculty Acquiring Each Type of Media Skill

Type of Media Skill	N	<u>%</u>	
Operation of instructional media equipment	188	40.3	
Production of instructional materials	134	28.7	
Selection of instructional media	150	32.1	
Evaluation of instructional media	84	18.0	
Other	18	3.9	

The relationship between faculty use of media and their prior media training was statistically tested in null hypothesis five.

# Null Hypothesis Five

There will be no significant correlation between the frequency of instructional media use by faculty and their previous media training.

In testing this hypothesis, the levels of media training described above were correlated with faculty use of media. An analysis of the results showed that there was a significant correlation (r = .53, p < .001) between the frequency of media use by faculty members and their prior media training. Thus, null hypothesis five was rejected. Faculty members with prior training in instructional media used media more often than did faculty with no training.

# Relationship Between Media Use and Faculty Perception of Administrative Support

Reference was made in Chapter II to the provisions of various types of instructional media services at the colleges of education participating in this study. In determining faculty members' perceptions of college administrative support for media utilization, 10 types of such support were listed using the following five point scale: very often, sometimes, do not know, seldom, and never. Respondents were asked to indicate the frequency with which each type of support was provided to encourage their use of instructional media.

Participants' responses indicated that the only type of support which was reported by slightly more than half of the respondents (50.5%) as being provided was "technical assistance in the operation of media equipment" (see Table 21). However, only 63 respondents or 13% said that such assistance was very often provided. Further, only 45.2% of the respondents were satisfied with the provision of adequate media materials and equipment. All other types of support listed received 38.0% and fewer responses as being provided by the colleges for encouraging media utilization. It should be pointed out that no more than 19.5% of all respondents agreed that all 10 types of support were provided on a regular basis or very often.

The relationship between media use and faculty perception of college administrative support for media utilization was tested in null hypothesis six.

# Null Hypothesis Six

There will be no significant correlation between the frequency of instructional media use by faculty and their perception of college administrative support for media utilization.

In testing this hypothesis, faculty perception scores for 10 types of administrative support were correlated with their frequency of media use. An analysis of the test results showed that there was a significant correlation (r = .38, p < .001) between these two variables. Therefore, null hypothesis six was rejected, indicating that faculty members who had more favorable perception of administrative support for media utilization used media more often than did those who had less favorable perception of such support.

Table 21

Number and Percentage of Faculty Responses to Statements Concerning College Administrative Support for Media Utilization

	Frequency of Providing Each Type of Support										
	Ve Of	ry ten	Sor tim	ne- nes	Do l Kno	Not ow	Selo	dom	Ne	ver	
Types of Support	N	<u>%</u>	N	<u>%</u>	N	<u>%</u>	N	<u>%</u>	N	<u>%</u>	
I. Workshops, lec- tures, or media training for faculty members	7	1.5	84	18.0	160	34.3	84	18.0	132	28.3	
*2. Technical assis- tance in selection and production of media materials	63	13.5	113	24.2	182	39.0	53	11.3	54	11.6	
3. Technical assi- tance in operation of media equipment	91	19.5	145	31.0	153	32.8	39	8.4	39	8.4	
4. Financial support for academic depart- ment to obtain IM not available at the college	62	13.3	90	19.3	239	51.2	23	4.9	53	11.3	
5. Innovation in teaching methods is accepted as part of college criteria for promotion of faculty members	10	2.1	31	6.6	286	61.2	6	1.3	134	28.7	
6. Providing ade- quate media materi- als and equipment	71	15.2	140	30.0	198	42.4	40	8.6	18	3.9	
*7. Providing deli- very service for media materials and equipment	31	6.6	101	21.6	185	39.6	74	15.8	74	15.8	
8. Involving faculty in decision-making related to media selection	31	6.6	88	18.8	203	43.5	43	9.2	102	21.8	

Table 21, continued

	Frequency of Providing Each Type of Support										
	Very <u>Often</u>		Some- times		Do Not <u>Know</u>		Seldom		Never		
Types of Support	N	<u>%</u>	N	<u>%</u>	<u>N</u>	<u>%</u>	N	<u>%</u>	N	<u>%</u>	
*9. Up-dating fa- culty about media- related activities	19	4.1	94	20.1	151	32.3	97	20.8	105	22.5	
**10. Maintaining flexible rules for gaining access to IM resources	46	9.9	108	23.1	220	47.1	41	8.8	46	9.9	

\*All totals equal 467 respondents (100.0%) except those which equal 465 respondents (99.6%).

\*\*This response was from 461 respondents (98.7%).

# <u>Relationship Between Media Use and</u> <u>Amount of Information Faculty Receive</u> about Instructional Media

In testing the relationship between frequency of media use by faculty and amount of information they receive about these media, seven possible sources of information were considered. Respondents were asked to indicate the frequency with which they receive information about instructional media using the following five point scale: very often, sometimes, do not know, seldom, and never. Points in the scale were given weights from five to one, respectively, where five was assigned to the highest frequency rate of receiving information from any one of the sources listed. The total score across items for an individual represented the amount of information he received about instructional media.

Table 22 shows the number and percentage of faculty members who received information from each source. For most of the information sources listed, the "never" category received the highest rate of responses. Only 26.2%

# Table 22

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Number and Percentage of Faculty Members Receiving Information about Instructional Media

	Frequency of Receiving Information										
	Very Often		Some- <u>times</u>		Do Not <u>Know</u>		Seldom		Never		
Information Sources	N	<u>%</u>	N	<u>%</u>	<u>N</u>	<u>%</u>	N	<u>%</u>	N	<u>%</u>	
I. Newsletters, brochures, or other publications issued by college media center	18	3.9	104	22.3	50	10.7	82	17.0	213	45.6	
2. Exhibitions or demonstrations done periodically by col- lege media center	4	0.9	47	10.1	57	12.2	94	20.1	265	56.7	
*3. Correspondence from department head to faculty members	25	5.4	90	193	51	10.9	44	9.42	256	54.8	
*4. Correspondence from media staff to faculty members	4	0.9	30	6.4	61	13.1	49	10.5	322	69.0	
5. College bulletin	5	1.1	23	4.9	72	15.4	37	7.9	330	70.7	
6. Personal contact with media staff at the college	69	14.8	137	29.3	43	9.2	80	12.8	158	33.8	
7. Talking to col- leagues within department or college	54	11.6	199	42.6	42	9.0	71	15.2	101	21.6	

\*All totals equal 467 respondents (100.0%) except those which equal 465 respondents (99.6%).

said they either very often or sometimes received information in the form of newsletters. More than half the respondents said they never received any information about instructional media from media centers' exhibits (56.7%), correspondence from department heads (54.8%), correspondence from media staff (69.0%), or college bulletins (70.7%). Further, only 14.8% and less of the respondents said they very often received information from all the sources listed. The two sources through which faculty members received information more often than they did from any of the other sources were "personal contact with media staff at the college" (44.1%) and "talking to colleagues within the department or college" (54.2%).

The relationship between frequency of media use and amount of information received about instructional media was tested in null hypothesis seven.

#### Null Hypothesis Seven

There will be no significant correlation between the frequency of instructional media use by faculty and the amount of information they received about instructional media.

In testing this hypothesis, frequency of media use by faculty was correlated with the amount of information they received about those media. Analysis of the results showed that there was a significant correlation (r = .42, p < .001) between these two variables. Therefore, null hypothesis seven was rejected. Faculty members who received more information from many sources about instructional media used media more often than did those who received less or no information.

# Relationship Between Media Use and Perception of Deterrents to Media Use

Based on previous studies of media use in higher education, 18 statements representing various types of deterrents to media utilization were developed.

Respondents were asked to indicate their degrees of agreement or disagreement with each statement as it applied to their own experience at the colleges where they taught. Responses to each deterrent are displayed in Table 23.

In order to determine the deterrents that were most often mentioned by respondents, all 18 statements were rank-ordered according to the proportion of faculty perceiving each as a deterrent to media use. Table 24 shows the top 10 deterrents perceived by faculty members.

The relationships between faculty use of media and their perception of deterrents to such use was tested in null hypothesis eight.

#### Null Hypothesis Eight

There will be no significant correlation between the frequency of instructional media use by faculty and their perception of deterrents to media use.

A test of this hypothesis showed that there was a significant negative correlation (r = -.29, p < .001) between the frequency of media use and perceived deterrents to such use. Therefore, null hypothesis eight was rejected. Faculty members who perceived fewer deterrents to media utilization used media more often than did faculty members who perceived more deterrents.

Table 23	
Number and Percentage of Faculty I	Members Perceiving Deterrents to
Media Utilization	-

	Stron Agr	gly ee	Agr	ee	Unce	ertain	Disag	gree	Stror Disa	ngly gree
Deterrents	N	<u>%</u>	<u>N</u>	<u>%</u>	N	<u>%</u>	N	<u>%</u>	<u>N</u>	<u>%</u>
*I. It is difficult to obtain IM when I need them.	63	13.5	145	31.0	68	14.6	166	35 <b>.5</b>	24	5.1
2. IM equipment are difficult to operate.	23	4.9	83	17.8	103	22.1	213	45 <b>.</b> 6	45	9.6
*3. My teaching load does not allow enough time to plan to use IM.	33	7.1	141	30.2	50	10.7	197	42.2	45	9.6
*4. I do not have enough information about IM at the college	70 •.	15.0	154	33.0	42	9.0	141	30.2	59	12.6
5. The subject I teach does not lend itself to the use of IM.	37	7.9	76	16.3	35	7.5	212	45.4	107	22.9
6. Classrooms are not properly designed or equipped to use IM.	117	25.1	186	<b>39.</b> 8	67	14.3	75	16.1	22	4.7
7. IM materials at the college are not organized for easy reference and use.	56	12.0	118	25.3	194	41.5	71	15.2	28	6.0
8. The college admin- istration is not inter- ested in AV methods and look at them as frills.	17	3.6	29	6.2	191	40.9	164	35.1	66	14.1
9. There are few or no media materials for the courses I teach.	48	10.3	139	29.8	152	32.5	98	21.0	30	6.4
10. The college does not have sufficient media equipment.	25	5.4	93	19.9	241	51.6	87	18.6	21	4.5

Table 23, continued

	Stror <u>Ag</u> i	ngly ree	Agr	ee	<u>Unce</u>	<u>ertain</u>	Disa	ree	Stroi Disa	ngly gree
Deterrents	N	<u>%</u>	N	<u>%</u>	N	<u>%</u>	<u>N</u>	<u>%</u>	Ν	<u>%</u>
<ul><li>I. I do not have</li><li>enough training and</li><li>skills in the use of IM.</li></ul>	52	11.1	138	29.6	28	6.0	178	38.1	71	15.2
*12. I have difficulty getting assistance in the operation of AV equipment.	11	2.4	65	18.2	110	23.6	220	47.1	40	8.6
13. It takes much longer to prepare for class using IM than using traditional metho	58 ods.	12.4	168	36.0	78	16.7	115	24.6	48	10.3
14. Communication between media staff and faculty is inef- ficient or lacking.	38	8.1	158	33.8	161	34.5	87	18.6	23	4.9
15. Students look on AV instruction as entertainment and do not study the materials presented.	10 s	2.1	51	10.9	<b>129</b>	27.6	208	44.5	69	14.8
*16. I have difficulty getting assistance in selecting IM for my courses.	17	3.6	112	24.0	116	24.8	192	41.1	29	6.2
*17. AV equipment often breaks down.	10	2.1	68	14.6	280	60.0	85	18.2	23	4.9
*18. My colleagues do not support the use of IM.	13	2.8	41	8.8	201	43.0	173	37.0	38	8.1

\*All totals equal 467 respondents (100.0%) except those which equal 466 respondents (99.8%).

	Number and Percentage					
Deterrents	Number and Faculty Each [	Percentage of Perceiving Deterrent	Rank Order			
	N	<u>%</u>				
Classrooms are not properly designed or equipped to use IM.	303	64.9	1			
It takes much longer to prepare for class using IM than using traditional methods.	226	48.4	2			
l do not have information about IM at the college.	224	48.0	3			
It is difficult to obtain IM when I need them.	208	44.5	4			
Communication between media staff a faculty members is inefficient or lacking.	nd 196	41.9	5			
l do not have enough training and skills in the use of IM.	190	40.7	6			
There are few or no media materials for the courses I teach.	187	40.1	7			
My teaching load does not allow enough time to plan to use IM.	174	37.3	8			
IM materials at the college are not organized for easy reference and use.	174	37.3	8			
I have difficulty getting assistance in selecting IM for my courses.	129	27.6	9			
The college does not have sufficient media equipment.	118	25.3	10			

Table 24 Rank Order of Top Ten Deterrents to Media Utilization Perceived by Faculty Members

# Relationship Between Attitudes Toward Media and Perceived Deterrents to Media Use

#### **Research Question Four**

Is faculty attitude toward instructional media related to their perceptions of deterrents to media use?

To determine whether or not faculty attitudes toward instructional media were related to their perceptions of deterrents to media utilization, null hypothesis nine was tested.

#### Null Hypothesis Nine

There will be no significant correlation between faculty attitude toward instructional media and their perception of deterrents to media use.

In testing this hypothesis, faculty attitudes toward instructional media were correlated with their perceptions of deterrents to media use. The test results showed that there was no significant correlation (r = .059, p .099) between media use and perceived deterrents as the <u>p</u> value was greater than the .05 level of confidence. Therefore, null hypothesis nine was not rejected indicating that faculty attitudes toward instructional media were not related to their perceptions of deterrents to media use.

# Relationship Between Media Use and the Combined Independent Variables

#### **Research Question Five**

What is the relationship between frequency of instructional media use and the combined independent variables?

It was hypothesized that when taken together, the independent variables included in this study would contribute to the total amount of variation in media use (dependent variable). A test of null hypothesis 10 using a multiple regression technique provided the answer to Research Question Five.

# Null Hypothesis Ten

There will be no significant relationship between the frequency of instructional media use and the combined independent variables.

In testing this hypothesis, the independent variables were entered into a multiple regression equation in order to determine the amount of variation in media use accounted for by each variable. A two-stage multiple regression technique was used. A blockwise regression procedure was employed in order to control for all the variance that may be accounted for by academic fields. Therefore, academic fields were entered first into the regression equation as a block of dummy variables. Then, stepwise multiple regression was used for the remaining independent variables. Thus, a blockwise/stepwise multiple regression was performed in testing null hypothesis 10. A multiple correlation coefficient, the square of the multiple correlation coefficient, and an F test for the significance of the multiple correlation were calculated as each block/step was added to the regression (see Table 25). The square of the multiple correlation in media use that was explained by the

Table 25

Multiple Regression	Analysis of Relationship Between Frequency of N	Nedia Use
and the Independent	Variables	

<u>Step</u>	Independent Variables Entered	<u>R Square</u>	R Square <u>Change</u>	<u>Overall F</u>
I	Academic field	.2881	.2881	30.967*
2	Previous media training	.4394	.1513	51.296*
3	Attitude toward media	.5092	.0698	59 <b>.</b> 284*
4	Administrative support	.5535	.0442	62.810*
5	Teaching experience	.5711	.0176	60.604*
6	Deterrents to media use	.5830	.0118	57.709*
7	Information about IM	.5921	.0091	54.808*

\*Significant at the alpha = .05 level of confidence.

independent variables. The results of the prediction analysis are presented in Table 25.

The multiple correlation between frequency of media use and all the independent variables was .7695. The square of the multiple correlation indicated that 59.21% of the variance in the dependent variables could be predicted from the independent variables. The multiple correlation for the combined independent variables was significant at an alpha = .05 level. Thus, null hypothesis 10 was rejected: there is a significant relationship between the combined independent variables and the frequency of media use. The unstandardized regression weight for each independent variable was significant at the alpha = .05 level of confidence. This indicated that each independent variable predicted a significant component of the dependent variable which was not predicted by the other independent variables.

# Answers to Other Items from the Questionnaire

Faculty members were asked to indicate the extent to which they would use instructional media if deterrents to such use were overcome. The number and percentage of participants' responses are presented in Table 26.

Extent of Media Use	N	<u>%</u>	
Much	174	37.3	
Some	164	35.1	
Little	113	24.2	
None	16	3.4	
TOTAL:	467	100.0	

Faculty Members' Forecasts of Their Media Use if Deterrents to Such Use Were Overcome

Table 26

# Faculty Members' Interest in Inservice Media Training

Section H of the questionnaire contained two parts. In the first part, respondents were asked to indicate their degrees of interest in participating in inservice instructional media training. Table 27 presents participants' degrees of interest in such training. In the second part, respondents were asked to indicate the training areas they were interested in. An attempt was made to rank-order the training areas according to the proportion of faculty choosing each (see Table 28).

Table 27 Faculty Members' Degrees of Interest in Participating in Inservice Media Training

Degree of Interest	N	<u>%</u>	
Very interested	219	46.9	
Moderately interested	120	25.7	
Slightly interested	42	9.0	
Not interested	86	18.4	
TOTAL:	467	100.0	

		Number and Percentage of Faculty Members Interested in Each Area	
Rank			
Urder	Training Areas	<u>N</u>	70
l I	Operation of media equipment	249	53.3
2	Selection of instructional media	201	43.0
3	Production of ITV programs	169	36.2
4	Evaluation of instructional media	140	30.0
5	Production of slide sets	133	28.5
6	Production of 8mm or 16mm instructional films	129	27.6
7	Production of overhead transparencies	117	25.1
8	Basic still photography	113	24.2
9	Audiotape production	75	16.1
10	Other	28	6.0

Table 28				
Rank-Order of Faculty Members'	Selection of	Areas of	Interest	for
Inservice Media Training				

# Discussion

In the previous sections, findings of the study were presented in the forms of answers to research questions and tests of null hypotheses along with tables describing participants' responses to the questionnaire items. In the following section, the study's findings are discussed.

The present study sought to determine the influence of selected individual and institutional factors on the frequency of media use by male faculty members at the colleges of education in Saudi Arabian universities. Certain factors were based on Abedor and Sachs' (1978) model, "Readiness for Instructional Innovation in Higher Education," while others were based on previous studies of media use in higher education. Specifically, individual factors related to faculty attitude toward and training in the use of instructional media were based on the model's concept of individual readiness for innovation. Similarly, institutional factors related to administrative support for media use and information about media resources were based on the model's concept of organizational readiness for innovation. Other factors were based on previous studies, including faculty teaching experience and academic field as individual factors and deterrents to media use which are related to both individual and institutional factors.

The study's framework described in Chapter I (see Figure I, p. 14) suggests that faculty use of instructional media is a function of a combination of individual and institutional factors. The study produced data which support the propositions claimed by Abedor and Sachs' model as well as findings of several earlier studies cited in Chapter II.

# **Extent of Media Use**

Research Question One sought to examine the extent to which instructional media were being used by male faculty members at colleges of education in Saudi universities. The frequency of using I4 types of instructional media per academic semester was presented in Table I0. In Table II a rank-order of the frequency of use of each medium was presented. The mean frequency of media use was 5.08. Figures in Table I0 showed that the "0 times" category received the highest number of responses for all types of media listed with more than 60% of all respondents, indicating that they did not use any of those media. These findings justified the answers to Research Question One that there was a low rate of media use by faculty members.

The six colleges of education surveyed in this study were compared in regard to the frequency of media use by faculty members using a one-way analysis of variance. The results of this comparison were presented in Tables 12 and 13. Data displayed in table 12 showed that on the average faculty members

at Abha College, with a mean score of 6.62, and those at Medina College, with a mean score of 5.47, tended to use media more often than did faculty at the other four colleges. However, the results of the analysis of variance indicated no significant differences in media use among the colleges. Therefore, the null hypothesis, that "there will be no significant differences among the colleges concerning the frequency of instructional media use by faculty," was not rejected. This result provided the answer to Research Question Two.

#### Factors in Media Utilization

The study findings indicated that faculty use of instructional media was significantly related to several individual and institutional factors. Those factors comprised the independent variables in this study. Academic field, teaching experience, attitude toward media, and training in media constituted the individual factors, while administrative support to media utilization and availability of information about media were the institutional factors. Deterrents to media utilization are related to both individual and institutional factors (see "Framework for the Study," Chapter I, p. 14).

#### Academic Field

Several previous studies cited in Chapter II reported a significant relationship between media use and academic discipline and concluded that the nature of subject matter taught is a strong predictive factor in teachers' utilization of instructional media (Teather & Collingwood, 1978; Obetz, 1980; Humphrey, 1980; Abdi, 1980). In this study, the null hypothesis that "there will be no significant differences among the academic fields concerning the frequency of instructional media use by faculty members" was rejected where the calculated F-ratio was significant at the .05 level of confidence. Using Schefee post hoc multiple comparison procedures indicated that the significant differences among academic fields in regard to frequency of media use by faculty can be grouped into the following three patterns:

- 1. faculty members in the field of educational media had a higher mean frequency of media use than did faculty members in all other academic fields,
- 2. faculty members teaching Islamic studies had a lower mean frequency of media use than did faculty members in all other academic fields except those teaching mathematics, and
- 3. there were no significant differences regarding frequency of media use among faculty members in educational studies, social studies, science studies, language studies, and mathematics.

The finding just described did not provide a strong supportive evidence of academic discipline as a factor in media utilization. This point warrants further discussion. To begin with, it has been assumed that faculty members specializing in the field of educational media are more closely associated with instructional media than are faculty members in other academic fields and, thus, are expected to be frequent users of media. Therefore, as an academic field, educational media has been purposively separated from the educational studies group because its inclusion with those could significantly influence the frequency of media use in favor of educational studies (see definitions, Chapter I, p. 18). The finding described above supported this assumption where the frequency of media use was highest among faculty teaching educational media. Taking this point into consideration, it can be concluded that other than educational media and Islamic studies, the academic fields of educational, social, science, and language studies and mathematics did not yield significant differences concerning frequency of media utilization by faculty members.

Data shown in Table 16 indicated a discernible trend suggesting a greater use of media by social studies faculty (mean = 6.05) and science studies faculty (mean = 5.92) than language studies faculty (mean = 4.95), educational studies faculty (mean = 4.34), and mathematics faculty (mean = 2.35). However, the findings described above showed no significant differences in media use among these academic disciplines.

# Teaching Experience

The study's finding concerning the relationship between faculty use of media and their years of teaching experience stands in contrast to the results reported by Kelly (1960), Felty (1975), Abdi (1981), and Moshaikah (1982) who found no link between the two variables. In this study the null hypothesis that "there will be no significant correlation between the frequency of instructional media use by faculty and their teaching experience" was rejected, and the alternative hypothesis was accepted. The correlation between media use and years of teaching experience was small (r = .16) but significant at the .05 level of confidence indicating that faculty members with a greater number of years of teaching experience tended to use media slightly more often than did faculty who had less teaching experience. This finding parallels several studies cited in Chapter II, e.g., McIntyre (1963), Hubbard (1960), Stephens (1971), Arterbury (1971), and Penwell (1980). For example, Hubbard noticed that the number of limited users of media decreased as the number of years of teaching experience increased, while Stephens found that faculty members with 10 or more years of teaching used more media than those with fewer years of teaching.

The mean frequency of media use by faculty with various teaching experiences was presented in Table 17. Data in this table indicated that as the total number of years spent in teaching increased, media use tended to increase.

No clear explanation has been advanced by researchers as to why faculty members with more years of teaching experience tended to have a higher rate of media utilization. One possible explanation could be attributed to the reason that those with more teaching experience had more familiarity with media resources and services existing for their use.

#### Attitude Toward Instructional Media

As far as media use is concerned, attitude toward instructional media and training in the use of media are perhaps the factors most extensively investigated by researchers. In regard to the first factor, most researchers mentioned in Chapter II concluded that faculty attitude toward instructional media tended strongly to influence frequency of instructional media utilization. the present study provided a strong support to previous research studies. The null hypothesis that "there will be no significant correlation between the frequency of instructional media" was rejected (r = .54, p<.001) and their attitudes toward instructions was accepted. The frequency of media use was highest among faculty who had more favorable attitudes toward instructional media. This finding is consistent with studies conducted by Kelley (1960), McIntyre (1963), Guba and Snyden (1964), Tobias (1965), Stephens (1971), Rohrlick (1972), Prudy (1975), Imogie (1979), and Moshikeh (1982).

Abdi (1981) reported that "the lowest levels of media use were found among faculty who, for a variety of reasons, viewed media as undesirable impediment to learning" (p. 53), e.g., inhibit good learning habits, impede learning, and interfere with the teacher-student relationship.

In this study limited or non-users of media were among faculty who viewed instructional media as more appropriate to elementary and secondary schools than to colleges or universities. For example, 218 respondents (46.7%) either agreed or strongly agreed on the statement that "instructional media are more suitable to elementary and secondary education than higher education." This perception of instructional media can be explained in light of the concreteabstract relationship of learning experiences. Historically, according to Heinich et al. (1982), improving the relationship between concrete and abstract learning experiences was a key reason for using instructional media. Since college students are able to deal with abstractness (e.g., symbols, words, etc.), instructional media may be seen by some faculty as a means to provide concrete experiences for young learners and, hence, are more appropriate at the lower stages of education. Brown and Thornton (1963) stated:

The notion that learning is unidirectional process from the concrete to the abstract would tend to localize the proper use of audiovisual media and materials at the lower age or grade levels and would result, logically, in a progressive attenuation of their use in high school, college, and adult education. This point of view has been used by Arthur E. Beston, a well-known critic of modern education, to discredit the use of audiovisual methods above the lower grades: "The human mind advances from pictures to words and abstract symbols. Once it had made the advance, many kinds of audiovisual aids become time-wasting, roundabout, burdensome methods of conveying information that can be got more quickly, more accurately, and systematically by means of the printed word." (p. 22)

#### Training in Instructional Media

Another factor which has been found to have significant influence on frequency of media use by faculty members in this study was training in such use. The null hypothesis that "there will be no significant correlation between the frequency of instructional media use by faculty and their previous media training" was rejected (r = .53, p < .001), and the alternative hypothesis was accepted. Faculty members who had training in use of media tended to use media more frequently than did those who had no training.

This finding strongly supports and confirms several previous studies: Hubbard (1960), Knowlton and Hawes (1962), Arterbury (1971), Acquino (1970), Kozma (1978), Morton (1979), Imogie (1979), Abdi (1981), Moshaikeh (1982), and Bakri (1983).

Findings reported by Abdi indicated that the more seminars in instructional media faculty members attended, the higher their frequency of media utilization was. A comparable pattern was noticed in this study where a higher level of formal media training indicated more use of media. For example, of all faculty who completed one course in instructional media, 41.2% used media above the mean frequency of use (5.08); of those who had two or more courses in media, 71.2% used media above the mean; while 85.3% of all faculty who had academic degrees in the field of instructional media used media above the mean frequency of use.

Brown et al. (1972) emphasized teacher media competencies as an important factor in media utilization. The authors discussed a study conducted by Streeter (1968) who was concerned with the question of whether certain media competencies have a significant positive correlation with actual use of media in the classroom. The major sets of competencies were proficiency in utilization, selection and evaluation, production of simple materials, and preparation and use of physical facilities. The results showed a positive and significant relationship (r .41) between teachers' total media competencies and their frequency of media use. Further, Kozma (1978) reported more use of media by faculty after participating in a fellowship program, while Abdi (1981) indicated that several faculty members in his study said that their rates of media utilization would increase if they were given more inservice training or formal courses in the use of media.

Data related to levels of media training and media skills were presented in Tables 19 and 20, respectively. These data showed that about one-half the respondents (49.0%) did not have any type of media training. The data also indicated that more than 65.0% did not have any skills in production, selection, and evaluation of instructional media.

# Administrative Support for Media Utilization

Another factor which has been found related to media use by faculty was their perception of college administrative support for media utilization. Faculty responses to 10 types of support were presented in Table 21. The null hypothesis that "there will be no significant correlation between the frequency of instructional media use by faculty and their perception of college administrative support for media utilization" was rejected (r = .38, p < .001), and the alternative hypothesis was accepted. Faculty members with more favorable perception of college support for media use were more frequency users of media than faculty with less favorable perception. In other words, frequency of media utilization was highest among faculty members who perceived college administrative support to instructional media as being adequate in terms of media materials and equipment, delivery services of media, technical assistance in media use, flexibility of rules for gaining access to media resources, budget provision, and faculty input in media selection. On the other hand, faculty members who rated these services low were less frequent users of media. This may indicate that faculty members who may be inclined to use instructional media may get frustrated if the services mentioned above are not adequately provided. For example, if delivery service of media is not provided on a regular basis, some faculty may find it too bothersome to carry on the task themselves. This explanation is supported by recent studies. Abdi (1981), for example, reported that faculty members who were dissatisfied with the quality of support were limited users of media, while Imogie (1979) concluded that faculty members who received more support had more favorable perceptions of such support and were frequent users of media.

Similar findings were reported by Stephens (1971) who indicated that respondents in his study said that their rate of media utilization would increase if certain physical and administrative changes took place (e.g., released time for faculty to devote for course development, more equipment, more efficient delivery systems, increase in departmental audiovisual budget, etc.).

# Information Dissemination about Media Resources

Whether information faculty receive about instructional media influence their frequency of media utilization was examined in this study. The relationship between the two variables was tested in null hypothesis seven. The findings in the previous section indicated that the null hypothesis that "there will be no significant correlation between the frequency of instructional media use by faculty and the amount of information they receive about instructional media" was rejected (r = .42, p < .00), and the alternative hypothesis was accepted. Faculty members who received more information about media services, materials, and equipment existing for their use tended to use media more often than did faculty members who received less or no information. This finding is supportive of and consistent with findings reported by Hubbard (1960), Stephens (1971), and Imogie (1979). Hubbard found that one of the reasons for limited utilization of media by faculty in his study was lack of information about available media resources. Stephens indicated that more than 40% of faculty members said that availability of information about media moderately increased their rate of media utilization, while 33% of academic deans said that such information increased their media usage substantially. Further, many researchers who examined faculty perception of deterrents to media use

identified lack of information as a major barrier to such usage, e.g., Hailer (1955), Hubbard (1960), Stephens (1971), Imogie (1979), and Librero (1981).

It appears from the frequency distribution concerning receiving information about media by faculty in this study (see Table 22) that media centers at the colleges of education were inactive in disseminating information about their media services. The findings (see Table 22) indicated that only 26.2% of respondents reported receiving information in the form of newsletters from media centers, while 45.6% said they never received newsletters. In addition, more than 69.0% said they never received any information about available media by special correspondence from media staff. Further, lack of information about available media ranked third among the top 10 deterrents to media use perceived by faculty members. The most prevailing sources of information were found to be faculty direct contact with media staff and faculty interaction with colleagues within their departments or colleges. Moreover, inefficient or lack of communication between media staff and faculty members were perceived as one of the top 10 deterrents to media utilization (see Table 24).

Brown et al. (1972) regard familiarity with or knowing what media resources are available as an important competency for effective utilization of media. However, to be effective in practice, this competency, according to the authors, "must be matched with adequate cataloguing and other means for facilitating the flow of information from those who store and circulate the materials to those who use them" (p. 347).

#### Deterrents to Media Use

Several deterrents related to individual and institutional factors were perceived by faculty members as having influence on their use of media. Table 23 presented the number and percentage of faculty members perceiving 18
deterrents to media use, while Table 24 presented a rank order of the top 10 deterrents. The relationship between media use and perceived deterrents was tested in null hypothesis eight. The results were displayed in Table 15. The hypothesis that "there will be no significant correlation between the frequency of instructional media use by faculty and their perception of deterrents to media use" was rejected, and the alternative hypothesis was accepted. A significant negative correlation (r = -.29, p<.001) existed between the two variables indicating that faculty members who perceived fewer deterrents to media utilization tended to use media more frequently than did faculty members who perceived more deterrents. This finding stands in contrast to findings reported by Rohrlick (1972) and Stephens (1971). Rohrlick found no significant relationship between the two variables, while Stephens found a positive correlation meaning that faculty who used media more often perceived more deterrents to media use. On the other hand, the study's finding discussed above supports other studies, e.g., Hubbard (1960), Imogie (1979), and Abdi (1981). Imogie reported that the fewer constraints on media use perceived by faculty members, the higher their frequency of media use was; while Abdi found that faculty who perceived media as easy to use, desirable, easily available, and supported by media staff had a higher rate of media utilization than those who rated these characteristics low.

The top 10 deterrents to media use displayed in Table 24 are related to individual and institutional factors. In regard to the first category (individual factors), faculty members perceived the following deterrents which ranked among the top 10:

--it takes much longer to prepare for class using instructional media than using traditional methods

--inadequate training in media utilization

--teaching load does not allow enough time to plan to use instructional media

The other deterrents perceived by faculty members were related to institutional factors and were as follows:

--classrooms are not properly designed to media use

--lack of information about available media

--difficulty of getting technical assistance in media selection

--insufficient quantity of media equipment

--little materials in faculty member's academic field

--media materials are not organized for easy reference and use

- --inefficient or lack of communication between media staff and faculty members
- --difficulty of obtaining media when needed

As mentioned in Chapter II, studies' findings about whether or not teachers' attitudes toward instructional media are related to barriers to media utilization were inconsistent. Knowlton and Hawes (1962) cautioned that teachers' attitudes are related to barriers to media use and not to media alone. In this study, the null hypothesis that "there will be no significant correlation between faculty attitudes toward instructional media and their perception of deterrents to media use" was not rejected indicating no relationship between the two variables.

# Multiple Regression Analysis

In order to determine the effects of the independent variables taken together (individual and institutional factors) on the frequency of media use, those independent variables were entered into a multiple regression equation using blockwise/stepwise regression technique. The results of the prediction analysis were presented in Table 25. The combined independent variables were significantly related of media use, and each independent variable contributed significantly to the total amount of variation in media use as indicated by the significance of their unstandardized beta weights. Therefore, the last null hypothesis that "there will be no significant relationship between the frequency of instructional media use and the combined independent variables" was rejected (pc.05), and the alternative hypothesis was accepted. The independent variables together explained 59.21% of the variations in media use. It should be mentioned that 28.81% of the total amount of variation in media use was accounted for by academic fields alone. This was found when a blockwise multiple regression equation was used in which academic fields were entered first into the equation as dummy variables in order to control for all the variation they could account for.

More importantly, the academic field of educational media alone explained up to the extent of 21.0% (r = .466) of the total amount of variation in media use. This finding is considered less meaningful because faculty members teaching educational media are usually closely associated with media utilization. As mentioned previously, faculty in the educational media discipline had a higher media score than did faculty in all other academic fields. Therefore, there was a need to control for the effects of academic fields and, hence, the use of the blockwise regression technique. Once academic fields were controlled, a stepwise regression was used to consider the other independent variables. Putting the effects of academic fields aside (28.81%), the stepwise prediction analysis indicated that attitude, teaching experience, training, administrative support, information about media, and deterrents to media use explained 31.40% of the total amount of variation in media use. Of these six independent variables, training in instructional media was the most powerful predictive factor which alone explained 15.13% of the total amount of variation in media use.

Most of the studies reviewed in Chapter II did not employ multiple regression analyses of factors affecting faculty utilization of media. Only one of these studies (Abdi, 1981) was found to have employed such an analysis, although on a very limited basis. Although some independent variables in his study were found related to media use (e.g., media training, r = .53, p .01; academic degree, r = .16, p .05; etc.), Abdi entered only four independent variables into a multiple regression equation. These were faculty perception of instructional media, ease of media use, media availability, and support staff. Abdi reported that the proportion of variance ( $\mathbb{R}^2$ ) in frequency of media use accounted for by these variables was 20%.

# Summary

This chapter was divided into three sections, demographic information, answers to research questions and results of hypothesis testing, and discussion of the study's findings.

Demographic information displayed that of the 467 respondents, 26.3% were Saudis, 81.6% had doctoral degrees, and 56.3% were assistant professors. The mean age of respondents was 41.5 and about 50% of participants had seven or fewer years of teaching experience.

Research Question One dealt with the extent of media use by faculty members. The answer to this question indicated that there was a low rate of media use by faculty members at colleges of education in Saudi universities. The mean frequency of media use was 5.08 with more than 60% of respondents reporting not using any media. Charts and graphs were the media used most often while film loop was the least used medium.

Findings of the study indicated that eight of the 10 null hypotheses were rejected. Null hypothesis one was not rejected, indicating no differences among the colleges of education regarding frequency of media use by faculty members. Null hypothesis two concerning equality of media use by faculty across academic field was rejected. However, other than educational media and Islamic studies, academic fields did not yield significant differences. Null hypotheses three through seven were rejected where positive and significant correlations existed between frequency of media use by faculty and years of teaching experience, attitude toward instructional media, prior media training, perception of administrative support for media use, and amount of information faculty received about instructional media. Null hypothesis eight was rejected where a negative relationship was found between media use and perceived deterrents to such use. Null hypothesis nine was not rejected, indicating no relationship between faculty attitudes toward media and perceived deterrents to media use. Finally, the tenth and last null hypothesis was rejected where the combined independent variables included in the study explained a significant amount of the variation in media use.

# CHAPTER V

# SUMMARY, CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

This chapter is divided into four sections. In the first section, background information on the study's setting, e.g., purpose, research questions, methodology, etc., is presented, followed by major findings of the study. Conclusions and practical implications based on the findings are presented in the second section. In the third section a proposed educational technology center is briefly described, while a suggested set of recommended research studies is presented in the fourth section.

# Summary

#### Summary of the Study's Setting

The literature related to instructional media in higher education suggests that faculty members' use of instructional media is influenced by several factors and that identifying these factors is the first step in efforts directed toward encouraging media utilization in university or college instruction. The major purpose of the study was to investigate the influence of selected individual and institutional factors on the use of instructional media by male faculty members at the six colleges of education presently existing in Saudi Arabian universities. To achieve this purpose, the study sought to determine the following:

- 1. the extent of instructional media use by faculty members; and
- 2. the relationship between the frequency of media use and each of the following factors:

- a. academic field,
- b. teaching experience,
- c. attitude toward instructional media,
- d. previous media training,
- e. perception of administrative support for media use,
- f. information faculty members receive about media, and
- g. perception of deterrents to media use.

Data for the study were collected by the survey method using a questionnaire. The questionnaire was divided into seven sections used to collect data about demographic variables, frequency of media utilization, perception of instructional media, media training and related skills, support for media use, information dissemination about media resources, perceived deterrents to media use, and faculty members' interest in undergoing an inservice education in instructional media (see Appendix E).

Prior to administering the questionnaire, a study of its face validity was conducted at Michigan State University where three faculty members rated the content relevancy of the questionnaire's items. In addition, to assure the clarity of the questionnaire's items by respondents, a pilot-test was conducted in Saudi Arabia.

The study's subjects included the entire target population comprised of male faculty members teaching at the colleges of education in Saudi Arabian universities. Of 558 questionnaires distributed, 467 or 83.7% were returned completed and used in data analysis.

The data were analyzed using descriptive statistics in the form of frequency distributions, percentages, means, and standard deviations, one-way analysis of variance, Pearson coefficient, and multiple regression techniques.

The following research questions guided the conduct of the study.

- I. What is the extent of instructional media use by male faculty members at the male colleges of education in Saudi Arabian universities?
- 2. Are there significant differences among the colleges concerning the frequency of instructional media use by faculty members?
- 3. What is the relationship between the frequency of instructional media use (dependent variable) and each of the following factors (independent variables): (a) academic field, (b) teaching experience, (c) attitude toward media, (d) previous media training, (e) perception of college administrative support, (f) amount of information about instructional media, and (g) perception of deterrents to media use?
- 4. Is faculty attitude toward instructional media related to their perception of deterrents to media use?
- 5. What is the relationship between frequency of instructional media use and the combined independent variables?

# Summary of the Findings

### Extent of Instructional Media Use By Faculty Members

In regard to the extent of instructional media use by faculty members (research question one), the data indicated that for all the media listed in Section B of the questionnaire, the "zero times" frequency category received the highest response rate from participants. In addition, more than 60% of respondents did not use any one of those media during an academic term. Further, the mean frequency of media use (5.08) was far below the maximum media score (56) that any respondent could have obtained. Those findings justified the answer to research question one that there has been a low rate of instructional media use by male faculty members at the colleges of education in Saudi universities.

Analysis of the proportion of faculty members using each medium indicated the following order of media from most to least frequently used: (a) charts and graphs; (b) models and specimens; (c) overhead transparencies; (d) 8mm or 16 mm 

# Extent of Media Use at the Individual Colleges

The six colleges of education surveyed in this study were compared in regard to the frequency of media use by faculty members (research question two) using one-way analysis of variance. The data showed that on the average faculty members at Abha and Medina Colleges of Education used media more often than did faculty members at Riyadh, Mekkah, Tayef, and Hufof Colleges of Education (see Table 12). However, null hypothesis one, that "there will be no significant differences among the colleges concerning frequency of instructional media use by faculty members," was not rejected (p .05). Therefore, the frequency of media use did not vary from one college to another.

# Relationship Between Media Utilization and Selected Individual and Institutional Factors

To answer research question three concerning the relationship between media use and selected individual and institutional factors, null hypotheses two through eight were tested.

<u>Academic fields</u>. Academic fields were grouped into seven categories: educational studies, educational media, social studies, science studies, language studies, Islamic studies, and mathematics. These academic disciplines were compared in regard to media utilization by faculty members using one-way analysis of variance. Null hypothesis two, that "there will be no significant differences among the academic fields concerning the frequency of instructional media use by faculty members," was rejected (p < .05). A post hoc multiple comparison technique (Schefee) showed the following pattern of differences:

- --faculty members in the educational media academic field had a higher mean frequency of media use than faculty members in all other academic fields
- --Islamic studies' faculty members used media less often than did faculty in all other academic fields except mathematics
- --there were no significant differences concerning frequency of media use by faculty members in educational studies, social studies, science studies, language studies, and mathematics

<u>Teaching experience</u>. Null hypothesis three, "that there will be no significant correlation between the frequency of instructional media use by faculty and their teaching experience," was rejected. A small but significant correlation (r = .16, p .001) was found between the two variables, indicating that the frequency of media use was higher among faculty members with a greater number of years spent in university teaching.

<u>Attitude toward instructional media</u>. The relationship between faculty attitude toward instructional media and their frequency of media use was tested in null hypothesis four. This hypothesis, that "there will be no significant correlation between the frequency of instructional media use by faculty and their attitude toward instructional media," was rejected. A significant correlation (r = 54, p<.001) existed between the two variables. Faculty members who had a more favorable attitude toward instructional media tended to make a higher frequency of media use in instruction than faculty members who had a less favorable attitude.

<u>Media training and skills</u>. Close to one-half of the respondents did not have any type of training in instructional media and more than 65% did not have skills in production, selection, and evaluation of instructional media. The relationship between media utilization and prior media training was tested in null hypothesis five. This null hypothesis, that "there will be no significant correlation between the frequency of instructional media use by faculty and their previous media training," was rejected. A significant correlation (r = 53, p < .001) was found between the two variables indicating that faculty members who had training in instructional media used media more frequently than did faculty members who had no such training.

<u>Perception of administrative support for media use</u>. In testing the relationship between the frequency of media use by faculty members and their perception of college administrative support for media utilization, 10 types of support were considered. Null hypothesis six, that "there will be no significant correlation between the frequency of instructional media use by faculty an their perception of college administrative support for media utilization," was rejected. A significant correlation (r = .38, p .001) was found between the two variables indicting that faculty members who had a more favorable perception of administrative support for media utilization.

The data indicated that less than 16% of respondents said that most types of support were provided on a regular basis. The data also showed that a large number of faculty members were not aware of whether or not those types of support were provided while many respondents said that they were not provided. It should be noted that these findings are based on faculty perception only, and that no objective data in such forms as college files and records were collected.

Information about media resources. In examining the relationship between media use and information faculty receive about media resources, seven sources of information were considered. Null hypothesis seven, that "there will be no significant correlation between the frequency of instructional media use by faculty and the amount of information they receive about instructional media," was rejected. A significant correlation existed between the two variables (r = .42, p < .001), indicating that faculty members who received more information about available media resources used media more often than did faculty members who received less or no information.

For most sources of information, the "never" frequency category received the highest rate of responses of all participants, indicating that the majority of faculty members never received any information from those sources. In addition, less than 30% said they received information in the form of newsletters or correspondence from media staff. Furthermore, lack of information about media resources and inefficient or lack of communication between faculty members and media staff ranked among the top 10 deterrents to media use perceived by respondents. These findings suggest that faculty members were ill informed about media resources and that media centers at the colleges surveyed were inactive in disseminating information about their services. As with administrative support, findings related to information dissemination were not backed up by objective data such as files and records.

<u>Perception of deterrents to media use</u>. Faculty members' perception of 18 deterrents to media utilization was correlated with their frequency of media use. Null hypothesis nine, that "there will be no significant correlation between the frequency of instructional media by faculty and their perception of deterrents to media use," was rejected. A significant negative correlation (r = -.29, p < .001) was found between the two variables, indicating that faculty members who perceived fewer deterrents to media use tended to use media more frequently

than did faculty members who perceived more deterrents. Of 18 deterrents to media use, 10 were most often mentioned by respondents. In rank order, they were the following:

- I. Classrooms are not properly designed or equipped to use instructional media.
- 2. It takes much longer to prepare for class using instructional media than using traditional methods.
- 3. I do not have information about instructional media at the college.
- 4. It is difficult to obtain instructional media when I need them.
- 5. Communication between media staff and faculty members is inefficient or lacking.
- 6. I do not have enough training and skills in the use of instructional media.
- 7. There are few or no media materials for the courses I teach.
- 8. My teaching load does not allow enough time to plan to use instructional media.
- 9. Instructional media materials at the college are not organized for easy reference and use.
- 10. I have difficulty getting assistance in selecting instructional media for my courses.

<u>Perceived deterrents and attitude toward media</u>. The relationship between attitude toward media and perceived deterrents to media use (research question four) was tested in null hypothesis nine. This hypothesis, that "there will be no significant correlation between faculty attitude toward instructional media and their perception of deterrents to media use," was not rejected (p < .05).

Relationship between media use and the independent variables taken together (research question five). In order to determine the combined influence of the factors (independent variables) addressed by this study on the frequency of media use (dependent variable), null hypothesis ten was tested using a multiple regression technique. The results showed that null hypothesis ten, that "there will be no significant relationship between the frequency of instructional media use and the combined independent variables," was rejected (p < .05), and the alternative hypothesis was accepted. The independent variables taken together explained a significant amount of variation in the frequency of media use up to the extent of 59.2%. The academic field of educational media alone accounted for 21.7% of the total amount of variation in media use, followed by previous media training (15.1%).

#### **Conclusions and Practical Implications**

The study's findings summarized above indicated that there has been a low rate of instructional media utilization by faculty members at the colleges surveyed and that such use was found related to several individual and institutional factors. Based on these findings, the researcher arrived at the conclusions presented below. These conclusions suggested some practical implications for facilitating the optimum use of instructional media by male faculty members at the colleges of education in Saudi Arabian universities. Since they are closely related, the implications are discussed along with the conclusions. As a reminder for the reader, these conclusions and implications should be viewed in light of the limitations of the study listed in Chapter I, p. 18.

I. Faculty members who are trained in the use of instructional media are more likely to utilize media in their teaching than instructors who lack such training. This conclusions implies that inservice education in the selection, development, production, and utilization of instructional media should be provided for faculty members. Media centers and programs at the colleges surveyed should be assigned the task of planning and conducting inservice programs. Media training can be provided in such forms as lectures, seminars, short courses, workshops, or fellowship programs. Havelock (1973) model can be used as a guide for gaining faculty interest and participation in media training. Based on faculty interest (see Table 28), priority should be given to the following training areas:

- a. operation of instructional media equipment such as instructional films, slides, overhead and opaque projectors, and audio- and videotape equipment;
- b. production of instructional television programs, instructional films, overhead transparencies, photographs, and audiotapes; and
- c. selection and evaluation of instructional media.

To be more effective in practice, the use of instructional media should be viewed as an integrated component of a complete instructional system or course development. Therefore, the suggested inservice education should address the concept of the systems approach to instruction with emphasis on such competencies as analysis of learner characteristics, task analysis, writing instructional objectives in behavioral terms, selection and/or development of materials based on statement of objectives, and evaluation of outcomes. Practical tools for the systematic design and development of instruction within which instructional media can be systematically selected, utilized, and evaluated are found in instructional development (ID) or design models. Participants of inservice media training programs should be introduced to and familiarized with ID models, particularly those which are more appropriate for use by individual faculty members. According to Gustafson (1981), classroom ID models include those developed by Geralch and Ely (1980); Kemp (1977); Davis, Alexander, and Yelon (1974); Briggs (1970); and DeCecco (1968).

2. University or college instructors who have more favorable attitudes toward the value of instructional media are most likely to be involved in media utilization. This conclusion suggests that faculty members with less positive attitudes should be informed about the values of instructional media as evidenced through research.

3. As the number of years spent in university teaching increases, the frequency of media utilization by faculty members tends to increase. This conclusion indicates that faculty members with less teaching experience are less likely to utilize instructional media. The negative influences of a smaller number of years of teaching experience on media usage can be minimized by more training in such usage, more positive attitudes toward media, more support for media use, more information about media resources, and fewer deterrents to media utilization. Conversely, the absence of more teaching experience can be compensated by the presence of another factor(s). According to Abedor and Sachs (1978), "It is possible, though, that a small 'deficit' in one characteristic can be compensated by an 'excess' of another characteristic" (p. 8).

4. Instructional media are most likely to be utilized in teaching by faculty members who have more favorable perception of college support for media use. In order to create such perception and to encourage faculty use of media as an integral part of instruction, the colleges surveyed should provide adequate support for media programs and centers in terms of financing, staffing, and media resources and services. Such support requires that commitment to quality media programs be part of a college or university's formal instructional policy. Briefly, priority should be given for the following:

- a. providing the quantity and variety of instructional media materials--equipment, facilities, and services--needed by faculty members, staff, and students;
- b. providing budgetary support for academic departments for their instructional media needs;
- c. providing opportunities for faculty to participate in decisionmaking related to media selection, evaluation, and other mediarelated activities, and encouraging such participation;

- d. formalizing policies which consider innovative teaching approaches and creativity in instructional media applications as part of college or university criteria for the promotion of faculty members;
- e. providing financial support, released time, and needed resources for faculty interested or involved in instructional development activities; and
- f. rewarding innovative practices, e.g., promotion, pay increase, college- or university-wide recognition such as distinguished faculty award, etc.

5. The more information disseminated to faculty members concerning media resources and services existing for their use, the more likely that they will use media in their instruction. A practical implication derived from this conclusion is that faculty members should be kept informed about instructional media resources, services, and other media-related activities and new developments. This requires that effective lines of communication be established between media centers and academic departments. Media staff should seriously plan, develop, implement, and evaluate necessary procedures for disseminating information about media services. Various types of communication channels can be considered for this purpose:

- a. publications such as handbooks, brochures, and newsletters can be used to communicate to faculty information related to potential media resources, services, and new developments;
- b. demonstrations, exhibits, conferences, and open houses of media centers;
- c. an effective use of university newspapers;
- d. an effective use of college bulletin boards;
- e. written correspondence from media staff to faculty members;
- f. an educational media specialist may be assigned the task of working as a liaison between a media center and academic departments;

- g. academic departments should develop and maintain their own files and records of available media materials appropriate for use in their curricula. Needed information (lists of films, slides, etc.) can be requested from the college or university media center; and
- h. maintaining updated catalogues of commercially-produced materials.

The overall effort should eventually develop into a public relations or diffusion activity as a basic function of a media center. Such a communication system should be used to fullest advantages for arousing curiosity, creating awareness, and promoting media services.

6. Faculty members who perceive fewer deterrents to media utilization are most likely to use media in their instruction. Further, deterrents which limit faculty use of media are most likely to be related to improperly designed or equipped classrooms for media utilization, preference for traditional teaching methods which require less preparation time as compared with instructional media, lack of information about available media, inefficient or lack of communication between media staff and faculty members, difficulty of obtaining media when needed, inadequate media training, shortage of appropriate materials, heavy teaching load, materials are not organized for easy reference and use, and shortage of technical assistance.

This conclusion implies that efforts should be made to minimize or overcome several deterrents which limit the optimum use of instructional media at the colleges of education in Saudi universities.

First of all, effective utilization of instructional media requires, among other things, adequate and appropriate educational facilities. In this study, the deterrent most often mentioned by faculty members was that classrooms were ill-adapted for use of instructional media. Therefore, the need exists for redesigning classrooms to make them more appropriate for the effective utilization of media. Modification or redesign efforts should give due consideration to equip classrooms with such facilities as darkening equipment, convenient light control, electrical outlets in convenient locations, projection screens, storage areas for most-often used equipment, and adequate ventilation.

Classrooms that are poorly designed for media utilization are, perhaps, common in many school buildings. It is not unusual for educational facilities to be designed without media specifications in mind. The implication is obvious: whenever educational facilities are designed, serious consideration should be given to seeking consultation from educational media personnel.

Among the top 10 deterrents to media use perceived by faculty members were the shortage of media materials and equipment and the difficulty of obtaining media when needed. It is far less difficult to deal with the shortage of media equipment which can and should be provided, based on the number of potential users and learning stations in a college. On the other hand, it is more difficult to address the shortage of media materials, particularly at the college level in Saudi Arabia. Several reasons underlie this difficulty. One reason is related to the short history of media programs in Saudi universities. Another reason has to do with the fact that imported materials are not often easily adaptable to Saudi culture and needs without proper modification. While there is no short-term or one-shot solution to this problem, certain steps such as those described below should be taken:

- a. whenever possible, commercially produced materials that can be adapted to local needs should be acquired. Catalogues of such materials should be provided with assistance in the selection, ordering, and acquisition of materials requested by academic departments;
- b. an inter-institutional loan of media materials should be provided by educational technology or media centers at colleges and universities in Saudi Arabia; and

c. educational technology or media centers at the colleges of education should increase their media production activities. In addition, multiple copies of locally produced materials should be made in order to overcome the difficulty of obtaining materials when needed. Such local production of materials is perhaps the most helpful solution for the shortage of materials and response to local needs.

Other deterrents were related to the difficulty of getting technical assistance in various areas related to media utilization. Assistance in setting up and operating media equipment and in the selection and preparation of materials should be available when requested by faculty members. The best means of providing these types of assistance and others is through consultation services. This requires an educational media or communication consultant among the media staff. This consultant should work with faculty in analyzing instructional content, and recommending or selecting and locating appropriate materials for specific instructional and learning objectives. The consultant should design materials for local production that are not otherwise available (AECT, 1977).

7. While the above conclusions were based on findings generated by simple bivariate correlations between media use and each independent variable, the study demonstrated that the independent variables taken together accounted for a significant amount of variation in media use. Therefore, the researcher concluded that the frequency of instructional media use is most likely to be higher among faculty members with a combination of two or more of the following characteristics:

- a. having a greater number of years of teaching experience,
- b. having more favorable attitude toward the value of instructional media,
- c. having had training in instructional media,
- d. having a more positive perception of administrative support for media utilization,

- e. having more information about media resources, and
- f. perceiving fewer deterrents to media utilization.

# Long Term Considerations: An Outline of a Proposed Educational Technology Center

The implications discussed above reflect short-term solutions; and unless a university-wide, long-range plan of instructional development takes place, media utilization in particular and instructional innovations in general are most likely to be ad hoc and limited. The old "custodian" approach to media services--mainly circulation of A/V materials and equipment--has been seriously challenged by the advent of instructional development (ID) movement in the United States during According to Curl (1977), "The stress of instructional the past decade. development has shifted the focus from media as end products in themselves to media as a means toward achievement of specified performance objectives" (p. 24). As a result, many schools of higher education in the United States have begun providing ID services that aim at the improvement of college instruction. The major influences behind ID movement in higher education include practical applications derived from research on learning, the rise of the systems approach to instruction, and the advances in educational technology and curriculum development (Gaff, 1975).

In recent years, several universities and colleges in Saudi Arabia have begun using the label "educational technology center" to denote their media services. However, the activities conducted by those centers do not reflect the implication of the term "educational technology" as defined in the present study. Abu Ras (1979) stated,

The term "educational technology" was not used in Saudi Arabia until 1973. At that time Riyadh University (renamed its original name King Saud University) changed the name of its audiovisual center to the "Educational Technology Center." The university did not, however, embrace educational technology in practice. It merely borrowed the term. (p. 35). Therefore, there is a need for a reorganization of media services in Saudi universities and colleges to reflect recent developments in the field which have proven useful in many reported instances (Brown et al., 1972; Gaff, 1975; Bass et al., 1978). For this purpose, an attempt has been made by the researcher to outline a proposed model of an educational technology center (ETC) for Saudi universities. Figure 3 highlights the major components of the proposed center. In this figure the services labeled "university-wide services" have been adapted from the Association for Educational Communication and Technology (AECT), College Learning Resources' Programs: A Book of Reading (1977).

As the figure may indicate, the proposed model (ETC) emphasizes a centralization/decentralization or hybrid approach to media services. A brief description of the major components of the proposed ETC is presented below.

#### University-Wide Services

The proposed educational technology center should provide centralized university-wide services related to instructional development, production, utilization, and telecommunications.

# Instructional Development (ID) Services

The purpose of ID is to provide expertise and resources needed for the improvement of instruction. To achieve this purpose, instructional developers with skills in analysis, design, management, research, and evaluation along with conference and meeting rooms, duplicating and copying machines, etc., are needed. The tasks of the instructional developer is to "create both effective and efficient improvements in the instructional environment" (Sherman et al., 1977, p. 14). He would work with individual instructors or a team of instructors in developing instructional systems and/or upgrading faculty development skills.



Figure 3. A proposed educational technology center.

A diffusion specialist should be among the ID staff. His task involves dissemination, demonstration, and facilitating adoption of innovations produced by instructional development activities.

#### **Production Services**

One of the major barriers to media utilization in higher education is the non-availability of appropriate instructional materials. Since many materials are not easily available from commercial sources, a well equipped production center is a must for any university concerned with optimizing media utilization. The task of production specialists is to produce materials requested by instructional developers, faculty members, and administrators. The associate director of production services would work as a liaison between instructional developers and technical personnel under his direction. The major units in the production center should include audio production, graphic production, and photography production (both still and motion).

# **Utilization Services**

Major tasks to provide effective utilization services include selection, ordering, acquisition, storage, maintenance, and distribution of instructional materials and equipment. In addition, technical assistance in setting up and operating AV equipment, delivery services of materials and equipment, as well as consultation services in the appropriate application of media in instruction should be provided. An operational policy (e.g., description of clients to be served, goals, criteria for selecting equipment and materials, etc.) should be developed based on a needs assessment. Such policy should guide the overall utilization function including the quantitative and qualitative considerations for building media libraries.

# **Telecommunication Services**

The major function of the telecommunication services involves the operation and maintenance of an on-campus, closed circuit television (CCTV) system. In most Saudi Arabian universities, CCTV systems are available, but are mainly used for transmitting live lectures delivered by male instructors for female students in segregated facilities. It is suggested that existing CCTV systems be expanded to provide services in the male sections of Saudi universities and colleges. Instructional uses of CCTV include inservice education for faculty members; course offerings; and sharing of curricula, faculty, and other resources among Saudi universities. In addition, telecommunication services should provide local production of videotape programs needed by faculty members for classroom presentations. Such local production should be provided through consultation with ID staff regarding design specifications and other related matters.

# **College-Based Services**

Decentralized media services should be provided at the individual colleges through satellite media centers. Those centers should be equipped with computer access, basic production, and storage facilities. The major services of an individual satellite media center would include minor production and reproduction of materials as well as housing and distributing materials and equipment most pertinent to formats of instruction, curricula, faculty, and students' needs at the particular college.

# **Recommendations for Further Research**

The present study addressed only specific aspects related to media use, namely selected factors associated with such use by male faculty members at the colleges of education in Saudi Arabian universities. Further, other than those colleges, the results of this study cannot be generalized to other institutions of higher education in Saudi Arabia. Therefore, other studies dealing with other areas related to media utilization are needed to contribute to the data generated by the present study. Below is a set of recommended studies.

- 1. There is a need for a similar study to investigate factors influencing media utilization by female faculty members at the female colleges of education in Saudi universities so that a comparison can be made.
- 2. Similar studies are also needed to be conducted at institutions of higher learning in Saudi Arabia, other than at colleges of education. Results of such studies should contribute to the data produced by the present study so that more accurate generalizations about factors affecting faculty use of media can be drawn.
- 3. There is a need for a study to address the qualitative use of instructional media by faculty members at the colleges of education and other schools of higher education in Saudi Arabia. This need is strengthened by the fact that quantitative studies of media utilization such as the present study are certainly not enough, because the mere use of media does not guarantee desired results. In other words, an instructor may use a wide range of instructional media but at a low level of qualitative effectiveness.
- 4. There is a need for a study to examine students' attitudes toward instructional media as well as the influence of media on their learning.
- 5. Another study is needed to objectively evaluate instructional media services and programs at the colleges of education in Saudi universities. Criteria for planning and evaluating the college and university learning resources center developed by the Association for Educational Communication and Technology (Merrill & Drob, 1977; ACET, 1977) can be used as a base for such a study. The results of this study should contribute to further development of data needed for the improvement of media programs in Saudi Arabia.
- 6. Since the factors examined by the present study accounted for 59.2% of the total amount of variation in media use, another study is needed to investigate other factors that may explain the remaining variation in media use. The recommended study may address such factors as academic degree, academic rank, sex, age, media attributes, and amount of time spent in teaching, research, and administrative activities. In addition, since

respondents in the present study were from different Arab and non-Arab nationalities, with the Saudis comprising only 26.3%, the needed study is recommended to examine media use as related to both nationality and origin of professional training. **APPENDICES** 

APPENDIX A

LETTER TO MSU FACULTY TO RATE FACE VALIDITY OF QUESTIONNAIRE 1820 Hamilton Rd., Apt. G-1 Okemos, MI 48864

February 7, 1984

Dr. Wilfred Veenendaal Dr. Donald Wilkening Mr. Robert Martin

Dear Sir:

Upon consultation with my major advisor and chairman of my doctoral committee, Dr. James Page, you have been selected as one of three faculty members to rate the validity of the enclosed questionnaire. This questionnaire will be used to collect data for a Ph.D. dissertation about the "factors affecting the use of instructional media by male faculty members at the colleges of education in Saudi Arabia universities".

An instruction/answer sheet is attached to each section of the questionnaire. Please use the following scale to indicate your degree of agreement or disagreement about the validity of the questionnaire's items.

- SA = Strongly agree
  - A = Agree
  - U = Uncertain
  - D = Disagree
- SD = Strongly disagree

Please feel free to add any comments about the different sections of the questionnaire. Your cooperation and assistance will be greatly appreciated and credited in the dissertation.

Sincerely,

Bader Al-Saleh Doctoral Candidate ESD Program APPENDIX B

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LETTER CERTIFYING TRANSLATION OF QUESTIONNAIRE COLLEGE OF ARTS AND LETTERS DEPARTMENT OF LINGUISTICS AND GERMANIC, SLAVIC, ASIAN AND AFRICAN LANGUAGES WELLS HALL EAST LANSING • MICHIGAN • 48824

March 8, 1984

To Whom It May Concern:

I hereby certify that Mr. Bader A. Alsaleh has translated into Arabic the English version of the questionnaire used as a tool in his research for his Ph.D. dissertation regarding the use of instructional media by the faculty staff of the Colleges of Education in Saudi Arabia.

I hereby verify that the translation is honest, accurate, and valid and conforms to the style of the Arabic language. I do wish him the best of luck.

Sincerely,

abdul Chaffee Eldomaty

Abdul Ghaffar A. Eldamatty Arabic Instructor APPENDIX C

PILOT TEST COVER LETTER

# بسم الله الرحمن الرحيم

عزيزي عضو هيئة التدريس في كلية التربية / جامعة الملك سعود ـ الرياض

لقد تم اختيارك لاجراء الاختبار الاولي لاداة بحث "استبيان" والذي ســوف يستخدم في جمع معلومات لدراسة دكتوراه والتي اقوم بتحفيرها في جامعة ولايـة متشجان ،الولايات المتحدة الامريكية • وسيكون موضوع البحث عن العوامــــل المتعلقة باستخدام الوسائل التعليمية بواسطة اعضاء هيئة التدريس الذكـــور في كليات التربية في جامعات المملكة •

الهدف من الاختبار الاولي هو التاكد من وضوح اسئلة الاستبيان والعمـــل على توضيحها اذا لزم الامر وذلك قبل البد الفعلي في جمع المعلومات •

من فضلك اجب على اسئلة الاستبيان واشر في نفس الوقت فيما اذا كانـــت الاسئلة الواردة فيه واضحة او غير واضحة وذلك باستخدام الاوراق المرفقــــة في نهاية الاستبيان •

بسندر عبد الله الصالح

مبتعث جامعة الملسك فيصسل

APPENDIX D

COVER LETTER FOR QUESTIONNAIRE

#### Dear Faculty Member at the College of Education

At the present, I am involved in writing my doctoral dissertation at Michigan State University, the United States of America. The Study deals with "Selected Factors Related to the Use of Instructional Media By Male Faculty Members At the Colleges of Education in Saudi Arabia Universities". The Study is designed to determine the factors facilitating or inhibiting the use of instructional media at the Colleges of Education. Based on the findings, recommendations will be provided for improving teaching methods involving the use of instructional media.

A copy of the questionnaire used in this study is attached. Please read the questionnaire carefully, fill it out, and pass it within, at the most, one week to the head of your department. Information obtained from the questionnaire will be used exclusively for the purpose of research.

Thank you very mach for you cooperation.

BADR ABDUALLAH AL-SALEH
بسم الله الرحمن الرحيم

اخي الكريم عضو هيئة التدريس أو المحاض في كلية التربية

السلام عليكم ورحمة الله وبركاته، وبعد

أقوم حاليا باعداد رسالة دكتوراه في جامعة ولاية متشجــــان، الولايات المتحدة الامريكية، وموضوع الدراسة هو العوامل المتعلقـــــة باستخدام الوسائل التعليمية بواسطة اعضاء هيئة التدريس والمحاضريـــــن الذكور في كليات التربية بجامعات المملكة، وتهدف الدراسة الى تحديـــــد العوامل التي تشجع على استخدام الوسائل التعليمية وتلك التي تحد منهـــا بغرض تقديم توصيات لتحسين طرق التدريس في كليات التربية بما يخـــــم

بطيه نسخة من الاستبيان الذى سيستخدم في جمع المعلومات اللازمـة للدراسة المذكورة ، ارجو التكرم بقرا<sup>4</sup>ة الاستبيان المرفق بعنايـــــة والاجابة على الاسئلة الواردة فيه علما بأن المعلــومات المطلوب الحصـول عليها سوف تستخدم لأغراض البحث فقــــــــط.

استاذى الكريم : ارجو التكرم بتعبئة الاستبيان وامادته الــــى رئيس أو وكيل قسمكم الموقر في موعد اقصاه اسبوع من تاريخ استلامه ·

شاكرا ومقدرا لكم حسن تعاونكم،

مقدم الاستبيان

بدر عبدالله العالمسيح

APPENDIX E

ENGLISH VERSION OF QUESTIONNAIRE

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## QUESTIONNAIRE

Definition: In this questionnaire <u>Instructional Media</u> will refer to both materials and equipment e.g. 16 mm films, filmstrips, video tapes, audio tapes, overhead transparancies, graphic materials, slides, etc., and associated equipment.

## Section A

1.	Please complete the following by f	illing in
	a. University	· · · · · · · · · · · · · · · · · · ·
	b. College of Education at	
	c. Department	(city)
	d. Academic Field of Specializati	.on
	e. Number of years of teaching in	higher education
	f. Your age in years	
2.	Nationality (Please check (X) one)	
	a. 🗌 Saudi	b. 🗌 Non-Saudi
3.	Highest academic degree earned (Pl	ease check (X) one)
	a. 🗌 Bachelor's	b. Master's
	c. Doctorate	d Other(Specify)
4.	Current academic rank (Please chec	k (X) one)
	a. Lecturer	b. Assistant Professor
	c. 🗌 Associate Professor	d. Professor
5.	Administrative/academic related po	osition, if any, (Please check (X) one)
	a. 🗌 College Dean	b. 🗌 Assistant to the college dean
	c. Head of department	d. Other (Specify)

#### Section B

Please indicate the average number of times you use each of the following instructional media per academic term. (Please respond to each item by placing a check mark (X) in the appropriate box.)

# Note: Please indicate your use of instructional media in teaching male students only at the college of education in which you teach.

			Number	of times	used per	term
		Zero	1-3	4-6	7–9	10 or more
1.	8 mm or 16 mm Instruc- tional films.					П
2.	Film Loop					
3.	Filmstrips					
4.	Slides					
5.	Television/videotapes					
6.	Overhead transparencies					
7.	Opague projector and materials					
8.	Audio tape record- ings.					
9.	Programmed instructional materials					
10.	Micro computers					
11.	Charts/graphs					
12.	Maps/globes					
13.	Models/specimens					
14.	Flannel, bulletin, or magnetic boards					
15.	Other (Please Specify)					

#### Section C

The following statements represent varying points of view about instructional media. Please indicate your degree of agreement or disagreement with each statement by checking one of the following responses:

SA = Strongly agree
A = Agree
U = Uncertain
D = Disagree
SD = Strongly disagree

(Please place a check mark (X) in the appropriate box)

- 1. Instructional media motivate students to learn.
- 2. Instructional media are more suitable for elementary and secondary education than higher education.
- 3. Instructional media help to teach a greater number of students equally at the same time.
- Instructional media help to clarify concepts and important details of a lesson.
- 5. The time and effort required to plan to use instructional media are out of proportion to their educational value.
- Instructional media provide for individual differences in the learning needs of students.
- Instructional media should be an essential element of the teaching method.
- 8. The personal relationship between the teacher and the student is lost when instructional media are used.

SA	А	U	D	SD

- 9. Instructional media help students gain a better understanding of subject matter.
- 10. The use of instructional media tends to weaken the teacher's role and control in his classroom.
- There is a need for a wider use of instructional media in higher education.
- 12. Instructional technology tends to dehumanize education.
- Instructional media save time for both teaching and learning.
- 14. The cost of instructional media is out of proportion to their educational value.

SA	A	U	D	SD

#### Section D

- Please indicate the highest level of media training which you have previously completed. (Please check one by placeing a check mark (X) in the appropriate box.)
  - a. 🦳 A degree program in instructional media.
  - b. 🔲 Two academic courses or more in instructional media.
  - c. 🔲 One academic course in instructional media.
  - d. 🔲 1 -7 day workshop in instructional media.
  - e. 🔲 Other (Please specify) \_\_\_\_\_
  - f.  $\square$  No previous training at any level.
- 2. If you have completed any media training, please indicate which of the following skills you have acquired from your previous training. (Please check all that apply by placing a check mark (X) in the appropriate box.)
  - a. 🗖 Operation of instructional media equipment.
  - b.  $\square$  Production of instructional materials.
  - c. 🔽 Selection of instructional media.
  - d. 🔲 Evaluation of instructional media.
  - e. 🔽 Other (Please specify)

#### Section E

Please indicate the frequency of each of the following types of support which you feel the administration of the college of education is providing to encourage faculty use of instructional media. (Please respond to each item by placing a check mark (X) in the appropriate box.)

Don't Very Some Often Times know Seldom Never Workshops, lectures, or 1. media training for faculty members. | | 2. Technical assistance in the selection and production of media materials. 1 3. Technical assistance in the operation of media equipment. 4. Financial support for academic departments to obtain instructional media not available at the college. 5. Innovation in teaching methods is accepted as part of the college criteria for the promotion of faculty members. 6. Providing adequate media materials and equipment. 7. Providing delivery service of media materials and equipment. - 1 8. Involving faculty members in decision-making related to media selection. 9. Up-dating faculty members about media related activities. Maintaining flexible rules 10. for gaining access to instructional media resources. 11. Other (Please specify)

## <u>Section F</u>

Please indicate the frequency with which you obtain information about instructional media resources and services at the college of education from each of the following sources. (Please respond to each item by placing a check mark (X) in the appropriate box.)

		Very Often	Some times	Don't Know	Seldom	Never
1.	Newsletter, brochure, or other publications issued by the college media center.					
2.	Exhibitions or demon- strations carried out occasionally by the college media center.					
3.	Correspondence from depart- ment head to faculty members.					
4.	Correspondence from media staff to faculty members.					
5.	The college bulletin.					
6.	Personal contact with the media staff at the college.					
7.	By talking to colleagues within the department or college.					
8.	Other (please specify)					

#### Section G

- I. The following statements represent some deterrents that may limit the use of instructional media. Please indicate your degree of agreement or disagreement with each statement as it applies to your own teaching experience at the college of education. (For each statement, please select one of the following responses by placing a check mark (X) in the appropriate box.)
- SA = Strongly Agree
- A = Agree
- U = Uncertain
- D = Disagree
- SD = Strongly disagree
- It is difficult to obtain instructional media when I need them.
- Instructional media equipment are difficult to operate.
- My teaching load does not allow enough time to plan to use instructional media.
- 4. I do not have information about instructional media at the college.
- 5. The subject I teach does not lend itself for the use of instructional media.
- 6. Classrooms are not properly designed or equipped to use instructional media.
- Instructional media materials at the college are not organized for easy reference and use.
- The college administration is not interested in A/V methods and look at them as frills.
- There are little or no media materials for the courses I teach.

SA	A	U	D	SD
П	П	П		

		SA	A	U	D	SD
10.	The college does not have sufficient quantity of media equipment.					
11.	I do not have enough training and skills in the use of instructional media.					
12.	I have difficulty getting assistance in the operation of A/V equipment.					
13.	It takes much longer to pre- pare for class using instruc- tional media than using traditional methods.					
14.	Communication between media staff and faculty members is inefficient or lacking.					
15.	Students look on audiovisual instruction as entertainment and do not study the materials presented.					
16.	I have difficulty getting assistance in selecting in- structional media for my courses.					
17.	A/V equipment often breaks down.					
18.	My colleagues do not support the use of instruc- tional media.					
19.	Other deterrents (please specify)					
II.	Assume that the above deterrents will do you think you will use instruction check (X) one).	ll be ov onal med	vercomed lia in y	l, to wh vour tea	at exte ching (	nt Please

Some

Much

Little

None

169

#### Section H

- Are you interested in participating in in-service media training? (Please check one by placing a check mark (X) in the appropriate (box.)
  - a.  $\square$  Very interested
  - b.  $\square$  Moderately interested
  - c.  $\square$  Slightly interested
  - d. 🔽 Not interested
- 2. If you are interested in in-service media training, which of the following training areas are you interested in? (Please check all that apply by placing a check mark (X) in the appropriate box.)
  - a. 🗖 Operation of media equipment.
  - b. 🗖 Selection of instructional media.
  - c. 🔽 Evaluation of instructional media.
  - d.  $\square$  Production of 8 mm or 16 mm instructional films.
  - e.  $\square$  Production of instructional television programs.
  - f.  $\square$  Audio tape production

  - h.  $\square$  Production of overhead transparancies
  - i. 🗖 Basic still photography
  - j. 🗍 Other (Please specify)

APPENDIX F

ARABIC VERSION OF QUESTIONNAIRE

#### استبیـــان

تعريف : يقصد بالوسائل التعليمية في هذا الاستبيان المواد والأجهزة التي تستخدم كوسيلة مساعدة في عملية التعليم مثل : الافلام التعليمية ١٦ مم ، والأفلام الثابتة ، وأشرطــة الفيديوتيب ، والأشرطة الموتية المسجلة وشرائح العرض الرأسي ، والرسوم والجداول البيانيـة، والشرائع الفوتوغرافيـة ( سلايدات ) ١٠٠الخ وما يلزم من اجهزة لاستعمال هذه الوسائل .

الج\_\_\_\_ر الأول

معلومات عامـــــة

من فضلك أكمل الأتى بتعبئة الفسسراغ :--

- أ جامعة ---- ب كلية التربية في مدينة ---- ج قسم ---- د التفعص الأكاديمي ---- ه -- عدد سنوات التدريس في التعليم العالي ---- و العمر بالسنوات -----
  - ٢) الجنسية (من فضلك ضع علامة // في المربع المناسب ).
  - ۱ \_ \_ \_ سعودی ب \_ \_ غیر سعودی
  - - ٤) مرتبتك الاكا ديمية حاليا (من فضلك ضع علامة // في المربع المناسب )
      - ۱ \_ \_ محاض ب \_ \_ استاذ مساعد ج \_ \_ استاذ مشارك د \_ \_ استاذ

٥) المنصب الأدارى / الأكاديمي ، ان وجد (من فضلك ضع علامة / في المربع المناسب)
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 <

من فضلك أشر الى معدل عدد المرات التي تستخدم فيها كل وسيلة من الوسائل التعليمي....ة التالية خلال الفصل الدراسي وذلك بوضع علامة // في المربع المناسب امام كل وسيلة تعليمية · ملاحظة : أرجو الأشارة الى استخدامك للوسائل التعليمية في تدريس الطلاب الذكور فق.....

في كلية التربية التي تعمل بها •

	معدلء	د مرات	ت الاستـــخ	دام فيال	فصلالدراسي
الوسيلـــــه التعليميــــه	مفر	r_1	ז2	۹_۷	۱۰ مرات أو اكثر
أفلام تعليمية ١٦ مم أو ٨ مم					
افلام حلقية (لوب فيلم)					
افلام ثابته					
شرائح فوتوغرافية ( سلايدات )					
التلفزيون التعليمي أو أشرطة فيديو تيب					
شرائحالعرض الرأسي (أوفرهيد ترانسبيرنسي)					
جهاز عرض الصور المعتمة ( ابيسكوب )					
ا شرطة التسبيلات الصوتية					
مواد تعليمية مبرمجة					
اجهزة الكمبيوتر الصغيرة (ميكروكمبيوتر)					
جداول ورسوم بيانية					
هرائط وكحرات أرضية					
مجسمات ونماذج					
اللوحة الوبرية ، لوحة الجيوب أو اللوحــة المغنا طيسية ،					
وسائل اخری ( من فضلك اذكرها )					
••••••					
•••••					

يضم هذا الجزء عبارات تمثل وجهات نظر مختلفة بالنسبة لاستخدام الوسائل التعليمية فــــي العملية التربوية، من فضلك أشر الى درجة موافقتك أو عدم موافقتك علىكل عبارة وذلك بوضع علامة // في المربع المناسب ،

	أو افق تما ما	أوافــق	غیر متاکد	لا اوافق	لا أوافق مطلقـــا
– الوسائل التعليمية تحفز الطلاب علــــى					
<ul> <li>لوسائل التعليمية تناسب التعليم العام</li> <li>اكثر من التعليم العالي ،</li> </ul>					
<ul> <li>الوسائل التعليمية تساعد على تدريس</li> <li>عدد اكبر من الطلاب بالتساوى وبنفس</li> <li>الوقت ،</li> </ul>					
<ul> <li>الوسائل التعليمية تساعد على توضيح</li> <li>المفاهيم والتفاصيل الهامة في المادة</li> <li>الدراسية •</li> </ul>					
<ul> <li>ـ الوقت والجهد المطلوبان للتخطيــــط</li> <li>لاستخدام الوسائل التعليمية يفوقـان</li> <li>كثيرا العائد التربوى منها .</li> </ul>					
<ul> <li>الوسائل التعليمية تساعد على مراعاة</li> <li>الفروق الفردية بين الطلاب ،</li> </ul>					
ـ الوسائل التعليمية يجب أن تكون جـز ١٠ ١٠ اساسيا من طريقة التدريس .					
<ul> <li>استخدام الوسائل التعليمية يؤدى الى</li> <li>فقدان العلاقة الشخصية بين المـــدرس</li> <li>والطالب ،</li> </ul>					
ـ الوسائل التعليمية تساعد الطلاب علـــى فهم المادة الدراسية بشكل جيـــد.					
<ul> <li>استفدام الوسائل التعليمية يؤدى الى</li> <li>اضعاف دور المدرس في قاعة الدراسة ،</li> </ul>					

لا أوافق مطلقا	لا اوافق	غیــر متـاکد	اوافق	اوافق تماما	
					<ul> <li>١١ الحاجة تدعو الى التوسع في استخدام</li> <li>الوسائل التعليمية في التعليم العالي،</li> </ul>
					١٢- تكنولوجيا التعليم تفقد التربيــة طابعها الانساني ٠
					١٣ استخدام الوسائل التعليمية يوفسر الوقت المبذول في التدريس والتعلم،
					<ul> <li>٤١- تكاليف الوسائل التعليمية تفـــوق</li> <li>٢٤ كثيرا العائد التربوي منها ،</li> </ul>

من فضلك أشر الى أعلى مستوى أكملته في دراسة الوسائل التعليمية أو التدرب عليها
 وذلك بوضع علامة // في المربع المناسب ( من فضلك اختر اجابة واحدة ).



- . [\_] لم يسبق لي دراسة الوسائل التعليمية أو التدرب عليها في أى مستوى من المستويات ·
- ٢- اذا كنت قد أكملت مستوى معينا في دراسة الوسائل التعليمية أو التدرب عليهــا فأشر من فضلك الى المهارة ( أو المهارات ) التي اكتسبتها من خلال دراستــــك أو تدريبك وذلك بوضع علامة // على كل ما تراه مناسبــا ·

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من فضلك أشر الى مدى توفير ادارة كلية التربية لكل وجه من اوجه الدعم التاليه لتشجيع أعضاء هيئة التدريس والمعاضرين على استخدام الوسائل التعليمية، فضلا ضع علامة ⁄/ فــــي المربع المناسب امام كل وجه من أوجه الدعم،

. عــــــــــ	اوجه الد	جه من	فر کل و	مدی تو	
غيـــر	نادرا	К	أحيانا	أحيانا	
متوفر مطلقا		ا عرف		كثيـرة	
					ا ـ توفير حلقات دراسيةقصيرةأو محاضرات أو
					تدريب على استخدام الوسائل التعليمي
					لأعضا • هيئة التدريس والمحاض بن •
					۲ ـ توفیر اخصائی وسائللمساعدة اعضا میئیة
					التدريس والمعاضرين فياختيار وانتحجاج
					الوسائل التعليمية ،
					۳ – توفير اخصائی وسائللمساعدة أعضا الهيئة
					التدريس والمعاضرين في تشغيل اجهــــزة
					الوسائل التعليمية ،
					٤ ـ توفير دعم مالي لـألقسام الأكا ديمية للتصول
					على الوسائل التعليمية غير المتوفرة في الكلية •
					<ul> <li>٥ – اعتبار التجديد والابتكار فيطرق التدريس</li> </ul>
					معيارا من معايير الكلية لترقية أعضا ل
					هيئة التدريس ،
					٦ - توفير أعداد كافية من مواد وأجه
					الوسائل التعليمية ،
					٧ ـ توفير خدمةلنقل مواد وأجهزة الوسائـــل
					التعليمية من والى قاعات الدر اسة •
					٨ - توفير الفرصة لأعضا • هيئة التدريس والمعاضرين
					للمشاركة في اختيار الوسائل التعليمية للكلية ،
					٩ - اشعار اعضا ٩ هيئة التدريس والمعاضريـــــن
					باستمرار بما يستبد من انشطة تتعلـــق
					بالوسائل التعليمية في الكلية .
					١٠- توفير سياسة مرنة تتيح استخدام الوسائل
					التعليمية ومصادرها بالكلية بسهولة .
					اا- اوجه دعم اخری ( من فضلك اذكرهـــا).
اا		 			

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# الجـــز الســـادس

من فضلك أشر الى مدى حصولك على معلومات عن الوسائل التعليمية الموجودة في كليــــة التربية بواسطة كلمصدر من مصادر المعلومات التالية ، فضلا ضع علامة // في المربــــع المناسب أمام كل مصـــدر،

	مدی الم	ھول على	, معلوما	ت من کل	ممـــدر
مصادر المعلومــــــــــــــــــــــــــــــــــ	أحيا نا كثيره	ا حيا نـا	لا أعــرف	نادرا	لا أحصل على معلومات مطلقــــــــــــــــــــــــــــــــــــ
<ul> <li>١ بواسطة منشورات قصيرة، وكتيبات</li> <li>منتصرة أو مطبوعات اخرى يصدرها</li> <li>مركز الوسائل التعليمية في الكلية،</li> </ul>					
<ul> <li>٢ - بو اسطة المعارض التي يقيمها مركز</li> <li>الوسائل التعليمية في الكلية ،</li> </ul>					
<ul> <li>٢ بواسطة رسائلأو نشرات موجهة من</li> <li>رئيس أو وكيل القسم الى أعضـا </li> <li>هيئة التدريس والمحاضرين في القسم </li> </ul>					
<ul> <li>٤ - بواسطة رسائل أو نشرات موجهة من</li> <li>اخصائيي الوسائل التعليمية ال</li></ul>					
٥ – بواسطة دليل الكلية ٠					
<ul> <li>٢ - بواسطة الاتمال الشخصي بأخصائيي</li> <li>الوسائل التعليمية في الكلية ،</li> </ul>					
<ul> <li>١ بواسطة التعدث للزملاء أعضاء هيئة</li> <li>التدريس والمعاضرين في القسم أو</li> <li>الكلية الكلية الما من الما ما م</li></ul>					
/ ۔۔۔ مصادر أخرى ( من فضلك اذكرهــا )					

## الجــز • السا بــــع

أ ـ يتضمن هذا الجز عبارات تمثل بعض العقبات التي قد تحد من استخدام الوسائل التعليمية . من فضلك أشر ـ من خلال خبرتك بالتدريس في كلية التربية ـ الى درجة موافقتك أو عـدم موافقتك على كل عبارة وذلك بوضع علامة ⁄/ في المربع المناسب .

	Υ <u>΄΄</u>	1		5	
	أوافق تماما	أوافق	غیــر متاکد	لا اوافــق	لا أوافق مطلقــــــاً
ا ـــ أجد صعوبة في الحصول على الوسائــــل التعليمية عندما أحتاج اليها ·					
<ul> <li>٢ - أجد صعوبة في تشغيل أجهزة الوسائل</li> <li>التعليمية ،</li> </ul>					
<ul> <li>٣ - نصابي التدريسي لا يتيح الوقت الكافي</li> <li>١ للتفطيط لاستخدام الوسائل التعليمية ،</li> </ul>					
٤ ليس لدى معلومات عن الوسا ل					
٥ ــ استخدام الوسائل التعليمية لا يناسب المادةأو المواد التيأقوم بتدريسها ·					
٦ قاعات الدراسة غير مجهزة بالاحتياجات اللازمة لاستخدام الوسائل التعليمية ·					
<ul> <li>۷ – الوسائل التعليمية الموجودة لــــدى</li> <li>۱ الكلية غير منظمة بطريقة تسهـــل</li> <li>الوصول اليها واستخدامها ،</li> </ul>		•			
<ul> <li>٨ – ادارة الكلية نمير مهتمة بالوسائــــل</li> <li>التعليمية وتعتبرها أشيا منينين نميــــر</li> <li>اساسية للتدريس م</li> </ul>					
<ul> <li>٩ مواد الوسائل التعليمية التي أحتـــاج</li> <li>لاستخدامها في المقررات التي أدرسها</li> <li>لا يوجد لدى الكلية الا القليل منهـا</li> <li>او غير موجودة مطلقا ،</li> </ul>					
<ul> <li>١٠ الكلية تفتقد العدد الكافي من أجهزة</li> <li>الوسائل التعليمية ·</li> </ul>					

	+				
لا اوافق مطلقـــا	لا أو افق	غیر متاکد	اوافق	اوافق تماما	
					١١ ليس لدى التدريب الكافي والمهارات اللازمة لاستخدام الوسائل التعليمية ·
	-				<ul> <li>١٢ اجد صعوبة في العصول على مساعــدة</li> <li>في تشغيل أجهزة الوسائل التعليمية ،</li> </ul>
					١٣- الاعداد لدرس تستخدم فيه الوسائل التعليمية يستهلك وقتا أطول بكثير من الاعداد لدرس تستخدم فيه الطرق التدريسية التقليدية ،
					<ul> <li>١٤ الاتصال بين اخصائيي الوسائــــــل</li> <li>وأعضا ٩ هيئة التدريس والمحاضريــن</li> <li>غير فعال أو غير موجود ٩</li> </ul>
					١٥- الطلاب يعتبرون الدروس التي تستخدم فيها الوسائل السمعية البصرية دروس تسليةولا يبذلونالوقت في دراستها ٠
					<ul> <li>١٦ اجد معوبة في الحصول على مساعدة في</li> <li>١٦ اختيار واعداد الوسائل التعليمية •</li> </ul>
					<ul> <li>١٩ اجهزة الوسائل التعليمية تتعطل كثير ١٠</li> </ul>
					<ul> <li>١٨ زملائي اعضا ٩ هيئة التدريــــــــــــــــــــــــــــــــــــ</li></ul>
					۱۹ – عقبات اخری(من فضلک اذکرها ) :
					•••••

بـ افترض أن العقبات أعلام سوف تزال ، الى أى مدى تعتقد أنك سوف تستخدم الوسائـــل التعليمية ؟ من فضلك ضع علامة / في المربع المناسب.

كثيرا 🗍 الرجد ما 🗍 قليلا 🗍 لن أستخدمها مطلقا ،

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# الجـــز الثـامـــن

- ١) من فضلك أشر الى درجة رنمبتك في التدرب على استخدام الوسائل التعليمية وذلك بوضع
   علامة // في المربع المناسب
  - 1 \_\_\_\_\_\_ راغب جـــدا
     ب \_\_\_\_\_\_ راغب بدرجة متوسطة
     ج \_\_\_\_\_\_ راغب بدرجة قليلــة
     د \_\_\_\_\_\_ غير راغب مطلقـــا
  - ٢) اذا كنت ترغب في التدرب على استخدام الوسائل التعليمية ، فأى المهارات التالية ترغب في تعلمها ؟ من فضلك أشر الى كل ما تراه مناسبا بوضع علامة // فــــي المربع المناسبب ،

APPENDIX G

FOLLOW UP LETTER FOR QUESTIONNAIRE Dear Faculty Member at the College of Education

Attached to this letter is a copy of the questionnaire that has been sent to you previously. The questionnaire is used for adoctoral dissertation about the factors related to the use of instructional media by male faculty members at the colleges of education in Saudi Arabia Universities. Please fill out the questionnaire and pass it within, at the most, one week to the head of your department. If you already returned the questionnaire, please ignor this letter.

. •

Thank you very much for your cooperation

BAJER ABDUALLAH AL-SALEH

بسم الله الرحمن الرحيم

أخي الكريم عفو هيئة التدريس أو المحاضر بكليةالتربية

السلام عليكم ورحمة الله وبركاته، وبعد

بطيه نسخة من استبيان البحث والذى ارسل اليك سابقا، وسيستخدم هذا الاستبيان في جمع المعلومات اللازمة لرسالة الدكتوراه والتي أقـــوم باعدادها في جامعة ولاية متشجان ، الولايات المتحدة الامريكية، وموضوع الدراسة هو : العوامل المتعلقة باستخدام الوسائل التعليمية بو اسطــــة اعضاء هيئة التدريس الذكور والمحاضرين في كليات التربية بجامعــــات المملكــــة،

استاذى الكريم : ارجو التكرم بالتعاون في تعبئة الاستبيـــان العرفق واعادته الى رئيس أو كيل قسمكم الموقر فيموعد اقصاه اسبـــوع من تاريخ استلامه • اذا كنت قد أجبت على الاستبيان الذى سبــــقوأن ارسل اليك فأرجو تجاهل هذه الرســـالـة •

شاکرا ومقدرا لکم حسن تعاونک....م ،،،،

مقدم الاستبيسان

يدن فيدالله المالسيح

APPENDIX H

LETTER OF INTRODUCTION FROM RESEARCHER'S HOME UNIVERSITY

براغاز المكترين



الملتحة التريية المسعودية ولانة التربية المسعودية مليعت كالملكر في في تسابي وللمامة الشرون الأحدية

المحتمسرم

Kingdom of Saudi Archia

Hnietry of Higher Education

KING FAISAL UNIVERSITY

EASTERN PROVINCE

OFFICE OF THE VICE RECTOR

FOR ACADEMIC AFFAIRS

السلام عليكم ورحمة الله وبركاته ٥٠٠ وبعد ،

ارد الأحاطة بنان الاستاذ بدر عبد الله العالج , هو أحد مبتعثى جامعنا الملك فيمل إلى جامعة ولاية مبتشمان ويقوم حساليا باعسداد اطروحنا الدكتوراه تحد عسنوان " العوامسل المتعلقسة باستخسدام الوسنائل التعليمية بوانطة أعضاء هيئة التدريس الذكور في كطيات التربية فسس جامعات العملكة " ه

ولاستكمال هذه الدراسة يحتاج الاستاذ الصالح الى جمع بعسق المعلومسات . المتعلقة باستخدام الرسائل التعليمية فى كليتكم وقبد قبسام بامسداد استبيان لجميع المعلومات المطلوبة ليذا الفرق ه

اقدم لكم الاستاذ العالج وارجو التكرم بتوفير كل مساعسدة ممكسنة له لاستكمال بحثه لنيل درجة الدكتوراه ٥٠٠شاكراً لسمادتكم حسن تعاونكسم لما فيه معلجة ابنائنا الطلاب وخدما المالج المسسام ٥ وانتبسيز هستاه الفرط لامرب لكم عن غالص تحياتي وتقديري ٥

والسلام عليكم ورحما الله وبركاته •

وكيل الجامعة للشؤون الأكاديمسية

. والمانت جم د، عبد المنان احمد ترجمــــان

APPENDIX I

LETTERS OF INTRODUCTION FROM DEANS OF COLLEGES OF EDUCATION, SAUDI ARABIAN UNIVERSITIES

.

الماكت العب بنتر السعودت KINGDOM OF SAUDI ARABIA وزارة المغناج العالى MINISTRY OF HIGHER EDUCACTION حامعةام القرى **ZIMM AL-QURA UNIVERSITY** مكتةالمكشرمة MAKKAH ALMUKARRAMAH كلتة الترببة FACULTY OF EDUCATION

الرقم التاريخ الموافق المشغو عات

سعادة الدكتور أو المحاضر بكليه التربيه الموقر

السلام عليكم ورحمه الله وبركاته وبعد ،، بنا على طلب سعادة وكيل جامعه الملك فيصل للشئون الاكاد يعيــــه يسعد نى أن اقدم لسعاد تكم الاستاذ بد رعبد الله الصالح مبتعث جامعــه الملك فيصل الى جامعه ميتشيجان بأمريكا والذى يقوم باعد اد رســـــاله الدكتوراه بعنوان " العوامل المتعلقه باستخد ام الوسائل التعليميه بواسطه اعضا هيئه التدريس الذكور فى كليات التربيه فى جامعات المملكه ".

ارجو منكم ساعدته فى الحصول على بعض المعلومات المتعلقه باستخـد ام الوسائل التعلمييه فى الكليه وتعبئه الاستبيان الذى اعده لهـذا الغـرض . شاكرين لكم تعاونكــــــم . م

وتقبلوا وافر تحياتــــى ،،

عمید کلیه التربیه بمکه المکرمے محص ۱۹۶۲ ۲ ۱۹۶۰ کو

REF

DATE

#### KINGDOM OF SAUDI ARABIA

MINISTRY OF HIGHER EDUCACTION

#### umm al-qura university

TAIF FACULTY OF EDUCATION DEAN'S OFFICE



المعلكة العربية السعودية وزلارة التعليم لأعكالى حامعة أم القرى الطيانف كلية الترسية

هيـه التربيـــه مڪتب العميـد

الموقر

ســـــعا دة الدكتـور أو المحاضـر بكليــة التربيــة بالطائف

السلام عليكم ورحمة الله وبركاته وبعد :

بنـــا• على طلب ســعادة وكيل جامعـة الطك فيصـل للشئون الأكاديمية يســعدنى أن أقدم لســعادتكم الاســتاذ / بدرعبـد الله الصالح متعث جامعـــة الطك فيصـل الى جامعـة ميتشـيجان بأمريكـا والذى يقوم باعداد رسـالة الدكتــــوراه بعنـوان " العوامل المتعلقه باستخدام الوسـائل التعليمية بواسطة أعضـا• هيئـــــة التدريس الذكـور فى كليـات التربية فى جامعـات المطكة "

أرجـو منكـم مسـاعدته في الحصـول على بعض المعلومات المتعلقة باستخــدام الوسـائل التعليمية في الكلية وتعبئة الاسـتبيان الذي اعده لهذا الغـرض .

شاكرين لكم تعاونكم .

وتقبلوا وافر تحياتي ،،،

عميد كلية التربية بالطائف

ج /الوكيل ،،

مرتدية الممر ه

الأخ الكريم عضو هيئة التدريس أو المحاض بكلية التربية

السلام عليكم ورحمة الله وبركاته ، وبعد

بدر عبدالله الصالح هو أحد الزملاء المبتعثين من جامعة الملك فيصل لاكمال در استه العليا في مجال ( الوسائــــل التعليمية ) وهو الان في رحلة بحث لجمع المعلومات اللازمـــة لانهاء رسالة الدكتور اه ٠

أرجو التكرم بتقديم المساعدة اللازمة له وتعبئ.....ة الاستبيان الخاص بالدر اسة •

شاكـرا ومقـدرا لكم تعاونكم •

ولكم خالص تحياتي ، ، ،

عميد كلية التربية 7111 2 .

د عبدالله ابر اهيم الحمد ان

نىو اف /

01/00-. .

والمالحان الحال . . . . . . . . . بالهوالعالية فالمتحدر المحمولات

فسبرع أبسزا كايت التربيسة مكتب المسيسد

Trong Sand Chine on sug

سعادة الدكتور أو المحاضر بكلية التربية الموقر السلام عليكم ورحمة الله وبركاته وبعد ...

بنا على طلب سعادة وكيل جامعة الملك فيصل للشئون الأكاديمية يسعدنى أن أقدم لسعادتكم الاستاذ بدر عبد الله الصالح مبتعث جامعــــــة الملك فيصل الى جامعة ميتشيجان بأمريكا والذى يقوم باعداد رسالة الدكتــــوراه بعنوان " العوامل المتعملـــقة باستخدام الوسائل التعليمية بواسطــــة أعضـا هيئة التدريس الذكور فى كليات التربية فى جامعات المملكة " .

أرجو منكم مساعدته في الحصول على بعض المعلومات المتعلقة باستخصيم ام الوسائل التعليمية في الكلية وتعبئة الاستبيان الذي اعده لهذا الغرض.

شاكرين لكم تعاونكم ،،، وتغضلوا بقبول وافر تحياتي ،،،

· 1.0 -----

וס: איז נע עע

۱ ۳<u>۱</u> :

siam.

KINGDOM OF SAUDI ARABIA

Ministry of Higher Education

#### KING ABDULAZIZ UNIVERSITY

College of Education MADINAH MUNAWWARAH

Ref. .....

الموقر

الملكذ العربيت السِعُودية وترايؤ النغ ليمالع إلى جامعة الملك عبد الغزيز كلية التربية بالمدينة المنبورة

الرقم	 	•••••	•••••	
التاريخ	 ••••••		•••••	•

سعادة الاخ الزميل عضو هيئة التدريس والمحاض بكلية التربية بالمدينةالمنورة السلام عليكم ورحمة الله وبركاتــــه ۰۰ ۰۰ ۰۰ ۰۰ ۰۰ ۰۰

بناء على طلب سعادة وكيل جامعة الملك فيصل للشئون الاكاديميـــــة يسعدنى أن أقدم لسعادتكم الاستاذ بدر عبدالله الصالح مبتعث جامعة الملــك فيصل الى جامعة ميتشيجان بأمريكا والذى يقوم باعداد رسالة الدكتــــوراه بعنوان " العوامل المتعلقة باستخدام الوسائل التعليمية بواسطة أعضــــاء هيئة التدريس الذكور فى كليات التربية فى جامعات المملكة " .

أرجو منكم مساعدته في الحصول على بعض المعلومات المتعلقة باستخـــدام الوسائل التعليمية في الكلية وتعبئة الاستبيان الذي اعده لهذا الغرض •

> شاکرا لکم تعاونگــــم • وتقبلوا وافر تحیاتی •

عميدكلية التربية بالمدينة المنورة - A.G (د.عمربن حسن عثمان فلاته)

م/يحيي//

مايته الرجمن الرحي

Kingdom of Saudi Arabia Ministry of Higher Education

King Faisal University

AL-AHSA COLLEGE OF EDUCATION



الملكة العربية الشعودية وزارة التعملم العممالي جامعت للبكن فيصل الاحسياء كليسة التربيسة

ســعادة/ عضو هيئة التدريس بكلية التربية ـ جامعة الملك فيصل المحترم

السلام عليكم ورحمة الله وبركاته وبعسسد ٠،

السيد/ بدر عبدالله الصالح احد مبعوثي الكلية ويقوم بأجراً بحث للدكتـوراه في الوسائل التعليمية •

آمــل من ســعادتكم التكرم بمساعدته في تعبئة الاستبيان المرفـق شاكرا ومقدرا لسعادتكم تعاونكـــم •

وتقبلوا خالم تحيات ..... }

عميد كلية التربيي بجامعة الملك فيمس د ، عبد الوهاب عمر السماعيسل
BIBLIOGRAPHY

## **BIBLIOGRAPHY**

- Abdi, (1981). F. Factors affecting faculty use of instructional media at public universities and community colleges in Southeastern Michigan. Unpublished Ph.D. dissertation, University of Michigan.
- Abedor, A. J., & Sachs, S. G. (1978). The relationship between faculty development (FD), organizational development (OD), and instructional development (ID): Readiness for instructional innovation in higher education. In D. K. Bass, et al. (Eds.), <u>Instructional development: The</u> state of the art. Columbus, OH: Collegiate Publishing.
- Abu-Ras, A. S. (1979). Factors affecting teachers' utilization of elements of educational technology in Saudi Arabia. Unpublished Ph.D. dissertation, Indian University.
- Al--Debassi, S. (1983). The impact of training programs, availability of educational media, and school facilities on teachers' use of educational media in Saudi intermediate and high schools. Ph.D. dissertation, University of Pittsburgh. <u>Dissertation Abstracts International</u>, 1984, 44(.08), 2321-A.
- Al-Ismaeel, A. U. (1981). <u>Selected social studies teaching strategies in Saudi</u> <u>Arabian secondary school</u>. Ph.D. dissertation, University of Kansas.
- Aquino, C. C. (1974, January). Teacher attitudes to media teaching environments. British Journal of Educational Technology, 5(1), 72–79.
- Aquino, C. C. (1970, Summer). Teachers attitudes toward audiovisual instruction as they are influenced by selected factors within teaching environments. <u>Audiovisual Communication Review</u>, 18(2), 187–195.
- Armsey, J. W., & Dahl, N. C. (Eds.) (1973). <u>An inquiry in the uses of</u> <u>instructional technology</u>. New York: A Ford Foundation Report.
- Arterbury, E. H. (1971). <u>Teacher utilization of media services provided by the</u> regional educational service centers in Texas. Unpublished Ph.D. dissertation, East Texas State University.
- Association for Educational Communications and Technology (AECT). (1977). <u>College learning resources programs: A book of readings</u>. Washington, DC.: AECT.
- Association for Educational Communications and Technology (AECT). (1979). <u>Educational technology: A glossary of terms</u>. Washington, DC: AECT Task Force on Definitions and Terminology.

- Bakri, T. H. (1983). Factors influencing the use of instructional media by middle school teachers in two school districts in Saudi Arabia. Unpublished Ph.D. dissertation, Oklahoma University.
- Briggs, L. (1970). <u>Handbook of procedures for the design of instruction</u>. Pittsburgh: American Institutes for Research.
- Brown, J. W., & Norberg, K. D. (1965). <u>Administering educational media</u>. New York: McGraw-Hill.
- Brown, J. W., & Thornton, J. W., Jr. (Eds.) (1963). <u>New media in higher</u> <u>education</u>. Washington, DC: Association for Higher Education and Department of Audiovisual Instruction.
- Brown, J. W., et al. (1972). <u>Administering educational media: Instructional</u> technology and library services. New York: McGraw-Hill.
- Brown, J. W., et al. (1983). <u>AV instruction: Technology, media, and methods</u>, 6th ed. New York: McGraw-Hill.
- Carnegie Commission on Higher Education. (1972). <u>The fourth revolution:</u> <u>Instructional technology in higher education</u>, report and recommendations. New York: McGraw-Hill.
- Chu, G. G., & Schramm, W. (1970). Learning from television: What the research says. In S. G. Tickton (Ed.), <u>To improve learning</u>: <u>An evaluation of</u> <u>instructional technology</u>, vol. I. New York: R. R. Bowker.
- Commission on Instructional Technology. (1970). To improve learning: <u>A report</u> to the President and Congress of the United States. Washington, DC: U.S. Government Printing Office.
- Curl, D. H. (1977). The production function. In Association for Educational Communications and Technology (AECT). <u>College learning resources</u> <u>programs: A book of readings</u>. Washington, DC.: AECT
- Dale, E., et al. (1949). Research on audiovisual materials. In N. B. Henry (Ed.), <u>Audio-visual materials in instruction</u>. The Forty-Eighth Yearbook of the National Society for the Study of Education, Part I. Chicago: University of Chicago Press.
- Davis, R. H., & Alexander, L. T. (1977). <u>Effective use of media: Guides for the</u> <u>improvement of instruction in higher education, No. 4.</u> East Lansing: Michigan State University.
- Davis, R., et al. (1974). <u>Learning system design: An approach to the</u> improvement of instruction. New York: McGraw-Hill.
- DeCecco, J. (1968). <u>The psychology of learnaing and instruction</u>: <u>Educational</u> <u>psychology</u>. Englewood Cliffs, NJ: Prentice Hall.

فك

- Department of Media and Educational Technology. (1983). <u>An overview of the</u> <u>Department of media and Educational Technology</u>. Riyadh, Saudi Arabia: College of Education, King Saud University.
- Demerath, N. J., & Daniel, L. (1973). <u>How to make "the fourth revolution":</u> <u>Human factors in the adoption of electronic instructional aids</u>. <u>Memorandum No. 73/75. St. Louis: Washington University. ERIC, ED</u> 086262.
- Diamond, R. M. (1971). Instructional development: Fact or fiction? <u>Audiovisual</u> instruction, 16(10), 6-7.
- Directorate General for the Development of Higher Education. (1980). Progress of higher education in the kingdom of Saudi Arabia in ten years (1970–1980). Riyahd: National Offset Printing Press.
- Eable, K. E. (1972). Professors as teachers. San Francisco: Jossey-Bass.
- Educational Technology Center. (1984). <u>A report of the activities conducted by</u> <u>the educational technology center in 1983-84</u>. Hufof, Saudi Arabia: College of Education, King Faisal University.
- Egbert, R., & Khan, A. (1975). <u>Education in Saudi Arabia: Findings,</u> <u>recommendations, and proposed projects</u>. Report of the education team's visit to Saudi Arabia, November 8-27, 1974. Washington, DC: Department of Health, Education, and Welfare.
- Evans, R. I. (1968). <u>Resistance to innovation in higher education</u>. San Francisco: Jossey-Bass.
- Feldhusen, J. F. (1980, February). Instructional technology and innovation in higher education. Educational Technology, 20(2), 55–57.
- Felty, W. C. (1975). Audiovisual programs in two-year colleges. Ph.D. dissertation, University of Kentucky. <u>Dissertation Abstracts International</u>, <u>36</u>, 1252A.
- Fulton, W. R. et. al. (1979) <u>Evaluative Checklist: An Instrument for Self-Evaluating an Educational Media Program in Colleges and Universities</u>. 3rd Edition. Washington, DC: Association for Educational Communications and Technology (AECT).
- Gaff, J. G. (1975). <u>Toward faculty renewal</u>: <u>Advances in faculty, instructional</u> and organizational development. San Francisco: Jossey-Bass.
- Gagne, R. M. (1971). Learning theory, educational media, and individualized instruction. In S. G. Tickton (Ed.), <u>To improve learning</u>: <u>An evaluation of</u> instructional technology, Vol. II. New York: R. R. Bowken.
- Gagne, R. M., & Briggs, L. J. (1979). <u>Principles of instructional design</u>, 2nd. ed. New York: Holt, Rinehart and Winston.

- Gerlach, V. S., & Ely, D. P. (1980). <u>Teaching and media</u>: <u>A systematic approach</u>, 2nd ed. Englewood Cliffs, NJ: Prentice Hall.
- Gooler, D. D. (1978–79). Instructional development in developing nations. Journal of Instructional Development, 2(2).
- Guba, E., & Snyder, C. (1964). <u>Instructional television and the classroom</u> <u>teacher</u>. Columbus: Ohio State University.
- Gustafson, K. L. (1981). Survey <u>of instructional development models</u>. New York: Syracuse University. ERIC.
- Hafiz, T. K. (1976). The potential role of educational/instructional television in higher education and human resource development for the Kingdom of Saudi Arabia. Unpublished Ph.D. dissertation, University of Colorado.
- Hammad, M. A. (1974). <u>The educational system and planning for manpower</u> <u>development in Saudi Arabia</u>. Unpublished Ph.D. dissertation, Indiana University.
- Hassan, M. A. (1984, March). Director of Educational Media Center, College of Education, Medina, Saudi Arabia. Personal interview.
- Havelock, R. G. (1973). <u>The change agent's guide to innovation in education</u>. Englewood Cliffs, NJ: Educational Technology Publications.
- Heinich, R. (1971, January). Technology and teacher productivity. <u>AV</u> <u>Instruction</u>, <u>16(1)</u>, 79–83.
- Heinich, R., et al. (1982). <u>Instructional media and the new technologies of</u> <u>instruction</u>. New York: John Wiley.
- Hoban, C. F., et al. (1950). Instructional film research: 1918–1950, technical report. New York: Special Devices Center.
- Hooper, R. (1969, Fall). A diagnosis of failure. <u>Audiovisual communication</u> review, 17(3), 245-271.
- Hubbard, R. D. (1960). A study of the reasons given for the limited use of certain audio-visual materials at Syracuse University. Unpublished Ph.D. dissertation, Syracuse University. <u>Dissertation Abstract International</u>, 21(1), 321.
- Humphrey, D. (1980, August). The use of instructional media technology in faculty grants for the improvement of undergraduate education. Educational Technology, 23–29.
- Hurst, P. (1980, March). Educational technology in the Middle East. <u>Educational</u> Broadcasting International, 13(1), 4-8.

- Imogie, A. I. (1979). Instructional media use by faculty members in Ahmadu Bello University, Zaria: A study of factors related to educational innovations in a Nigerian university context. Unpublished Ph.D. dissertation, Michigan State University.
- Issa-Fullata, M. M. (1982). An experimental study for modernizing instruction through educational technology: The case of Saudi Arabia. Unpublished Ph.D. dissertation, State University of New York.
- Kelley, G. B. (1960, March). A study of teachers' attitudes toward audiovisual materials. Educational Screen and Audiovisual Guide, 30(3), 119–121.
- Kemp, J. E. (1977). Instructional design: A plan for unit and course development. Belmont, CA: Fearon.
- Kemp, J. E. (1980). Significant current trends in educational technology: Some <u>implications</u>. In J. W. Brown (Ed), <u>Educational media yearbook</u>. Littleton, CO: Librariaes, Unlimited.
- King Abdulaziz University. (1976). <u>The college of education in 25 years: 1952–</u> 1976. Mekkah, Saudi Arabia: Mekkah Establishment for Publications.
- Knowlton, J., & Hawes., E. (1962). Attitude: Helpful predictor of audiovisual usage? AV Communication Review, 10(3), 147–157.
- Kozma, R. (1978, September/October). Faculty development and the adoption and diffusion of classroom innovations. <u>Journal of Higher Education</u>, <u>49</u>(5), 438–449.
- Librero, F. (1981). <u>A descriptive analysis of audiovisual media utilization by the</u> <u>faculty of the school of education at Indiana University (Bloomington)</u>. Unpublished Ph.D. dissertation, Indiana University.
- Mayhew, L. B. (1963). A summing up. In J. W. Brown & J. W. Thornton, Jr. (Eds.), New media in higher education. Washington, DC: NEA.
- McKeachie, W. J. (1978). <u>Teaching tips: A guide book for the beginning college</u> <u>teacher</u>, 7th ed. Lexington, MA: D. C. Heath.
- McIntyre, K. M. (1963). <u>A study to determine specific sources of resistance to</u> the use of audiovisual materials by college and university teachers and the development of procedures for overcoming the barriers to optimum use. Chapel Hill: University of North Carolina.
- Merrill, I. R., & Drob, H. A. (1977). <u>Criteria for planning the college and</u> <u>university learning resources center</u>. Washington, DC: Association for Educational Communication and Technology (AECT).
- Miller, N. E. (1957, December). Graphic communication and the crisis in education. <u>Audiovisual Communication Review</u>, 3(2).

- Ministry of Education, Saudi Arabia. (1974). <u>Educational policy in the Saudi</u> <u>Arabian kingdom</u>. Riyadh.
- Ministry of Finance and National Economy, Saudi Arabia. (1982). <u>The statistical</u> <u>indicator, 7th issue</u>. Jeddah: Okaz Publishers.
- Ministry of Higher Education, Saudi Arabia. (1978). <u>The educational policy in</u> the kingdom of Saudi Arabia. Riyadh.
- Ministry of Planning, Saudi Arabia. (1980). <u>Third development plan, 1980–85</u>. Riyadh: Ministry of Planning Press.
- Moldstad, J. A. (1974). Selective review of research studies showing media effectiveness: A primer for media directors. (1974). <u>AV Communication</u> <u>Review</u>, 22(4), 390–405.
- Moore, D. M., & Hunt, T. C. (1980, May). The nature of resistance to the use of instructional media. <u>British Journal of Educational Technology</u>, <u>11</u>(2), 141–147.
- Morton, W. C. (1979). Factors influencing faculty use of educational media in Florida upper division universities. Unpublished Ph.D. dissertation, University of Florida. Cited in F. Abdi, <u>Factors affecting faculty use of</u> <u>instructional media at public universities and community colleges in</u> <u>Southeastern Michigan</u>. Unpublished Ph.D. dissertation, University of Michigan, 1981.
- Moshaikeh, M. S. (1982). <u>Patterns of instructional media utilization in</u> preparation of elementary school teachers in Saudi Arabian junior colleges. Unpublished Ph.D. dissertation, University of Pittsburgh.
- Nyrop, R., et al. (1977). <u>Area handbook for Saudi Arabia</u>, 3rd ed. Washington, DC: U.S. Government Printing Office.
- Obetz, R. (1980). Media used by community college faculty in the classroom. Unpublished Ph.D. dissertation, University of California. Cited in M. B. Moshaikeh, <u>Patterns of instructional media utilization in preparation of</u> <u>elementary school teachers in Saudi Arabian junior colleges</u>. University of Pittsburgh, 1980.
- Pennywell, P. J. (1982). The value of visual media in the achievement of instructor's objectives as perceived by the instructors in predominantly black state-supported colleges and universities in the state of Louisiana. Unpublished Ph.D. dissertation, North Texas State University. Cited in M. B. Moshaikeh, Patterns of instructional media utilization in preparation of elementary school teachers in Saudi Arabian junior colleges. University of Pittsburgh, 1980.
- Prudy, L. (1975, March). Community college instructors and the use of new media: Why some do and some don't. <u>Educational Technology</u>.

- Qubain, F. (1966). <u>Education and science in the Arab world</u>. Baltimore: Johns Hopkins.
- Riyadh Daily Newspaper, Saudi Arabia. (1981, August). Closed-circuit television: Between Failure and success, no. 4851.
- Rogers, E. M., & F. F. Shoemaker. (1971). <u>Communication of innovations: A</u> cross cultural approach, 2nd ed. New York: The Free Press.
- Rohrlick, S. B. (1973). Relationships among college faculty members' attitudes toward media, perceived deterrents, and use of media. Unpublished Ph.D. dissertation, Syracuse University. <u>Dissertation Abstracts International</u>, 34(3), 1105–A.
- Rose, S. N. (1982, December). Barriers to the use of educational technologies and recommendations to promote and increase their use. <u>Educational</u> <u>Technology</u>, <u>22</u>(12), 12–15.
- Schramm, W. (1977). <u>Big media</u>, <u>little media</u>: <u>Tools and technologies for</u> <u>instruction</u>. Beverly Hills: Sage.
- Schramm, W. (1962). What we know about learning from instructional television. <u>Educational television, the next ten years</u>. Stanford: The Institute for Communication Research.
- Shaker, P. (1980). <u>Curricula change in the developing country: The case of</u> <u>Saudi Arabia</u>. Paper presented at the annual meeting of the American Educational Research Association, Boston. ERIC, ED 191139.
- Sherman, M. & Schwen, T. (1977). The instructional development function. In Association for Educational Communication and Technology (AECT). <u>College learning resources programs: A book of readings</u>. Washington, DC. AECT.
- Shihab, F. A. (1984, March). Director of the Educational Technology Center, College of Education, Abha, Saudi Arabia. Personal interview.
- Silber, K. H. (1981). Some implications of the history of educational technology. In J. W. Brown (Ed.), <u>Educational media yearbook</u>. Littleton, CO: Libraries Unlimited.
- Stephens, R. E. (1971). <u>Factors in media utilization in higher education</u>, Unpublished Ph.D. dissertation, University of Southern California.
- Teather, D. C. B., & Collingwood, V. (1978, May). Which media do university teachers actually use? A survey of the use of audio-visual media in teaching at two New Zealand universities. <u>British Journal of Educational Technology</u>, 9(2).
- Tickton, S. G. (1970). <u>To improve learning: An evaluation of instructional</u> technology, Vol. I. New York: R. R. Bowken.

- Tickton, S. G. (1971). <u>To improve learning: An evaluation of instructional</u> <u>technology</u>, Vol. II. New York: R. R. Bowken.
- Tobias, S. (1968). Dimensions of teachers' attitudes toward instructional media. American Educational Research Journal, 5(1), 91–98.
- Travers, R. M. W. (Ed.). (1964). <u>Research and theory related to audiovisual</u> <u>information transmission</u>. Interim report, University of Utah, Bureau of Educational Research.
- Umm Al-Qura University, Saudi Arabia. (1982–83). <u>The student bulletin</u>, 1st ed. Mekkah: Dar Al-Thakafa Printing.
- Wilkenson, G. L. (1980). <u>Media in instruction: 60 years of research</u>. Washington, DC: AECT.
- Zaltman, G., & Duncan, R. (1977). <u>Strategies for planned change</u>. New York: A Wiley Interscience.

