OPINION OF TEACHING FACULTY AT THE PANAMERICAN SCHOOL OF AGRICULTURE IN HONDURAS REGARDING THE USE OF TEACHING AIDS IN THE CLASSROOM.

by

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B.S., University of Florida, 1985

A MASTER'S REPORT

submitted in partial fulfillment of the

requirement of the degree

MASTER OF SCIENCE

College of Education

KANSAS STATE UNIVERSITY
Manhattan, Kansas

1987

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Major Professor

ACKNOWLEDGEMENTS

I would like to express my sincere thanks to all those persons who assisted me in the completion of this study.

To Dr. Richard Welton, my major advisor, for his continuous help an advise.

To Dr. John Parmley and Dr. John Hortin, for serving on the graduate committee.

To my LASPAU sponsors, specially my scholarship advisors, for their invaluable help.

To the teaching faculty and administrators at the Escuela Agricola Panamericana for completion and return of the questionnaires.

To my wife Rossy, for her warm support and love throughout this hard years of study.

To my parents, my sister and my nephew who help make this dreams come true.

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Chapter I

Introduction

Background of the Problem

The most recent effort of providing the Escuela Agricola Panamericana (hereafter referred as the School) faculty with teaching aids for their classroom work was made in 1982. At that time, the communications office consisted of one person. Later in the year, the print shop with two mimeographic machines, a xerographic machine, a secretary, and a machine operator were added to the operations. Once organized, the office provided service to the faculty in terms of text reproduction, slide photography, overhead projector transparencies, and counseling for teachers working on their own instructional materials projects.

A year later, a new education project was initiated at the School-- the Integrated Pest Management Project. One of the objectives of this new project was to provide the Plant Protection Office (now Plant Protection Department) with several slide programs and other teaching aids for classroom use. Instead of hiring new personnel, Dr. Keith Andrews, head of the project, decided to work in cooperation with the communication office. The Integrated Pest Management Project provided a secretary and an artist.

This cooperation increased the range of activities of the communications office in terms of slide sets production, instructional booklets, newspaper publications, and workshop laboratories. Given the success of the new materials, Dr. Andrews decided to initiate a new approach for the project by providing educational/extension services to neighboring communities. This was accomplished by using modified instructional materials that provided a more modern service to the community. At this time, two journalists, two typists, an additional artist, and a photographer were hired. Dr. Jorge Roman, Dean of the School, decided at this point to separate the communications office from the Integrated Pest Management Project and limit the relationship to a consulting service. This decision was made primarily because the Integrated Pest Management Project was taking vast energy resources from the communications office. Thus limiting other users.

In 1983, new duties were assigned to the communications office. These included public relations, administration of admission tests for new students, and a follow-up on recruiting new students. An assistant was hired to help with the complicated and routine activities. In subsequent years, more activities were assigned to the office including statistical analysis of educational

information and administration of special projects and short courses.

The services of the communications office to the faculty have been rather limited. The only exception was the services once provided to the Integrated Pest Management Project. Since education in the school is rather practical and most of the faculty have technical degrees in agriculture rather than education degrees, there is an apparent lack of ability and perhaps interest on the part of the faculty in the use of teaching materials in their instructional job.

The problem studied in this report is to determine the extent of knowledge of the faculty at the School and about the use of teaching aids in classrooms and field situations.

Primary Purpose of the Study

The purpose of this investigation was to solicit the opinion of faculty related to the effectiveness of teaching aids, potential use at the School, and the most common teaching aids known and used by the faculty.

Research Questions

The basic questions of the study were the following:

1. Do the teaching faculty use instructional materials in their classes?

2. Given sixteen different instructional media materials: a) do the teaching faculty know them?; b) do they know how to use them?; c) do they know how to use the instructional materials but not how to apply them to their courses?; d) do the different materials apply to their coursework?; e) do the teachers have the resources to produce an use instructional materials?; and f) do they use them very seldom or very frequently?

3. Which instructional materials are more frequently used at the School?

4. What is the major reason for not using instructional materials?

5. Do the members of the teaching faculty have any training on the use and production of teaching aids?

6. Do the teaching faculty recognize any positive effects on the use of teaching aids?, Which advantages do they realize by using instructional materials?

7. Is there any need for the teaching faculty to learn more about instructional materials?

8. Is the teaching faculty willing to receive training in use and production of teaching aids?

9. Which suggestions will the teachers have in order to apply use of instructional materials in their courses?

10. What disadvantages exist in the use of instructional materials?

Limitations of the Study

1. The distance involved in this study necessitated the use of mailed questionnaires rather than direct administration of the instrument by the researcher.

2. The survey was directed through the Dean's office at the School, which might accelerate the process of distributing and collecting the surveys.

3. The survey was kept direct and short, because of the idiosyncrasy of latin american people who are not willing, in most cases, to fill out long and complicated surveys.

Terminology

Instructional media

Refers to any software and hardware used to support and aid instruction and teaching. Other terms used in this paper that have the same meaning are: media materials,teaching aids, and instructional aids.

The School

The School refers specifically to the Escuela Agricola Panamericana (Panamerican School of Agriculture).

Classroom teaching faculty member

Any person of any education degree, hired by the School to provide academic instruction in any area to the students enrolled at the School. For the purpose of this study, field instructors with no responsibilities of classroom teaching, have been excluded from this definition.

Integrated Pest Management Program

Created in 1983, the main purpose of this program is to provide research, education and extension services in the area of Integrated Pest Management to poor farmers in certain agricultural cooperatives in Honduras.

Agronomo

Degree granted by the School to the persons who complete all the requirements during the first three years of the academic program.

Ingeniero Agronomo

Degree offered by the School to the persons who complete all the requirements during the entire four year

program. Equivalent to a Bachelor of Science degree, the School offers (at the moment of the study) three specializations: Plant Science, Animal Science and Agricultural Economics.

Chapter II

Review of Literature

Introduction

In this chapter, two different topics will be reviewed to provide background for the study. These topics include: Escuela Agricola Panamericana and instructional media.

Escuela Agricola Panamericana

The Escuela Agricola Panamericana (Annual Report, 1986) is a private, international college, established in 1941 with the authorization and support of the Government of Honduras. The school is located 25 miles east of Tegucigalpa (Capitol city of Honduras, see map in Appendix A). The actual property of the institute spans over 12,000 acres of land of many types including rain forests in the higher areas. The Escuela Agricola Panamericana is perhaps one of the few institutions that operates as a university level teaching center within the confines of a large commercial farming operation. Students learn by doing from professors and instructors who teach by doing under a code of strict discipline and hard work for everyone.

The annual program begins the first week of January and continues through the end of November leaving the month of December as the annual vacation for every one. The academic year is divided into three trimesters, and the "Agronomo" program, which is the first degree offered, consist of nine trimesters totalling 33 months. The "Ingeniero Agronomo" program is the second degree offered and comprises 12 trimesters with a total of 44 months. The first program is comprehensive giving the Agronomo an excellent foundation in tropical agriculture. The second program becomes more specialized. It develops deeper into modern agricultural science and stresses research and individual work. The students participate in a great variety of projects which range from administration and management with the use of computers, to programs of basic seed, vegetables, and fruit production. The students learn by doing with their own hands working 24 hours per week in all the school programs.The modules of field laboratory work, something unique to the School, consist of three-week assignments in specific production operations. The farming organization of the School is divided into 45 different modules, all dealing with the agricultural operation of the institution.

Since 1981, the student body at the School has been growing every year, from 260 students to 450 in 1987. This

trend demands more effective and modern teaching methods to use in the classroom to complement the richness of the field practices.

Instructional Media

Very little was found by the investigator, in the literature, about the effectiveness of teaching aids in classrooms in colleges and universities. Even more difficult was finding information about the use of teaching aids in institutions like the School where the primary instruction is followed in the fields with hands-on experiences.

Reynolds (1981) and Gudinas (1979), both recommend several guidelines for the evaluation of teaching aids but in neither of the publications are presented any results of real evaluations. Most people accept the importance of using media materials as an aid for their teaching; however, that importance is very seldom measured. Kemp and Dayton (1985), recognize the following advantages of teaching materials: a) the delivery of instruction can be more standardized; b) the instruction can be more interesting; c) learning becomes more interactive through applying accepted learning theory; d) the length of time required for instruction can be reduced; e) the quality of learning can be improved; f) the instruction can be

provided when and where desired or necessary; g) the positive attitude of the students toward what they are learning and to the learning process itself can be enhanced; and h) the role of the instructor can be appreciably changed in positive directions.

Andrews (unpublished work, 1986), found no statistical differences on learning among three groups were he applied different levels of instructional materials (no materials, combined lecture plus teaching aids, and individualized instruction). However, none of the other advantages (like the ones mentioned by Kemp) were measured in the study and no consistent results have been published up to now.

Kemp (1985) refer to these as the more used teaching aids used in traditional education: printed media, cloth boards, flip boards, magnetic boards, overhead projector, slide series, audiotapes, filmstrips, multi-image presentations, video tape films and computer based instruction. Because of their common usage and easy access at the School these were the media materials included in the survey.

Chapter III

Methods

Introduction

In this chapter, the procedure that was used to carry out the research at the School will be described. The following topics are included: sample, distribution, survey, pilot study, and analysis.

Sample

To achieve the purposes of this report, a survey was submitted to the teaching faculty at the School to collect information about the actual use of instructional materials. From the office of Doctor Jorge Roman, Dean of the School, a listing was used to identify the teaching faculty at the School. Thirty-seven classroom teaching faculty received a copy of the survey instrument. This list is included in Appendix B.

Distribution

All survey instruments and a cover letter (Appendix C1, English translation Appendix C2) were sent directly to the Dean's office at the School on July 10th of 1987. A

letter (Appendix D1) to Doctor Roman (Dean at the School), explained in specific terms the scope and objectives of the study (English translation of this letter is included in Appendix D2). From that office, the surveys were distributed to and collected from the faculty and returned to the researcher at Kansas State University for processing and analysis.

Survey

The questionnaire was completed and submitted in Spanish language because that is the common language used at the School. The survey (Appendix E1) consists on the following: a) general information about the faculty member; b) a check list including the most common used materials is included along with a list of several levels of knowledge about each given material, this part of the survey instrument examined the level of faculty use and knowledge of application; c) questions about his/her personal opinion or experience about the use of teaching aids, advantages, application to his/her course and, limitations on the use of the materials; and d)direct questions about the interest on participating in experiences to improve his/her skills in production and use of instructional materials (a translation into English of the survey is included in the Appendix E2 of this paper).

Pilot Study

In order to refine the structure of the questionnaire, surveys were distributed to three members of the School faculty. These faculty members were on assignment or studying in the United States at the moment the pilot study took place. They are: Keith L. Andrews, PhD., Entomology, on sabbatical leave at the University of Florida; Simon Malo, PhD., Fruit Crops, on sabbatical leave at Kansas State University; and, Abel Gernat, B.S., Poultry Science, pursuing a Master degree at Kansas State University. The results of the pilot study did not presented any major problems and showed the structure of the survey to be appropriate for the purposes of the study.

Analysis

The surveys were collected by the Dean's office at the School and sent back to the researcher. Data were, then, tabulated, and frequencies counts, percentages, modes and indexes of dispersion were calculated by hand. A computer was utilized to produce the graphics which facilitated the analysis.

Chapter IV

Analysis of Data

Introduction

This chapter presents an analysis of data from a study to determine the extent of use of instructional materials by the teaching faculty at the School. From 37 surveys sent out to the School, 35 were returned to the researcher. Thus, giving a response rate of 94.6 percent. These data were organized in the following titles: demographic data, use of instructional materials, and training in the use and production of instructional materials.

Demographic Data

Table 1 shows the distribution of academic title among the teachers surveyed. Approximately 74 percent of the participants had at least a Master's degree. Bachelor of Science degree participants represented about 17 percent, the other 8.6 percent consisted of a high school graduate from a local agricultural school and two "Agronomos" graduated from the School.

The data in Table 2 provide the reader with information about the amount of teaching experience of the

participants. The average years of teaching experience at the School was 6.7. Sixty percent of the teaching faculty included in the study averaged 4.9 years of prior experience in other schools. The faculty at the School teach an average of two courses every year. The range varies from one course to six courses depending on other teaching responsibilities. These responsibilities include: research, production, administration, and extension.

TABLE 1

Academic Title

Academic Title	Number	Percentage
Doctorate	15	42.9
Master's	11	31.4
Bachelor of Science	6	17.1
Other	3	8.6
TOTALS	35	100.0

TABLE 2

Years of Teaching Experience

Place Taught	Number	Mean
The School	35	6.7
Other schools	21	4.9

Use of Instructional Materials

As shown in Table 3, 60 percent of the participants used instructional materials regularly in their courses. Nearly 32 percent use instructional materials sometimes and only three percent do not use them at all.

TABLE 3

Use of Instructional Materials

	Number	Percentage
Yes	21	60.0
No	3	8.5
Sometimes	11	31.5
TOTALS	35	100.0

Table 4a presents the status on the use of sixteen different instructional materials by study participants at the School. This table indicates the form of utilization and the frequency of each response for each material in absolute numbers and percentage.

TABLE 4a

Utilization of Various Kinds of Instructional Materials

Instructional Materials	Utilization* A No. (%)	B No. (%)	C No. (%)	D No. (%)	E No. (%)	F No. (%)	G No. (%)
Printed materials	3 (8.5)	0 (0.0)	1 (2.8)	0 (0.0)	0 (0.0)	6 (17.2)	25 (71.4)
Blackboard	1 (2.8)	0 (0.0)	1 (2.8)	0 (0.0)	0 (0.0)	2 (5.7)	31 (88.6)
Flip board	6 (17.2)	4 (11.4)	1 (2.8)	14 (40.0)	7 (20.0)	2 (5.7)	0 (0.0)
Cloth board	10 (28.6)	1 (2.8)	3 (8.4)	10 (28.6)	6 (17.2)	2 (5.7)	1 (2.8)
Magnetic board	13 (37.1)	3 (8.4)	5 (14.3)	6 (17.2)	7 (20.0)	0 (0.0)	0 (0.0)
Posters	4 (11.4)	1 (2.8)	2 (5.7)	10 (28.6)	10 (28.6)	7 (20.0)	0 (0.0)
Overhead projector	2 (5.7)	2 (5.7)	2 (5.7)	2 (5.7)	3 (8.4)	8 (22.9)	15 (42.9)

Note*

A) Do not know it
B) Do not know how to use it
C) I know how to use it but not how to apply it to my class
D) I know how to use it but do not apply to my class
E) I know how to use it in my class, but do not have the money or resources
F) I use it but very seldom
G) I use it very frequently

TABLE 4a (Cont.)

Instructional Materials	Utilization* A No. (%)	B No. (%)	C No. (%)	D No. (%)	E No. (%)	F No. (%)	G No. (%)
Opaque projector	7 (20.0)	2 (5.7)	2 (5.7)	5 (14.3)	13 (37.1)	2 (5.7)	3 (8.4)
Recordings	3 (8.4)	0 (0.0)	5 (14.3)	13 (37.1)	6 (17.2)	7 (20.0)	1 (2.8)
Slides	1 (2.8)	0 (0.0)	0 (0.0)	2 (5.7)	3 (8.4)	12 (34.3)	16 (45.7)
Slide programs	2 (5.7)	0 (0.0)	3 (8.4)	6 (17.2)	13 (37.1)	7 (20.0)	2 (5.7)
Filmstrips	4 (11.4)	2 (5.7)	3 (8.4)	7 (20.0)	10 (28.6)	5 (14.3)	2 (5.7)
Multi-image	21 (60.0)	5 (14.3)	2 (5.7)	2 (5.7)	2 (5.7)	0 (0.0)	0 (0.0)
16 mm movies	1 (2.8)	0 (0.0)	2 (5.7)	6 (17.2)	22 (62.9)	2 (5.7)	0 (0.0)
Video tape	2 (5.7)	1 (2.8)	2 (5.7)	6 (17.2)	17 (48.6)	4 (11.4)	0 (0.0)
Microcomputers	8 (22.9)	1 (2.8)	4 (11.4)	7 (20.0)	10 (28.6)	1 (2.8)	3 (8.4)

Note*
A) Do not know it
B) Do not know how to use it
C) I know how to use it but not how to apply it to my class
D) I know how to use it but do not apply to my class
E) I know how to use it in my class, but do not have the money or resources
F) I use it but very seldom
G) I use it very frequently

Table 4b summarizes the information presented in 4a, by including only the mode response and index of dispersion for each instructional material used in the study. The most frequently used materials mentioned in the survey (shown in mode G) were: printed materials, blackboard, overhead projector, and slides. All of these materials presented an index of dispersion which indicates these responses are highly consistent in comparison with all other responses. These instructional materials are well known and of easy access to the teachers. A second constant group (mode E) was the one composed of: opaque projector, slide programs, filmstrips, movies, video tapes, and microcomputers. These were considered useful by the participants; however, the lack of resources for production tended to limited their use. Flip boards, cloth boards, posters and, recordings (combined mode A and D) were very low rated in terms of usefulness and application into the different courses. In this case, the teachers either do not know the materials or simply do not have a practical application for them in their courses. Multi-image presentations and magnetic boards (mode A), were considered practically unknown by the majority of the teaching faculty. Appendix F contains figures that graphically present the use of the instructional materials. A summary of the data presented in tables 4a and 4b suggests that the major problems in the use of instructional materials at the School are: the lack

of resources for production of certain well known instructional materials (slide programs, video tapes, movies, printed materials) and the reduced knowledge among the faculty about the use of other less expensive instructional materials.

TABLE 4b

Utilization of Various Kinds of Instructional Materials

Mode and Index of Dispersion

Instructional Material	Mode*	Index of Dispersion
Printed materials	G	0.53
Blackboard	G	0.24
Flip board	D	0.86
Cloth board	A/D	0.89
Magnetic board	A	0.87
Posters	D/E	0.89

Note*

A) Do not know it
B) Do not know how to use it
C) I know how to use it but not how to apply it to my class
D) I know how to use it but do not apply to my class
E) I know how to use it in my class, but do not have the money or resources
F) I use it but very seldom
G) I use it very frequently

TABLE 4b (Cont.)

Utilization of Various Kinds of Instructional Materials

Mode and Index of Dispersion

Instructional Material	Mode*	Index of Dispersion
Overhead projector	G	0.84
Opaque projector	E	0.90
Recordings	D	0.89
Slides	G	0.74
Slide programs	E	0.87
Filmstrips	E	0.94
Multi-image	A	0.62
16 mm movies	E	0.60
Video tapes	E	0.76
Microcomputers	E	0.92

Note*
A) Do not know it
B) Do not know how to use it
C) I know how to use it but not how to apply it to my class
D) I know how to use it but do not apply to my class
E) I know how to use it in my class, but do not have the money or resources
F) I use it but very seldom
G) I use it very frequently

Data summarized in Table 5 reinforces the results shown in Tables 4 (a and b). These data indicate slides, overhead projector, blackboard, and printed materials to be

the most frequently used instructional materials. All other materials were used less often.

TABLE 5

Instructional Materials Most Frequently Utilized

Instructional Material	Frequency of Use*
Slides	22
Overhead projector	22
Blackboard	18
Printed materials	15
Video tapes	4
Models	4
Posters	3
Flip boards	2
Filmstrips	2
Microcomputers	1
Cloth board	1
Opaque projector	1
Recordings	1
16 mm movies	1

Note* Study participants could indicate use of more than one kind of instructional material.

Table 6 reports the major reasons why some teachers do not use instructional materials. The reason mentioned most frequently was the lack of resources for use and production of materials. Other reasons for not using materials included: limited class time for use, limited preparation time, lack of facilities for production, lack of equipment to use the materials, and lack of appropriate materials to cover certain topics.

TABLE 6

Reasons for Not Using Instructional Materials

Reason	Number
Poor budget	5
Do not know	1
Prefer traditional methods	1
Other reasons (see text)	7
Total	14

Training in the Use and Production of Instructional Materials

Sixty percent of the participants reported having received some kind of training in the use or production of instructional materials as indicated in Table 7. Nearly 32 percent indicated they learned to use instructional materials only through experience. No training in the use of instructional materials was reported by 8.6 percent of the participants.

TABLE 7

Trained in the Production and Use of Instructional Materials

Answer	Number	Percentage
Yes	21	60.0
No	3	8.5
Through experience only	11	31.5
TOTALS	35	100.0

Figures contained in Table 8 show a high degree of recognition among the participants (94.4 percent) about the positive effects of instructional materials. This finding may be an indication the teachers are concerned with the importance of the use of instructional materials to improve the quality of their courses.

According to Table 9, 91.4 percent of the teachers showed an interest in knowing more about instructional materials; however, the numbers dropped to 88.6 percent (Table 10) when referring to receiving training in the use and production of instructional materials.

TABLE 8

Teachers Recognize the Positive Effects of Instructional Materials

Answer	Number	Percentage
Yes	33	94.4
No	1	2.8
No answer	1	2.8
TOTALS	35	100.0

TABLE 9

Teachers Interested in Knowing More About Instructional Materials

Answer	Number	Percentage
Yes	32	91.4
No	1	2.8
Do not know	2	5.8
TOTALS	35	100.0

TABLE 10

Teachers Interested in Receiving Training in the Use and Production of Instructional Materials

Answer	Number	Percentage
Yes	31	88.6
No	1	2.8
Do Not Know	3	8.6
TOTALS	35	100.0

Many advantages in the use of instructional materials are indicated in Table 11. Most of the advantages mentioned had to do with the improvement of learning by the students: improvement on motivation, interest, perception, uniformity, and pleasantness of the presentations. Other advantages mentioned included improvement in the quality of the courses like: consolidation, efficiency, organization, attractiveness, and clarity.

TABLE 11

Advantages on the Use of Instructional materials

Advantage	Frequency
Improve comprehension	6
Improve interest of students	6
Motivation for the students	4
Makes easy to provide examples	3
Makes easy to bring techniques used in other parts of the world (also culture, ideas, etc.) or other times on history	3
Better sequence and logic	3
Improves efficiency in terms of covered material	3
Repetition of "message" improves perception	3
Makes the lecture more dynamic and attractive	3
Improve perception and memorization	2
Improve organization of presentation	2
Improve clarity of presentation	2
Complement of oral presentation	2
Consolidation and uniformity of teaching	2
Improves recognition of ideas and techniques	1
Increase pleasantness of presentations	1
Easier presentation of objectives	1
Facilitate explanation of complicated productive processes	1

The disadvantages on the use of instructional materials are presented in Table 12. Mentioned most frequently was the lack of resources. These resources included: personnel, equipment, time and money to produce, and use of instructional materials.

TABLE 12

Disadvantages on the Use of Instructional Materials

Answer	Frequency
Limited hardware, budget and availability	6
Need good planning to be effective, otherwise distracting	5
Lack of time and personnel to produce them	5
Difficult to produce	1
Difficult to use with big audiences	1
Teachers might become dependent of teaching materials	1
Need spent time in training to use equipment	1
Inappropriate classrooms	1

Table 13 shows some examples given by the participants in how to utilize some of the materials in their different courses. These examples suggest that the participants have concrete ideas in how to use instructional materials in their courses. Furthermore they

are willing to do so if the resources are made available and efforts are made to provide more diversity to the materials actually produced at the School.

TABLE 13

Ways to Utilize Instructional Materials as Suggested by Teachers

Suggestions	Curriculum Area
As individualized instruction	Plant Protection
Use of movies to illustrate concepts	Poultry Science Milk Products Pastures Beef Cattle
Translation of English materials	Chemistry Soils
Film student's presentations for them to see their mistakes and quality of work	English
Use of "Cases" to illustrate management problems	Agricultural-Management
Use materials to illustrate future field work	Agronomy
Use materials as complement (not as substitute) of lecturer	Crop Protection
Use of several teaching methods to explain processes and sequences	Food Technology
Use of microcomputers for management of animal breeding	Animal Breeding

Chapter V

Summary and Recommendations

Introduction

The purpose of this chapter is to provide a summary of the study which analyzed the extent of use of instructional materials by the teaching faculty at the School. Major findings of the study and recommendations are also included in this chapter.

Summary of the Study

Purpose

The purpose of this investigation was to solicit the opinion of faculty related to the effectiveness of teaching aids, potential use at the School, and the most common teaching aids known and used by the faculty.

Objective

The primary objective of the present work was to solicit the opinion of the teaching faculty at the School regarding to the use of instructional materials, analyze and summarize the obtained data and use the results to help the researcher to:

1. Submit recommendations to the administrators regarding future use of the Communications office.

2. Provide guidelines for improved and extended service of the Communications office at the School.

3. Provide instructions for future staff training

4. Produce guidelines for better advisement to teaching faculty in terms of use of instructional materials.

Methodology

To achieve the purposes of this report, a survey was submitted to the teaching faculty at the School to collect information about the actual use of instructional materials.

From the office of the Dean of the School, a listing was provided to identify the teaching faculty at the School. All survey instruments and a cover letter were sent directly to the Dean's office at the School. A letter to the School's Dean explained in specific terms the scope and objectives of the study. From that office, the surveys were distributed to and collected from the faculty and returned to the researcher at Kansas State University for processing and analysis.

The questionnaire was completed and submitted in Spanish because that is the common language used at the

School. The survey consists on the following: a) general information about the faculty member; b) a check list including the most common used materials is included along with a list of several levels of knowledge about each given material, this part of the survey instrument examined the level of faculty use and knowledge of application; c) questions about his/her personal opinion or experience about the use of teaching aids, advantages, application to his/her course and limitations on the use of the materials; and d) direct questions about the interest on participating in experiences to improve his/her skills in production and use of instructional materials.

In order to refine the structure of the questionnaire, surveys were distributed to three members of the School faculty. These faculty members were on assignment or studying in the United States at the moment the pilot study took place, no major problems in the structure of the survey instrument were uncover by the pilot study.

The surveys were collected by the Dean's office at the School and sent back to the researcher. Data were tabulated and frequencies counts, percentages, modes, and indexes of dispersion were calculated by hand.

Major Findings of the Study

Demographic Data

Approximately 74 percent of the participants had at least a Master's degree. Bachelor of Science degree participants represented about 17 percent. The other 8.6 percent consisted of graduates of different levels of education specially from agricultural technical schools.

The amount of teaching experience of the participants at the School at the moment of the study was 6.7 years. Sixty percent of the teaching faculty included in the study averaged 4.9 years of prior experience in other schools. The faculty at the School teach an average of two courses every year. The range varies from one course to six courses depending upon other work responsibilities. Other responsibilities include: research, production, administration, and extension.

Use of Instructional Materials

Sixty percent of the participants use instructional materials regularly in their courses. Nearly 32 percent use instructional materials sometimes and only the remaining three percent do not use them at all.

The most frequently used materials mentioned in the survey were: printed materials, blackboard, overhead projector, and slides. These instructional materials are well known and of easy access to the teachers. A second

constant group, also considered as useful by the participants, was the one composed of: opaque projector, slide programs, filmstrips, movies, video tapes, and microcomputers. However, in this case, the lack of resources for production tended to limited the use of this group of materials. A third group: flip boards, cloth boards, posters, and recordings were very low rated in terms of usefulness and application into the different courses. In the case of the third group, the teachers either do not know the materials or simply do not have a practical application for them in their courses. A last group included: multi-image presentations and magnetic boards. This group was considered practically unknown by the majority of the teaching faculty, which may explain the low rate of usage of this instructional materials. The major problems in the use of instructional materials at the School, which appeared through the study were the lack of resources for production of certain instructional materials like slide programs, video tapes, movies, and microcomputers, and the reduced knowledge among the faculty about the use of other less expensive instructional materials.

The reason mentioned most frequently as why some of the participants do not use instructional materials in their courses was the lack of resources for use and production of materials. Other reasons for not using

materials included: limited class time for use, limited preparation time, lack of facilities for production, lack of equipment to use the materials, and lack of appropriate materials to cover certain topics.

Training in the Use and Production of Instructional Materials

Sixty percent of the participants reported having received some kind of training in the use or production of instructional materials. Almost 95 percent of the participants recognized the positive effects of instructional materials. This finding may be an indication the teachers are concerned with the importance of the use of instructional materials to improve the quality of their courses.

Almost 92 percent of the teachers showed an interest in knowing more about instructional materials. Nearly 89 percent showed interest in receiving training in the use and production of instructional materials.

Many advantages on the use of instructional materials were mentioned by study participants. Most of the advantages mentioned had to do with the improvement of learning by the students: improvement on motivation, interest, perception, uniformity, and pleasantness of the presentations. Other advantages mentioned included improvement in the quality of the courses like

consolidation, efficiency, organization, attractiveness, and clarity.

Among the disadvantages on the use of instructional materials mentioned by the teaching faculty was the lack of resources. These resources included: personnel, equipment, time and money to produce, and use of instructional materials.

The participants mentioned many uses of instructional materials in their courses. This suggests they already have concrete ideas in how to use instructional materials in their courses. Furthermore, they are willing to do so if the resources are made available and efforts are made to provide more diversity to the materials actually produced at the School.

Recommendations

Based on the major findings of the study, the following recommendations are suggested:

1. Educate the administrators in terms of importance of the use of instructional materials so more resources can be allocated for the production and use of them. A plan could be organized to improve the classrooms to allow for more effective use of instructional materials. If more equipment could be supplied to the teachers this may motivate them to use instructional materials more freely.

2. Improve the communications office to provide better and more varied service. This service could be in the form of production of teaching aids and advising the teaching faculty in ways to implement instructional materials in their courses. The service at the present time is limited to the production of slides, printed materials and overhead transparencies. The new service could include video tape production, board construction, microcomputer software production on a small scale, training for new teaching faculty and instructors, and facilities for equipment loan and repair. The functions of the office should be limited to the specific duties of instructional material production and guidance on the use of instructional materials thus assuring proper service to the teaching faculty.

3. Implement a training program for the teaching faculty, covering the production and use of instructional materials. The materials covered in the training program would be those that can be used and produced at minimal cost and at minimum investment of time by the teachers.

4. Work with every teacher to help them decide on the best alternatives on use of instructional materials in terms of attractiveness for the audience, cost, availability of materials to produce the desired instructional materials and equipment to use them. Most

teachers can provide good ideas in how to use certain materials in their courses.

5. Encourage the inclusion of instructional materials as a common practice in any curriculum. Especially laboratory practices where the size of the groups provides a better environment for use of instructional materials.

6. The practical nature of training at the School, with highly stressed field work, sometimes serves as an excuse by the teachers for not making the extra effort of applying new educational technology in the classroom. This idea comes from supposing that the learning taking place at the fields will complement the plain lecture 100 percent. However, since the field practices are not coordinated with the classroom activities, it is recommended to keep every activity, classroom or field work, independent from each other. In this situation, the case calls for a more complete, stand alone, learning experience in the classroom, that means more attractive and effective presentations and teaching activities and more intensive use of instructional materials.

Recommendations for Future Studies

Much information is unknown about the real impact of instructional materials in Latin American universities. The

School offers the unique situation of having students from many different countries of Latin America which opens the door for future studies of this unexplored aspect of education. The most important recommendations given by the researcher are the following:

1. Differences among various groups of randomly selected students which will receive the following treatments: individualized instruction, 50% lecture with 50% instructional materials, and lecture only. The group would receive pre-test and post-test, differences on pre-test and post-test of the three treatments will them be analyzed for statistical significance.

2. Differences among different groups in different universities, including the School. In the groups would be included agricultural schools with little or no field practice, and schools with different degrees on practical practice. Differences would be measured in terms of: high field practice with high instructional materials usage in classrooms; low field practice with high instructional materials usage in classrooms; high field practice with low instructional materials usage in classrooms; and low field practice with low instructional materials in classrooms. This exercise would explore the impact of field practice in use of instructional materials in the classrooms.

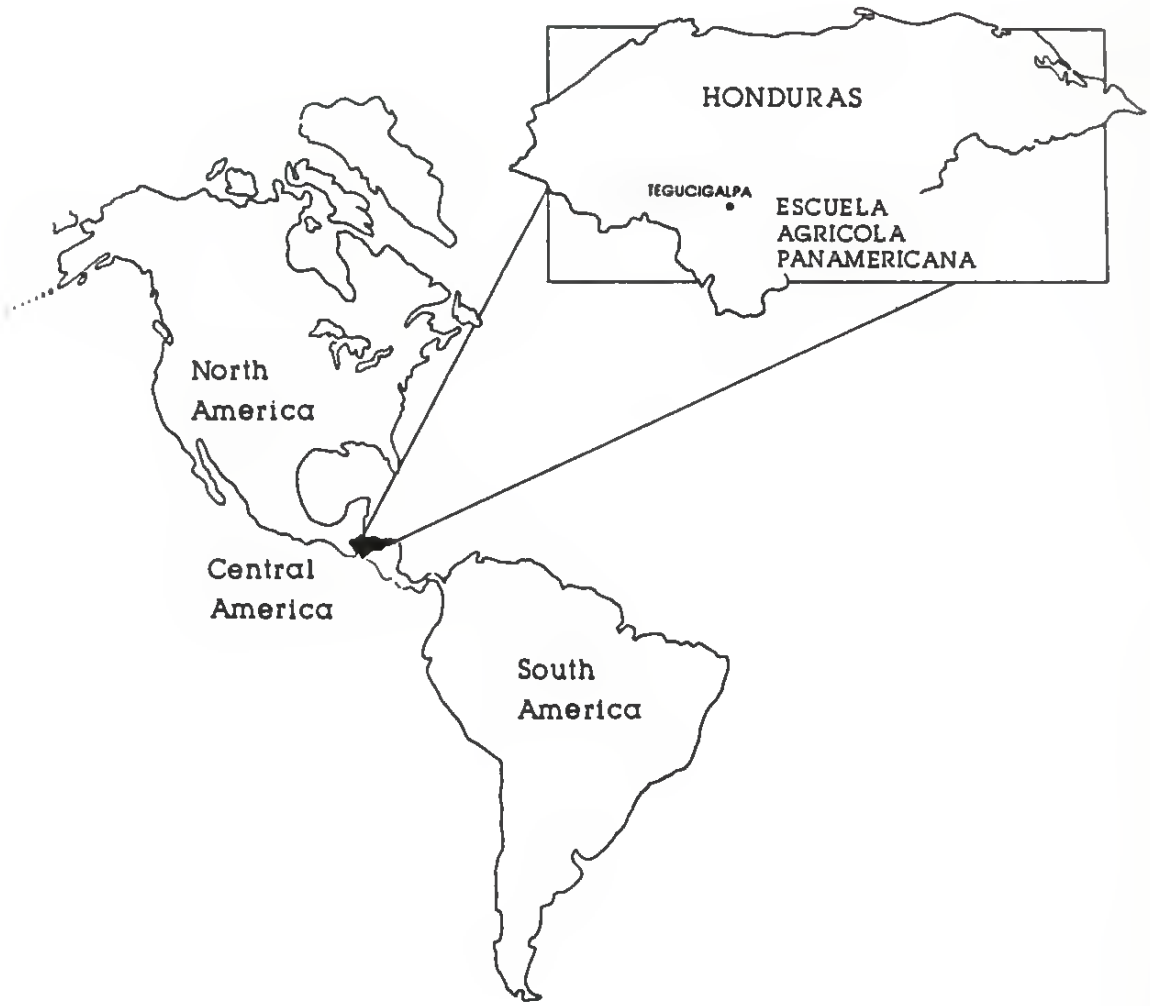
3. Given different groups over the time, apply two different treatments: lecture only and lecture plus

instructional materials. Check for learning using the same test over the time, analyze statistically for differences in standardization among the two groups.

4. Differences among the following groups: four different instructors teaching the same program to four different groups, two groups using instructional materials and two not using them. The analysis would provide differences between groups when using the same post-test. This exercise would search for differences between standardization when using instructional materials with two different instructors.

APPENDIX A

FIGURE 1
Escuela Agricola Panamericana, Location in the American Continent



APPENDIX B

APPENDIX B

ESCUELA AGRICOLA PANAMERICANA FACULTY

1. Dr. Simon E. Malo, Ph.D., Fruit Crops.
2. Dr. Jorge Roman, Ph.D., Beef Cattle.
3. Ing. Jeffrey Lansdale., M.S.A.,English, Extension Agriculture.
4. Ing. Mariano Jimenez, M.S.A., Agriculture Management.
5. Lic. Javier Olaechea, B.S., Management.
6. Dr. George Pilz, Ph.D., Genetics.
7. Prof. Carlos Aguilar, B.A., Mathematics.
8. Profa. Irene Gardner, M.A., English.
9. Prof. Andrew Houghton, M.A., English.
10. Dr. Daniel Meyer, Ph.D., Fish Culture.
11. Prof. Antonio Molina, Agronomo, Botany.
12. Dr. Alfredo Montes, Ph.D., Horticulture.
13. Prof. Rodolfo Cojulum, M.S., Food Processing.
14. Prof. Manuel Rodriguez, Training, Agriculture Mechanics.
15. Prof. Roberto Salas, Agriculture Technician, Bee Culture.
16. Dr. Leonardo Corral, Ph.D., Agronomy.
17. Prof. Nelson Agudelo, M.S.A., Forestry.
18. Dr. Jose Alan, Ph.D., Plant Breeding.
19. Dr. Keith L. Andrews, Ph.D., Entomology.
20. Prof. Alfredo Rueda, B.S., Plant Protection.
21. Profa. Nancy Erickson, M.S., Soil Sciences.
22. Prof. Victor Munoz, Agronomo, Agronomy.
23. Lic. Hector Barletta, Journalist, Extension Agriculture.
24. Dr. Mauricio Salazar, Ph.D., Animal Science.
25. Dr. Ricardo Dysli, Ph.D., Buffaloes.
26. Dr. Marco Esnaola, Ph.D., Swine Production.
27. Ing. Abel Gernat, B.S., Poultry Science.
28. Ing. Rudolf Rendel, B.S., Meat Processing.
29. Ing. Aurelio Revilla, B.S., Milk Processing.
30. Dr. Raul Santillan, Ph.D., Pastures.
31. Dr. Guillermo Torres, Veterinarian, Animal Health.
32. Dr. Miguel Velez, Ph.D., Dairy Cattle.
33. Prof. Miguel Avedillo, M.A., Economics.
34. Ing. Daniel Kaegi, M.A., Computers and Management.
35. Prof. Hernan Galo, Training, Library.
36. Dr. Ditmar Graw, Ph.D., Soil Science.
37. Dr. Jairo Castano, PH.D., Phytopathology.

APPENDIX C

APPENDIX C1

Manhattan, Junio, 1987

Estimado Profesor:

Los materiales de instruccion o ayudas docentes han sido considerados desde su invencion como un elemento de gran ayuda en las aulas de clase. Sin embargo, algunos estudios modernos han concluido que no existe diferencia significativa entre aprendizaje por medio de metodos tradicionales y aprendizaje por medio de materiales de instruccion.

El motivo de la presente encuesta es de obtener respuestas positivas al problema de si las ayudas docentes asisten o no en el aprendizaje y obtener una idea de en que cuantia y en que forma son utilizadas las ayudas en las aulas de clase de la Escuela Agricola Panamericana asi como tambien obtener una idea del conocimento de los Profesores acerca de la existencia y uso apropiado de materiales de instruccion.

El presente estudio nos ayudar a planificar la produccion y el uso futuro de Materiales Docentes en la EAP y nos ayudara a comprender la necesidad o no de entrenamiento en la produccion y uso de dichos materiales por parte de ustedes maestros.

La respuesta pronta y sincera al cuestionario adjunto le sera muy agradecida, los cuestionario completos deberan ser devueltos a la Oficina del Decano durante los proximos 7 dias.

Con mis anticipadas gracias:

Raul H. Zelaya
Estudiante Graduado
Kansas State University

APPENDIX C2

Manhattan, July, 1987

Dear Professor:

Instructional materials have been considered as elements of big help in any classroom since their creation. However, some studies have shown that there is no significative difference between learning with traditional methods and the use of teaching materials.

The purpose of this survey will be to obtain answers to the problem of effectiveness of instructional materials and explore the usage of these materials in the classrooms at the Escuela Agricola Panamericana. This study will also explore the amount of knowledge of the faculty regarding the existence and appropriate use of instructional materials.

This study will help us to plan the production and future use of teaching materials at the School and will help us understand the needs of training from part of the faculty about the use and production of given materials.

A quick and sincere answer to the survey will be appreciated. We expect the survey back into the Dean's office during the next 7 days.

With my sincere thanks:

Raul H. Zelaya
Graduate Student
Kansas State University

APPENDIX D

APPENDIX D1

Dr. Jorge Roman
DECANO
Escuela Agricola Panamericana
P.O. Box 93
Tegucigalpa, Honduras, C.A.

Estimado Doctor:

Como parte de mi Maestria, estoy preparando un diagnostico sobre el uso futuro de materiales de instruccion en el Zamorano; para ello, debo comenzar con una escuesta sobre el uso actual de dichos medios en el Zamorano y para ello necesito su ayuda para distribuir y recolectar las encuestas.

En la carta adjunta a la encuesta solicito una semana para completar la encuesta y que le sean entregada de vuelta en su oficina, la encuesta va dirigida a todo el personal que de acuerdo a Agosto de 1986 estaba ensenando alguna materia, tambien he incluido unas encuestas en blanco para que sean agregadas aquellas personas que a su criterio puedan brindar buena informacion y que no hayan sido incluidas en mi lista por alguna razon.

Una vez recolectadas las encuestas, le pido por favor me las envie preferiblemente con alguien que viaje a los Estados Unidos, y en ultimo caso por medio del correo. Gustosamente cubrir cualquier gasto en que se incurra en el proceso.

Con mis anticipadas gracias por su ayuda, creo que podremos sacar buen provecho de los resultados de esta encuesta, tanto en forma personal como para la Escuela.

Nuevamente gracias:

Raul Zelaya
E6 Jardine Terrace
Manhattan, KANSAS 66502

APPENDIX D2

Dr. Jorge Roman
DEAN
Escuela Agricola Panamericana
P.O.Box 93
Tegucigalpa, Honduras, C.A.

Dear Doctor:

As part of my graduate study, I'm preparing a study about the use of instructional materials at the Escuela Agricola Panamericana: I would like to start by carrying out a survey about the use of instructional media at the School. To do that, I would like to ask for help from your office, to distribute and collect the questionnaires from the faculty.

A cover letter was included with the questionnaire, explaining the nature of the study and that they must be given back to you in about one week. I used the last annual report as a guide for my sample, however, if you want to include some other faculty extra copies of the letter and the survey have been included in this package.

Once all the questionnaires have been collected you can send them to me at my address at the United States, I will cover any expenses you may have.

With my anticipated thanks:

Raul Zelaya
E6 Jardine Terrace
Manhattan, KANSAS 66502

APPENDIX E

APPENDIX E1: ENCUESTA SOBRE AYUDAS DOCENTES

NOMBRE COMPLETO:_____
TITULO ACADEMICO:__Doctorado __Maestria __ B.S. __ Otro__
ESPECIALIDAD:_____
A OS DE EXPERIENCIA EN ENSE ANZA: ____ EN EAP, ____ OTROS
CLASES QUE IMPARTE: A) _____.
B) _____.
C) _____.

---

1. Utiliza frecuentemente materiales de instruccion en sus clases?:__Si,__No,__A veces.

2. A continuacion encontrara listados materiales docentes ampliamente utilizados en educacion agricola, califique cada tipo de ayuda en base a la siguiente tabla:

A) No los conozco del todo
B) He escuchado sobre el pero no se como utilizarlo
C) Lo conozco pero no se como aplicarlo en mi clase
D) Se como usarlo pero no aplica a mi clase
E) Lo conozco y aplica a mi clase, pero no hay presupuesto para producirlo
F) Lo conozco y lo uso pero con poca frecuencia
G) Lo conozco y lo uso frecuentemente

Encierre en un circulo la letra apropiada.

Impresos:	A	B	C	D	E	F	G
Pizarra:	A	B	C	D	E	F	G
Rotafolio:	A	B	C	D	E	F	G
Franelografo:	A	B	C	D	E	F	G
Pizarra Magnetica:	A	B	C	D	E	F	G
Posters:	A	B	C	D	E	F	G
Retroproyector:	A	B	C	D	E	F	G
Proyector opaco:	A	B	C	D	E	F	G
Grabaciones:	A	B	C	D	E	F	G
Diapositivas:	A	B	C	D	E	F	G
Prog. Audiovisuales:	A	B	C	D	E	F	G
Filminas:	A	B	C	D	E	F	G
Multi-Imagen:	A	B	C	D	E	F	G
Peliculas:	A	B	C	D	E	F	G
Videos:	A	B	C	D	E	F	G
Microcomputadoras:	A	B	C	D	E	F	G

3. Que materiales de instruccion ulliliza mas frecuentemente en sus clases?:

A) _____.
B) _____.
C) _____.
D) _____.

4. Si no utiliza ayudas materiales de adiestramiento. Cual es la mayor razon por no hacerlo?

A) No los conoce
B) No hay presupuesto
C) Prefiere utilizar metodos tradicionales
D) Otras razones. _____
_____.

5. Ha sido expuesto a algun entrenamiento en uso y produccion de materiales de instruccion o los conoce solo por experiencia?

__Si,__No,__Solo por experiencia

6. Reconoce los efectos positivos de los materiales de adiestramiento. Que ventajas les encuentra?

__ Si, __ No.
Ventajas: _____
_____.

7. Le gustaria conocer mas sobre materiales de adiestramiento?

__ Si, __ No, ___ No esta seguro(a)

8. Le gustaria recibir entrenamiento en el uso y produccion de materiales de entrenamiento?

__ Si, __ No, ___ No esta seguro(a)

9. Podria sugerir formas de como utilizar materiales de instruccion en sus clases?

_____
_____.

10. Que se podria considerar una seria desventaja en el uso de materiales de adiestamiento?

_____
_____.

APPENDIX E2: INSTRUCTIONAL MATERIALS QUESTIONNAIRE

NAME: _____
ACADEMIC DEGREE: __Ph.D. __ M.S. __ B.S. __ Other _____
MAJOR: _____
EXPERIENCE TEACHING: ____ AT EAP, ____ OTHERS
CLASSES TEACHING: A) _____.
B) _____.
C) _____.

---

1. Do you use teaching materials in the classes you teach:__Yes,__No,__Sometimes.

2. Following you will find a list of instructional materials used in Agricultural Education. Please qualify them according to the following guide:

A) Do not know it.
B) Do not know how to use it.
C) I know how to use it but not how to apply it to my class.
D) I know how to use it but do not apply to my class.
E) I know how to use it in my class, but do not have the money or resources.
F) I use it but very seldom.
G) I use it very frequently.

Circle the appropriate response for each item.

Printed Materials:	A	B	C	D	E	F	G
Black Board:	A	B	C	D	E	F	G
Flip Board:	A	B	C	D	E	F	G
Cloth Board:	A	B	C	D	E	F	G
Magnetic Board:	A	B	C	D	E	F	G
Posters:	A	B	C	D	E	F	G
Overhead Projector:	A	B	C	D	E	F	G
Opaque Projector:	A	B	C	D	E	F	G
Recordings:	A	B	C	D	E	F	G
Slides:	A	B	C	D	E	F	G
Slide Programs:	A	B	C	D	E	F	G
Film strips:	A	B	C	D	E	F	G
Multi-image Presentations:	A	B	C	D	E	F	G
16 mm. Movies:	A	B	C	D	E	F	G
Video-Tape:	A	B	C	D	E	F	G
Microcomputers:	A	B	C	D	E	F	G

3. If you happen to use, which materials do you use more frequently:

A) _____.
B) _____.
C) _____.
D) _____.

4. If you do not use teaching materials, what is the major reason for not using them?

A) Do not know them
B) No budget
C) Prefer use traditional methods
D) Other reasons. _____
_____.

5. Have you received any training in use and production of instructional materials or only from personal experiences.__Yes,__No,__Experience only.

6. Do you recognize any positive effects of teaching aids on student learning, which advantages do they have?.

__ Yes, __ No.
Advantages: _____
_____.

7. Would you like to know more about the use and production of instructional materials.

__ Yes, __ No, ___ Not sure.

8. Would you like to receive some training in use and production of instructional materials.

__ Yes, __ No, ___ Not sure.

9. Could you suggest some ways in how to use instructional materials in your classes.

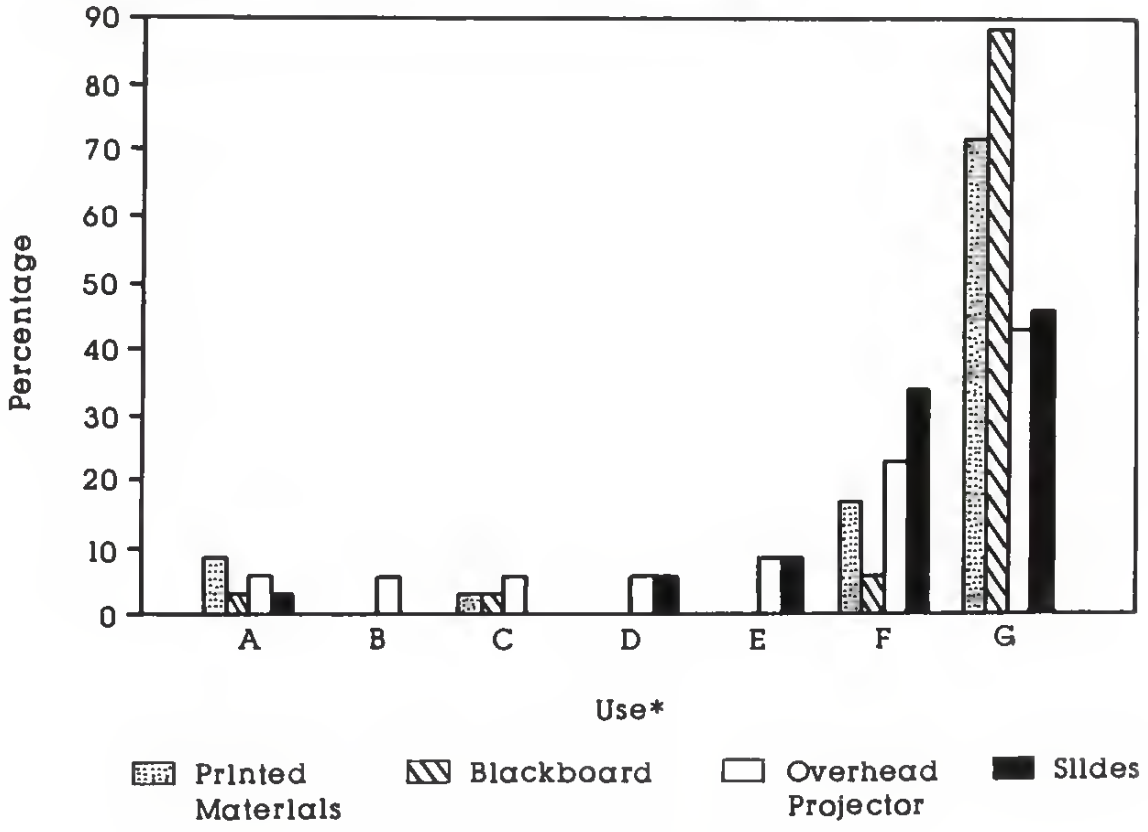
_____
_____.

10. What do you consider to be some serious disadvantage of the use of instructional materials?

_____
_____.

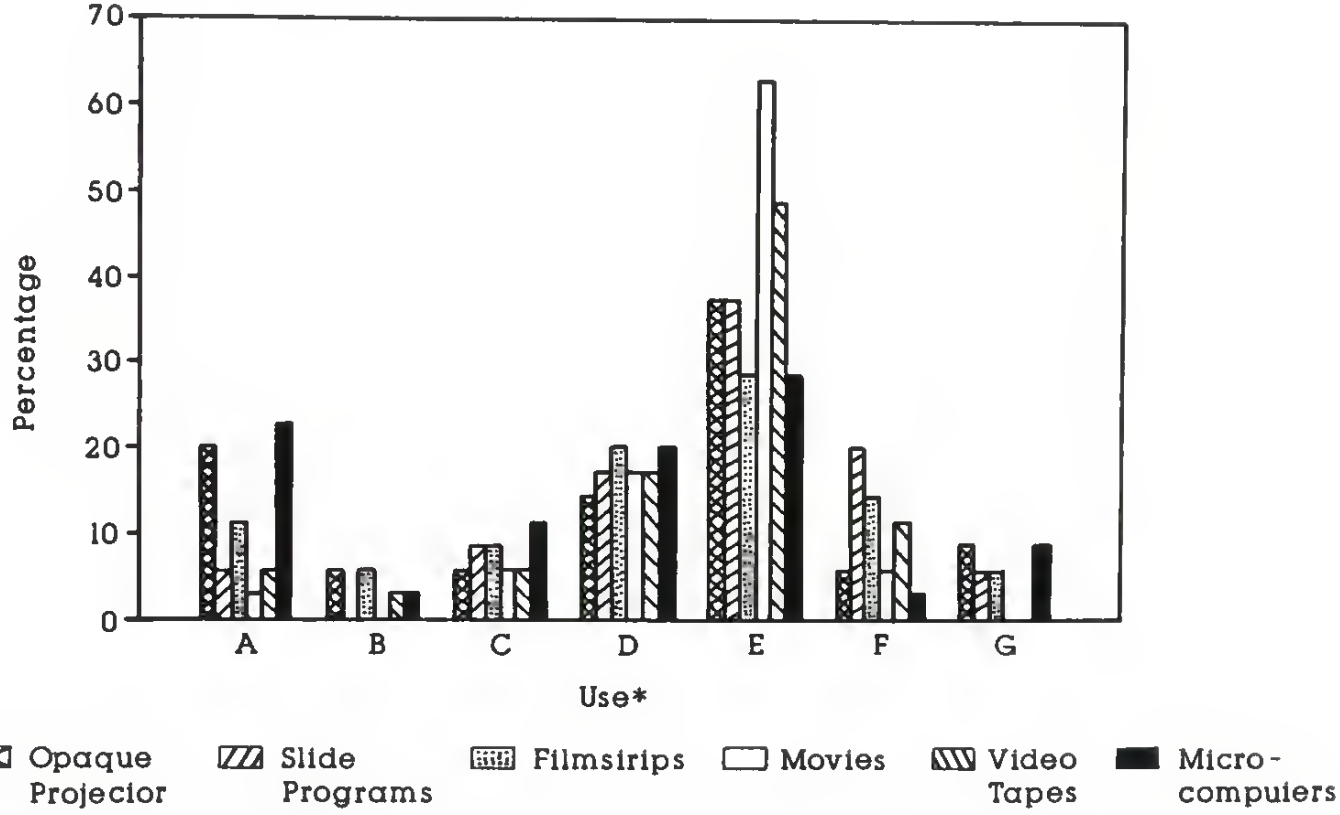
APPENDIX F

FIGURE 2
Group I, Most Frequently Used Materials



Note* See page 17 for explanation of use.

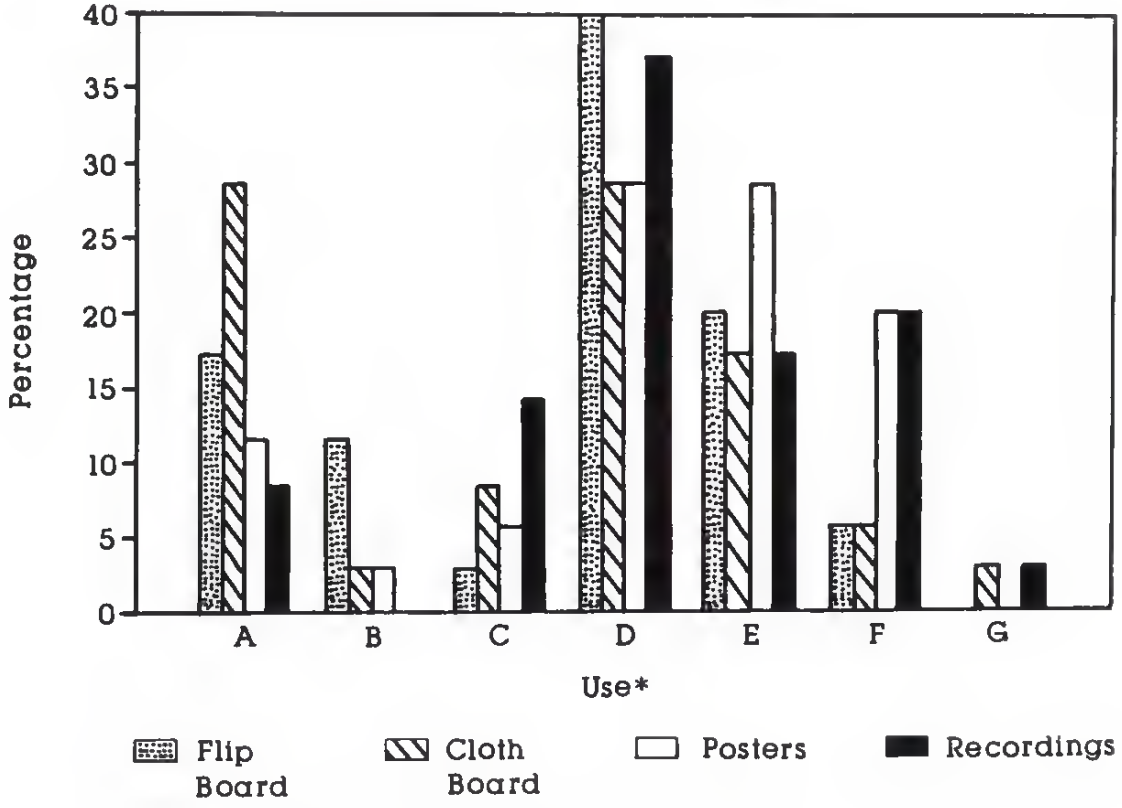
FIGURE 3
Group II, Lack of Resources



Note* See page 17 for explanation of use.

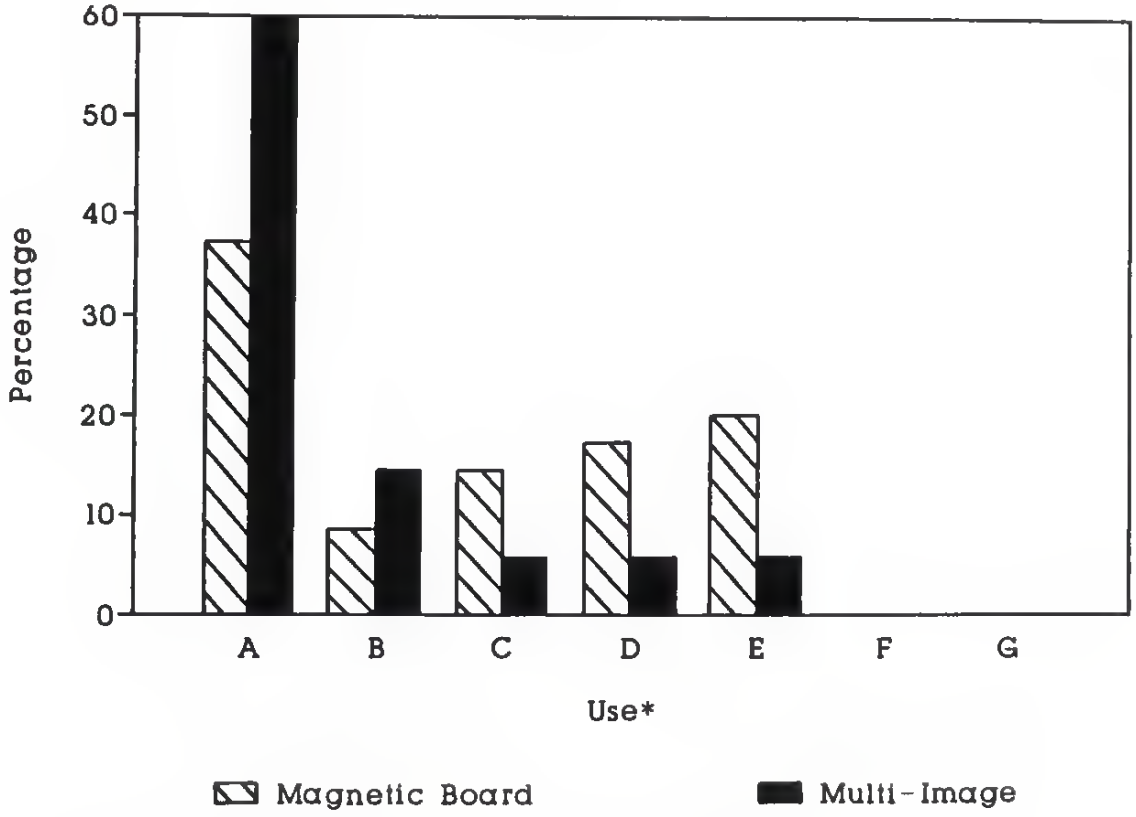
FIGURE 4

Group III, Poor Usefulness or Applications



Note* See page 17 for explanation of use.

FIGURE 5
Group IV, Unknown Materials



Note* See page 17 for explanation of use.

BIBLIOGRAPHY

Anderson, C. (1971). An evaluation of teacher utilization of selected educational media in selected Kansas public schools. Manhattan, KS: Kansas State University.

Andrews, K. (1987). [Differences among students subjected to three different levels of instructional materials: lecture only, enhanced lecture and media materials only]. Unpublished raw data.

Annual Report. (1986). Tegucigalpa, Honduras: Escuela Agricola Panamericana.

Hopkins,C.D. (1980). Understanding Educational Research. Columbus, OH: Indiana State University.

Gudinas R.A. (1979). Evaluation of Instructional materials avoiding social bias: Making it work in a school district. Equity Issues Series. Washington, DC: Office of Education.

Kemp, J.E.; Dayton,D.K. (1985). Planning and producing instructional media. (5 ed.) New York: Harper and Row Publishers. New York.

Petty, B. (1972). An evaluation of selected instructional media programs in Kansas colleges and universities. Manhattan, KS: Kansas State University.

Reynolds,A.B. (1981). A proposed design for vocational instructional materials evaluations. Clemson, SC: University of Clemson.

Streit, L. (1973). A survey of instructional media utilized for vocational agriculture and FFA contest instruction in Kansas. Manhattan, KS: Kansas State University.

OPINION OF TEACHING FACULTY AT THE PANAMERICAN SCHOOL OF AGRICULTURE IN HONDURAS REGARDING THE USE OF TEACHING AIDS IN THE CLASSROOM.

by

RAUL HERNAN ZELAYA

B.S., University of Florida, 1985

AN ABSTRACT OF A MASTER'S REPORT

submitted in partial fulfillment of the

requirement for the degree

MASTER OF SCIENCE

College of Education

KANSAS STATE UNIVERSITY
Manhattan, Kansas

1987

ABSTRACT

The primary purpose of this study was to solicit the opinion of the teaching faculty at the Escuela Agricola Panamericana (Honduras, Central America) related to the effectiveness of teaching aids, potential use of instructional materials at the institution, and the most common instructional materials known and used by the faculty.

A non-standardized survey instrument was constructed to solicit information by the investigator for the purpose of this study. The distribution and collection of the questionnaires was made with the cooperation of the Dean's office at the Escuela Agricola Panamericana.

The major findings of the study can be expressed as high motivation of the teachers about using instructional materials in their course curriculum and high encouragement to learn more about the use and production of instructional materials. The following issues where determined as obstacles for more increased use of instructional materials: lack of resources (personnel, equipment, materials, money, and adequately equipped classrooms), and lack of training on the proper use and production of more economical instructional materials.

The study recommended to increase resources for production of instructional materials, to train and advise the teaching faculty on the more appropriate instructional

materials for their courses, and to improve the service of the communications office already in existence in order to provide better service to the teaching faculty.