THE EVALUATION AND UTILISATION OF EDUCATIONAL MEDIA: A CRITICAL STUDY, WITH PROPOSALS FOR A PROGRAMME OF TRAINING FOR SECONDARY SCHOOL TEACHERS ACROSS THE CURRICULUM IN SAUDI ARABIA

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Abstract

The purpose of this study is to investigate the utilisation and evaluation of Educational Media Technology (EMT) in the Kingdom of Saudi Arabia (KSA). It is a critical study, with proposals for a programme of training for secondary school teachers across the curriculum in KSA.

The impetus for this study came from the failure of KSA's Administration of Education and Equipment to meet its own objectives in EMT provision, which has led to a shortage of teachers qualified in the use and evaluation of EMT. The reasons for this failure lie within the history of the development of education in KSA, which started from a low level. The review of relevant literature provides background evidence of a low level of EMT awareness, use and evaluation in KSA. This evidence is substantiated by fieldwork which examines present conditions and provision throughout KSA.

Fieldwork was conducted through questionnaires, interviews and school-based observation in five districts of KSA. The enquiry gathered evidence for male and female teachers, with and without EMT training; schools-based

EMT specialists; EMT experts in Higher Education and Government; and CCTV technicians. Statistical procedures were used in the analysis of questionnaires, including frequency percentage, one-way analysis of variance, and Tukey's multiple range test.

Among the findings of the enquiry are: continuing weaknesses in existing provision; the need for improved and more flexible initial training and in-service EMT programmes; the need for more EMT specialists, and for better co-ordination between schools and district officers in EMT planning and provision.

The extent of these findings have led to the necessity of a comprehensive consideration of the KSA educational system as awhole, and thus the overhauL of teacher trining.

Dedication

This thesis is dedicated **to all my teachers**-not only those in schools, but those who have helped me learn anything in my life.

To my **parents, brothers** and **sisters** and especially to my wife **Awatif** and my five children

(Hamza, Ragda, Turki, Jazya and Yosef).

I hope they will accept it with love.

Mohammadnejib Hamza Abuazma

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Explanation of Abbreviations and Terms

AEE: Administration of Education and Equipment.

CCTV: Closed Circuit Television

ED: Education District.

EM: Educational Media:

EMT: Educational Media and Technology.

The researcher will include (without limiting) different kinds of media used in Saudi Arabia in the evaluation and utilisation, such as audio visual aids, equipment and materials employed in classroom teaching activities which include sound equipment, films, slides, video and cassette recorders, overhead projectors, television sets, computers and their related materials.

ETA: Education Technology Administration

IMSIU: Imam-Mohammad Bin Saud AL-Islamia.

IU: Islamic University.

KAU: King Abdul-Aziz University.

KFU: King Faisal University.

KFUPM: King Fahad University of Petroleum and Minerals.

KSA: Kingdom Of Saudi Arabia.

KSU: King Saud University.

Media Availability: The available media which enables the teacher to use it without any complex routines.

NETC: National Educational Technology Centre.

Private Schools: Private schools are those institutions where admission is restricted and the students have to pay fees monthly or annually.

Public Schools and Public Universities: Public schools or public universities are the Government institutions which give any Saudi student a right to enter free of cost under the Government's financial support.

UQU: Umm-Al Qura University.

The Framwork of the Thesis

This study includes seven chapters discussing the evaluation and utilisation of EMT, and establishing proposals for the improvement of the EMT training programme. It takes the following sequence:

Chapter one

This chapter presents the importance of the utilisation and evaluation of EMT. The answers to the following two questions will be discussed:

1. How has EMT developed in the KSA?
2. With whom does the responsibility lie for the development and introduction of educational media in the country?

These questions will be answered by including some brief information about the country's development plans and by reviewing previous studies of EMT.

The four tasks of the AEE will be discussed to assess whether the AEE has met its own objectives. These were:

1. To bring qualified people to administer EMT.
2. To train teachers throughout the country.
3. To meet individual school needs not only in EMT, but also by providing equipment and laboratory needs.
4. To control EMT and co-ordinate the needs of the schools.

The main reasons for the limited success of AEE to meet its own objectives will also be outlined, i.e. the lack of overall responsibility for EMT with an effective ministerial department and the lack of a comprehensive plan to develop EMT within all aspects of education. Finally, a study on EMT in the KSA, including a summary of the research problems, the research questions and hypothesis will be presented, together with the study plan and its limitations.

Chapter Two

This chapter outlines the background of the development of education in KSA , which started from a low level. The level of education was raised by:

1. Stopping the Bedouin movement;
2. Bringing in teachers from outside the country;
3. Establishing the General Office of Education which was eventually replaced by the Ministry of Education;
4. Sending students abroad to study;
5. The introduction of CCTV to train females in higher education.

An explanation of the beginning of female education will be given, together with the educational principles and functions which underlie it. Finally, the issue of CCTV and some problems of its effective use will be discussed.

Chapter Three

The importance of EMT availability and EMT specialists will be discussed and linked to its relationship with EMT use and evaluation. The importance

of the training programme in EMT use and evaluation will be discussed. Finally, the use of CCTV as a teaching medium in Girls' higher education and its present effectiveness will be outlined.

Chapter Four

The aim of this chapter will be to present and discuss the process of selecting methods of data-collection and the procedure for identifying an appropriate survey population in order to locate problems relating to the use of EMT. There will also be a discussion of the problems facing the researcher in this task.

The methods of collecting data: **questionnaires, interviews** and **observation** will be discussed. The development of the data-collection techniques will also be discussed, together with the survey population and selection of respondents and selection of geographical areas for survey. Finally, the method of analysis and problems in analysis of data will be included.

Chapter Five

This chapter will include the analysis and findings of the data, and discussion of the results, and is divided into three main sections:

1. The questionnaire for female teachers:

The data for this section is also presented as graphs and tables in appendix 4 + 5. This data is based on the responses of 368 respondents to a questionnaire (see Appendix 6) distributed to in-service female teachers at five districts throughout the KSA. In section one the results of the question items are first analysed statistically and then discussed.

2. The interviews:

This section analyses the result of the interviews with male teachers, experts, EMT specialists and CCTV technicians (see Appendix 7). In section two, the results of the interviews are presented for each group of respondents, and then analysed and discussed.

3. The classroom observation:

In section three the result of the classroom observation will be presented in descriptive form and then discussed.

The discussion will look closely at the findings and make several general conclusions about the nature of EMT in KSA.

Chapter Six

This chapter will assess the findings of the study in the light of the research questions then include conclusions and recommendations.

This study has set out to investigate the utilisation and evaluation of educational media. It is a critical study, with proposals for a programme of training for secondary school teachers across the curriculum in Saudi Arabia.

Initially, a study of the data analysis will discuss the factors in EMT utilisation and evaluation. This will be reinforced in the interpretation chapter which follows. I propose to restate these factors briefly, before making recommendations which, it is hoped, will serve to remedy many of the present failings in the secondary schools in the KSA.

The results which will be examined in this chapter will lead to a suggested solution at least for the problems of the current training programmes. It will be important to outline some new proposals for EMT training programmes in the next chapter.

Chapter Seven

The findings of this study suggest that problems in education in KSA were not limited to the proper implementation and evaluation of EMT or the training of teachers. this has led to a suggested recommendation for the development of a comprehensive plan for education in KSA.

The EMT training programme proposals for secondary school teachers are included in this chapter. The training programme proposals will be flexible, to allow for differing levels of EMT availability throughout the country.

Teachers will learn about EMT in two ways: through theoretical and through practical exposure. EMT is devised for use in secondary schools and individual teachers are constantly updated with new versions of EMT use. Full familiarity with EMT is vital and in this respect in-service work on EMT is of key importance, to allow individuals to share their EMT experience. The teacher is able to make comparisons, to decide what kind of EMT to choose and to note the distinguishing details of its use and evaluation. EMT training will be based on practical use, and teachers will be grounded in workshop practice.

Chapter One

Chapter I

This chapter outlines the importance of EMT use and evaluation. The main reasons for the failure of AEE to meet its own objectives are also outlined. A study on EMT in the KSA, including a summary of the research problems, the research questions and hypothesis will be presented, together with the study plan and its limitations.

Introduction

Since the 1950's there has been debate in KSA about the utilisation and evaluation of EMT. A series of studies (Abu Ras 1979, Al-Hussain 1983, Kensara 1987 and Al-Sharhan 1989) have highlighted the lack of utilisation and evaluation of EMT from then until the present day. The importance of the use of a variety of media within the classroom has been demonstrated by many educators throughout the world. Barker (1989), for example, suggests that the knowledge, skills and experience which are transmitted in the learning process cannot be conveyed by the use of a single medium:

> Thus, while text is good at communicating some types of information it is very poor at conveying others. It is for this reason that books, particularly technical ones, are often heavily dependent upon pictures. Other graphic forms...even well illustrated conventional books have their limitations; they cannot produce sound and they are unable to generate animation and moving pictures. In order to produce

> these effects instructional designers must resort to the use of other media. (Barker, 1989: 13-14)

The aim of this study is to assess the level of EMT use and evaluation in KSA; to establish whether there are factors within the Saudi education system which limit its development; and to assess the implications for the training of teachers in the use of EMT.

The EMT evaluation procedures and structures at local and national level will also be assessed. The importance of evaluation of teaching methods cannot be underestimated as Percival and Ellington (1988) illustrate:

> Whatever the circumstances, however, the importance of using evaluation procedures to monitor the instructional system and provide the basis for improvements cannot be underestimated. Feedback obtained from critical evaluation of an instructional system should shed light on the appropriateness of the **teaching methods** used, the **structure** adopted, the **implementation strategy**, the **student assessment methods**, and even the **aims and objectives** themselves. With each successive cycle of the system, the teaching/learning situation should become progressively more finely 'tuned', and should consequently become **more efficient** and **more effective** through a continuous process of evaluation and improvement. (Percival and Ellington, 1988:130)

In order to further determine the scope of the study it will be necessary to consider the changes which have occurred within the Saudi education system in recent years.

The main purpose of an educational system is to cater for the needs of a society and fulfil its ever-increasing demands. The Saudi educational system strongly believes in this philosophy and is geared to achieving this goal. But as Saudi society largely operates within traditional values, its educational system has also retained a traditional character.

As a result educators, by and large, have not cared much to bring about radical changes in the Saudi system. However, despite the resistance offered by the traditional educators, a trend towards modernization has been growing over the past two decades and serious efforts have since been made in the areas of the updating of the curriculum and in renovating teaching methodology.

In particular there has been much discussion about the use of EMT in KSA schools in the past two decades. EMT can improve access to the curriculum for students of all ability levels. There is less chance of misunderstanding between teacher and pupil if modern materials and equipment are used to improve the delivery of lessons. EMT can also shift the focus of the lesson away from the teacher and more on to the subject matter. Issues which are problematical for the pupil can be improved by the pupil's direct involvement with EMT. Much of the literature on this aspect seems to bear out a general acceptance that individual students can benefit greatly from the use of EMT. For example, many pupils who

have experienced difficulty in learning to write have improved enormously by the use of a computer keyboard.

There is no doubt that understanding the need for EMT and utilising EMT will take time because it involves an attitudinal change on the part of teachers, and also in the minds of school administrators. Some people are more willing than others to adopt EMT. Policies, however, must continue in the direction of persuading and encouraging teachers to use EMT, as is urged in the Ministry of Education EMT training programme. These policies include establishing effective teacher training programmes in the use of educational media in secondary schools in KSA, so that prospective teachers will join the teaching profession with new convictions and a built-in zeal for the use of EMT. Moreover, they will be fully equipped with the necessary technical knowledge and a positive determination to practise it.

The present study is a step in this direction. It aims to examine existing media training programmes within the framework of the secondary school curriculum and then to evaluate the media used in selected secondary schools of KSA. This task will lead the researcher to propose appropriate changes in existing training programmes and to present a model for future media training programmes in the area of secondary education.

Before addressing these research issues, it seems

essential to answer two important questions. First, how has EMT developed in Saudi Arabia? This is important because whilst the Saudi government has provided the finance for EMT equipment, there has been no successful comprehensive plan for its introduction. This will highlight a short history of the development of EMT in the Kingdom. Secondly, with whom does the responsibility lie for the development and introduction of educational media in the country? In the past, the responsibility has not always been clearly defined between the Ministry of Education and the Department of EMT. This will require information about media availability and EMT training programmes organized by the educational colleges in several universities throughout the KSA. Naturally, discussion will focus on the country's development plans, which are circulated by the KSA Government from time to time. Recent books and research articles on EMT in the KSA will also be examined.

1-1 How has EMT developed in Saudi Arabia?

The earliest available literature on EMT in KSA is discussed in Kensara (1987:1-5) who indicated the lack of EMT. He reported this in 1954, when the audio-visual section was established in Saudi Arabia's educational system. In 1964 this section was developed and reorganized to become the Department of Educational Aids and the

Science Laboratories. Recognition of the real importance of EMT was beginning to grow by 1973. At this time EMT resources and applications were thinly spread over the secondary schools, seeking to serve the entire educational establishment of the Kingdom with an annual budget of less than 2 million dollars. Abu Ras (1979) found in his study, regarding the utilisation of the media in the KSA, that the EMT programme only provided charts, maps, some projectors and globes as EMT aids. Since the 1970s, technology has been emphasized in KSA, especially in the educational fields.

The only comprehensive operational plan for the development of EMT in KSA was produced by Indiana University, in fulfilment of an agreement between the KSA Ministry of Education and the Indiana University Foundation (An Operational Plan for a National Educational Technology Program, 1975). This plan recommended the establishment of a main EMT centre in Riyadah, and local centres in the districts to distribute EMT materials and initiate teacher training programmes. This plan was never implemented, due to the reorganisation of the Ministry of Education in 1975. The plan itself partly compensated, however, for the lack of highly experienced EMT specialists in the Ministry of Education at that time who would have been capable of carrying the arguments for its implementation. (The first holder of a Ph.D in EMT in Saudia Arabia was Abu Ras in 1979.)

Perhaps because of the discussions which had taken place aroud the Indiana plan,the Ministry of Planning's Second Development Plan 1975-80 (1976), was designed to set goals for the country's future policies and objectives for the co-ordination of educational technology. These objectives were as follows:

1- Establish a National Centre for educational technology, for the development, production, and distribution of classroom teaching aids; curriculum research; and equipment and programme testing;
2- Initiate the pilot educational television project;
3- Introduce a simplified language-laboratory system for English instruction at the secondary level;
4- Develop an experimental audio system for Arabic language instruction in elementary schools;
5- Design and introduce combined facilities in classrooms(theory and practice) on a pilot basis at the secondary schools;
6- Establish experimental schools for testing innovations in educational approaches and equipment;
7- Utilize mobile and prefabricated classrooms in the school expansion programme. (The Ministry of Planning, 1976:260)

The Government, which luckily enjoyed enormous financial resources because of the high oil prices at that time, supported these objectives. The consideration that the oil would not last forever and the recognition that education is the cornerstone in the development and progress of any nation, further boosted the government's support. The Saudi leaders therefore decided to earmark some of the oil income for the above objectives.

Abu Ras (1979) found that less than 3% of elementary school teachers in KSA were familiar with the utilisation and operation of various types of modern equipment. Indeed, less than 30% of the teachers were able to use inexpensive teaching materials, such as overhead projection transparencies, graphs and charts for classroom use. Al-Hussain (1983) pointed out that the lecture method was the sole method used in teaching in Saudi Arabian Schools. The Report on EMT in Saudi Arabia for the year of 1982-1983, Ministry of Education (1984), showed that an organization for the AEE should be set up and be charged with responsibility for the implementation of EMT programmes throughout the country. It would be under the direct control of the Ministry of Education. This organization determined the following four basic tasks to achieve four avowed EMT goals:

1. To bring qualified people to administer EMT.
2. To train teachers throughout the country.
3. To meet individual school needs not only in EMT, but also by providing equipment and laboratory needs.
4. To control EMT and co-ordinate the needs of the schools.

1-1-1 AEE's First Task

AEE decided to divide the country into 34 educational districts. Every district has between 25 to 480 schools, depending upon its size and population. Most of the education districts were supplied with teams of well

qualified EMT specialist staff. Usually the team had two to seven members, but some districts had no well-trained staff. Often, in these limited districts, EMT responsibility was given to a certain teacher or member of the school staff who had a general idea about EMT but was not a specialist. The EMT team did not include laboratory technicians. AEE required that staff should have a diploma in EMT, or should have obtained an Master's degree, or a school laboratory diploma. Nevertheless, the number of trained teachers in the above institutions was not enough to meet the demands of the country in the area of EMT. Therefore, EMT programmes could not be successfully implemented for want of properly qualified staff. AEE at this time was unable to meet KSA's need for specialists in EMT, either by bringing in experts from abroad or by training people within the country (Report on EMT in the KSA 1982-83, Ministry of Education, 1984).

1-1-2 AEE's Second Task

AEE envisaged the need to set up a teacher-training programme in the area of EMT for in-service teachers. It was decided that at least one teacher in every school should be trained, to enable him to carry out the following responsibilities: (1) To train other teachers in his school, and (2) to familiarize other teachers with EMT concepts within the school.(This information relates only

to male teachers. See p: 38 for discussion of male and female education). However, the aim of the 1982 AEE project for preparing teachers throughout the country was not wholly fulfilled. For the 5,250 schools in KSA only 2,140 trained teachers could be provided for the schools. This figure fell far short of the required number of trained teachers (Report on EMT in the KSA 1982-83, Ministry of Education, 1984:17-18). Therefore, in 1989, a Report was circulated criticizing the 1982-83 Report for not meeting the objective of training the required number of teachers. In the 1989 report the Ministry had found that as late as 1985 there was a shortage of the required number of qualified teachers. It reported that only 4,660 teachers out of the necessary 5,250 had received the proposed training. The Report also showed that the number of education districts in KSA had increased from 34 to 40. This put more pressure on the task to prepare adequately trained teachers for the six additional districts. In addition to the teacher training programmes, the AEE had also started a training programme for 1,000 laboratory technicians, who were supposed to graduate by the end of 1989. Unfortunately, AEE did not accomplish the first phase of teacher training until 1985. The number of teachers who received training was not sufficient to provide one qualified teacher per school (1982-83 Review Report 1989, Ministry of Education, 1989). Therefore, according to the report, there was a short-fall in training as envisaged in the 1976-75 plan period, in respect of numbers.

In the light of the non-implementation of the Indiana plan we need, then, to investigate the obstacles that caused the failure of the current training programme, concentrating upon the quality and adequacy of the teacher-training programme to prepare the qualified teachers for implementing EMT in their actual classroom teaching.

1-1-3 AEE's Third Task

AEE's third task was to supply EMT equipment and laboratory apparatus to the schools. Subsequently, some schools were equipped to implement the EMT Programme (1982-83 Review Report, 1989, Ministry of Education, 1989). However, it transpired that this was an inappropriate way of spending money because the schools were equipped with EMT equipment, without there being properly trained teachers to use them. Reasons why the money spent on equipment did not yield the desired results include:

1- Some schools had no electricity, and most of the equipment supplied could not be used for the lack of this facility. Only some of the equipment could be worked by battery.

2- Without providing teachers' training programmes, EMT resources could not be used and were therefore placed in storage.

3- Some schools were housed in multi-storeyed apartment buildings, which meant most of them were not fit for EMT use. These building are inappropriate for the storage and movement of equipment and many rooms are too small for its effective use.

4- Most of the equipment manuals were not in the Arabic language, which is the only language most teachers understand.

The poor use of EM resources is partly due to the lack of integration of curriculum studies and EMT studies at ministry level. The EMT department at the Ministry is functionally separate from the curriculum department, and as a consequence, the application of EMT practice has no automatic place within curriculum planning. An example to illustrate this point is that despite there being computer equipment available in every developed secondary school in the country there is currently no provision within the mathematics curriculum for the use of the computer as a teaching aid (Guide to Developed Secondary School, Ministry of Education, 1986).

1-1-4 AEE's Fourth Task (Control and Co-ordination of EMT)

There was a lack of control regarding EMT co-ordination and the schools' needs. Due to the return of qual-

ified staff from abroad, in 1989 the Ministry of Education found that EMT had become overcrowded with those specialists. Therefore, the Ministry of Education was obliged to revise the whole role of AEE. This forced the Ministry of Education to reorganize AEE and bifurcate it into two main administrations with effect from 1985. These administrations had two departments each:

1- Public Administration for Education Technology;
   (I) Design Department.
   (II) Production Department.

2- Public Administration for Schools Activities;
   (I) Activity and Educational Technology Department.
   (II) School Curriculum Department.

This new change in the organization of AEE led to better distribution of qualified staff within the new departments. The new departments provided opportunity to exploit specialists, develop their interests and raise the level of their qualifications (1982-83 Review Report 1989, Ministry of Education, 1989).

At this stage, the questions (see p: 5) posed in the introduction on the development of and responsibility for EMT have been answered. This reorganisation also helped to overcome problems such as inadequate training of teachers, insufficient numbers of required qualified EMT specialists, lack of equipment and materials, etc. The

changes brought about in the EMT training programme were published in a report in 1985, under theoretical and practical chapters, for all levels of public education, without special emphasis on secondary education (EMT Training Programme, Ministry of Education, 1985) (details about this training programme are included in pp: 77-80). In 1984, as published in AEE's yearbook, the administration's name was changed into ETA. This valuable book included the laboratory needs for middle and secondary schools. However, the book still mentioned that there were schools without electricity. This matter is the responsibility of the relevant electricity department in each region. Since the development of EMT in schools largely depended on the modernization of the education system in KSA, the progress remained slow and tardy.(EMT Distribution at KSA Schools, Ministry of Education, 1984).

One of the most important objectives of the Saudi Arabian Government policy on education has been to train people as quickly as possible with the facilities and equipment that were already available in the country. As stated by El-Mallakh (1982)

> Eighty-three percent of the total financial resources allocated to the development of human capital will be spent on the expansion of facilities at all four levels of the Saudi Arabian educational system: elementary, intermediate, secondary, and graduate. (El-Mallakh, 1982: 185)

The KSA Government has fulfilled this objective in one respect: The number of students being trained as teachers rose dramatically between 1969-70 an 1990-91 (see appendix 2). But in respect of EMT training it has not met its own objectives. One reason for this is the failure of the Ministry to implement the recommendations of studies carried out into EMT use and evaluation.

1-2 Studies on EMT in Saudi Arabia

EMT was first mentioned in 1954 by the Government in a statistical document published at that time. But there was no mention of the practical aspect of using EMT in education (Chapters in 1982, Ministry of Education). This does not mean that EMT was not used at all. There was some use of EMT, but without a comprehensive design or model for utilisation or evaluation. It was in 1976 that the real comprehensive survey of EMT started to take place. Some steps were taken to make a comprehensive study of EMT use, which are mentioned in " An Operational Plan For A National Educational Technology Programme" between The Ministry Of Education in KSA and Indiana University in the USA. It was stressed that, in the development of a comprehensive plan for distribution of EMT, the National Educational Technology Centre (NETC) was a vital element in this proposal. It was further

emphasized that Curriculum Development and EMT Design, Development and Production had responsibilities in the area of selection and production of EMT materials for the schools of the KSA. It was also noted that all efforts would be wasted if the output was not delivered to the classrooms. Training, evaluation and research have implications in the area of the usefulness of EMT materials in the classroom (An Operational Plan, 1975). The Documentary and Statistical Study (1982) about secondary education concluded that:

1. English laboratories were available in some secondary schools.

2. The Ministry of Education has prepared some educational EMT materials to be used in education. Initially sixteen different kinds of EMT and visual aids for the new curriculum have been supplied to schools.

3. The curriculum has been revised, updated and educational media and materials have been supplied.

The Third Development Plan (1980-1985) laid emphasis on social and economic modernization of the Saudi society. For example, it was stressed that the manpower needed to staff key technical, managerial and administrative positions, should be

trained immediately. So, in order to accelerate the pace of modernization in the KSA, added pressure was brought to bear upon training and producing skilled manpower. The Third Development Plan, The Ministry of Planning (1985-86) clearly states:

> the development of Saudi human resources stands at the heart of the development process...and aims at the formulation of policies...to exploit these human assets. (The Ministry of Planning, 1985-86: 287)

In the Fourth Development Plan (1985-1990), The Ministry of Planning (1985: 285-86 and 289), there are two principle strategies spelled out as representing dominant challenges to higher education in the KSA: "...to increase productivity, reduce waste and extravagance and rationalize subsidies to achieve economies in investment and expenditure". The KSA government has always provided the necessary funding for its development plans, but there is a feeling that value for money is not being achieved in most areas.

In implementing this directive all universities and the Ministry of Higher Education were obliged to pursue the following objectives:

1. To continue to pursue each institution's chartered purpose;

2. To improve programme quality and operational efficiency;

3. To achieve co-ordinated development of higher education in the long-term, in order to meet the Kingdom's needs for university-trained manpower and university-centred research more effectively (The Ministry of Planning, 1985 :59-60).

To achieve these aims the universities and the Ministry need to be more careful in establishing corporate criteria for selecting post graduate students, who will be able to identify the needs of the country and help towards solving problems which emerge in the development of EMT. Also The Ministry of Education devised a programme which included computer and practical courses and EMT in their objectives and curriculum of Comprehensive and Developed Secondary Schools (see:39 and appendix 2). The Saudi government had been deeply concerned with expanding the educational opportunities already available to its citizens. The plan of expansion included sending Saudi students for post-graduate and graduate courses abroad, along with extending higher education facilities inside the country. Kensara (1987), has argued that Saudi educational needs can be well planned only when the Kingdom has expanded and developed its educational facilities. The basis of Saudi Arabia's education system must keep growing to meet the ever increasing needs for trained personnel. To meet this

need, financial and personnel provisions have been included for the development of education. For example, under the "Human Resource Development" infrastructure the share of Saudi public expenditure has been increased from 22.2 percent of the total under the Third plan to a proposed 27.1 percent under the Fourth plan.

In higher education there were significant increases in student numbers. They increased from 5,942 in 1970 to 47,990 in 1980. This number further increased by 31,800 in 1985 raising the total to be 79,790. However, the estimate for 1990 is 108,353. Due to the present size of Saudi Arabia's population (not more than eight million), there are no problems up to now, in providing job opportunities for the graduated personnel; but with the current rate of educational expansion it would take some time for a graduate to find a job. It is obvious from the country's continuously changing development plans and objectives, that the demand for educational facilities in Saudi Arabia involves not only the provision of training facilities and equipment, but also the question of the type of the training to be offered as well. Starting from 1989 the Ministry of Education has abolished the two years' teachers' training system at colleges throughout the country. (Al-Ndwa Newspaper, 18, March, 1988: 8). In fact, throughout the history of secondary school education we find that the students who graduated from the secondary school used to work as elementary school teachers. But now, at least a degree from a four-year

college is required for teaching at all school levels, elementary, intermediate, and secondary. For in-service teachers, it will take time to meet this objective. At this point, there is no estimate of the time it will take for all of them to complete their four year college training, when it becomes obligatory for practising teachers.

1-3 Summary of Issues and Problems

1. Many schools still have inadequate EMT provision but the extent of this problem is not known.

2. There appears to be a lack of adequately trained personnel at all levels.

3. It is not established how well Saudi teachers use and evaluate the EMT available.

4. The EMT training for student teachers may not equip them with the practical skills necessary for effective EMT use in the classroom.

5. There do not appear to be effective structures and methods for evaluating EMT at all levels of KSA education system.

Perhaps some countries have the solutions to these problems; but all the available literature on Saudi Arabia education shows that there are several problems which need to be solved. Abu Ras (1979) observes that:

> 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. (Abu Ras, 1979:1)

The teachers training programme in KSA did not adequately prepare teachers with the required skills, techniques and methods of teaching essential to use EMT. Al-Ismaeel (1981) pointed out that:

> a major deficiency of the Saudi Arabian educational system is the lack of preparation on the part of teachers for the effective utilization of a variety of teaching skills and styles of instruction. (Al-Ismaeel, 1981:32)

Educators are looking for the **effectiveness of utilisation**, but not just utilisation without a variety of teaching skills and styles in teaching. EMT should make teaching easier for the teacher, but this is not its raison d'etre. Its use should extend the range of teaching styles and communication methods for the individual teacher. It was discovered that for our training programmes to be most **effective**, it would mean that they should include wide ranging teaching skills and styles. Issa-Fullata (1982) points out that the institutions of

training for Saudi teachers can not provide the number of teachers needed either in quantity or quality, as is evident from the fact that:

> Modern instructional technology software, hardware, and the process of instruction...are not well utilized in Saudi Arabian schools. (Issa-Fullata,1982: 49)

Abu Ras, Ismaeel and Issa-Fullata together concur with the report of 1982-83 and the review of the evidence available, that the inappropriate utilisation of EMT in KSA schools still existed. The problems out lined above raise a number of questions for research.

1-4 Research Questions

Q.1. Is there any difference between the Ministry of Education's training programme(s) and the Colleges of Education's EMT Programme(s)?

Q.2.Do these differences create gaps between trainees of both these programmes?

Q.3. Does every programme deal with the secondary school curriculum?

Q.4. Do these programmes deal with EMT availability?

Q.5. Does each programme need analysis?

Q.6. Do these programmes include the use of EMT?

Q.7. Is there a difference between male and female training programmes?

Q.8. Is there any difference in availability of EMT between male and female schools?

Q.9. Who uses EMT more effectively: male teachers or female teachers?

Q.10. What kinds of EMT programmes are available at male and female schools?

Q.11. Are there differences between the various CCTV systems available in Colleges of Education?

1-5 The Study Plan

The study was planned with the following framework:

1. The study includes male and female teachers.

2. Participants were selected from five cities belonging to five different districts of the east, west, south, north and the centre of the Kingdom of Saudi Arabia.

3. Four teachers were selected from each district, making a total of twenty teachers.

4. The researcher made class visits to male teachers only because visits by males to female schools were not permitted under the law of the land. This problem was obviated through the use of postal questionnaires (In the next chapter there is an explanation of the implications of sex-segregated education. see p: 32).

5. In each of the five districts, two teachers were observed for six lessons making a total of sixty lessons and these were evaluated on the basis of media use.

6. Four teachers in each district were interviewed, two with an EMT background, two without an EMT background.

1-6 Limitations to this study

1. Since the researcher could not stay in Saudi Arabia for more than three months, it was necessary to increase the teacher numbers in some cities and decrease the number of districts visited (see pp: 100-102).

2. As there have been few studies on educational media in Saudi Arabia, the researcher will include a literature review of EMT studies from other countries.

3. Because there is educational separation for females in Saudi Arabia (see p: 32), the researcher will include a chapter on why this separation exists and how EMT may help towards solving the country's problems for females studying at the university level.

1-7 Summary

This chapter began by presenting the importance of the utilisation and evaluation of EMT. One way to improve these two aspects of EMT would be establishing proposals for the improvement of the EMT training programme. In this chapter the answers to the following two questions were discussed:

1. how has EMT developed in the KSA?

2. with whom does the responsibility lie for the development and introduction of educational media in the country?

These questions were answered by including some brief information about the country's development plans and by reviewing previous studies of EMT.

The four tasks of the AEE were discussed, to assess whether the AEE had met its own objectives. These were:

1. To bring qualified people to administer EMT.
2. To train teachers throughout the country.
3. To meet individual school needs not only in EMT, but also by providing equipment and laboratory needs.
4. To control EMT and co-ordinate the needs of the schools.

The main reasons for the failure to meet its own objectives have also been outlined i.e. the lack of overall responsibility for EMT with an effective ministerial department and the lack of a comprehensive plan to develop EMT within all aspects of education.

Finally, the research questions and hypothesis were presented, together with the study plan and its limitation.

In the next chapter it will be important to explain the development of education in the KSA to help the reader understand the more complex issues of the Saudi philosophy of education. In particular the issue of female education needs to be considered, as it has a specific bearing on EMT use and evaluation.

Chapter Two

Chapter II

This chapter examines the development of the Educational System in KSA, focusing on the secondary school system. Some brief information about CCTV is included.

2.1 Historical Background

This is included, in order to help the reader to understand how the country's history has made it difficult to develop education due to the Bedouin movement and traditions. This is especially true in the area of female education.

We will examine the implications the Islamic religion's influence upon education, especially on female education, describe the reasons for separate education; and follow the history of secondary school development.

We will also suggest how EMT can solve the problem of female higher education in the KSA, by using CCTV. The main reasons for the lack of use of CCTV by staff at the Colleges of Education at the Kingdom will be discussed in chapter five. (see p: 167-168).

In fact the national education system was initially started for male students only, when the late King

Abdulaziz established the Office of General Education in Makkah in 1923. However, of late, it was developed into the Ministry of Education in 1953.

Sheik Yamani (1968:18-19) declared that education must deal with and recognize the main social and moral objectives of Saudi society, and cope with Islamic patterns of thought and action. This now forms the philosophy of education in KSA. The majority of the population of KSA accept and support the moral objectives of the government. Under the moral and religious guidance of the leadership, the individual citizen is free to carry on his/her own values and activities in the learning community. One of the basic principles of KSA in accepting any study or idea has been the preservation of traditional Islamic values and culture.

Before the establishment of the KSA Government there were only a few small cities in the Arabian Peninsula, containing not more than 10 to 20% of the country's population; the majority of the population were Bedouin. In fact, the Bedouins are the cultural group illustrated here. In traditional Bedouin society knowledge and education is passed on orally from one generation to the next within a small tightly-knit community. Taril and Winder (1950) mentioned this main feature of traditional education. Moreover, the Bedouins have a strong place in the history of the country. By reading the Muslim holy book, the Qur'an, one can appreciate this group's

influence. They also have a great determination to maintain their continuity through adherence to their whole cultural past.

The KSA government has spent many years and much money trying to decrease the influence of the Bedouins' nomadic lifestyle. Various skills such as simple medicine and education were transmitted from one family to another, although this depends very much on the family economy and their particular beliefs regarding family values. Al-Jamali (1934) stated that in early childhood any Bedouin child, whether male or female stays with his/her parents, but after the age of seven the male child begins to take part in the activities of adults. At the age of twelve the male child is expected to share responsibilities with adult men, but a female child is expected to share responsibilities with her mother inside the house and outside it, such as bringing in water or wood, for cooking the food; she will marry at an early age.

At the early age of twenty-two, King Ibn Saud led the recapture of Riyadh in 1902. He was already an experienced soldier. His class received training from an early age, and this adherence to traditions of training is a special characteristic of Bedouin life. Ibn Saud also started to complete what Abdulwahab (1703-1787) had started to do with Ibn Saude grandfather. Mohammad Ibn Abdulwahab was supported by Ibn Saud to stop the mis-

representation of Islam in KSA. This misrepresentation of Islam has been described by Ibn Bisher (1967) as follows: at that time, political awareness had begun to grow in Najd (the central district of KSA and its surroundings). People at that time worshipped trees and stones, which they considered as Gods. They believed that they could bring blessings and help. Ibn Abdulwahab pronounced that this confusion must be stopped and the people's beliefs must follow Islamic values. He and his supporters had to work hard, and finally succeeded in their mission in the centre of the country. Philip (1937) maintains that according to the old system, education in KSA was the parent's duty at an early age. e.g. teaching the child the religious principles such as: There is no God but Allah, and Mohammad (p.b.u.h.) is the last messenger of Allah. The child's formal education started at six. The elementary curriculum centred upon the Qu'ran as the reading textbook, the pupils afterwards were taught Arabic grammar, the Prophet Mohammad's (p.b.u.h.) explanation of Islam, basic mathematics and poetry. Pupils were assessed by recall of factual information. Girls also followed a similar system to the boys, in the lower grades. However the girls' education ended when they reached a specific age (about ten years). In some exceptional cases female education continued at home. It is obvious that education in KSA, at that time, concentrated on the Islamic religion and there were few subjects which could give the child a broad knowledge of the world.

The late introduction of the idea of schooling in KSA, compared with the more advanced countries, meant that at this stage in its history, education had reached a limited level. This was recognised as presenting a major problem in the further development of the country, as Philip (1937) suggested above.

For a detailed explanation of the development of secondary schooling before the intervention of the Ministry of Education, (see appendix 2).

2-2 Steps Taken to Modernise Education

As can be seen from appendix two, the Egyptian curriculum was introduced into Saudi secondary schools as a step to encouraging students to enter Egyptian Universities and Colleges of Education and therefore gain access to higher education (El-Eissa, 1988). It was hoped that this would begin to solve the problem of the shortage of teachers for elementary and secondary schools.

Al-Shami (1977) stated that the Saudi Government started to develop overseas educational links in 1928. Up to now education has been free at all levels, with scholarships available to students who qualify on the

basis of academic achievements, and financial need. In 1928 fourteen students were sent to Egypt, followed by similar numbers in 1936 and 1943. Since then groups of students have been sent to the Middle East, the United States, Britain and many other European countries. In 1950 there were 192 Saudi students studying at Egyptian Universities. In 1967 one thousand five hundred were attending higher institutions in Britain, the USA, Middle East and other European countries.

The growth in the number of trained Saudi teachers created a campaign for the improvement and expansion of education. The researcher believes that this campaign was not surprising given the background of the people, and their Islamic tradition. As well as the call for an improvement in boys education, the demand was made for a public system of girls' education. At this time there was some private schooling available for girls, but at low level. The argument for girls' education was, however, very much centred in the principles of Islamic thought, in particular in the idea that girls' and boys' education must be separate.

2-2-1 Concept of Female Education in Islam

1- There is a feeling among sectors of the population, in particular, among the highly educated, that the religious leadership is not in favour of

girls' education in KSA (This is not wholly true).

2- The religious leaders have no right to prevent new practices without an injunction from the Qur'an or from the Prophet's life or his sayings.

3- All Muslims believe the first word which came to the prophet Muhammad was "read", and all the instructions in the Qur'an are directed to both males and females.

4- The country's leaders did not close girls' private schools on the grounds that if female schools are allowed in Islam, then we must have female education throughout the country; if the female schools are not allowed we must close all of them throughout the country. Social class and the ability to pay for schooling should not determine education.

Waddy (1980) pointed out that in 1969, nine years after the opening of formal female schools in Buraida,(a very conservative city in the centre of the country) some people went to see the country's leader (King Faisal) because the people of Buraida were opposed to having female schools. Waddy quoted the Buraida people's complaint:

> They said, "You will corrupt the girls' morals if you teach them. You are violating our religion, customs and traditions". King Faisal said "Well, we are all united in our loyalty to Islam" They said "Yes!" then he said "Now tell me what Islam says? Is there anything in Islam which forbids the education of females?" There was silence. (Waddy, 1980: 190)

Many attempts have been made to prevent female education, but all of them have failed to convince the country's leaders to do that, since the holy Qur'an encourages all believers to seek knowledge without indicating their sex. In fact, there is no verse in the Qur'an which prevents females from acquiring education. Some verses given in the Holy Qur'an as below encourage the believers to seek knowledge.

"O my lord! Advance me in knowledge" (Ali, Qur'an, Translation: 814).

"Say: God will raise up, to ranks, those of you who believe and who have been granted knowledge" (Ali, Qur'an, Translation: 1239).

"Say: Are those equal, those who know and those who don't know" (Ali, Qur'an, Translation: 15).

All these verses are addressed to all believers, male and female; young and old. They emphasise that education is for all believers. The Prophet was interested in teaching Muslims. Therefore no organized schools

existed in those days i.e. 6th century, the Prophet urged his nation to seek knowledge, saying:

"The seeking of knowledge is obligatory to each Muslim". (Abd El-Barr, 1975: 1).

Knowledge, in the Prophet's view, was not purely a religious matter but was a concern for both the people and the leadership. He viewed knowledge as a means of enabling persons to distinguish between right and wrong, of guiding them to happiness, improving their life in this world and the other. According to a saying of the Prophet:

> **The best among you are not those who neglect this world for the other, or the other world for this world, but he is the one who works for both together (Abd El-Barr, 1975: 4).**

Gulick (1974) supported the Islamic principle of education for both sexes when he stated that:

> **Muhammad established law and order over a large portion of the known world and anticipated a significant number of the great social movements of the twentieth century, equality of opportunity unrestricted by colour; greater freedom for women, emphasis on universal education; consultation as the bedrock of sound administration.** (Gulick, 1974: 50)

It is obvious that there was confusion with respect to female education in KSA. This confusion is caused by the ignorance of people who oppose it, who confuse tradition and religion.

2-2-2 The Start of Female Education

It was not an easy decision for a traditional society like ours, which confines its women to the home and family, to promote female education. In order to carry out the responsibilities of running a household in society women require education and for this reason special education for girls was started. It was designed to help her raise children, encourage her educational aspirations and patterns of achievements, as well as teaching her what to feed them and how to nurture them in a positive environment. Education is also expected to give her hints as to what constitutes good and desirable behaviour and responsible citizenship. As Abd Al-Wassi (1970) pointed out, girls' education in Saudi Arabia has four functions:

> First, to give girls a clear understanding of their responsibilities to their home, their children, and society.
>
> Second, to maintain a balance between the changing patterns of today and traditions of yesterday.
>
> Third, to insure a flow of highly trained women for service in education and in other fields, e.g. medicine.
>
> Four, to provide women with an avenue of access to higher education.

Historically, after World War Two the Saudi government started to obtain a significant new income from oil

(Hajras, 1991). This enabled the government to bring in female teachers from the Arab and Islamic world and open schools throughout the country. Starting with male schools, but in line with the four functions of girls education, outlined by Abd Al-Wassi (1970) education policy for girls has to fulfil the comprehensive objectives of Secondary Education starting from 1974 by Al-Esa (1979) as follows:

The first five of the objectives were Islamic which briefly include:

1- To continuously keep everything for Allah and under Allah's guidance and obedience of his orders;
2- To give students a clear vision of the universe, humanity and life, now and in the future;
3- To have real loyalty to all the Muslim world, especially to the KSA;
4- To consider the student's various abilities and guide him/her in Islamic beliefs;
5- To develop a deep and scientific thinking in research and experiments;
6- To show the student the right way to continue his/her study;
7- To prepare him/her for work in any field at a high standard;
8- To give students the chance to work as teachers and help them in understanding their religion.

The last two objectives include giving the students the right choice in reading and enjoyment of learning, by honestly using all of their available time in positive ways, developing good character and adherence to society's values by overcoming bad thoughts and values (Al-Esa, 1979: 31-34).

In order to fulfil these objectives, the curriculum for girls' schools followed largely the same lines as the boys' schools, but with more emphasis on Home Economics, Sewing and Childcare (Al-Manea, 1984). It will be clear from the objectives listed above that the use of EMT within the classroom would greatly enhance their fulfillment. For example, it would be difficult "to give students a clear vision of the universe, humanity and life", without the use of EMT such as films, videos and pictures. Similarly "to develop a deep and scientific thinking in research and experiments" requires an interaction between the pupil and the learning materials which only EMT can effectively provide.

A pool of trained female teachers were available to staff the primary and secondary schools, but there was a problem in recruiting sufficient female university teachers. Few Saudi women were educated to this level, and few were available from other Arab countries. Due to the segregation of education at this level, there was a difficulty in training female teachers. Adult men and

women are forbidden from working closely together, and therefore male university-teachers could not train female teachers. To overcome this problem, CCTV was introduced into the universities and colleges. A male teacher could now lecture to female students and the lecture be relayed through CCTV. The lecturer could also enhance his (sic) teaching by the use of EMT in the studio, which the female students would see on their screens. It is important to look more closely at CCTV and the facilities it provides.

2-3 Studio Facilities

The College of Education at Madinah, a constituent faculty of King Abdul Aziz University, Jeddah, was established in 1977. Since Madinah is located at a distance of 450 kilometres from the main campus, there were no facilities available and everything had to be started from scratch. This college was originally meant for male students only, but the parents of local girls who had no facilities for higher education in the city started demanding the opening of a girls' college of education. In 1979, the King Abdul Aziz University decided to allow the admission of female students, in a separate building, but as a part of the Boys' College. To start with, three studios were set up on the ground floor of the rented building and instruction was provided by the male teachers in those areas where female teachers

were not available; mostly in Sciences, Maths and English. This worked successfully for about a year but then the number of female students rose quickly and the space and studio facilities could not cope with the situation. The University had to build a new building for girls near the boys' campus with a separate boundary wall. A specially designed CCTV centre was also constructed, closely connected with the classrooms by direct cables. The entrance to the Centre was restricted to the male teachers only.

The Centre consists of a big hall equipped with televisions, VCR's and other necessary equipment. This hall has seven studios attached to it in the shape of an oval.

1. There are three cameras in every studio; one of them for the instructor; the second one for the writing sheet in use and the third one for experiments or any other use;

2. There are facilities to project 16mm or 8mm films on television and also to use videos;

3. There are three different kinds of video (Beta max, NVC and Umatic);

4. There are switchboards on the instructor's desk that include students' inter-com, answer keys and

a Student sign lamp with a quiet "peep" sound when the student wants to ask questions or to make comments or for dialogue. Each studio has an entrance from the main hall where two TV technicians control the functioning of all the seven studios. Each studio is a self-contained unit and is acoustically treated (Documentary and Reports, 1986, College of Education).

Despite these facilities, the CCTV centre is not well used, as Hafithe (1990) points out, very few teachers used EMT (as defined in the glossary) within the CCTV studios, and there was no information provided for teaching staff by the CCTV technicians in how to use the equipment.

2-3-1 CCTV Lecture Rooms Facilities

Each studio is directly connected to a lecture room located in the girls section to which male teachers have no access at all. Every room has sufficient television sets to watch and hear. Every student has her disc number or seat number to facilitate the communication between the student and her instructor. The students have a facility to push their seat button and talk to the teacher through intercom. Likewise, the instructor can talk to any individual student and ask questions.

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In fact, the CCTV used in the KSA is not used very well. There are many reasons for this. For example, there were no training programmes for the staff or CCTV specialists providing instruction as to how to use the equipment effectively. Sometimes, when a training programme was provided there was no encouragement to run it. For example, only two staff members attended the training programme which was provided by the College of Education at Madinah. When they found themselves too small a group they also left without any training being given. In 1988 the head of the Educational Technology Division did not expect our training programme to be held again. Posing the question: Can we train Ph.D holders to use CCTV?! This question was asked by the Dean of the college staff to the department members. Another difficulty was that there was a shortage of staff in the control room. It is almost impossible for one or two technicians to control seven studios. As regards discipline in the classrooms, the instructors had no control. They did not really know what was actually going on there. The classrooms had no supervisors at all and the girls were supposed to behave like good students and cooperate with the instructors in the teaching-learning process. If the lecturer was unfamiliar with the use of the intercom system, he could not keep a check on the discipline of the classroom, nor involve his students in discussion of the contents of his lecture (Hafith, 1990)

2-4 Summary

In this chapter, I have outlined the background of the development of education in KSA, which started from low level. The level of education was raised by:

1. Stopping the Bedouin movement;
2. Bringing in teachers from outside the country;
3. Establishing the General Office of Education which was eventually replaced by the Ministry of Education;
4. Sending students abroad to study;
5. The introduction of CCTV to train female in higher education.

When schooling had become established in the country and the oil income increased, the government began to establish female schools, whilst at the same time trying take into account that many sectors of the population were opposed to the principle of girls' education on religious grounds. An explanation of the beginning of female education is given, together with the educational principles and functions which underlie it. Finally, the issue of CCTV and some problems of its effective use have been introduced.

In the next chapter there will be an explanation of EMT availability, use and evaluation focusing on secondary schools.

Chapter Three

Chapter III
EMT Availability and its Use

This chapter will review the EMT facilities available in the secondary schools of KSA and will discuss the problems related to their use in the schools.

Ingle (1986) states that:

> The research, theory and practice of education technology over the past 75 years provides convincing evidence that this process offers a comprehensive and integrated approach to solving education and social problems. The use of media and technology in development has shifted from an emphasis on mass media to personal media. (Ingle, 1986m: 251)

Before we start to persuade institutions to use EMT, there are many steps that must be taken in order to make EMT easier to use. There are many teachers who do not use EMT because of the barriers they foresee. EMT is not easily ordered and not readily available when the teacher needs it. It may not be in good condition. Some teachers have no idea about whether it is available or not, whether it is updated or whether it is exactly what the teacher really wants. Romiszowski (1988) declares that in the USA:

> Cine film has long been established as a teaching medium. Nearly every school or training centre possesses at least one cine-projector, and it is difficult to choose from the large selec-tion of the off-the-shelf training films now available. (Romiszowski,1988: 189)

Because of the restricted availability of EMT and relevant data, it has been necessary to consider the experience of more advanced countries.

3-1 EMT Availability in KSA Schools

Lefranc (1990) states that:

> When one is studying the production and use of audio-visual aids, computers and other communication technologies in education, it is obvious that the gap between industrial countries and developing countries is becoming wider and wider...Before any efforts are made to try to catch up with the posibilities offered be newer technologies, it is absolutely necessary to have a clear, realistic picture of the present situstion, from which any start will have to be made. One must not dream. A thorough case study has to precede any plan. (Lefranc, 1990: 58)

According to a survey made by the Ministry of Education, EMT Distribution, (1984) the following EMT equipment and materials (both hardware and software) are currently available either at the district headquarters of education or at secondary schools:

1- All districts headquarters have 16mm projectors to show 16mm films and they possess cassette players as well.

2- All secondary schools have record players and

school broadcast systems which work both by batt-ery and electricity.

3- All secondary schools which have electricity have the following equipment: 16mm projections, Transparency Copy machines, Ciprine machine (copies by liquid), Overhead projectors, one for every three classes, 8mm loop projectors, film strip and 35mm projectors, opaque projection, VCR/VCP with monitor, 8mm projectors and a language laboratory (EMT Distribution, 1984, Ministry of Education).

In the case of the universities (which have the major responsibility for teacher training in the KSA), Al-Fier (1987) states that among the teaching staff included in his study of three Saudi universities,

> They did agree [on] deterrents such as insufficient materials or software to use; insufficient equipment to meet the demand; difficulty in getting equipment and materials at the right time in the right place;...; lack of decentralization and lack or shortage of audio-visual personel...(Al-Fier, 1987: 146)

So, three years after the availability study, we can see from Al-Fier (1987) and Kensara (1987) that the avilable EMT was not being effectively used or evaluated. These difficulties will be discussed later

3-1-1 Available EMT Teaching Materials

As regards software, the Ministry of Education realizes the importance of educational films as a means of consolidating the theoretical lessons, and has recommended their use in different schools.

A description of each item of software is included in the Report of 1982-1983 published by the Ministry of Education. According to this report the AEE provided 535 EMT software items to schools under a directive from the Ministry of Education. This software distributed among the districts and schools are as follows:

(I) Film strips covering 91 topics: 2,000 copies of these film strips were distributed among the middle and secondary schools.

(II) Loops covering 130 subjects. Two to 4 copies of these loops were distributed to each existing middle and secondary school.

(III) 16mm films covering 103 topics: 45 to 75 copies of each of these films were produced and one to three copies were supplied to each school. The report published in 1989 stated that in 1985, every district had a video film copy, 168 copies were covered by the 16mm films and every school had a copy of a 16mm film.

(IV) 35mm films covering 29 subjects: 2,000 copies of each film were distributed among the middle and secondary schools.

(V) Transparencies covering 15 subjects: 2,000 copies of each of the Transparency sheet were prepared and distributed among the schools, which were provided with overhead projectors.

(VI) Geography maps: 9,000 maps for all levels were printed and supplied to schools.

(VII) Educational Boards: 2,000 boards were prepared and were distributed among the schools.

(VIII) Mathematical Aids covering 28 topics of maths were produced in large numbers varying from 5,400 to 122,000, depending upon the needs of various levels. They were also distributed among the middle and secondary schools.

(IX) The Ministry of Education also published the following four manuals and supplied them to the schools. (1)- Film strip Guide, (2)- Geographical Maps Guide, (3)- Mathematical Aids Guide and 4- Education Boards Guide. In 1983, there were EMT comprehensive guides, including the above mentioned four guides. In 1984, two more guides were published by the Ministry of Education. These two

guides were also meant for all teachers. Unfortunately, no apprentice teachers are trained to use the guide (Report on EMT in the KSA in 1982-83, Ministry of Education, 1984).

This list of teaching materials is quite impressive but the lack of training in its use and evaluation means that it was not utilised by the teachers. The 1982-83 Report Review (1989) mentions the problems of teacher training and that the objective of training one teacher from each school in EMT use could not be met, because the number of teachers who received training was less than the number of schools (see p: 10).

3-1-2 Video System and Computers

From 1982 video systems entered the schools, yet video and television systems, without good programmes and without quality films did not achieve their educational aim. The AEE's idea was to buy and produce programmes and films that dealt with the schools' objectives and the class subjects. There are fifty different films dealing with the secondary school curriculum. These films are available in all secondary schools. (1982/83 Report Review, Ministry of Education, 1989). Most programmes are on the Encyclopedia Britannica film series, but primary research based on a comparison of the curriculum requirements with the available EMT revealed a serious

disparity. These programmes did not fully cover the needs of the schools.

There were exactly sixteen computers within each and every developed secondary school. (Guide to Developed Secondary Schools, Ministry of Education, 1986).

3-2 EMT Utilisation and Evaluation

There is no question in the mind of many educators about the importance of EMT utilisation and evaluation within schooling systems for both teachers and students.

Dunnett (1990) concludes that:

> If we are to use the new technology in the most appropriate way, both to save cost and to achieve the learning desired by our students, then the lessons of educational technology must be learnt, applied and evaluated in themselves. This process alone, if properly carried out, will inevitably improve the process of human learning' and enable education to both generate and create the skills needed for all mankind. Dunnett, 1990: 207)

Schramm (1967) suggested that EMT can be used to upgrade classroom teaching, teacher training, extended schooling and can support literacy and fundamental education. The availability of EMT materials and equipment is one of the most important aspects to be considered in improving the use of EMT. Pula and Goff (1972) declared that:

> Appropriate facilities must be provided and must be carefully designed to permit effective use of media within the broad spectrum of education. (Pula and Goff, 1972: 100)

El-Eissa(1988: 108) cited the British (Her Majesty's Inspectors) HMI Report of 1982 and identified the first characteristic of schools with a successful resource organization as being "a focus of attention on curriculum issues in relation to resources which involved teachers at all levels". These two studies were concerned with EMT availability in schools and also with its effective use by the teachers. Hardaway (1969) found in his study that more than 70 percent of teachers interviewed were convinced that EMT is used more when it is easily available. Obetz (1980) concluded in his study that the use of EMT depends significantly upon the availability of media products and facilities. Abu-Ras (1979) claims that there is a significant relationship between the availability of equipment and teachers' attitudes towards the educational values of the use of EMT. Johnson (1983) added that the most frequently repeated comment was some positive expression about the service provided by Media availability. Teachers commented that the service was well run, when the materials were available. Kamson (1979) research concluded that in some situations where there is a shortage of teachers and a lack of equipment and resources, the use of television becomes very effective in teaching. Molenda (1986) found that during the middle of 1986 microcomputers were available in over 80% of Japanese high schools and other EMT materials and

equipment were available at all school levels. It can be said that high schools in Japan are comparable to secondary schools in Saudi Arabia, in.terms of age and ability range. It is well known that the quality of education in Japan is far higher than that in Saudi Arabia. Perhaps one reason for this is that EMT as an educational issue is taken more seriously, and that the interest in EMT is translated into availability and effective training (Molenda, 1986: 175). It is important to make a comprehensive demand for EMT availability and a wide variety of teaching materials and facilities in KSA schools too. The variety of EMT provision is important as well as its quality. Lefranc (1990) states that:

> Whenever posible the multimedia approach should be use for teachers as well as for pupils, a combination of media being always more efficent than the use of one medium no matter how powerful that medium might be. (Lefranc, 1990: 58)

In turn, educators place their own emphasis on EMT availability as follows:

Wilkinson (1980) referring to the importance of quality and quantity of media in achieving the goals of both students and teachers, declared:

> Media are the tools of teaching and learning. These tools must be available when and where they are needed to meet the needs for the teacher and students who must use them. (Wilkinson, 1980: 39)

On the other hand, the non-availability of EMT is one of the main obstacles for not using it. Imogie (1979) stated that one of the important factors of not using EMT in education is its non-availability within the schools. Heje (1989), Harery (1989), Al-Moneff (1989), and Al-Thobaty and Al-Gamdy (1989) in their papers presented at the annual conference on Developed Secondary Education at the Saudi Educational & Psychological Association (SEPA) at the College of Education in King Saud University (1989), reported similar findings. They found in their research that non-availability of EMT is one of the major reasons for the lack of effectiveness of Developed Secondary Education and recommended wider availability and use of EMT to improve its effectiveness. Al-Sharhan (1989) found similar evidence:

> It was evident from the questionnaire and interview data the availability of audio-visual equipments in Riyadh's secondary schools was limited "and he found that" Teachers felt that there was not enough equipment to meet the ne eds of different areas of the curriculum. (Al-Sharhan, 1989: 230)

In the case of secondary schools in the KSA Al-Munsore (1989) found that it would take time for the government to provide all the schools needs in the area of EMT and also in other facilities. This means that the programme would be finished at the earliest in 1992 and at the latest in 1995. The government invests time and money because of the importance of EMT and school facilities. From section 3.1 of my study: 50, it is quite clear

that the Ministry of Education understands that availability is important regarding EMT and schools facilities. Specialization and preparation in the field of EMT is another important factor in the utilisation of EMT in education. Hill (1987) indicated that:

> The media specialist...has been a part of our public school systems...What greater benefit to the teachers could a media specialists be than to assist in the planning of actual classroom activity? Much work will have to be done to convince classroom teachers that the media professional is not only willing to help, but is qualified to help. I dare say that very little instructional development work is being performed in our public schools, where teachers, content experts, and media professionals work together as a planning team. (Hill, 1987:21-22)

The role of EMT specialists will be discussed in the following section.

3-3 Availability of EMT Specialists

In his study of two middle school districts in the KSA, Bakri (1983: 37)) found that EMT specialists were not available in all Saudi schools. He also found that visiting EMT specialists did not provide adequate assistance and help to teachers in the selection of needed EMT equipment. He recommended that there must be EMT specialists in every Saudi school. In the USA study of audio-visual (AV) media use by a group of US secondary school teachers, Willis (1979) indicated that the

services of EMT specialists were the main source of teachers' skills and EMT knowledge in selection and utilisation of EMT resources.

The teachers' and EMT specialists' training programme in higher education is one of the weaknesses responsible for the inappropriate use of EMT in schools. Palmer (1968) pointed out that the lack of trained teachers was a serious barrier to the effective use of EMT resources. Likewise, Wilkinson (1980) suggested that EMT centres made a greater impact on the utilisation of EMT instruction when they were staffed by full-time and specially trained EMT specialists. Mc Beath (1987 A) concluded that the resources we have as EMT specialists can play a significant part in providing information and in assisting students to gather, organize, interpret, evaluate and use knowledge. This cannot be achieved in isolation from the teachers, the curriculum, and the overall school system. The degree of success of EMT depends significantly upon the EMT skills of specialists and their ability to work with, enlighten, and persuade teachers, curriculum specialists, administrators, and legislators with regard to the changing conditions and demands in education. Mc Beath (1987 B) added that it is not enough to have an EMT specialist but we also need to give him/her the power to run their job smoothly. Bennett and Sorrells (1987) ascertained that:

> Media specialists must take a leadership role in local schools, systems and communities in order to be effective. This role is not a genetic gift; it is composed of techniques which are acquired by synthesizing interpersonal skills with communication. (Bennett and Sorrells, 1987: 26)

Not only that, but EMT specialists must also take their responsibilities throughout the curriculum and teachers training. Mc Beath's study of stages and maturity levels in learning, teaching and media support services pointed out that learning resources and instructional technology can play a significant part in helping both the teacher and the student to move through each level of understanding. He argued that to achieve success in the development of intellectual maturity, media library specialists will need to work in association with students, teachers, curriculum specialists and administrators to contribute to both the design of the curriculum and media support within it.

From the evidence provided above, on EMT availability and specialist availability, some questions emerge:

1- What kind of EMT should be available within Saudi school systems?

2- What should be the content of teachers and EMT specialists' training programmes?

3- What responsibilities should be given to the EMT specialist?

4- To what extent does the current teachers' preparation programme provide the required skills and techniques to use EMT properly in schools?

The answers to these questions, which will be addressed in chapter 5 (see pp 178-182), will clarify the situation in KSA concerning the use and evaluation of EMT. This will, it is hoped attract the attention of decision-making people within KSA and help them to realize the necessity and importance of EMT in schools. The researcher believes that the training for EMT given during the pre-service period is not sufficient; the really effective training actually takes place during the in-service period. Johnson (1983) maintained that the general pre-service training programme received by teachers in EMT use is only minimally helpful. However he suggested that in-service training is more effective and many teachers have shownd that they have made considerable progress by trial and error rather than by any formalized training at all. Kerr (1990) amplifies the case for proper training in the uses of EMT concludes that:

> The importance of the overall approach to change, and the training of instructors in the correct application and use of media, is most important if we are to get the best return on the investment of time, staff resources and finance which are required

> to produce effective learning materials. (Kerr, 1990: 22)

Describing the role of specialists in media and information technologies in public schools changing with the USA, Galey and Grady (1987) pointed out that because EMT is changing rapidly, it is reasonable to expect corresponding changes in the roles of professional personnel in the public schools. This change will be achieved through the field of EMT.

This thesis has already presented the views of several writers on the importance of EMT use and evaluation (see pp: 1-2 section 3.2). Hill (1987) indicated the importance of EMT specialists and teachers working together as a team to support the use of EMT.

3-4 Utilisation of EMT

Saudi Arabia, like many developing countries, has started to bring in EMT without the necessary comprehensive study having previously taken place (see:p 15). Shears (1988) stated that all developed countries have faced similar difficulties since the early 1960s. EMT often only meant the use of various equipment (e.g. TV, Radio), rather than serious consideration of the messages they carried, or the context in which they were used. The real and effective utilisation of EMT can be achieved in the developing countries if they follow the rapid

scientific and technological changes as recommended by UNESCO. Pavliv (1987: 33) pointed out that UNESCO's aim with regard to EMT is to encourage, with the help of relevant national institutions, international non-governmental and professional organizations, a more systematic transmission of information about communication and EMT to its users, especially for children and young people. The purpose of this is twofold:

1- To help EMT users develop a more selective and critical attitude towards the ever increasing EMT content;

2- To encourage the users as soon as possible to develop those facilities which might eventually allow them to become active participants in the production of EMT content.

There were many ways to increase EMT utilisation proposed by many researchers such as Johnson (1983) and Zafer (1989). Indeed Johnson found that one-third of the teachers responding to his survey showed that they were increasing their usage of EMT, and only about 11% reported decreasing usage. However, there were three factors influencing EMT use, which drew a much higher response (about two-thirds of the responding teachers). These factors are fairly dominant in affecting increased utilisation. They were quality, wider selection and increased awareness of EMT materials. In fact, appropri-

ate use of EMT could help different students in different subjects. Moreover, Adams and Hamm (1988) stated that EMT can do more than serve the same educational goals for different students through a wide range of means. For example, better communication means easier processing. Only well-informed teachers can communicate and identify the symbolic significance of electronic imagery. A few practical techniques, with visual images for instruction, may guide teachers in helping learners' to develop critical thinking and visual literacy skill, balancing the responsibilities between the teachers and the students. Hill et al (1988) stated that learners and instructors will work more as a team to derive and examine possible solutions to using EMT rather than as in the formal situation where the teacher dominates all the instruction. Used appropriately, EMT can only enhance the learning, and teaching process. Adams (1990) concludes that:

> Coupled with human interaction, technological forces can become positive energies of change. When teachers and students have the active support of their peers the technology can be harncssed to reach more peope with greater depth and permanence. (Adams, 1990: 162)

In the USA instructional video programming is being incorporated into lesson plans by thousands of teachers for the following reasons:

1- The equipment has fallen in price and is within the range for purchase by schools and more importantly by teachers themselves;

2- VCRs have unique features that make them especially appealing for instructional applications;

3- The availability of video programs in the 1/2 inch video-cassette format has increased rapidly.

(Adams,1988 :17-20)

Indeed several authors (Guelette, 1988, Burch, 1988, Wood and Wylie, 1987 and Merrill, 1988) have stressed that video programming is more useful in teaching because:

1- Teachers quickly become comfortable with the equipment;

2- Video programming costs substantially less than some alternative EMT;

3- Since tapes are housed in the building, access to them is greatly increased and elaborate scheduling and time restrictions on classroom use are decreased compared with broadcast or rented EMT..

4- for schools that can take advantage of a broadcast instructional television service, VCRs have made programming more flexible by enabling a program to be used when needed, rather than only when broadcast.

It is known that videos, video-cassette programmes and television are available at all secondary schools in the KSA (see: pp 50-51). However careful planning and designing of EMT is urgently needed in order to achieve the reform of the educational system within the Kingdom. Foster (1988) suggested that technology will continue to shape our processes on schooling systems. Whether our investments and energies are well spent or misspent depends on how well we anticipate and plan for the rate of change and its consequences. Lecture methods with a trial of EMT use are running in Saudi educational systems (see: pp 7-8, Abu-Ras and Al-Hussain). The most frequent method of instruction in KSA is the formal lecture, supplemented by printed materials such as technical manuals and textbooks and some modest use of EMT (see: 20-21). We have yet to implement on a wide scale any technological advance in instruction including language laboratories, instructional television, teaching machines, or computer assisted instruction. This point will be investigated further in a later chapter (see: pp 128; 140; 152; 160; 167; 175 and 178). The proper utilisation of EMT in KSA, as well as in many other

countries, is jeopardized by many factors such as inadequate training of teachers and lack of expertise in Higher Education. (Abu Ras,1979 and Al-Ismaeel,1981 see: p 21). A proper consideration of the problems encoutered in useing EMT in developed countries could provide useful lessons for the construction of a teacher training programme in the KSA which avoids the major pitfalls. Stiles (1964) attributed the failure of proper utilisation of EMT in US colleges to the following reasons:

1- Teachers were not well trained;
2- the level of elementary and secondary education has suffered;
3- Institutions of Higher Education have been weakened by internal strife;
4- Public confidence in all education levels has decreased. (Stiles, 1964: 171)

The same point has been made by Johnson (1983) with respect to Canada when he said:

a. Emphasis should be on the importance of a multi-media approach in modern education;
b. There is difficulty in finding time to preview and use Media materials;
c. There is a problem of films being overused in the library;
d. The evaluation system was seen to be valuable;

e. A question of new materials was considered better than in-house production of materials;
f. The classification of auditory/visual materials places more emphasis on the need for good film and video materials. (Johnson, 1983: 62)

There were many other reasons related specifically to the teachers training programmes in KSA. Shadly (1978) found that 25 teachers from 141 were, for example, teaching in areas different from their majors, with 36 satisfied with their work at school and 105 persons dissatisfied, the in-service teachers had no training after graduation, and what they had studied during the pre-service phase about EMT was useless during the in-service phase. The respondents chose a College of Education for the following reasons:

a. Fifty eight teachers said they wanted to become teachers;
b. Fifty five said there were attracted to the monthly allowance;
c. Thirteen said it was accidental;
d. Eight said it was the only one that accepted them;
e. Seven said that it was the easiest college of all. (Shadly, 1978: 94-103)

Tamashiro and Campoy (1988) stated that the dominance of new EMT such as computers, interactive video, and electronic communication imposes a dilemma for schools: on one hand, educators want to use these EMT materials in the curriculum, but on the other hand, they

are obstructed from doing so by limited budgets, lack of expertise, and even resistance to new technology of EMT.

Teachers are rarely given the opportunity to design EMT in the KSA as they are free to do in other countries. However, teachers are the real people with direct contact with what is going on in schools and therefore they should have a participating role in the designing and implementation of EMT. To share its production with the teachers is important. Heinich et al, (1985); Adams and Hamm (1988) maintain that in order to make the utilisation of EMT more effective in achieving the educational goals, teachers must be aware of selecting, modifying and designing the EMT materials, their use, the time allotted; preparing the equipment and facilities; involving the students in systematic discussion and finally promoting the individualized and small group activities techniques.

One of the possible problems caused by the use of standardised materials is that the materials might not suit the students' interests and not correspond to the teachers' goals, particularly where the teachers feel the materials have been imposed upon them. These problems and others can be avoided if materials are properly evaluated before employing them in the teaching situation. In the field of EMT particularly, evaluation is an essential element for the effective and successful utilisation of EMT.

From the discussion above, it is clear that specialists in EMT are concerned to achieve real and effective utilisation in a number of ways: firstly, by following the rapid scientific and technological developments in EMT; secondly, to improve the users' selection skills and attitudes towards EMT; thirdly, by using EMT to train student teachers at colleges of education; and lastly, to improve the communication between students and teachers, allowing them to work as a team to reach their training objectives. One way to improve teaching and learning in KSA is in the improvement of the EMT training programme and the inclusion of evaluation as a major component of it.

3-5 Evaluation of EMT

Before considering methods of evaluating the applications of EMT, it may be useful here to consider an aspect of Romiszowski's model for the implementation of instructional media. Briefly, Romiszowski describes four levels in the educational process model. Level 1 is identified as the socio-political context of curriculum design; Level 2 relates to course/subject content; Level 3 to topic selection and organisation; and Level 4 deals with the design of instructional materials. Although it may seem, at first sight, that the evaluators may focus their attention on level 4, Romiszowski (1990) states that:

> Even if the materials developer was not personally responsible for, or even involved in, the initial planning of a training project or new curriculum, it is a good idea to be aware of the techniques and procedures used in such planning.(Romiszowski, 1990: 57)
>
> and he stresses that the materials development must understand the earlier stages of the instructional design and development process. (p:57) (Romiszowski, B 1990)

To this end the role of evaluation in EMT is to provide accurate and relevant information to assist in wise decision making. The whole field in education is based on the fact that people differ, that these differences are important and that we need to measure these differences and use the information in dealing with people. Educators have been particularly concerned with evaluating the progress of their pupils, the value and relevance of curriculums and the effectiveness of their teaching. Therefore this evaluation in education in general is necessary to both the teachers and pupils. It allows us to ascertain the progress of pupils and assists the development of students' and teachers' EMT abilities. Evaluation would act as a diagnostic and remedial process by giving the teacher feedback about pupils' level of achievement and enabling them to select the appropriate EMT objectives in relation to level. Evaluation is an essential element for the assessment of EMT programmes, resources, and methods of applying them in the teaching process. The evaluation process is an important task in the curriculum and EMT programmes. Therefore (in addition to an understanding of the process of education on the Romiszowski model,) the evaluator should have certain

characteristics, such as being a good listener, and sensitivity to the perceptions of others. Goens and Lange (1976); Morris (1980); and Garawski (1980) emphasized these points when they maintained:

1- An evaluator should be trained to be a good active listener. This requires trained supervisory personnel who have time to perform their roles as evaluators. Supervisors need to be skilled in defining objectives and goals, communicating interpersonally, utilizing a variety of evaluation instruments, interpreting evaluation data to teachers and administrators, developing alternative options for teacher improvement and writing evaluation reports carrying the intent as well as the content of teachers and students messages;

2- Training programmes for evaluators should put enough emphasis upon the importance of providing evaluators with constructive feedback;

3- Any evaluator needs to learn how to be sensitive to every person's perception and situation;

4- The training programmes for teachers and evaluators must emphasize the idea that evaluation should be a shared process. The evaluation would act as a diagnostic and remedial process by

giving the teacher feedback about the pupils' level of achievement and enabling them to select the appropriate EMT objectives.

Heinich et al (1985) stated that after teaching, it is important to evaluate its effectiveness and impact:

> You must evaluate the entire instructional process to get a clear picture. Did the instructors meet the objectives? Did the EMT assist the students in reaching the objectives? Could all trainees use the EMT properly? Was the training environment comfortable? Did the teacher facilitate learning by providing the necessary assistance for individual trainees? (*Heinich et al, 1985:* 35)

In the light of these observations, it seems that a more formal and structured methods of evaluation needs to be evolved. One of the problems which faced the Ministry of Education was the need to expedite the establishment of Developed Secondary Education bevore the necessary number of trained teachers were available and their consequent experiences open to evaluation. .The training of teachers in EMT started slowly if steadily. For example, whilst computers are available in all KSA developed secondary schools (see: p 50), there is only one training programme on computers running (at KSA) and as yet, no teachers have graduated from this course. Razik (1980: 6) stated that " When Change is slow, instruction can function successfully in a normal time model". Change must come in due time." Furthermore Eboch (1962) stated that the:

> Educational institutions are notably conservative in the adoption and adaptation of new concepts and techniques. The EMT revolution in society and education has been erratically explosive. It is to be expected that a slowly changing educational system could not easily and effectively absorb the dramatic change of the EMT revolution. (Eboch, 1962:6)

Many authors have outlined different schemes to evaluate and assess EMT. For example Goodman (1982) in his study outlined a scheme step by step. These are described as three techniques for evaluating EMT: (i) questionnaires, (ii) continuous reaction measures, and (iii) focus group interviews. The purposes of EMT evaluation are identified as finding out audience reaction and developing effective methods to use EMT in teaching. Carolyn Guess, in a seminar held in Pittsburgh University (1988) suggested some basic principles for the evaluation of EMT. Believing that improvement in evaluation of EMT is important in providing the best possible learning experiences, the author suggested the following scheme for the purpose of improving the evaluation process:

1- All the best EMT materials should obey certain common principles which can be identified and subsequently can be applied in the analysis of the educational possibilities of other educational materials.
2- Evaluative criteria, preferably not assessed or arranged as a score card, are helpful in defining the particular strengths and weakness of a

particular film, but each unit is unique, and evaluators should be alert to discover its unique qualities.

3- Evaluation of materials for educational uses should be based upon an analysis and interpretation of the material in terms of the purposes for which it will be used. Materials need not be evaluated initially in terms of the end product of the learning experiences, but can be considered in terms of the progressive levels of experience which lead to the end product.

4- an educational medium should be judged as a whole, not merely as the sum of its parts.

5- The number of aspects evaluated should be sufficiently large to provide an adequate interpretation and evaluation.

6- The evaluative criteria and the procedure for evaluation should be the best available, sufficiently varied, and convenient to use.

7- An evaluation should not be considered as a fixed and completed piece of work. It should be subject to re-evaluation and revision in terms of the findings of research, reported experiences with the film and the changing times.

8- The considered judgments of competent individuals are essential to evaluation. Objective academic measurement cannot replace the judgement of teachers, pupils, and supervisors.

9- The method of evaluation should be conceived democratically and should involve active group and individual participation of all affected by or affecting the use of EMT and qualified to appraise their educational effectiveness.

10- The method of evaluation should be constantly evaluated, analyzed, and if need be, modified. It should be designed in terms of the needs and resources of the local programme.

11- The evaluation programme should function to provide for the continuous growth of individuals involved and the raising of standards of educational motion pictures.

12- a concern for evaluation should be inherent in the evaluation programme. (Guess,1988)

Carolyn Guess's model for evaluation is quite clear and consistent. Firstly, it allows for the need to centralise the evaluation of EMT from the districts (at school level) to the Ministry. In this way the experience of all teachers in their use of EMT can be shared by others. A comprehensive picture of the utilisation of, and problems with EMT can be built up for the country as a whole. Secondly, Guess stresses the importance of the judgement of teachers, pupils and supervisors in evaluating EMT. This is important because they are the real users, and the feedback to educationlists and equipment/software producers is crucial to the modification and improvement of EMT as a whole. Lastly, this model

allows for flexibility, the input of each teacher can be limited to what he or she is comfortable with and feels confident to contribute.

3-6 The Closed Circuit Television (CCTV)

CCTV, as well as being a form of EMT in itself, is also the means by which other forms of EMT are presented to the pupil. It therefore serves a dual function. As with the rest of EMT, there are problems in the use and evaluation of CCTV.

In Saudi Arabia there is a shortage of trained female tutors in higher education (see: 38). CCTV, it is postulated, unlike conventional methods within higher female education, requires a few well trained teachers to be able to reach a wide female tutorial audience within the country. The argument is not that CCTV should replace staff in colleges of education or at universities but rather that CCTV could be utilized in situations where female staff are not available. Many Saudi educators believe that the use of CCTV in this country would, in the long run, be cheaper and lead to a faster attainment of female educational objectives than the inevitably slow and inefficient rate of female educational change that currently exists in the KSA. Nevertheless, CCTV is a fact of life within Saudi educational system, and therefore

requires examination. Eraqi (1986) pointed out that the need for CCTV has been created by the Saudi's unique religious and cultural environment. Nevertheless, the critical need for implementation of some form of Instructional TV became evident, especially with the enrolment of females with teaching potential at the King Abdulaziz University. To fulfil this need the EMT centre was established in early 1972. Female students interact with male staff by telephone during live television lectures. At the main campus each desk is equipped with a telephone; at Makkah Branch (the present UQU) there are two to four wall telephones in each classroom, with plans to bring in a telephone for each student. It was observed that there were major differences between the branch and the main campus within the same university. This study will describe the differences of CCTV within Saudi universities (see: 184). There are some other advantages in CCTV rather than just those for teaching females. Instructors can see themselves after the lectures and improve their methods of teaching and presentation. Duncan (1965) stated that one of our primary duties, in this particular instance, as educators who want to lead their colleges and universities into CCTV, is to provide them with a video-tape-recorder (VTR) so that we can see ourselves as others see us. This is probably the most important use of VTR at this stage. Cottschalk (1965) found that students at college level learning German from CCTV did significantly better in aural and reading comprehension, than students taught by the conventional

method. However, the two groups had no differences in attainment when doing written finals.

Hafith (1990) found out that CCTV had no influence on whether students were successful in their studies or not; indirect instructions did not mean breakdown of classroom control; Teaching Assistants should be available for fair evaluation; a problem of fast and continual contact between students and instructors sometimes affected communications between them; the sharing of some courses between the theoretical part of CCTV and the practical laboratory workshop between male and female instructors was not recommended; female students and male staff members were comfortable with this system. Hafithe also suggested the following recommendations:

1- Educational Institutions should try to develop CCTV to be more effective and train CCTV technicians and staff to use it appropriately;

2- There must be one instrument for each student to use, whenever she wants to speak;

3- EMT must be available within studios that are to be used;

4- There must be a teaching assistant in each classroom;

5- It is important to organize indirect interaction between female students and tutors after the class time;

6- It is highly advisable to train users in CCTV, to give them the opportunity to visit the classrooms before the study year starts and discuss with the CCTV administrator what benefit they can gain from the use of CCTV;

7- Finally it is important to encourage the use of EMT through CCTV.

The most important aspects of Hafithe's argument are that CCTV can be a useful and effective teaching medium, providing the students have equal access of communication with the lecturer, the lecturer is competent in the use of the studio and its facilities, and that the technician is properly trained to maximise its educational potential.

From the beginning of this chapter it has been argued that EMT use and evaluation in schools appears to be limited. This is partly due to the shortage of EMT equipment and materials and the shortage of EMT specialists at district and school level. There is also no comprehensive plan to link the use of EMT to the contents of the curriculum.

The apparently low level of EMT use within schools has a direct effect on the process of evaluation. This is partly due to the lack of adequate teacher training, and partly due to the unevenness of availability in different schools.

3-7 EMT Teachers' Training Programmes

Training programmes in education are running everywhere, under the guidance of many institutions throughout the world, as a means of improving skills and achieving educational objectives. Hoban (1985) noted that EMT is not just machines and people; it is a complex, integrated organization of man and machines, of ideas, of procedures, and of management. Masterman (1989) argued that a critical understanding of media processes should be an important part of the training programme of all teachers, whatever their subjects, and other media workers can play an important part in teacher training. Zafer (1989) found that the shortage of use of EMT during the training programmes in Colleges of Education is one of the main reasons for the lack of use of EMT after graduation. In the case of KSA, The Ministry of Education has its own programme to train teachers and EMT specialists to run EMT smoothly and effectively. The Ministry of Education has published EMT teachers' training programme in 1985. There are theoretical and practical chapters. The

theoretical chapter covers: educational media and its importance in schools; educational media in curriculum; foundation work in selected educational media and foundation work in educational media use. The practical chapter covers: overhead projection, transparency printer no 1; transparency printer no 2; opaque projection; loop film projection; 16mm film projection; print by using an alcohol machine; film strip projection and sheets; 8mm camera; photography camera and school broadcasting (EMT Teachers Training Programme, 1985, Ministry of Education). The above programme was designed for elementary, intermediate and secondary school teachers as well as EMT specialists. This training programme is used both for teachers with an EMT background and for those with no training at all. In fact there should be several training programmes to cater for the varying needs of the teachers. Certainly, there should be a specific course for teachers with some knowledge of EMT, for the purpose of refreshing their knowledge and introducing newly developed forms of EMT. The training programme must be linked to EMT availability. For example, there is little use in training teachers in the use of the 8mm camera if there is no editing equipment for the production of their materials; photography requires a darkroom and technical staff and material to develop the pictures.

When analysing the contents of the current training programmes, the researcher found that there was little difference between the initial courses and the in-service

courses. But whilst the initial EMT training programme lasts for 16 weeks (at 3-5 hours per week) the in-service programme is given in not more than two weeks, giving very little chance for discussion and input from teachers.

The researcher believes that the Ministry should reorganize at least one training programme for each level with one for EMT specialists for the following reasons:

1. There are different training needs and interests for each level of education and they should have three different programmes for different kinds of secondary school: public, comprehensive and developed secondary schools, depending on what kind of EMT the school uses and what the students' interests are.

2. Different programmes will provide an opportunity to make assessment about each level for more improvements.

3. The responsibilities entrusted to teachers and EMT specialists are different and both should be highlighted in the contents of their training programmes.

4. Different programmes will particularly help the elementary school teachers whose pre-service

training programme does not fall under the purview of a university.

5. Different EMT training programmes would take into consideration the trainees' previous educational and training experience.

In 1986, a training programme in EMT was proposed at King Saud University to prepare teachers in the field of EMT, with a degree or diploma. These teachers are appointed to run EMT training programmes in schools. There were elective courses in the field of EMT at some Colleges of Education with theoretical and practical parts in each course. The training programme for EMT specialists includes the following courses:

1- Instructional Technique and EMT

To help the teachers to meet educational objectives and assist the students to understand their lessons. This course also includes EMT concepts with its use, some practical sections in drawing, models, photography and equipment.

2- Photography

To study cameras, developing pictures, lighting to the art; of photography and a proper understanding of the subject.

3- Communication Theory

To know communication models with their contents, their relationships, to select EMT which is relevant to educational standards on the basis of behaviour selection in communication among people. The theories inculuded, some of their models, contents and the resources for successful communication.

4- Basic Requirement for EMT Use

To guide teachers and students to analyze the reasons of EMT use, solve most of the schools' media problems of use and other technical problems. The course contains theoretical lectures along with practical use of EMT and discussion of its advantages and disadvantages.

5- Production Illustrations and Cartoons

To give practice and experience in drawing pictures and maps in relation to teaching.

6- Production of Photography for Instruction

The objective of this course is to give guidance in producing photography, colour sheets, and how to connect them to the teaching objectives, also the importance of

the picture in the illustration of educational instruction.

7- Administrating and Planning EMT Concepts

To guide the trainees in the basic services and to administrate EMT in different levels, to help teachers to support EMT in proper ways.

8- Educational Technology

Guiding the students to the new teaching methods by the use of EMT.

9- Three Dimensional Models

To use the natural environment, and its contents as the basis for this kind of production.

10- Seminars and discussion about EMT Use within Saudi Arabia

The main objective of this course is to give students the opportunity to discuss the different ideas of EMT with their tutors.

11- EMT Programmes Direction Produce

To guide the trainee to learn the basic ideas of production and train him/her in each step of TV production.

12- Educational Research Course

This includes the training of the students in the use of statistics and educational research methods to study the different educational problems.

13- Production of Educational Motion Pictures

Instruct the trainees in important aspects and on the impact of the motion pictures and to study the basic requirements of the preparation and production of educational films.

14- Production of Film Strip

This course aims to provide the understanding necessary for the production of educational or cultural films in the framework of photography and the use of strip cartoons.

15- Production of Audio Programmes

Teaching and familiarizing the trainees with broadcasting facilities as used in EMT and studying the audio programme production theoretically and practically.

16- Production of Programmed Materials

Identifying and learning the programmed instruction as a new means in the field of teaching and learning.

17- The Use of the Basic Methods of Typing and Printing

Practical lessons in typing and printing by using various simple ways suitable to the resources available in the school.

18- Language Laboratories

This course includes the training of students in the proper ways of using the tape recorders.

Practical work in science teaching is also considered as an important requirement to enable the student to learn the scientific method of enquiry, manipulation of instruments, illustration and consolidation of the optical work and providing the learner with the interest

and motivation in designing and carrying out experiments (Course Discretions, King Saud University, 1989).

In fact there is no real link between these training programme proposals and the availability of EMT in the schools. This is also true of the EMT programmes at the Ministry of Education and the Colleges of Education. There are several problems with the training programme proposals at KSU. Firstly, they include in their programme for all teachers, some responsibilities which the researcher believes should lie with the school's EMT specialists; for example the knowledge of equipment related to repair and maintenance of equipment, and the administration and planning of EMT within the school; and secondly, the production of teaching materials such as maps and charts should be contained within an elective/option class as there are many commercially-produced materials available, and not all teachers need to learn this skill. The training programme for teachers should focus specifically on the practical implications of EMT use and evaluation in the classroom. The use of option classes in production of materials and management of EMT would serve to encourage some teachers to become specialists.

These requirements are part of the main core in the training in EMT. However, the teachers' role in achieving the objectives of EMT utilisation effectively is essential. Wedman (1988) stated that the teacher must have the

intrinsic motivation to use EMT effectively. He/she must have the mental, physical, and emotional capacity needed to use EMT in the classroom environment; problem solving skills and a willingness to consider new alternatives are extremely helpful, if not essential capacities that teachers should have in order to use EMT in an effective, efficient manner. For example, to use some computer software packages, the teacher may need to solve problems not described in the supporting documentation. To use some 16mm film projectors, the teacher may need a higher degree of manual dexterity, etc. Day and Scholl (1987) stated that many trainees show that training in the design, selection and use of EMT helps to improve attitudes toward EMT in both prospective and in-service teachers. The same effect occurs whether the training is in graduate school or on an in-service course. A good training session improves both the knowledge, attitudes and availability of materials and ease of EMT use. Teachers will use EMT when they see it related to their own interests and as an aid to achieving their goals.

It is important to train teachers to use EMT as a logical approach in the development of a positive attitude about print materials and the world of reading.

Carler and Johnson (1988) stated that the process of learning to read can be encouraged by the use of non-printed materials and for some students this material is the most reasonable approach to enhance interest and

desire about printed materials and the world of reading. In KSA the current teachers' training programme is inadequate in preparing the required number of qualified teachers in using EMT effectively in teaching. It is essential to tackle the problem and overcome the different obstacles responsible for this situation.

Kensara (1987), attributed the failure of the teachers' training programme to these factors:

1- There is a lack of research on factors (including availability, application and implementation) which present obstactes in Saudi teacher training colleges;

2- There is a lack of clear knowledge and understanding about the role of specific factors such as student and teacher attitudes, interests, and the nature of academic majors, level and frequency of EMT use by the education colleges' and students.

Another main reason responsible for this weakness of teachers' training programmes in higher education is that the curriculum in colleges of education is sometimes designed by people outside the institution regardless of the needs, the interests and future of prospective teachers and their tutors. (Zafer, 1989).

Currently, there are two courses available in media and communication studies within secondary education in KSA, in what is so-called developed secondary education (see, Appendix 2). There was only one course offered at the Colleges of Education. In fact there were three factors being taken into consideration in developing EMT: its availability, EMT specialists and the developed teachers' training programme. There will be continuing EMT evaluation side by side with other educational developments.

In the case of Britain, Alvarado et al (1987) pointed out that:

> In Britain media education has grown unevenly but apace. Its various developments have been due almost exclusively to the activity and enthusiasm of classroom teachers and advisors...Learning about the media has been taking place in Media Studies in secondary schools since the 1960s and has also become an important component of English, Social Study and Humanities. (Alvarado et al, 1987: 3)

This suggests that the inclusion of media studies in the British school curriculum has given impetus to the more general use of EMT by classroom teachers.

3-8 Summary

In this chapter, the researcher has argued that despite the availability of EMT equipment and materials, its use and evaluation in schools appears to be very limited. This is partly due to the lack of adequate teacher training, and partly due to the unevenness of availability in different schools. Another factor which affects the use and evaluation of EMT in schools is the shortage of specialists at district and school level. There is also no comprehensive plan to link the use of EMT to the contents of the curriculum.

The apparent low level of EMT use within schools has a direct effect on the process of evaluation. There is little input from teachers in the evaluation process and therefore a comprehensive view across the whole of the KSA cannot be seen at this time.

The training programmes for teachers do not take into account the varying needs and views of the teachers and are not related to the availability of equipment and materials in the schools. Finally, the use of CCTV as a teaching medium is not satisfactory at the present and needs improvement.

The review of literature on the subject of EMT has given the overall impression of a low level of EMT use

and evaluation. This impression needs to be located within the framework of factual evidence and observation of the present day situation. In Chapter Four the methodological basis of this study will be presented, including a guide to the fieldwork carried out in collecting that evidence.

Chapter Four

Chapter IV
Field Work

Introduction

The aim of this chapter is to present and examine the process of data-collection and the procedure for selecting the survey population. This will include discussion of the problems facing the researcher in this task.

In this study the researcher has used three methods of collecting data: questionnaires, interviews and observation. The written questionnaire and interview schedules were prepared in accordance with procedures recommended by Hillway (1964) using a randomly selected sample with each of five selected districts.. There are several limitations to Hillway's method:

1- the background of the subjects in this study may vary depending upon factors such as motive, interests and effort.

2- the length of time spent by the subjects of this study in their in-service experience could influence the quality of their responses.

3- the conditions of those in isolated areas may generate different kinds of response.

4- the doubts of some individuals, especially in the KSA culture, about the objectives and the aims of questioning educational orthodoxy, may influence to a certain degree the honesty and the precision of the responses.

5- some of those who graduated several years ago may have forgotten some of the characteristics of EMT or EMT teacher training programmes.

6- in their evaluation and advice within EMT, some individuals may place more value upon the instructor and teacher training programme than upon any other aspect such as the values derived from the course.

7- it is probable that not all the subjects of this study (especially in answering the questionnaire) will respond (Hillway 1964 : 201).

Hillway's criticisms of the questionnaire method apply equally to the interview technique. However, there are differences between the questionnaire and the interview method which have crucial importance for this study. Firstly, the doubts expressed about the objectives of questioning the orthodoxy of educational practice (in point 4 above) can to some extent be overcome by the presence of an interviewer. The interviewer can present the purpose and scope of the study to the respondent and gain his/her confidence to give more thorough and honest

answers. Secondly, the interviewer is able to prompt the memory of the respondent in a way in which a questionnaire cannot. When dealing with point 5 of Hillway's criticisms above, this is clearly an advantage.

Many writers, including Walker (1989) Al-Asafe (1989) and Babbie (1989), place the interview technique above the use of questionnaires as a method of collecting reliable data. There are several reasons for this. First of all, the interviewee is able to describe his/her experience and opinion in greater detail in order to give the interviewer a clearer picture. This is partly due to the use of the open question in the interview method. The opinions and experiences of the respondent are not limited by a choice of categories chosen by the researcher. Secondly, the interviewer can provide a guard against confusing question items by giving an explanation and advice. There is danger here, however, that the interviewer can lead the respondent too much, and influence his/her answers. Lastly, the interviewer can observe as well as ask questions, noting the reaction of the respondents to sensitive questions.

Taking into account the above discussion, the researcher decided to use the interview technique with a number of male teachers, and the questionnaire method with female teachers. The researcher would have preferred to interview both groups, but was refused permission to carry out personal interviews with female teachers by the

head of the Girls' Education Authority. He was also refused permission to provide a questionnaire based on open questions for written answers. The attitude of the Girls' Educational Authority was not helpful to the completion of this study, and as a result the survey results from female teachers could not be compared directly with those of males. As a partial control, the researcher also decided to use classroom observation in selected districts to monitor the use of EMT.

4.1 Techniques of Data Collection

In order to evaluate the use and evaluation of EMT in secondary schools in the KSA, identifying successful aspects and weaknesses, the following techniques have been used:

4.1.1 Questionnaire Involving Female Teachers

790 female teachers, which consists of five sections:

1- background,

2- EMT provision in the schools,

3- EMT specialists,

4- EMT availability,

5- evaluation of EMT use in their schools.

A more detailed explanation of each section is given in the bigining of chapter 5 on findings among female respondents.

In response to the distribution of 790 questionnaires,the researcher received 368 (47%) completed and unspoiled replies at the end of a four-month period. This poor return rate may have a number of explanations:

1. lack of confidence on the part of the teachers in the terminology used in the questionnaires, particularly those teachers with no EMT background, or those who graduated a long time ago.

2. lack of interest on the part of education offices, school administrators, or individual teachers.

3. the problems of the postal service in the KSA.

4. a lack of acceptability for the responsibility for distribution of information with Girls' Education.

5. the length of time taken to approve the questionnaire at the Girls' Education Authority (one month, compared with two days for the male teachers' interview questions) reduced the survey period by 25%.

4.1.2 Interview

The objective of the Interview research was to establish the experience and attitudes of five sample groups to the use and evaluation of EMT and initial and in-service EMT training programmes.

The five sample groups were (with teachers who graduated from colleges of education, (a total of ten teachers), teachers graduated from colleges of art or science, (a total of ten teachers), experts at colleges of education and at the Ministry of Education, (a total of eight), EMT specialists (a total of five), and CCTV technicians, (a total of six).) The interview covered their background, present post, attitude, EMT training programme and their opinions and suggestions (the total

of thirty nine interviews). The interview consisted of 9 questions, administered by the researcher over 30-40 minuts during afive-month period (Jan.- May 1990). Responses were recorded on audio tape and later transcribeds by the researcher.

4.1.3 Classroom Observation

Classroom observation was carried out by the researcher in twelve classrooms in each of five districts making a total of sixty observations. Two teachers, each teaching three different classes, were observed in each district. A simple observation schedule was constructed on the basis of three criteria (see, section 5.3.2). The researcher recorded written observations over the period of one lesson (35-45 minutes) for each of the locations. A note was made at each observation of the equipment used; the teacher's expertise and familiarity with the equipment; the attitude and confidence of the teacher and the flexibility of the classroom arrangements for EMT use. Observations were then conducted with 20 teachers. They were selected by virtue of the fact that they taught the same subject as their randomly selected collegues who had been interviewed.

4.2 The Development of the Data-Collection Techniques

The questionnaire and interview questions were first tested with ten former Arab teachers who commented on them. They were then constructed in English, before being submitted to the supervisor's scrutiny. The supervisor recommended appropriate amendments, before the questionnaire and interview questions were both translated into Arabic by two doctors in the English Department at the College of Education in Madina, one doctor from the educational media section and one expert in the Arabic language. During the first six months of 1990, a letter from the study supervisor to the Saudi Arabian Cultural Bureau in London requested approval for the researcher to use these instruments to continue this study in the KSA. Upon the researcher's arrival at Madina College of Education a recommendation for doing the research was provided by the Department of Teaching Method Curriculum and Educational Media to all concerned with Female Education, to the Ministry of Education and to Colleges of Education throughout the Kingdom.

4.3 Survey Population and Selection of Respondents

4.3.1 Female Teachers

There was a total of 1,500 female secondary school teachers in the five districts selected by the researcher. The intention was to conduct the survey among 50% of these teachers in order to give a clear picture of the situation of EMT use and evaluation. However, the difficulties already described (see: 95-96) in gaining permission from the Girls' Education Authority, prevented this. In reality the final survey was taken among 25% of teachers in the five districts; this equates to approximately 5% of the whole female secondary school teacher population in the KSA.

4.3.2 Male Teachers

The selection was made from two secondary schools in each specified city. Therefore any teacher could have been chosen in the selection. For convenience, the researcher decided to select randomly four teachers (two teachers trained in EMT, two others without EMT training).

4.3.3 Others

Interviews were conducted with selected members of the following groups:

1. **Experts:** the head of the EMT department at the Ministry of Education and one of the experienced people recommended by him; any available staff member, who has at least a Ph.D. in each college of education.

2. **EMT Specialists:** because there were no EMT specialists available at any secondary schools, the researcher chose the head of the EMT department in each district, when possible.

3. **CCTV Technicians:** the head technician was chosen.

4.4 Selection of Geographical Areas for Survey

Because it was clearly impossible to survey all Saudi secondary school teachers, a selection of cities was made by the researcher, to include a variety of educational environments. Five out of forty educational district cities were chosen, and one city within each district was targeted:

4.4.1 Riyadh:

This city is situated in the centre of the country and is the capital of the KSA. Because of the embassies and international corporations based there, it is different from other Saudi Arabian cities.

4.4.2 Madina:

Is situated in the west of the KSA, and is one of the holy cities, not only for Saudi but also for all Muslim nations. Only Moslem people live there, with their special culture and attitudes.

4.4.3 Dammam:

Is in the east of the Kingdom, in the heart of the oil fields, with many factories and companies specializing in the oil business and in fishing.

4.4.4 Al-Qurayat:

Is in the north of the country, and from the nature of its streets it is obvious that it is a desert city. It is on the border with Jordan and there is much movement across this border.

4.4.5 Jazan:

Is in the south of the country, with an agricultural and fishing background. The people in this city have kept their own traditions and one can still find many things as they were many years ago.

4.5 Method of Analysis

After consultation with the clinic of the Statistics Department at the University of Sheffield it was decided to use frequency percentage and one way Analysis of Variance to analyse the results of the questionnaire, with qualitative analysis of the interviews, because the highest number of interviewees in the researcher's study was ten, which was not recommended by the clinic for statistical analysis; the results were tested at the 0.001 level of significance. Graphs were made for all questionnaire items and to test the results from the different parts of the country Tuky's Multiple Test was used. The data collected from the questionnaire for this study was analyzed using the Statgraph Package for Social Science, and a Freelance Package for drawing Graphs.
Quantitave analysis of the data produced by observation was classified by reference of the criteria (see: section 5.3.1)

4.6 Problems in Analysis of Data

Of the 790 questionnaires sent to female teachers, only 413 were returned. Of these, only 368 could be used for analysis, for the following reasons:

a. 27 questionnaires were uncompleted, having only the first page completed.

b. 18 questionnaires were spoilt by the respondents selecting more than one answer to each question.

c. In part four of the questionnaire, respondents had to choose yes/no answers. As there was no facility to select "do not know", several respondents failed to complete the answers fully in this section. Therefore, in each item of part four, the total number of respondents successfully completing the question was recorded as 100%, the percentages replying negatively or positively being estimated from this base.

This methodology chapter included the guidance methods of this study and the method of data collection

and the analysis technique. The next chapters will be looking at the findings and discussing the data.

Chapter Five

Chapter V
Analysis, Findings and Discussion

Introduction

The research methods selected were arrived at in response to the scope of the research questions, EMT use and evaluation in both the Ministry of Education and the Colleges' training programmes and the particular environment of the field.

The use of postal questionnaires allowed a broad geographical sample and overcame the problem of obtaining data from female respondents, all teachers.(see Appendix 6 and section 4.1.1)

The interviews allowed the researcher to record the more fully expressed experiences and attitudes of a small male sample, which included teachers, experts in EMT, CCTV technicians and EMT specialists. (see section 4.1.2)

The observations allowed the researcher to test these experiences and attitudes in the schooling environment. (see section 4.1.3)

This chapter is divided into three main sections:

1. The questionnaire for female teachers.

The data for this section is also presented as graphs and tables in appendix 4 + 5. This data was based on the responses of 368 respondents to a questionnaire (see Appendix 6) distributed to in-service female teachers at five districts throughout the KSA. The researcher's explanation uses (part one...part five) the questionnaire number, also C: centre of the KSA, W: west of it, E: east of it, N: north of it, S: south of it; the number with any of these letters equals questionnaire part number.

In section one the results of the question items are first analysed statistically and then discussed.

2. The interviews.

This chapter also includes discussion with other interviewed people who responded such as male teachers, experts, EMT specialists and CCTV technicians (see Appendix 7).

In section two, the results of the interview are presented for each group of respondents, and then analysed and discussed.

3. The classroom observation.

In section three results of the classroom observation are presented and discussed.

The researcher is concerned that some of the results of the questionnaire and interviews will not be accurate, for the following reasons:

1. some of the questionnaires were clearly filled in by more than one person, shown by changes in hand writing.
2. There is a possibility that some non-Saudi respondents seemed afraid to give clear or full information which might jeopardise their work contracts.
3. some Saudi nationals may have been worried that to give too much accurate information might jeopardise their position within the educational system.

The problem of gathering accurate information from respondents does not entirely detract from the usefulness of the survey, as the classroom observation carried out by the researcher can to some extent overcome the inaccuracies.

5.1 Questionnaire

In the absence of an opportunity to conduct interviews with female teachers, the postal questionnaire was framed in order to obtain as much data as possible (see Appendix 6, which included 7 questions and 42 items) relating to the research questions.

The questionnaire questions (administered to female respondents) were grouped identically to the interview questions (administered to males) under the following headings: Interviewers' educational background and experience; quality of EMT provision in schools; availability and effectiveness of EMT specialists in schools; EMT availability in schools and teachers' evaluation of EMT.

The postal questionnaire used both closed and open-ended questions to allow comprehensive responses. The only significant difference between the interview questions and the questionnaire questions related to the training programmes. More detailed data were sought from the male respondents during interview.

5.1.1 Background

According to the questions covering the background of female teachers, it is clear that many teachers need

only to be provided with refresher courses in EMT use and evaluation. 90% of the respondents had been teaching for less than 15 years and about 60% of them had attended Colleges of Education, which in the last 15 years have provided a basic EMT course for student teachers. About 46% of female teachers would need to be given a more basic form of training, as they have not received any training at college.

There is clearly a problem with teachers teaching subjects in which they are not trained or qualified (q.6+7). Those teachers who had received EMT training could not necessarily relate their skills in their own specialised subject to those required in a new or different subject (see Appendix 4 section 4.1.1).

5-1-2 EMT Provision in Schools

The overall impression given by the data for part two of the questionnaire is that the EMT equipment available in the schools is in bad condition. EMT equipment is not equally available in all subjects, and dose not cover the need of the whole school. Equipment is functionally different from that used on the training course and it is therefore difficult for teachers to use and evaluate EMT. The system of ordering equipment and software is clearly not functioning properly.

EMT Provision in Female Schools

for more details about items (see Appendix 4 section 4.1.2)

Items	SA	A	D	SD
item 1	14.6	38.5	24.9	22
item 2	15.7	37.9	26.3	20.1
item 3	16.3	42	22.2	19.5
item 4	13	29.8	29	28.2
item 5	16.8	38.2	24.1	20.9
item 6	9.21	19.78	35.5	35.5

Table.5.1

From the above the lack of EMT provision can be noted, which may affect the improvement of EMT utilisation and evaluation (see Appendix 4 section 4.1.2).

The results confirm (to some extent) the findings of Hardaway (1969), Pula and Goff (1972), Kamson (1977) Wilkinson (1980), and Obetz (1980) quoted in (see section 3-2).

5-1-3 EMT specialist

One problem is that EMT specialists are not available in each district, let alone in every school. The Girls' Education Authority at the moment use teacher advisers (who are not qualified in EMT) to train teachers, instead of using fully qualified trainers. The

implications and solutions to these problems suggested by several writers are discussed in Chapter Three of this study (see Appendix 4 section 4.1.3).

EMT Specialists in Female Schools

for more details about items (see Appendix 4 section 4.1.3)

Items	SA	A	D	SD
1	17.6	26.3	22.5	33.6
2	15.2	23.6	25.7	35.5
3	6.78	13.55	35.23	44.44
4	8.42	16.3	33.97	41.3
5	10.3	26.6	26.3	36.9
6	13.6	22.2	23	41.2

Table 5.2

In particular, Hardaway (1969), Pula and Goff (1972), Kamson (1977) Wilkinson (1980), and Obetz (1980) insist on the importance of the availability of media specialists (see section 3.2).

5-1-4 School Availability

It is a lack of co-ordination that causes the situation in which no single item of EMT equipment was available in every school surveyed by the questionnaire. These results may be affected by the teacher's lack of

knowledge about what is available, and if this is true then there is a serious problem of co-ordination to be solved (see Appendix 4 section 4. 1. 4).

The implications of and solutions to these problems suggested by several writers are discussed in Chapter Three of this study. In particular, Abu-Ras (1979), Obetz (1980), Johnson (1983), and Imogie (1979) Al-Sharhan (1989) insists on the importance of EMT availability to increase its use and its non-availability for decreased usage of EMT (see section 3-3).

The results about the shortage of EMT confirm, to some extent, the findings of Al-Sharhan (1989) and Al-Munsore (1989) (see section 3-3).

5-1-5 Evaluate EMT Use

Looking at the next table we can see a big difference between EMT availability and use. The disparity between availability and use can be partly explained by the fact that all teaching subjects are included together. For example, all teachers answered the question on the use of the language laboratory, but clearly, a Science teacher would not need to use a language laboratory. However, those forms of EMT which are cross-curricular such as television and video still show a

marked difference between availability and use (see Appendix 4 section 4. 1. 5).

Items	Availability %	Use %
Overhead projectors	43.4	16.74
Slide projectors	43.4	16.74
Opaque projectors	55.4	17.15
Film Strip projectors	58.1	16.74
8mm projectors	19.3	3.52
Film-loop projectors	17.2	3.79
16mm projectors	28.3	4.61
Televisions	62	35.47
Videos	73.1	33.88
Audio tapes	61.4	18.16
Language laboratories	43	7.86
Models and Specimens	72.9	52.3
Charts or Graphs	59.7	52.3
Illustrations	59.7	35.77

Table 5.3

Logically, the above problems need to be solved. The faster solution would be to have qualified EMT specialists and a good system of providing spare parts and maintenance.

Summing up of 5.1 (Above)

The low level of EMT use compared with apparent availability presents a question on the nature of training. Should EMT training be subject-specific and presented within the individual departments at the colleges of education, or should it be provided as a separate general course, with the same content for each student?

The first suggestion has several implications:

1. methods of EMT use and evaluation could be built into the syllabus of the teaching methods of each separate subject course.

2. the credit system would need to be reorganised: instead of gaining a block of credits for the separate EMT course, student teachers could gain more credits in the teaching methods section of their course.

3. staff would be trained to deal with this new organisation.

4. there would be a problem in persuading the colleges of education and the Ministry to accept this idea because it would take many years to implement.

5. putting pressure on the colleges of education to include EMT training within the teaching methods of each subject course may shift the emphasis of EMT away from Science and Humanities and to a wider whole-school approach.

The second method, of having a separate EMT course definitely presents some problems:

1. teachers lack comprehensive training in EMT which they can relate to other subjects.

2. teachers may be easily bored by parts of the course which do not relate to their own subject.

3. because the current course in EMT training is related mainly to science, history and geography, many teachers of other subjects may not appreciate the importance of EMT within their own subject, and as a consequence not use it.

5-2 INTERVIEWS

Five groups were interviewed: teachers with EMT training; teachers without EMT training; experts in EMT; EMT specialists and CCTV technicians. The researcher included the findings of each group as follows:

5-2-1 Teachers with EMT training during initial teacher training

There were ten teachers who had graduated from colleges of education and had at least been on a course about EMT.

Q1. Can you please tell me about your:

A. Qualification?

B. Training as a teacher?

C. Experience of teaching?

A. Qualification: all of them had a Bachelor's degree in the following subjects; 1) Physiology and 2) History, in the Centre, 3) Mathematics and 4) Geography, in the West, 5) Physical Education and 6) Chemistry, in the East, 7) Geography and 8) Physics, in the North and 9) English and 10) History in the South.

B. Training as a teacher: nine of the respondents had had no INSET in EMT since graduation, One had just completed two weeks training in EMT in the second term of 1990.

C. Experience of teaching: the experience of all respondents given in the same sequence as in A is as follows:

1- Five years of teaching; 2- eleven years of teaching with two years as a school administrator; 3- teaching Geography and History since 1975; 4- four years in middle schools and six years in secondary schools; 5- five years of teaching; 6- eight years of teaching; 7- three years of teaching and seven years non classe activities; 8- eight years of teaching; 9- twelve years as a trainer at a secondary teacher institu-tion and this is his first year in teaching in secondary schools since 1989; 10- the Physics teacher who taught for two years, and uses a personal computer for his student background and evaluation.

Q2. How long have you been using EMT in schools?

The length of EMT use at schools, five of the respondents had used EMT since graduation, with three others using it in these three situations depending on

(a) its availability; (b) the class time and (c) the length of the course. One of the three believed there was never enough time to complete the course, with one using simple charts produced by his students. Two of the respondents quite often used EMT early this year, before the school transferred the EMT room into a classroom. (This was in the south of the country).

Q3. How relevant do you think your qualification, training and experience are to:

A. EMT use in school?

B. EMT evaluation in school teaching?

C. EMT in general?

A. The relevance of qualification, training and experience of EMT use in school.

Qualification: all respondents believed there was no relevance because of their school's shortage of EMT or the shortage of preparation time available and three of them complained about the useless procedures of storage and administrative difficulties.

Training: as we know from the answers to question one, there was only one teacher who was recently trained, he believed the training programme was just a repetition of what he had been doing at his College of Education on how to operate different kinds of projectors (most of them not available at his school). He added that because

of the transfer of his EMT room into a classroom, there was now no relevance at all.

Experience: all the respondents found from their experience that one method of improving student understanding was though EMT. EMT at least let eight of them use charts or maps with some simple productions by the students under teacher's supervision.

The relevance of qualification, training and experience of EMT evaluation in school teaching.

In fact, this part of this question caused each one of the respondents to (falter in their response because they felt their previous answer precluded this question) look at the researcher quizzically and to tell him, you should not ask this question after my last answer.

Qualification: all respondents believed there was no relevance, and they received no general forms to evaluate any EMT training during their study at Colleges of Education.

Training: all respondents had no training in EMT evaluation.

Experience: six of the respondents said it depends on the students reactions regarding EMT. The rest said there was no relevance.

Q4. What kind of problems do you face with EMT:

A. EMT use in school?

B. EMT evaluation in school teaching?

C. Other aspects of EMT?

(E.g. supply of equipment)

A. The problems they faced with EMT as used in school are as follows:

all of the respondents were faced with a shortage of EMT, no projection rooms; long courses and shortage of space for EMT. Some others specified the following difficulties:

one of them sought support from the school administrator; the English teacher needed headphones to use in the school English laboratory; two teachers wanted to get training in using new kinds of equipment; and three of them said there were no EMT facilities at all.

B. The problems they were faced with regarding EMT evaluation in school teaching:

they were all faced with the same problems as those mentioned in part A of this question. They said, they were never given the chance to evaluate EMT, they said.

C. The problems they faced in other aspects of EMT:

Seven of the respondents gave answers to this question as follows:

four respondents believed EMT must be available in each school for a part of all subjects, not just for some parts of some subjects, such as science. There was a shortage of laboratory and EMT specialists. Three respondents were faced with new equipment without any training and one of the respondents expressed his dissatisfaction over the fact of importing from Japan an English laboratory with a shortage of simple parts such as tapes and head-phones. Another faced a problem with the late arrival of software orders because of the distance between his area and the district main office.

Q5. Would you give me your opinion about your EMT initial training programme at the College of Education?

A. Positive aspects.

B. Negative aspects.

A. Positive aspects: all of the respondents believed that there was good cover of theoretical parts such as definition of EMT, how to select it, the advantages and disadvantages of software and equipment; EMT and the curriculum and other related aspects. Also there were projection rooms and an EMT centre in each college of education.

B. Negative aspects: seven of the respondents believed that there were shortages of practical parts or no relationship between a part of the course and the school facilities. Also there were too many students in each section with one trainer. All respondents included the fact that there was a general course and training for all students in all subjects in the same section but most, if not all, of the films and good examples of software were related to science. Only three credits were given in EMT out of more than a hundred and thirty credits required for graduation.

Q6. In the area of EMT and the in-service teacher training programme:

A. What advantages do you identify?

B. What problems do you meet?

In fact there was only one teacher who had been trained, but the researcher asked all respondents to answer the question seeking a reason as to why they had not taken the available training programme and to elicit from them opinions and advice in order to take into account their proposals. He plans to include these suggestions in this study and in the recommendations he puts forward.

A. Advantages in the area of EMT and the in-service training programme: all of the respondents would like to be trained in the latest equipment available. Six of them

would like to meet and get advice from experts in the field and to meet old colleagues. Five of them wish to refresh their ideas and information, four of them want to train as teachers as they never got in-service training and were trained before school started. They suggest that there should be at least three levels of training to give teachers the chance to choose what they need.

B. Disadvantages in the area of EMT and the in-service training programme: trainers are often from the same background as the tranees.

Seven of the respondents complained about the shortage of EMT centres and the training given only for science, geography and history teachers. There is a high number of trainees, but there is only limited time for practice. The time for running a training programme should be fixed by a survey of all the teachers, not just from the EMT department, without notice being taken of the teacher's point of view. Four teachers would like to have training in production of EMT materials and another three would like to train to produce EMT from environmental materials and use old equipment in production.

Q7. What kind of help can EMT give you and your students?

(E.g: varied teaching approaches to the curriculum; enrichment of other sources e.g. books).

The kind of help EMT can give to my students:

all respondents felt their students were given facts, proved some facts, and gained clear understanding of the content. Five others felt they had learned to compare theoretical and practical issues and had retained information for a long time. Two others felt they gained more of an understanding of student behaviour and were able to give students more experience.

The kind of help EMT can give to myself:

all respondents included the fact that it was easy to transfer information; EMT saved a lot of repetition and speaking. Eight others were able to change poor content and this made them more sure and confident about their students ability to understand; EMT saved them time during the class, leading to more opportunity for discussions.

Q8. What improvements could be made to:

A. The use of EMT in schools?

B. EMT facilities?

C. Evaluation of EMT in school teaching?

A. The improvements of the use of EMT in schools. It is important to have the following:

six respondents mentioned that organized EMT, meeting the school's needs, made teaching easier, EMT must

meet the subject's objectives. Enough room must be made for EMT and there is need for projection rooms and training for teachers in its use. Three others were looking for long-term training programmes followed by flash training and support production of materials within the country, because the materials from abroad were not always suitable in language content and cultural values. They would like a reduction in teachers' responsibilities, to teach not more than sixteen sessions a week. Two asked for a reduction in the content of curriculums and support to visit factories and other field-related subjects. One asked for a support committee in EMT for each subject, with EMT specialists taking note of teachers and students suggestions. They also wished that practical subjects should be given more room within curriculums. All respondents were seeking to cover all subjects using EMT and need laboratories and trained teachers to use them properly. Three asked for the students to be given free time to use EMT and support for each school by an EMT specialist.

B. The improvements of EMT facilities. It is important to have the following:

five of the respondents asked that care should be taken to accept the teacher's advice and needs, give consideration to each teacher and establish libraries in EMT. Three others asked for more interest and concern to be shown in developing the relationship between schools

and colleges of education so as to lead to improvement and meet the administrative needs of EMT (such as budget). Two others stressed the importance of having enough equipment, software and spare parts.

C. The improvements of evaluation of EMT in school teaching. It is important to do the following:

all respondents supported the need to train teachers, provide simple forms for evaluation at least one with each piece of equipment and one with each piece of software. Six others asked for evaluation of EMT by teachers, EMT specialists, experts and some students and to strengthen the relationship between EMT and curriculum. Three others would like teachers in each subject to discuss EMT and make written evaluations for the respondents in each district and interview teachers with explanatory reports from the advisers and the school administrators.

Q9. Do you have any further comments on EMT in school?

The following comments were included as follow:

BY THREE TEACHERS:

manuals for teachers are required and should include advice about EMT in each subject. Give students the

chance to use EMT in their spare time. A researcher should try to find a solution to EMT problems and the teachers manuals should include advice about the best available EMT for any subject.

BY TWO TEACHERS:

it is important to train the student teacher at a college of education to enable them to become more familiar with its use.

Evaluation is important. They suggest that it might be feasible to establish a workshop in any one of the secondary schools in each city, under the leadership of one or two school teachers, together with EMT specialists and one expert in a particular subject and another one in EMT.

BY ONE TEACHER:

EMT must change wherever change is needed. A computer should be available for use by anyone needing it, not just for the computer teacher and his students during the class time. There should be an increase in the visit time of EMT specialists, until it is possible to have one in each school.

Summing up of 5.2.1 (Above)

The overall impression given by the data for teacher with EMT training, of the interview is that the responsibility of the lack of EMT utilisation and evaluation can be divided between: the initial training programme; EMT availability; non-availability of EMT specialists; the in-service training programme; the school facilities and the teachers' attitudes.

1. The Initial Training Programme

This did not meet the availability of EMT in the schools; student teachers were taught to use specific kinds of equipment which were then not available in the school. There was little chance to practice with equipment and gain confidence and skill. The limited number of credits available for the EMT course (3 out of a total of about 150) meant that a lot of teachers did not put a lot of effort into it. Many students from different disciplines were trained together and the main emphasis of the course was on Science, Geography and History, which was not relevant to many students.

2. EMT Availability

The provision of EMT to schools is not sufficient in all subjects. Only Science, Geography, History and Languages have their basic EMT needs met. There are

problems in supply of spare parts and extra equipment, such as language laboratories without headphones.

3. EMT Specialists

The shortage of EMT specialists causes many problems both for teachers and the schooling system as a whole. There are problems with organising, preparing and maintaining the equipment and software, and helping teachers and students feel the benefits of EMT use and evaluation.

4. In-service Training

The availability of only one in-service training programme does not cover the needs of the teachers. Separate training courses for different levels of ability in EMT use are not available, and no consideration is given to different subject needs.

5. School Facilities

The growth of the population and lack of planning by the Ministry of Education to cope with this growth means all available space will be use for classroom teaching. Some rooms designated and designed as EMT areas have been turned back into classrooms. Eventually even Science laboratories may be used as classrooms if the problem of the pressure of numbers is not resolved by building more schools. The pupil-teacher ratio in some schools and

classes also adversely affects the use of EMT. Classes with more than 40 children do not provide an environment where the teacher can effectively use most forms of EMT. For example, there are (according to the Guide to Developed Secondary School, 1986) 16 computers in each secondary school, but the classes are often too large to allow each pupil to have hands-on experience. Having said all this, the schools established since 1985 have much better facilities for EMT, with each classroom capable of being used as a projection room, with electricity supply, screens and so on.

6. Teachers' Attitudes

The interview results show that there is a marked inconsistency in the level of teachers' motivation to use EMT. Some teachers had no motivation at all. Even teachers who were motivated often only used charts and graphs prepared by the pupils themselves, as the type of equipment or software they required was not available.

One History/Geography teacher said that:

> ...maps and blackboards were enough EMT to guide students to meet lesson objectives. In his ten years' experience in KSA and other countries his students had successfully passed exams by this teaching method.

An English Languge teacher said that:

> ...the only successful techniqe in teaching spoken English was a combination of blackboard, flash cards and tape recorders when it was available. He asked what use films portraying, for example, unacceptably dressed women would be to him, in view of his religious beliefs.

A Physics teacher said that:

> ...he was enthusiastic about practical laboratory work with his students. He arranged for two students to assist in the setting-up of the laboratory for each session. He said this encouraged the students to read before the sessions, in order to be better prepared. He added that he used his personal computer to record student evaluation/assessment.

A Physical Education teacher said that:

> ...as he was a gymnastics champion, he used film of several world champions to illustrate to students the right techniques. He believed this upgraded his students' performances and cited the fact that 6 out of 13 players from the top Saudi Arabian Gymnasts' Club have come from his school.

Teachers' attitudes to EMT use are critical. As the above paraphrased comments clearly show, teachers' attitudes to EMT can have a direct effect on student performance.

5-2-2 Teachers without EMT training

Actually, the researcher faced a number of problems with eight of the respondents. Many of them did not understand the terminology and they asked for many explanations in order to understand the questions. The same eight interviewees asked the researcher after each question, "Why did you ask this question? You should teach us more about EMT, not ask us questions!" Ask! This forced the researcher to spend more than two hours with

each person. However, there were ten teachers who had graduated from colleges of art or science, without EMT training who were interviewed by the researcher in the second group of interviewees.

Q1. Can you please tell me about your:

A. Qualifications?

B. Training as a teacher?

C. Experience of teaching?

A. Qualification: nine of those respondents held a Batchelor's Degree, and one had a Master's Degree, in the following subjects; Dawa; (Through making speeches he encourages people to follow Islam). He is responsible for teaching Religion; the second one History, in the Centre. One is responsible for Administration and Computer Services, the only M.A holder in this subject in the West. One teaches Religion and business in the East; two Arabic teachers are from the North and two Islamic teachers were centred in the South.

B. Training as a teacher: no one was trained in EMT as is required, and neither were any of the teachers' trained in Education.

C. Experience of teaching: the experience of all respondents is given in the same sequence as in A, as follows:

a) Four years of teaching, two in middle school; b) thirteen years of teaching with two years as a school administrator and one year as vice school administrator in the Centre; c) one teaching Administration and Business; d) another teaching Computer Studies for two years in the West; e) one in his first year of teaching, f) one who had five years of teaching in the East; g) one Arabic language teacher. with twenty one years of teaching; h) and the other with fourteen years spent in the North; and i) two teachers of Religion living in the South, both in their fifth year of teaching.

Q2. How long have you been using EMT in schools?

All respondents had used EMT since graduation, they reported as follows:

The teachers of Religion were using the blackboard and tape recorders. They had been using blackboards and tape recorders since graduation. The Administration and Business teachers had used charts and films some times since graduation. The Computer teacher was using the computer and its related materials. The rest were using only the blackboard.

Q3. How relevant do you think your qualifications, training and experience are to:

A. EMT use in school?

B. EMT evaluation in school teaching?

C. EMT in general?

A. The relevance of qualifications, training and experience to EMT use in school.

Qualifications: all respondents were convinced of no relevance because when they entered their colleges not one of them planned to work as a teacher, also, at this time the colleges were not established to train teachers.

Training: as we knew from the answers in question one, there was really no one trained at all.

Experience: all the respondents had found from their personal experience that the use of EMT was one methods of improving student ability. EMT enables some of them to at least use charts or the tape recorder and all of them used the blackboard with coloured chalks. These are the only things they believe they can use without training.

Qualifications: all respondents believed these were of no relevance because they had not originally planned to work as teachers, however, the Computer teacher was a graduate in his subject and therefore was fitted to train people in computer use and programming.

Training: all respondents had no training in EMT evaluation, which caused them to believe the training was not relevant.

Experience: all nine of the respondents believed there was no other choice than to use the blackboard. Seven of them said it depended on the students' reaction as to what they used. The Administration teacher found from his experience, that there was positive feedback on using the slide projector loaned by one of his professors.

Q4. In what ways would courses/ crash courses help you in your job:

A. EMT use in school?

B. EMT evaluation in school teaching?

C. Other aspects of EMT?

(Eg. supply of equipment)

A. Courses/crash courses might help me in EMT use in school in several ways as follows:

eight of the respondents were seeking crash courses. If they found these useful they said they would take more and they asked for some more during their course time so as to encourage them during training.
Seven of the respondents complained about the times at which the courses were held; four of them would like the courses to be held during the work time inside of the

schools. Three others asked for courses during the summer vacation. Three others however believed EMT could not help them in any way. They said the blackboard was enough for their teaching but two of them liked the idea of improving their teaching, to the standard of trained teachers.

B. Might courses/crash courses help in EMT evaluation in school teaching?

All of the respondents gave part A answers. Five of them completed the answers adding this question: "How can we be asked for an evaluation if we do not know how to use EMT?". The Computer teacher believes it is not important for him to get training in evaluation.

C. About other aspects, nine respondents said they had no ideas. The Computer teacher asked for more computers and he said Apple is the most easily used by the students. He also asked for a mouse with each computer, with extra floppy discs.

Q5. Would you give me your opinion about your training programme at the college of Art or Science?

A. Positive aspects.

B. Negative aspects.

A. Positive aspects: all of the respondents believe that they were given a very good background in their subjects. Three of them felt they were now at a higher scientific level than others who graduated from the College of Education. They feel they have enhanced their knowledge in many ways.

B. Negative aspects: seven of the respondents believe the only negative aspect was not being trained for a definite career in teaching and three others believed there were no negative aspects.

Q6. In the area of EMT and the in-service teacher training programme:

A. What advantages do you identify?

B. What problems do you meet?

In fact there was not one, of all the respondents who has been trained, but the researcher asked all the respondents to answer the question, seeking from them a reason as to why they had not had the available training programme and to elicit from them their opinions and advice to help amend the proposals the researher plans to include in this study and in the recommendations he will put forward.

A. Advantages in the area of EMT and the in-service training programme: all of the respondents would like to be trained in the use of available equipment. Four of

them would like to decide after being trained, whether to use EMT or not. Five of them stressed the need to train teachers. These respondents were those who never got training in teaching, having been enlisted before school started. There must be specialist training programmes for teachers without EMT training. Four asked for training for all teachers if EMT was so important.

B. Problems in the area of EMT and the in-service training programme: seven of the respondents complained about training only being given for teachers in Science, Geography and History. Four did not have time for courses given in the evenings, after they had completed a hard working day in the schools. Three others believed it is just a waste of time.

Q7. What kind of help can EMT give you and your students?

(Ex. varied teaching approaches to the curriculum enrichment of other sources e.g. books).

The kind of help EMT can give to my students:

all respondents felt it helps present facts, seven felt it helps to prove facts, giving a clearer understanding of meaning. Three others feel it is useful to explain theory.

The kind of help EMT can give to myself:

all respondents concluded that it saves a lot of repetition and speaking. Three others were convinced it would prevent poor material presentation and would let them be more confident and comfortable about the students being helped. They felt it would save time and enable them to complete their teaching schedule more efficiently.

Q8. What improvements could be made to:

A. The use of EMT in schools?

B. EMT facilities?

C. Evaluation of EMT in school teaching?

A. The improvements of the use of EMT in schools. It is important to have the following:

five respondents included no answers, three others were looking for flash training and support in utilisation and production within the country. They wish for a decrease in teachers responsibilities, meaning a reduction in class sessions each week. Three asked for a decrease in the amount of work in their subjects so as to be able to visit factories and other fields related to their subjects. One asked to be allotted an EMT specialist to help him choose and organize EMT for teachers during the teaching time in the classrooms.

B. The improvements of EMT facilities. There were no answers given.

C. The improvements of evaluation of EMT in school teaching, again there were no answers.

Q9. Do you have any further comments on EMT in school?

The comments are as follows:

BY THREE TEACHERS:

teacher guides are required to include advice about EMT in each subject. They would like to know what EMT can do for them and the students and they were looking for proof of the effectiveness of EMT.

BY ONE TEACHER:

do not try to confuse the student with EMT for there will be no way to improve the students if they are muddled by it.

Summing up of 5.2.2 (Above)

The overall impression given by the data for teachers without EMT training of the interview is that the responsibility of the lack of EMT utilisation and evaluation can be divided between: lack of initial training; EMT availability; non-availability of EMT

specialists; the in-service training programme and the teachers' attitudes.

1. Lack of Initial Training

Students who had attended colleges of Art or Science before becoming teachers had no EMT training. In fact they had no teacher-training, they were graduates recruited to the teaching profession at a time when the KSA had a desperate need for teachers. A similar recruitment of graduates with no teacher training took place in Britain during the 1950's and 1960's to try to overcome the teacher shortage. Whereas the existence of untrained teachers presents a problem in the KSA, this was less of a problem in the British education system, as the ratio of untrained to trained teachers was much lower. Some teaching subjects, particular new courses in the developed secondary schools, such as Computer Studies, Business Studies and Public Administration have no trained teachers teaching them. As yet there are no undergraduate teacher-training courses for these subjects, due to a lack of co-ordination between the Ministry of Education and the Colleges of Education.

2. EMT Specialists

The lack of EMT specialists is even more serious for teachers who have had no initial training in EMT, for the following reasons:

a. there is no one to advise, help and train those particular teachers who most need help.

b. there is no one to explain the importance of EMT and to motivate teachers to use it.

c. there is no one to encourage teachers to attend the in-service training programme.

d. the Ministry of Education does not receive feedback though the specialists about the training needs of teachers.

3. Teachers' Attitudes

The level of motivation to use EMT was lower among untrained teachers than among those who had received some initial EMT training. Most of the teachers interviewed in this group thought that "talk and chalk" were sufficient as teaching methods. Two respondents added that they occasionally used the tape recorder.

4. In-Service Training

The present in service training programme is not basic enough to meet the requirements of untrained teachers, nor is it flexible enough to cover the needs of all the subjects. There is a feeling among these untrained teachers that their EMT training should be

separated from that of trained teachers (i.e those on refresher courses) in order to give them confidence in the most basic skills.

5-2-3 EXPERTS INTERVIEW

There were eight experts interviewed, two of them from the Ministry of Education, with six others from each College of Education.

Q1 Can you please tell me about your:

A. Qualification?

B. Training as an expert?

C. Experience?

A. Qualification: a) Ph.D from UK, worked in the Ministry of Education. b) Ph.D from UK, worked in Taiff. c) Ph.D from USA, Head of Division in KSU, d) Ph.D from USA, worked for sixteen years on news papers, three years lecturing in KFU and was the writer of a book on Educational Technology, e) MA from UK, established EMT centres in Tanzania, Sudan and Saudi Arabia with experience of many years at UNESCO with engineering background, worked in Madenah, f) EMT Diploma 37 credits, and Ph.D from USA, just lecturing.

B. Training as an expert: a) All Ph.D holders trained during MA practical courses, b) EMT Diploma

holder trained in EMT leadership, and the MA holder had a considerable amount of training in the UK, USA and France.

C. Experience: first, one with Ph.D.; seven years in EMT field and in establishing a two-year teacher training college; part time lecturer at King Saudi University (KSU) and two years in the College and Mathematics Centre in Riyadh up to the interview time.second, the two diploma holders had fourteen years divided between the following: teaching Psychology and school administration in a secondary teachers institu-tion; EMT specialists at the Ministry of Education, as EMT leader, leading to EMT laboratory and library training programme, now administering the TV section in the Ministry; administering design from 1987 administering production in the Ministry of Education and now is vice-administrator.third, the MA holder has a lot of experience having established three EMT Centres, established training programmes within UNESCO for using science laboratories in third world schools. The rest have worked as lecturers for between two to three years.

Q2. How long have you been developing EMT for trainers and schools?

The Ph.D holder in the Ministry of Education responsible for trainer and trainees: in 1975 he established an EMT training programme with the team from KSU and he

established seven courses at the two year colleges, about EMT in theory, production, maintenance and utilisation.
For schools: in 1974, with a budget of nine million pounds, he visited schools and collected reports from them regarding the need for EMT and made proposals to cover all the schools needs but since that time he has received no more money for EMT. He worked on this project with colleages from his department.
The Diploma holder for fourteen years has had similar experience to the others. The MA holder, since 1968, has already told me about his experience in the previous section. The rest of the interviewees have included the same answers in Q1.

Q3. What should a programme of training in EMT include for:

A. EMT specialists?

B. Teacher training?

C. In-service teachers?

A. EMT specialists: seven of the interviewees put theoretical aspects first including: the importance of EMT, selection, utilisation and evaluation; secondly, they value practical training in simple and advanced production such as film and slides operation of all projectors and EMT equipment and organization of EMT in schools; two sought to visit classrooms then criticize the teachers use and demonstrate how EMT materials should be used.

B. Teacher training: seven stressed the importance of EMT; the subjects needing to benefit from it, its selection and the utilisation of simple productions. Three asked for the advantages and disadvantages of each type of equipment and software.

C. In-service teachers: all felt the same as in B with regard to the new equipment as did the two groups with EMT background and those without EMT background and two asked for separate groups in each subject to be included in the course.

Q4a. Do you think the training programmes for EMT specialists are adequate?

Three suggested there were no training programmes for EMT specialists throughout the country. They explained that we transfer suitable teachers to this job. Others had no idea.

Q4b. What should the difference be between training programmes for teachers and EMT specialists?

B. For teachers: six were convinced of the need for EMT selection, using materials and simple production techniques, three would like the teachers to train and then chose the right time and place to evaluate EMT use.

EMT specialists: as with the teacher training programme he has to produce films and other related materials prepare all kinds of EMT and train teachers in EMT use. Five of them believe it's his responsibility to evaluate EMT and organize it in schools.

Q5a. Do you think that teachers use EMT as they should?

All respondents said no; five of them stated that there were many problems such as a lot of equipment being out of order, no EMT centre, no projection rooms, no sup-port from many school administrators; three others believe some teachers are too lazy to do so, also there is the lack of EMT, two included the shortage of time, training and a few teachers fight against EMT.

Q5b. Do you think that EMT specialists use EMT as they should?

Two from the Ministry of Education conclude that at this time its hard, many teachers are better than EMT specialists, six stressed the shortage of them and that they had not trained to be specialists.

Q6a. Do you think that teachers evaluate EMT as they should?

All said no, because of the lack of training and limited time. Four said no one listens to them and one believes it is not their responsibility.

Q6b. Do you think that EMT specialists evaluate EMT as they should?

Two said they should but that they do not have good assessment techniques until they have sufficient utilisation, they are not at the level of evaluation. Seven pointed out that there are few EMT specialists. Each specialist is aware of the needs of one teaching subject but most specialists cannot cover all the subjects provided in schools.

Q7. Can you describe the areas of success and areas of failure in the use of EMT in secondary schools?

Six reported a lack of willingness on the teachers' part to use more technical equipment. The two people from the Ministry of Education supported utilisation and stressed that we are not at the level of evaluation. In the areas which are meeting the schools needs and where trained teachers operate equipment we are working more effectively. All respondents believe secondary schools are better than the lowest level, especially now that sixteen computers are available in each.

The researcher found it was important to include the following question to the EMT leader at the Ministry of Education.

Was there a budget in schools for EMT?

No, but the Ministry of Education provided the following:

colour pens, blank charts of different sizes, transparency sheets; but the schools which were built after 1985 included the following:

CCTV in each school, each classroom had facilities to be used a projection room (electric sockets, EMT equipments, a trolley and screen) an EMT centre was available in each school.

Q8. Could you give some advice for the following two areas:

A. Utilisation of EMT?

B. Evaluation of EMT?

A. Utilisation of EMT: four respondents concluded that the teachers must be taught of its importance in order to meet all schools needs with EMT; six asked to be provided with EMT centres in order to support the needs of society and for the exchange of experience and advice between the College of Education and the Ministry of

Education. Seven asked to develop a training programme. Three asked for the provision of a teachers guide for each subject as included in the advice about the related available materials for EMT.

B. Evaluation of EMT: there were seven people wishing to begin by collecting information about the available EMT within schools. Five asked for teachers help to be sought in their making a simple evaluation, four asked for a supporting study in this field which we have not implemented yet. Three asked to have a committee of teachers, EMT specialists and experts for evaluation and to produce forms to evaluate teacher use and evaluate equipment and software.

Q9. Do you have any further comments about:

A. EMT teachers training programme?

B. EMT specialists training programme?

C. EMT at secondary school?

D. CCTV.

A. EMT teachers training programme: two believe the upgrading of two years spent in college to four years at college is a good step because those nineteen four-year colleges include a comprehensive training programme about EMT and its use. All respondents believe we should use all Colleges of Education and teachers colleges together, with all district offices, to train all teachers throughout the country. Five believe we should provide a more

efficient maintenance programme; support EMT production and train in school when possible.

B. EMT specialists training programme: four stressed the importance of providing job training for technicians in some fields such as electronics; technicians who deal with EMT should be given the same courses as mentioned before. Five believe we should provide comprehensive training programmes at Colleges of Education for them.

C. EMT at secondary school: all respondents believe we should cover the needs of all the subjects.

D. CCTV: the two from the Ministry of Education feel that to include it in all schools would be a great step. All respondents asked to be trained to be more effective and to meet the increased needs of female students. Staff must train in how to use EMT. Five asked for more CCTV technicians to be available. Two respondents believe it is not fully helpful for the students because of the shortage of technicians. One believes it was not effective with the students and did not touch some students hearts as it was an impersonal tool, personal teaching assistance must be available in each class.

Summing up of 5.2.3 (Above)

According to the result of the interviews with EMT experts, the responsibility for the lack of EMT use and evaluation in schools are shared between the following: school facilities and EMT availability; EMT specialists; initial teacher training; in-service training and lack of co-ordination.

1. School facilities

All school buildings built before 1985 face a shortage of facilities which affect the use of EMT. EMT availability has been organised to meet the needs of these old schools rather than bringing in innovative ideas.

2. EMT Specialists

All the experts agree that there is no training programme available in the KSA for EMT specialists in schools. EMT specialists take the same course as other teachers; in the experts opinion, the specialists should be trained in the maintainance of equipment, management of EMT within the school, train teachers and the evaluation process.

3. Initial Training

All the respondents agree that EMT utilisation is the responsibility of the teacher, but that evaluation cannot yet be the teachers' responsibility because it is not included in the training programme. They agree that the number of trainers must be increased, and that the number of trainees in each class should be reduced. Another point that they stress is the importance of training in selection and use of equipment, simple production of resources, and a study of the advantages and disadvantages of different types of equipment and materials. This type of training programme does not exist at the present time.

4. In-Service Training

The purpose of the in-service programme, according to the experts, should be to update the teachers understanding and experience of EMT with the latest equipment and procedures. At the moment there are no separate programmes for different curriculum subjects and this is a weakness in the provision of training.

5. Lack of Co-ordination

The experts see a lack of co-ordination between the Ministry and the Colleges of Education as a serious problem. They stress the need for a comprehensive plan

which will improve the communication between the two bodies. This would result in better provision of EMT training, more closely related to what is available in schools; an improvement in the evaluation process; and better provision of equipment to the schools.

5-2-4 EMT SPECIALISTS

Because of the distance between cities and the shortage of EMT specialists and the pressure of the EMT specialist's time table the researcher found it hard to meet an EMT specialist in the South and the North of the country, so he had to decide to replace them by interviewing the available officer recommended by the EMT Centre Administrator in that area.

Q1. Can you please tell me about your:

A. Qualification?

B. Training as a EMT specialists?

C. Experience of EMT?

A. Qualification: a) Batchelor's degree in Psychology at the Centre, b) Master's degree in Psychology in the West, c) Batchelor's degree in Librarianship at the East, d) Batchelor's degree in Physics at the North and e) Batchelor's degree in Science in the South.

B. Training as an EMT specialist: it is the same sequence as in A a) General Diploma in Education and EMT diploma, b) EMT diploma, c) EMT diploma. Both the specialists in the North and South had laboratory training.

B. Experience of EMT: a) six years as a teacher and seven years as EMT specialist, b) from 1972-79 as a teacher and from 1980 as an EMT specialist, c) in this field since 1978, d) two years of teaching and now on my way to be EMT specialist in the North, e) the last one in the South has been teaching for three years and he is on his way to becoming an EMT specialist.

Q2. How long have you been supporting EMT use at schools?

All respondents had supported EMT use since they started in the education field.

Q3. How relevant do you think your qualification, training and experience are to your present work?

The researcher found it is more easy to cover the three parts of this question by dividing the question into three questions as follows:
how relevant do you think your qualification is to your present work?

Qualification: three of the EMT specialists believed their qualifications were strongly relevant because they were educated in teaching methods and they were studying Psychology. The other two in the North and South were convinced they would be more qualified after an EMT training programme.

How relevant do you think your training is to your present work?

Training: the same three believed their training and EMT availability let them be more effective in their work especially in Science, Geography and History. The other two had not trained yet, but they believed the officer works better after some kind of training with the specialist advisors.

How relevant do you think your experience is to your present work?

Experience: all respondents believed that their work as teachers within schools had given them the chance to understand the school systems and the problems with EMT in schools and with the teachers.

Q4. What is your daily schedule at school?

These are standard schedules for EMT specialists, when they are visiting schools as follows:

Visit the school administrator to seek his support and encouragement; visit the EMT centre and science laboratory to write notes about them; make comprehensive meetings with all teachers-asking them about problems with EMT and teaching them how to use at least one piece of EMT equipment.

Q5a. Does your school environment support the use of EMT?

Because there were no EMT specialists in any school the researcher included this question about the school's environment within each of the districts to see how the respondents think. There is a reluctance for religious and cultural reasons, howevers, some teachers are not coiling to use some EMT, particularly films and videos, which would offend acceptable behaviour.

All respondents believed all the schools established after 1985 provided a good environment compared with others, but all schools faced a shortage of films and others EMT software. All the district's EMT centres were providing a good environment for EMT.

Q5b. Do you have all the facilities you require for your job to be done satisfactorily?

All respondents believed they have all the necessary facilities for the job to be done satisfactorily at all

EMT centres in each district. EMT centres provided for different kinds of EMT except for computers. The only problem they faced was the shortage of software to cover not just Science, Geography and History but all subjects. The three EMT specialists were waiting to know from the Ministry of Education if all of their needs would be covered soon.

Q6. What is the attitude of the teachers towards using and evaluating EMT?

All respondents found it hard to include a practical answer to this question because all teachers knew we were evaluating them. All of them gave us the reaction that they would like to use EMT, but in fact Science, Geography and History teachers had materials in actual use. English teachers have some tapes for each lesson. Simple charts are used by most teachers in different subjects. Some of these charts are made by the students.

Q7. In your opinion, is the development of EMT in KSA in line with that of advanced countries or with that of your secondary school situation?

All respondents believed the development in computers was at the level of advanced countries and also that in general, EMT was at the same level in Science, Geography and History. In other subjects the development

of EMT was generally in line with most secondary schools in KSA, but in a few subjects it was below average.

Q8. What advice can you give to improve your field?

All respondents asked for more training, many for support for them to earn the scholarship to study abroad and they asked for training for all teachers. Four respondents asked to give teachers at least three courses in EMT during their study at Colleges of Education. Three others thought that no one should be allowed the chance to work as a teacher without EMT training and teaching methods.

Q9. Do you have any further comments on EMT in secondary school?

Comments from four respondents:

EMT equipment for each classroom and each subject, an EMT specialist for each school.

Comments from three respondents:

facilitate the use of EMT in schools by installing electricity and siting schools away from noisy disturbance.

Comments from two respondents:

Maintenance of school building and EMT centres must be done during the summer vacation.

Summing up of 5.2.4 (Above)

The overall impression given by the results of the interviews with EMT specialists is that:

1. There is still not a situation in which every school has a fully qualified EMT specialist. Therefore support is not being given to teachers who need it, particularly in curriculum ares other than Science, Geography and History.

2. The quality and quantity of EMT equipment and materials is not sufficient.

3. The responsibility for computers with the school is not clearly defined, nor are any objectives clear.

4. There is a lack of trust between EMT specialists and teachers. This means that teachers cannot explain their problems with EMT clearly.

5. The level of teacher training lags behind the EMT which is available in the schools.

6. There is no evaluation of EMT because the school facilities and timetable do not allow this.

7. School buildings and district EMT centres are not maintained well, which adds to the problems.

5-2-5 CCTV TECHNICIANS

Q1. Can you please tell me about your:

A. Qualification?

B. Training as a CCTV technician?

C. Experience of CCTV?

A. Qualifications: a) the CCTV technician at KSU in Riyadh graduated from Labour Training Scheme in Radio and TV; b) the CCTV technicians at KAU one of them graduated in Communication and Electronics; c) the other technician graduated as a camera man after moving from an institution in Egypt; d) the CCTV technician at KFU graduated in Electronics; e) the CCTV technician at Taiff has an Electronics Diploma; f) the CCTV technician in Makkah graduated in TV and its Maintenance.

B. Training as a CCTV technician: a) the KSU technician trained and has two diplomas one from Jordan and the other from the USA; b) the technician from KFU trained for three months during the installation of KFU's CCTV system; c) the Makkah technician trained in Japan with

Hitachi in CCTV operation; d) the others were not trained in CCTV.

C. Experience of CCTV: a) the technician at KSU has worked in CCTV since 1977 starting as an operator, now he is the administrator; b) the first one at KAU started as an engineer and installed three CCTV's in Egypt; (the two at the College of Education in Madinah, one is now an operator, the second one used to worked in production, now he is an operator); both of them have worked in CCTV since 1977; c) fifteen years for the CCTV technician in Taiff; d) the CCTV technician at KFU worked in TV maintenance for six years and Radio maintenance for three years at KFU in the College of Engineering Laboratory and since 1986 in CCTV; e) in Makkah the CCTV technician has worked in Radio and TV since 1974 with CCTV.

Q2. How long have you been using CCTV in the College of Education?

All respondents included the same answers as per their experience.

Q3a. What are your qualifications in CCTV?

All respondents replied what they had all ready included their answers in question one and they felt that was enough.

Q3b. What are your experiences of CCTV in colleges?

The same answer as Q3a.

Q4a. In what ways do college staff use CCTV effectively?

All respondents believed there was no effective use by most staff. Some of the staff used it better than others. All respondents, except the one in Makkah, believed that in all lectures transferred to female students, the focus and pictures are of a high standard. The more competent teachers added writing and a few of them used films and microscope in Science with a few others using films from time to time. The CCTV technician in Makkah found a few lecturers did not like their pictures to be transferred to female students.

Q4b. Would you please give your reason for this?

All respondents were convinced that most staff, if not all, had never been trained as to how they can use it well!. Most of the users never entered the studio until ten minutes before the first lecture and they did not know what CCTV could offer them. These are the technicians' reports and that is what they saw.

Q5a. In what ways could college staff use CCTV more effectively?

All respondents asked for staff training except the KSU technician, who said they never used studios any more; the lecturer just gave his lecture to the male students from his chair and our technician transmits it to the female students at the same time and then they communicate with the lecturer by phone. We just need the lecturer to reserve any EMT equipment and materials he needs. He should ask us to monitor it for the students when he needs it for both the males and females. If he would like a different film for one group or another we need to be aware of this. All respondents were asked if all lecturers knew what CCTV can offer them and the students.

Q5b. Please give your reasons for this.

All respondents were sure there had been no training in the use of CCTV and most of the lecturers made silly mistakes (e.g. started early or late, moved out of the camera range..etc.), but the KSU technician believed there is no need for them to have training. They just need to book the technician for a week in advance of transmission.

Q6a. What types of training exist for the staff in your college in the use of CCTV?

All respondents were agreed that there was no real training. Most lecturers asked where to sit and called

the technician many times during the first few lectures. A few others came ten minutes early and asked where to sit and how to call students.

Q6b. What do the training programmes include and how long do they take?

All respondents had no experience of training programmes, they just answered the question simply as before.

Q7. How effective are these training programme, in your view?

All respondents believed there was no effective training except for the KSU technician who believed it was enough.

Q8. What improvements could be made to:

A. The use of CCTV in colleges?

B. CCTV facilities in colleges?

C. Evaluation of CCTV in college courses?

A. The use of CCTV in colleges: five respondents asked to train staff members in how to use it in the proper way. All the respondents would like to take part in the improvements and asked for a library guide to be provided for teachers and include practical advice to study what CCTV will involve. They all asked for more technicians, except the man at KSU.

B. CCTV facilities in colleges: all respondents asked for the same model. They had seen the model at KAU and would like the latest model. There is a need for monitors with an electronic pen. These must be made available in female classrooms to give them the chance to produce immediate written answers through monitors. Then when they write, the staff member and the whole class can see them writing.

C. Evaluation of CCTV in college courses: KSU, KFU and Taiff technicians said that they had no idea. The rest suggested that anyone who would like to evaluate it, must see it in action and get a general idea by spending time with users and follow the work in progress, they should evaluate and present guidance.

Q9. Do you have any further comments in CCTV in colleges?

Comments by four:

the College of Education should offer a training programme for the staff members; extra equipment must be made available. Efficient maintenance should be provided and if necessary a stand-by studio must be available for any emergencies.

Comments by three:

we should consider the classroom facilities very carefully. Hands-on operation must be made available for each student. There must be opportunity for their questions or comments and female technicians must be available in each building.

Comments by two:

some lectures will have to be for female students only because they are shy to ask questions or give comments with male students present. Technicians need more overseas training in advanced countries. They must not smoke in studios. They should exchange information with other users and take careful notice of the female student's opinions.

Summing up of 5.2.5 (Above)

Difference Between CCTV Systems

At KSU lectures were given to both sexes. These were transmitted from male students' classes, and female students had to use the telephone for communications with the instructors. This is the practice in all other universities, except in the KAU branch centre. Female students used the inter-phone, one for each student. All other lectures were given from studios.

At KFU there were new techniques using reflecting glass for the instructors to sit in. This gives the student opportunity to see him, but he could not see them.

It is clear from the interviews with CCTV technicians that a number of problems exist.

1. None of them are trained in the use of CCTV as an educational facility.

2. The university staff, with whom they work, are not trained in the most effective methods of using CCTV.

3. The staff need to be able to have confidence in the technicians' expertise and advice. This is not the case at the moment because they are not trained.

4. Librarians should be involved in the film and cataloguing of software and a library guide should be available for staff and technicians.

5. There are problems in obtaining spare parts and in maintaining the equipment. Very few places have a standby studio for use in an emergency.

5-3 School Observation

Classroom observation was carried out by the researcher in a total of 10 schools in 5 districts. 4 teachers were selected in each school, and 3 of his lessons were observed for the whole duration of the lesson, a total of 60 lessons.

The schools selected were: 6 developed, 4 mixed secondary. The following districts were selected because (see, p: 98).

The subject breakdown of the lessons was as follows:

firstly, teachers with EMT training:

1 Psychology; 1 History; 1 Mathematics; 2 Geography; 1 Physical Education; 1 Chemistry; and 1 Physics.

Secondly, teachers without EMT training:

5 Religion; 1 history; 1 the only Master's degree holder responsible for Administration and Computer Services; 1 Business and 2 Arabic.

5.3.1 Criteria Observed in Each Lesson

The following criteria were observed in each lesson and recorded on the observation schedule:

1. suitability of the classroom for effective EMT use and evaluation, including availability of screens, blinds, electrical outlets; organisation and nature of furniture (whether mobile or not);

2. frequency of use of EMT equipment and software by teacher;

3. pupils' response to EMT use and evaluation.

In addition the teachers were questioned informally on the EMT content of their lesson.

5.3.2 Criteria Observed in Each School

The following criteria were observed in each school:

I. location and condition of a specialised EMT center/room, including the type and variety of equipment it contained.

II. existence of an EMT specialist on the staff of the school.

1. Suitability of the classroom environment for EMT use.

Out of a total of 60 classroom, observed (see section 4.1.3), 24 had some poten-tial for the effective use of EMT.

24 classrooms had blinds.
24 classrooms had electrical sockets.
24 classrooms had mobile furniture to allow rearrangement.
4 schools had screens for showing slides and films.

All schools used charts, graphs and maps, many of which were produced by the students, under the teachers supervision.

The overall impression, however, is not resonable. The majority of classrooms did not have all the facilities necessary for effective EMT use and evaluation. Even where blinds were provided, for example, they were frequently broken or inoperable. The best facilities tended to be located in the science laboratories (electrical supply, blinds, screens, etc) but even here there were problems in using EMT. The teachers carried out experiments at some distance from the pupils, due to (the size of the rooms and ii). lack of equipment for pupils own use. The result of this is that the real significance of the experiment must often

missed by the pupils as they cannot see in detail what is happening.

All the schools observed had a science laboratory which doubled as a projection room, but again the possibility for use was diminished by the poor condition of blinds and screens.

2. Frequency of use of EMT by teacher.

In all lessons, the blackboard was used. In 7 lessons, charts, graphs or maps were used. In 9 lessons, the teachers used coloured chalks as highlighters or to distinguish different parts of a diagram or not estructure.

In the Science lessons, scientific apparatus was used by the teachers, in addition to the blackboard, but this equipment was not used by the pupils.

No other forms of EMT were observed in use in any of the 60 lessons.

3. Pupils response to EMT.

Pupils were involved in using charts and graphs in 7 of the lessons observed. Pupils responded positively to this low level of EMT by asking more questions when charts and graphs were being used. However it is not

possible to give a clearer impression of pupil response to EMT science, no other form of EMT were used in the 60 lessons observed.

4. Location and condition of EMT centres within schools.

Only one of the ten schools had a purpose-built EMT centre. This school also had a photography darkroom and plans to build a CCTV system. In the other nine schools the EMT equipment was stored in the technician's room within the science laboratory. The equipment observed in most of these schools was covered in dust. However, tape recorders and flash cards were being used in language lessons; maps and charts in history and geography. In four "mixed" secondary schools, there had been an attempt to create a computer centre by converting two adjoining classrooms into one large room. Other facilities for computer use had also been developed such as an adequate power supply. The overall impression given by the observation in these ten schools is that an adequate specialist in EMT areas is not available.

5. Existence of an EMT specialist on staff of the school.

All of the ten schools had one member of staff responsible for the promotion and co-ordination of EMT within the school. However, only one of these teachers had a reduced timetable to allow him to develop EMT. This

specialist works at the school mentioned in the previous section, which had a purpose-built EMT centre. The school administrator in this case was very supportive of EMT development and had arranged this reduced timetable. In the other nine schools, although there was formally one Science teacher in charge of EMT, the real responsibility lay with the Science technician, as the teacher had no time to promote and develop EMT use and evaluation. The problem here is that the technician is not trained in teaching methodology, and also has no knowledge or experience of other curriculum subjects. The concentration of EMT experience within Science departments and the lack of facility time means that it is not spread more widely throughout the school.

6. Teachers were asked by the researcher why they had not used EMT during the lesson? The responses were as follows:

a. all teachers complained of the shortage of equipment and software. They had no clear picture of which software was available. Some teachers mentioned the difficulty of films and videos using the English language.

b. all teachers complained about the pressure of time in delivering the syllabus which left no time to experiment with new methods of teaching which involve the use of EMT.

c. one teacher complained that during the holidays the school administrator had moved all of the charts and maps which he relied upon, in order to paint the classroom. On his return, he was unable to find the equipment he needed for his lessons and this had discouraged him from relying on other forms of presentation except for his blackboard.

d. some teachers commented on the un-cordinated use of the Science laboratories. At some times of the week there was great pressure on these rooms in the timetable, at other times they were empty. However, this available time was not being used to provide projection facilities for lessons in other curriculum subjects-only Science teachers were allowed to use the laboratories.

5.3.3 Analysis of the Results of Classroom Observation

It is clear from the researcher's observation that a number of problems exist within the schools:

1. there is a lack of qualified EMT specialists in the schools.

negotiation with the district offices, in smoothing the path of their own careers. They do not always see their responsibility as a facilitator of staff development.

c. The District Education Office

The District offices do not fulfil their responsibilities in the maintainance of school buildings and more specifically in the maintainance and development of the district EMT centres. This presents a problem in providing teachers with the specialist help they need. If the District EMT centres cannot be used during term-time due to maintainance work being carried out, they have no where to bring their problems, nor to undertake their in-service training.

The clear picture of EMT use and evaluation at the district level is not being fed back to the Ministry of Education, possibly because the Ministry does not encourage this, or because the District Administrators are afraid of losing their positions.

d. The Ministry of Education

There is no clear comprehensive plan for the development of the quality of education in the KSA. This affects all aspects of education because the Districts and the schools need the motivation and confience in the teachers lip that such a plan entails.

There is a lack of co-ordination between the Ministry and the Colleges of Education which results in inappropriate EMT training for teachers. The Ministry does not have a clear and detailed picture of EMT availability in secondary schools across the whole of the KSA to feed back to the Colleges of Education. Therefore the colleges cannot provide a training course which is related closely to the availability of eqipment/software in the schools. The Ministry does not encourage feed back from teachers in order to create this overall picture.

Summary Review of Field Work

Having looked closely at the findings, the researcher is able to make several general conclusions about the nature of EMT in KSA.

Teacher Specialisation

At the same time as teachers face difficulties in EMT in their specialised subjects, there is also some pressure on them to teach in areas in which they are not qualified, (e.g.. in some cases English teachers are forced to teach Geography and History). This factor will affect the whole schooling system and may lead teachers not to appreciate specialised training programmes at all, or to avoid the question of professional self-development.

Lack of Co-ordination

There is a lack of co-ordination between individual schools and the District Education Offices particularly in the area of ordering and distribution of equipment and materials. Lessons with an EMT input could not be planned in advance, because there were no guarantee that materials would arrive on time from the District Office. The maintenance and repair programmes were not well-organised (See Questionnaire, Part 2, Q6; see also section 5.3.3).

Appropriateness of Software

There are three aspects to this problem. The first is cultural: Saudi Arabia is an Islamic country, and some of the inhabitants hold strong beliefs about the content of films and educational materials, particularly those aimed at girls; secondly, there is a problem of subject matter (See section 5.2.4, Q5a). Often the software related only to a part of the relevant topic, or had the wrong emphasis and did not fit the needs of the syllabus. This highlights the need for home-produced materials and materials produced by contract from outside agencies. Lastly, there is a problem of language. Arabic is the only language understood by both teachers and students but it is not the language of most of the available software. Again this raises the question of home-production and/or translation.

EMT Specialists

In fact there were no fully qualified EMT specialists in any schools, and too few in the Districts to visit the schools regularly (See section 5.2.4, Q5). Provision of specialist help was in girls' and schools boys' schools. Women teachers, have the additional problems of lack of transportation, and the problems of co-ordination mentioned above. The respon-sibility for the repair and maintenance of the equipment should lie with the school EMT specialist, as well as that of training the teachers in his/her school in its use.

EMT Availability

The Saudi Arabian Government has spent a lot of money in trying to bring a wide variety of EMT equipment to the classroom. It is not an easy task to bring together this variety of equipment and the specialised knowledge to use and evaluate it effectively. The researcher believes that the Saudi Educational Authorities should perhaps concentrate on a narrower range of equipment (for example, VCR, overhead projector and charts, as they do not require a darkened room) while trying to raise the quality of its use. They could then use this as a sound base to introduce a wider range.

CCTV

CCTV Technicians need specific training in the field of education, in order to understand the advantages and limitations of CCTV in an educational establishment. A technical background and training is not sufficient.

As users of CCTV, the teaching staff should be trained in its effective use. This should be taken into account when reviewing training courses at university level.

Teacher Training

The Saudi Educational Authorities should train in-service teachers to be competent with perhaps three types of EMT before moving on to a wide variety of equipment and materials. At the same time, initial training programmes should be developed to meet the availability of EMT in schools (see chapter 7).

Evaluation of EMT

This is very problematic; in order for evaluation to take place, we need to have effective use of EMT in the classroom. This is not the situation at the moment in Saudi schools. Therefore any proposals for EMT evaluation at school-level must be tentative at this stage.

The findings discussed in this chapter now need to be related to the research questions (see section 1.4). This will be presented in chapter 6 together with the conclusions and recommendations arising from the study.

Chapter Six

Chapter VI
Conclusions and Recommendations

In this chapter the researcher will assess the findings of the study in the light of the research questions.

6.1 Research Questions

The researcher will discuss each of the research questions (Chapter 1 see: 22).

Q.1. Is there any difference between the Ministry of Education's EMT programme(s) and the Colleges of Education's EMT programme(s)?

Theoretically there were no differences between the contents. The only difference was in terms of its application (Chapter 3 see: 78), but there was only one teacher who was trained by the Ministry of Education training programme and he completed his training in two weeks and all Colleges of Education had just one training programme for both sexes. (Q2. Teacher with EMT background, see pp: 117-118). The training at any College of Education takes at least sixteen weeks, which is known because that is the length of the term. They were similar but the time given to trainees was different and the Colleges of Education use the same programme for initial teacher training and in-service courses, but the Ministry uses

the programme just for in-service training programmes (see section 3.7 pp 78-79).

Q.2. Do these differences create gaps between the trainees of both programmes?

Because there was no major difference in the contents of the programmes the researcher believes there should be no big difference between the work of the trainees. However, when we look at the EMT specialists interview Q4.(who are responsible for EMT trining through the Ministry of Education) (see pp:156-157), we found that training was solely their own responsibility and the highest degree held by any one of them was a Bachelor's degree and the EMT training programme. In the case of the College of Education trainer who holds a Ph.D or Master's degree with wide ranging experience he has a technician helping him (team of training). This is a very clear difference and an anomaly. Maybe this is the reason why a small number of experts recommended more transfer of information between the Ministry and universities (Experts Interviews Q9. see pp: 150-151).

Q.3. Does every programme deal with the secondary school curriculum?

In fact there were no training programmes specifically for secondary schools at the Ministry of Education or Colleges of Education. It was part of in-service training (see, p: 77-79).

Q.4. Do these programmes deal with EMT availability?

In response to this question on the availability of EMT resources in schools, female teachers responded that there was a shortage of EMT, which possibly affected their use of it. In fact not all programmes deal with media availability. In the case of female teachers, part two (see p: 250) of the questionnaires shows that 46.9% disagree or strongly disagree with direct questions. In part four of the questionnaire (see pp: 111-112 or 252-256) from fourteen items the highest percentage of EMT use was with videos 73.1%, with 17.2% for film-loop as the lowest. In the case of males, media availability was only in Science, Geography and History with some tapes for English. This was stated in both EMT specialists and teachers interviews (see pp: 160-161; 128 and 140). At the same time experts (see pp: 143-151), teachers and EMT specialists felt that Science, Geography and History are the subjects served best by EMT, together with some tapes for English. The researcher believes these shortages

affected EMT use and vice versa, this idea was supported by many researchers in (Chapter 3 see: 52-54).

Q.5. Does each programme need analysis?

In fact all programmes are similar (see: 77). The Ministry of Education training programme was for the three levels of general education (primary, middle and secondary school). These areas need re-classification to be in accord with each school's need for EMT availability.

The College of Education's training programme is for both middle and secondary school. From the researchers observation (see pp: 169-178) there was only one school which included a dark room for photography development which is part of the training programme. The researcher put this question: why had they trained all teachers in photography if they did not have the facilities for it?

The results of the final question led the researcher to ask for re-classification and analysis of the training programmes to improve EMT availability within schools. Hoban (1985) noted that, EMT is not just machines and people, it is a complex, integrated organization of man and machines, of ideas, of procedures, and of management.

Q.6. Do these programmes include the use of EMT?

In fact all female teachers were trained by CCTV in most of their courses, not only in EMT (see section 5.2.5, Q4a). However the CCTV technicians concluded in Q4a. (see p: 163) of the interview about the teaching of females that it was unsuccessful, that it was useless and they related that there was only one female holder of a Ph.D in EMT throughout Saudi Arabia, at KFU. All male teachers with EMT background are trained to use EMT by using EMT equipment and software. As they stated in their interviews (see: 116) they complained about there being little chance to practise their knowledge. Zafer (1989) said that the shortage of use of EMT during the training programmes at the College of Education is one of the main reasons for it being little used after graduation.

Q.7. Is there a difference between male and female training programmes?

There was no difference between male and female training programmes because each College of Education had included objectives and syllabuses for one training programme for both sexes (Chapter 3 see: 77-79). Also there was no in-service training programme available, which included objectives and syllabuses or any written information. But there were differences in the method of training: direct training for males and indirect training for females.

Q.8. Is there any difference in availability of EMT between male and female schools?

There were shortages of available media in both schools. The only difference was that computers were available in male schools (see p: 50), but not in female secondary schools. All kinds of EMT were included in part four of the questionnaire. They were included in both schools plus computers for males and sewing machines for females, but most of them did not sufficiently understand the full range of EMT materials (see section 5.1.2; section 5.1.4; and Appendix 4 section 4.1.4).

Q.9. Who uses EMT better? male teachers or female teachers?

Because there are colleges of education for Girls under the Ministry of Higher Education, and Colleges of Education under Girls Education, the running of the male teachers training programme logically gave the researcher more reaction from what males said than from females who were trained by teacher's advisors from time to time. But both said they were using similar media, e.g. charts, with 73.1% video use in the female areas, which gave the females a higher degree of using it than use by any other form of EMT (fig.5.34-47).

Q.10. Are there differences between CCTVs?

At KSU lectures were given to both sexes from male students classes. The female students use the telephone for communications with the instructors, as in all other

universities, except the KAU branch in Madinah, there the female students used the inter-phone for each student.

All others lecture were given from studios. The researcher found it might be more useful if they used both techniques at KSU and KAU; transfer lectures from classes and use inter-phone for each female student, with a microphone system in male students classes for the following reasons:

1. the instructors might feel more comfortable staying in the class rather than being alone in a studio.

2. the instructor could ask any student questions regardless of their sex, and the student could answer without leaving her/his place.

3. all students could listen to each other's questions or comments to save time and confusion (see p: 167).

Initially, a study of the data analysis found that some factors limited the teachers in EMT utilisation and evaluation (Chapter Five, see pp: 114; 128; 140; 152; 160; 167; 175; and 178). This was reinforced in the interpretation chapter which followed. I propose to restate these limiting factors briefly, before making recommendations which, it is hoped, will serve to remedy

many of the present failings in the secondary schools in the KSA.

Despite the limitations discussed in Chapter Three and in Chapter Five, the present study provides a source of useful information about the current position with regard to EMT in the secondary schools in Saudi Arabia, as the authorities strive towards improvement in technical aids to study. It shows that teachers are constrained or feel constrained for many reasons, and these adversely affect a speedy improvement in EMT use and prevent clear evaluation in Saudi secondary schools. Currently the process of teaching and learning would appear to be dependent mainly on lecturing and with little or no use or evaluation of EMT. The study showed that there was a general shortage of EMT equipment and materials causing failure of the training programmes for teachers and those of the EMT specialists. It was found that teachers had very little experience of practical training in competent use or practical evaluation of the experience of using EMT equipment and materials. Opportunities to receive suitable training were not widely available. Just one male teacher in the sample had received training. I have enumerated a number of reasons for this shortage of training. The main points are, that there was only one training programme available for all teachers, without attention being given to all the subject areas. It is necessary for all subjects areas to be covered by the training programme and for all teachers to have the

benefit of it. Attendance allowances or extra payments would allow all teachers to take advantage of the training. There is a definite need for more well-grounded EMT courses and for clear information about training programmes to be widely disseminated. The time when the training programmes run is often unsuitable for most teachers. The interview findings give the teachers opinions as to subject matter and show that they would like to obtain their training.

There were indications in both the questionnaire and the interview data to suggest that there was some lack of enthusiasm among university staff regarding the use of CCTV and even there some resistance to EMT use. Obviously, reasons such as shortage of EMT or CCTV equipment, limited materials, a very small number of skilled technicians and lack of training opportunities would contribute to the lack of enthusiasm. However, there were other indicators, perhaps the most important of them is related to the role of the teachers, university staff, EMT specialists and CCTV technicians in the whole process of EMT or CCTV utilisation and evaluation. How might the present difficulty facing EMT, CCTV and the training programmes in Saudi secondary schools and universities be best resolved?

1- Facilitate all secondary schools with sufficient EMT or CCTV equipment and materials, covering all related needs (e.g. technicians, electricity,

projection rooms storage and most importantly a clear guidance manual).

2- The needs of all curriculum subjects must be catered for. EMT equipment and materials must be provided and these must be graded according to the level of student, basic, intermediate or advanced.

3- The training programmes must be very carefully prepared and tested before presentation to the teachers, university staff, EMT specialists and CCTV technicians.

4- The decision makers at the Ministry of Education and those responsible for Girls' Education must consider and discuss the likely results of bringing in EMT equipment and materials before teachers and students become very resistant to it. After presentation, regular visits should be instituted to judge the results and further encourage development.

The evidence that this study has collected should be taken note of. Despite some limitations, it raises issues of considerable importance about EMT or CCTV used in the Saudi education system. If, it might be assumed that, the conditions pertaining to the initial EMT impact were found to be operating in similar situations in other

areas; if the details in this sample are taken as typical of those elsewhere in the Kingdom then there are considerable implications for the system as a whole.

The actions I might hope to see taken in an ideal scenario, might not be entirely feasible. However the researcher considers it important to offer recommendations which might assist the improvement of the existing system. The areas in need of most urgent attention are:

a. Facilities;
b. EMT equipment and materials;
c. EMT specialists;
d. CCTV equipments and materials;
e. CCTV technicians;
f. Training programmes.
g. Subject Specific Training in EMT
h. Production.
i. Translation.

Each is now considered in turn.

a. Facilities

The authorities should set an urgent minimum standard for facilities in all schools and universities necessary to support the use of EMT and CCTV. There should be a set period of time allotted to the achievement of this aim.

The completion of all school buildings must be continued at least to the level of the 1985 design plan which included all EMT facilities (e.g. electricity, screens, projection rooms etc.).

b. EMT equipment and materials

It should meet the needs of all subjects not only the subject of Science, History, Geography and English. The projection equipment and materials should be available side by side with nondirectional aids.

c. EMT specialists

If possible the specialist should be available to meet the needs of schools. Ideally the requirement should be to visit the schools at least one or two times a week, in order to train the teachers in the use of EMT or to prepare materials when needed. Also they should be available to set up equipment for novice teachers.

d. CCTV equipment and materials

All the CCTV's visited faced shortage of maintenance and spare parts. There was need for urgent supplies and some articles needed to be exchanged, this needs to be solved.

e. CCTV technicians

Four out of the five CCTV systems visited faced a shortage of CCTV technicians. This matter needs urgent consideration to solve the problems in running female education classes and smooth the difficulties involved in this sensitive programme.

f. Training programmes

A Training programme should be provided for teachers (Chapter Seven), the CCTV user, EMT specialist and CCTV technicians. In fact there were EMT training programmes running throughout the Kingdom for teachers, who need help to improve their teaching. In the case of CCTV there were no educational training programmes for the users or technicians, and not one of the technicians had been trained to use it for education in any educational institution. They had been trained by industrial companies or by TV or movie companies; for these staff members there were no training programmes at all. These need to be established.

g. Subject Specific Training in EMT

There is an urgent need for EMT training to be fully integrated into the teacher training courses EMT use would be more effective if the teacher is trained in its subject-specific use throughout his/her training. The use

of EMT differs according to each subject and the objectives of the curriculum. One way of acheiving this integration would be to include EMT training in the "Teaching Methods" and " Curriculum" component of the teacher training course.

h. Production

EMT materials should be produced within the Kingdom to serve the curriculum needs for EMT materials that give due care to the cultural and religious values of KSA. Subject materials relating to the national and local situation could also be home produced. There was a tentative move in this direction several years ago using T.V. Stations.

i. Translation.

All films, tapes and catalogues written in other languages need to be accurately translated to improve use. Evaluation must be carried out before implementation is considered appropriate. The level of materials must also be considered.

6.2 Recommendations

If these recommendations and suggestions were adopted, more progress could be made in the improvement of effective EMT and CCTV use.

1- There is pressing need for a more in-depth research study to investigate the utilisation and evaluation of EMT in the secondary schools in the KSA.

2- The study should encompass all parts of the Kingdom. Every District needs to be investigated.

3- Studies should be conducted to investigate the factors that influence the use of EMT.

4- Studies should be conducted to investigate the factors that influence the use of EMT in Saudi colleges.

5- A study should be undertaken to determine whether EMT is used differently in the various levels of schools: primary; middle and secondary, to improve EMT use and evaluation across the various age levels.

6- Further studies are needed to investigate the use or non-use of EMT by faculties in the Colleges of Education.

7- There is need for a research study to investigate the utilisation and evaluation of CCTV at the Colleges of Education in the KSA, to identify the problems and suggest solutions.

8- Studies should be conducted to investigate the factors that influence the use and non-use of CCTV to improve its use

9- Further studies are needed to investigate the use or non-use of EMT through CCTV by faculties in the Colleges of Education to identify determiniting factors.

10- There is a need for studies to investigate the students attitudes towards EMT use once implemented.

11- There is a need for studies to investigate the students' attitudes towards CCTV use.

12- It will be important to test the training progr-amme proposal (Chapter Seven) for further improvement.

13- Further studies are needed to review the available training programmes at Saudi Colleges of Education.

14- Pilot studies of new training programmes in the Colleges of Education need to be carried out in a co-ordinated way.

15- Consideration must be given to the question of primary school teachers as a special group. None of these teachers are qualified to a high level, nor are they trained in EMT use. Studies are needed to determine the impact of these problems on the Saudi Education System in general.

16- Consideration must be given to the problems facing female pupils and techers, in particular the use of CCTV as a teaching medium, and the lack of confidence of female teachers.

Such parallel studies investigating EMT, CCTV and the training programmes will produce an abundance of valuable data which is now lacking. The findings from such studies will also provide a basis for comparing and contrasting EMT and CCTV use, as experienced in different locations and different situations, with the promise of some useful lessons that can be extracted for the benefit of the various schools concerned. The researcher must follow the results and recommendations offered in this

study. [It is hoped that the data obtained will prove valuable to policy-makers and other officials, such as the educational authorities in Saudi Arabia who seek diligently to improve the quality of teaching through the effective use of EMT and CCTV in the established training programmes.] The hope has been to suggest a number of concrete proposals.

In fact the results examined in this chapter led the researcher to seek a solution at least for the problems of the training programmes. It will be important to outline some new proposals for EMT training programme in the next chapter.

Chapter Seven

Chapter VII

EMT Training Programme Proposals For Secondary School Teachers

The following proposals attempt to address the problems outlined and go some way towards the objective of a comprehensive plan.

Introduction

The findings of this study have revealed evidence of several fundamental problems in the field of education in KSA such as: teacher training programmes; school facilities; curriculum content; teacher specialisation; lack of co-ordination; appropriateness of software; EMT specialists, lack of CCTV use; EMT availability; and teachers' attitudes to use and evaluation of EMT.

These fundamental problems need to be addressed if the educational system in the KSA is to be developed; this necessitates a comprehensive plan to tackle these problems. Romaiszowski(1989) suggests that:

> Furthermore, our efforts in the instructional design/development field should be two-fold. Both the "top-down" approach and the "bottom-up" approach are required. The first will guarantee that course content and curricula are relevant to the real needs of both students and society, and that this relevance is demonstrable both on the cognitive and effective planes. The second is a tool for every teacher and every instructional designer to use when trouble-shooting individual or group learning difficulties and developing personalized approaches that may overcome these difficulties. (Romiszowski,1990, pp98-99)

Although a comprehensive plan is outside of the ambit of this study, I support Romiszowski's suggestion that a "top-down, bottom-up" proposal for secondary school teachers' training in the use and evaluation of EMT may go some way to address these problems. (see section 3.5)

The findings of this study suggest that some of the difficulties that teachers face in the proper use of EMT could be relieved if they were given the comprehensive support of the Ministry of Education and school administrators.

Bell (1985) finds that:

> It is the teachers and instructors who should be responsible for integrating this use of new technology into learning situations but we feel it is important that they be fully supported and encouraged in this move in order that their confidence in the value of such an approach can grow (Bell, 1985: 222).

A Comprehensive Plan

Although a comprehensive educational objective was identified during the 1960s and spawned a number of separate attempts to implement it (see section 1.1) no comprehensive co-ordinated or systematic plan has been established.

A thoroughgoing review of the educational system in KSA requires the combining of interested parties from the

Ministry of Education, the Ministry of Higher Education, the Ministry of Planning and the Ministry of Information. Bringing together the views and experience of each of these four bodies would facilitate the following:

1. A broad review of the current situation and recommendations for an integrated educational plan.

2. A consideration of those recommendations in the light of other economic and social development plans.

3. A consideration of overseas experiences of educational development, especially successful, integrated systems which the advanced countries have developed.

4. The publicization of the objectives of such a plan to encourage positive attitudes.

5. A wide-ranging review of the needs of schools (such as facilities, materials, equipment, etc) to produce an overview of how those needs can best be met.

6. A comprehensive review of teacher training and methodology to allow an integrated implementation of EMT use and evaluation.

In devising a teaching programme which addresses these problems, Romiszowski's model (see section 3.5) is useful in producing a 'top down, bottom up' approach.

To recapitulate, Romiszowski describes a four Level scheme: level 1, Curriculum; Level 2, Subject; Level 3, Topic Selection and ordering ; and Level 4, Lesson Design.

Firstly, to satisfy a 'top down' approach, all these levels needs to be placed in a national context. This requires a close liaison between the various government Ministries, the district and local administrators and individual teachers.

Secondly, there must be a recognition that a 'bottom up' approach rests on providing teachers with a supportive teaching environment, as Stein and Wang (1988) advocate, where positive attitudes can flourish:

> ...the majority of teachers, if provided with sufficient training and administrative support, are able to acquire the knowledge and skills required to implement most innovative educational practices (Stein and Wang, 1988: 171)

Finally, these approaches cannot be implemented separately and can only be rationalised as an integrated plan. As Lefranc (1990) says:

> The use of media must be integrated and made compulsory. The development of the production and use of media as well as the training of teachers must be well organized. They should be introduced in the plans of national projects similar to the ones that had to be built even in industrialized countries for the systematic introduction of informatics in schools (Lefranc, 1990: 63).

There is no clear picture of the availability of EMT in the schools in the KSA. As a consequence of this, the training programme proposed in this chapter has to be flexible, to allow for differing levels of availability throughout the country.

7.1 Background

Teachers are the link between EMT utilisation and their teaching subject. Each educator in the field might be said to create her/his "reality" with EMT utilisation and teaching methods in schools. Teachers learn EMT in two ways: through theoretical and through practical exposure. EMT is devised for use in secondary schools, and individual teachers are constantly updated with new versions of EMT use. Full familiarity with EMT is needed by teachers, and in this respect in-service work on EMT is of key importance, to allow individuals to share their EMT experience. The teacher is able to make comparisons, to decide what kind of EMT to choose and to note the distinguishing details of its use. The teacher will then be familiar with the feelings and thoughts of other individuals, who may have a different perception of EMT

'reality", and with its effectiveness. Teachers can use EMT to direct changes in the improvement of teaching.

Saudi Arabian schools lose a large amount of teaching development through lack of EMT use by either teachers or students. EMT training should be based on practical use, and teachers should be grounded in workshop practice. Instead we have learned about the theory of EMT use been, without being given the opportunity for practising EMT use in classroom training. Yet educators have believed for some time that EMT use is a proper means of communication in the schooling system (e.g. Posner and Rudnitsky, 1986).

When some Saudi teachers tried to use EMT they faced many difficulties, for example, shortage of EMT; equipment and software, machines in disrepair materials not related to their subjects, etc. (see Chapter Five). For these reasons, and because EMT training programmes at Colleges of Education in KSA still do not meet teachers' needs for EMT implementation, the following training programme proposal is designed to formulate appropriate methods to improve EMT use in secondary school in KSA.

7.2 Training Programme Objectives

Based on the findings and recommendations of this study and teaking into account the ideas of the below authars, the following objectives were selected as the most appropriate solution. Many objectives for an EMT training programme have been outlined by several authors such as Dick and Crey (1985), Posner and Rudnitsky (1986), Weston (1989) and Heinich et al. (1985). More recent objectives have been developed by Heinich et. al. (1985: 33, 87, 119, 171) who state that:

a. **Understand** the importance of a strong relationship between EMT selection and objectives of the subject;

b. **Describe** six steps in the systematic planning for the use of media (the ASSURE model); (Hinich et. al, 1985)

c. **List** two general and two specific learner characteristics that could affect media selection;

d. **Discuss** the rationale for stating objectives for instruction. The discussion should include three purposes or uses of objectives;

e. **Describe** the basic procedures for selecting, modifying, and designing materials and indicate when each procedure is appropriate;

f. **Explain** how learner characteristics affect the selection of media;

g. **List** and describe the five basic steps in utilizing EMT; (ASSURE model).

h. **Identify** general demonstration techniques with reference to strong and weak sectors of the classroom, "stage" body positions and movements;

i. **Describe several methods for eliciting trainee response during and after using EMT;**

j. **Justify** the need for requiring learner response when using EMT;

k. **Compare and contrast** the techniques for evaluating students achievement and the techniques for evaluating EMT and methods;

l. **List** five attributes (advantage and/ or limitations) of nonprojected materials (e.g. blackboard, posters, pictures, etc.);

m. **Describe** classroom applications of nonprojected materials;

n. **Identify** five criteria for selecting nonprojected materials;

o. **Demonstrate** at least three techniques to enhance the use of nonprojected materials;

p. **Define** multimedia systems and state a rationale for the use of its systems;

q. **Identify** three advantages of projection programmes;

r. **Describe** four combinations of projected visual and audio materials, including three procedures for synchronizing them;

s. **Describe** the characteristics and applications of variable motion programming devices;

t. **Demonstrate** the appropriate and effective use of each piece of EMT equipment (and materials) relevant to their teaching subject(s);

u. **Describe and demonstrate an understanding of the classroom management relevant to each type of EMT from the point of view of safety and health.**

7.3 Proposed Training Plan

The training programme proposal can be divided into the following general categories of intended training outcomes that underlie the EMT use of every component of the course. Each of the topics is meant to add a further dimension to what trainees have already learned:

1. trainees will **understand some of the equipment necessary** for analyzing how an EMT can be translated into practice, as well as comprehending EMT terminology. This includes:

    a. the trainees' ability to find examples of definitions in the EMT they use.
    b. they will be familiar with EMT which is available in Saudi secondary schools.
    c. because of the variety of forms and techniques studied, trainees will have a technical and historical basis for comparing other forms of EMT they may know.

2. trainees will explain their **emotional and intellectual reactions** to EMT use, to include:

    a. each one will use it to **demonstrate** to other trainees, in order to understand how EMT improves experience.

b. they will appreciate how manipulative training is a vehicle that transmits thoughts into practice in the individual learner in particular, and in the school system in general.

3. trainees will be prompted to ask questions about EMT. They will be able to justify their interpretation of an EMT and respond to viewpoints that differ from those which exist in their own schools. They will understand that some answers are definite and others are tentative, but all trainees are shaped by skills and accumulating knowledge through framing questions.

7.3.1 Intended Learning Outcomes

The major relationship between subjects taught in secondary schools relevant to EMT can be stated in the following summary:

a. EMT can be experienced in at least two ways: by analyzing each type of equipment and by responding to it as a whole;

b. an analysis of EMT can be framed in terms of image, its effects and intention;

c. the choice of subject matter and method of expression is shaped by professional and personal circumstances surrounding EMT;

d. reasons for using EMT vary, but the intention is to change individuals' attitudes and improve methods of teaching;

e. to produce a range of good quality EMT materials, including audio visual and visual images to improve the effectiveness of EMT.

7.4 Organization of the Prospective Training Programme

A standard unit for EMT training in KSA is sixteen weeks long, three hours a week, at all Colleges of Education. In order to give them experience of their subject matter, the equipment should be available at all stages of the training. Discussion of EMT utilisation is the primary focus, followed by actual use of EMT equipment by the trainees. Other instructional aims were developed to concentrate the trainees' experience of EMT and to enable them, through use of EMT in their own teaching, to achieve their stated educational goals. Each cluster of EMT was chosen for the variety of it's

content, expression, subject relevance and within the context of the curriculum.

Although the outline appears to be organized in discrete units, during class discussion of any topic, there will be references to EMT previously used in the secondary school. However, at some point during each unit, there is opportunity for questioning and adding relevant information not otherwise found in the training programme texts.

The introductory session is mainly based on the background lectures, to preview the materials of the course. The instruction team is usually composed of a lecturer (Ph.D holder) in the field and at least one EMT specialist. The team will discuss the historical background of EMT, its tradition, and the relevance of EMT terminology to both hardware and software that is to be analyzed during the training period.

7.5 Training Strategies

The training strategies are designed to achieve these requirements:

trainees will understand that a question about EMT can have many answers, depending on the background,

socioeconomic class and cultural values of the questioner;

trainees will acknowledge their initial response to EMT;

trainees will understand that the roots of EMT for teaching are basically important for communication;

trainees will remember how they have reacted to EMT in the past and use this experience in the future (Posner and Rudnitskky, 1986);

Trainees will be asked to discuss their earliest memories of EMT and their reactions to its use by their own teachers when they were at school. The introductory lecture will follow. The instructional focus of this session is a short written response from each trainee that will be discussed later in the course: This is a benchmark for progress in the understanding of EMT from the schools environments. The class will then discuss some unanswered questions: What is EMT? Why do we study EMT? What are the uses of EMT?

Through this approach to the EMT training programme, the rationale will be explained. A short introduction to the texts will then follow.

7.6 EMT Selection

EMT selection is an essential element in its use. We first focus on its historical classification (which was developed from only audio to audio-visual and now to EMT). From studying and discussing EMT developments, trainees will find answers to the questions above.

7.7 Systematic Planning for the Use of EMT

EMT is at the core of teaching, according to the ASSURE Model. Its manipulation, however, depends upon the trainees' personality, interests, attitudes and experience. (Heinich et. al., 1985)

The ASSURE model concentrates on:

1. **analyzing** trainees' characteristics.

2. **well-stated objectives** and their classification. (The objectives may be derived from a needs assessment, stated in a textbook, course syllabus, taken from a curriculum guide or developed by the trainees. Wherever they come from, they should be stated in terms of what the learner will be able to do as a result of instruction).

3. **selection**, modification or design of materials and relating these materials to methods of teaching.

4. **utilisation of Materials**, which includes previewing, practising, presentation, preparing the environment, the audience and the final presentation of the materials. (Having either selected, modified, or designed your materials, you must then plan how the materials will be used and how much time will be spent using them).

5. **learner response**, trainees must practice what they are expected to learn and their learning should be reinforced in appropriate practical sessions. The first time that they are expected to show their practical and theoretical expertise in EMT should not be during examination. Instead, there should be activities within the lesson that allow learners to respond and to receive feedback on the appropriateness of their performances or responses.

6. **evaluation**. This includes the evaluation of media and methods; evaluation of the instructional process and evaluation of learners' achievement. It is necessary, however, to evaluate EMT impact and effectiveness, such as evaluating the entire instructional process, to assess the learners

achievement of the objectives. Did EMT itself assist the trainees in reaching the objectives? Could all students use the materials properly? Was the environment comfortable; room temperature suitable, comfortable seating? Did the instructor facilitate learning by providing the necessary assistance for individual students?

7.8 Nonprojected Visual Aids

The prospective training plan will comprise the following:

1. **still pictures:** the programme will demonstrate still pictures in several ways such as its advantages, limitations and classroom applications.

2. **graphic Materials including:** drawings; charts; graphs; posters and cartoons.

3. **artefacts and Natural Objects:** including real objects such as coins; tools; plants; animals etc.

4. **models:** models are three-dimensional representations of a real thing. A model may be larger, smaller, or the same size as the object it represents.

5. **preserving Nonprojected Visuals.**

6. **laminating** nonprojected visuals and filing and storing nonprojected visuals.

7. **display Formats:** including chalkboards, multi-purpose boards, bulletin board displays, cloth boards, magnetic boards, electronic board, flip charts and exhibits.

The selection of nonprojected visuals and its utilisation depends upon the learning situation and the stimuli they provide to the trainee.

7.9 Projected Visuals

Projected visuals include: overhead projection, slide projection; filmstrip projection; 16mm projection; film-loop projection and opaque projection. These will be studied with their advantages, limitations, applications as well as the creation of software such as transparencies and slide films. Preparation of trainees about how to operate every available type of equipment at all secondary schools and how to use them in classroom teaching is also presented in the programme.

7.9.1 Film

The proposed programme will give a brief account of the development of movies: sound and motion pictures; film formats; attributes of film: manipulation of space, alteration of time, compression of time (time-lapse, expansion of time: slow motion, revealing the unseen world). Arrested motion such as freeze framing, moving the motionless (animation and computer-generated animation); understanding film conventions. It will also *include the advantages, limitations, location and appraisal of films; Sponsored films and effective film use: The ASSURE Model; described (7.2). Trainee-made films.

7.9.2 Television

This section will include the attributes of Television: its advantages and limitations; television in today's instructional setting; instructional TV in the schools.

Steps to ASSURE effective learning: selection of instructional TV programmes; design of programmes; local production of instructional TV; utilisation of materials; the necessity for learner response and evaluation.

7.10 Training Programme Evaluation

The evaluation of the prospective training programme about EMT can be performed within the three synthetic learning outcomes:

a. analysis of EMT;
b. affective response to EMT;
c. refining the universe of questions about EMT.

In order to determine how well these purposes are achieved the following essential steps are described:

1- the assessment of trainees' participation in class discussion and depth of analysis in their essays. For example, demonstrating their ability to define the meaning of EMT, and finding examples of EMT terms within the EMTs studied, as well as classifying the entire EMT field and placing it within the context of a curriculum subject.

2- understanding EMT through observation. Trainees can evaluate their emotional and physical response to EMT use as well as their intellectual reactions. They can select from among the available types of EMT and produce their own simple materials. They can evaluate how their

response to EMT has varied in different classes in their subject and enjoy sharing evaluation with others; vicariously put themselves in the place of a teacher using EMT, with a variety of different attitudes and environments. They will be able to use EMTs with confidence and care.

3- **discussion** is another useful method to evaluate EMT training outcomes. During class discussion and from reports of conversations outside class, trainees can define EMT use from different angles and be able to use it in their subjects during classroom teaching. They can use their own success to encourage other teachers within secondary schools. They can persuade others that EMT use, selection and production are really important in classroom teaching (Posner and Rudnitsky, 1986).

7.11 Realization of Education Goals

Trainees who have learned to be appreciative critics of EMT will find that their own activity mediates between themselves and the students. They are careful in their choice of EMTs. As with EMT, they can also make connections among sensory objects, and between EMTs use and the understanding of the subject. They pay attention

to their students attitudes about specific EMT. EMT use and selection moves beyond the classroom, and students attempt school production of materials or produce their own EMT, and use EMT outside the classroom. Trainees will establish an overview of EMT and will be able to distinguish any shortcomings in other teachers who use EMT, by school visits. They can point out good techniques in EMT use and production, and appreciate those which are appropriate to them. They listen to other trainees' or teachers' opinions, instead of hastily criticizing them. All these are indicators that EMT is an integral part of the school system. EMT has helped the school realize its educational aims.

The above teacher training programme proposals rest on the four criteria (see pp: 191-192) for the proper ues and evaluation of EMT.

Jeffcutt (1990) states that:

> Our time is probably shorter than we imagine and the distractions are many, however, the consequence of failure will surely be painful and destructive. (Jeffcutt, 1990: 59)

APPENDIX 1

Higher Education

The Royal Commission for Jubail and Yanbu (1988: 4) stated that:

> The history of development of the Kingdom of Saudi Arabia relates many stories that stand as convincing proof of a vision turned reality. For example, even before organized planning was initiated by the First Development Plan, His Majesty King Fahd Ibn Abdul Aziz, who had chartered the course for education in the country, strongly believed that the true wealth of the nation was in its youth and that no development would be possible unless it was preceded by education.

To implement the King's recommendation, the Ministry of Planning was put under pressure to support the Ministry of Education's plan, starting by opening the first university in the year 1957. From 1957 to 1981 the number of universities has increased to seven which function under the jurisdiction of the "Ministry of Higher Education." The organization and use of EMT in educational fields also received Government support, but the avowed objectives in this area, as given below, could not be achieved:

1- to bring knowledgeable people to administer EMT;
2- to train teachers for EMT throughout the country;
3- to meet the school needs not only by developing EMT, but also by meeting the equipment and laboratory needs within educational establishments;
4- to control EMT and coordinate the needs of schools.

The fact that there was an equipment and facilities shortage, affecting the training of EMT specialists, as well as, teachers was also felt.

1- Universities

As is well-known, Saudi Arabia is a Muslim state. Because of this, all schools and universities follow an Islamic system. The first college of Islamic law was established in Makkah in 1949; later in 1952 a teacher's college was also established in Makkah. The following is a list of Saudi Arabia's universities along with their dates of establishment:

1.1 King Saud University (KSU)

It was established in 1957 as the first university, in Riyadh, the capital of the country. It has thirteen faculties with two off-campus branches in Abha and Quassem. The main campus, as well as each of the branch campuses has a Faculty of Education (KSU Catalogue 1986).

1-2 Islamic University (IU)

It was established in 1961 in Madinah, the first Muslim capital. It has five faculties. There is no Faculty of Education but a department of education exists within the Faculty of Da'wa and Usul (Department concerned with religious affairs). The people who graduate from it, have the opportunity to work as qualified teachers of Islamic education (Islamic University Catalogue 1986).

1-3 King Fahad University of Petroleum and Minerals (KFUPM)

It was first established as a college in 1963 and

was later upgraded to a university in 1975. In December 1986, the university took its present name, King Fahad. It is in the east of the country, located near the oil area of Dahran. This university has six faculties. There is no Faculty of Education but the people who graduate from it are considered to be qualified to work as teachers in their relevant areas (University Catalogue 1988).

1-4 King Abdul Aziz University (KAU)

It is the only university which started as a private institution. Later on it became a public university in 1971 and is located in Jeddah, with a branch in Medina, which has a Faculty of Education. It has a total of nine faculties (Catalogue 1985).

1-5 Immam Muhammad Bin Saud Islamic University (IMSIU)

It was founded in 1974. It controls most of the "Islamic Schools" throughout the country. These schools were opened before any university was established in the country. The main campus is located in Riyadh. It has four branches one each in Al-Ahssa, Abha, Madinah and Qassim. It has nine faculties. There is no Faculty of Education but the people who graduate from it are considered qualified to work as a teacher (University Catalogue 1986).

1-6 King Faisal University (KFU)

It was established in 1974, with its main campus in Al-Ahssa and a branch in Dammam. It has six faculties and one of them is the Faculty of Education (Faculty of Education Catalogue 1989).

1-7 Umm-Al-Qura University (HQU)

It was established in 1981 and is located in Makkah. It has a branch in Taif. It has seven faculties. This is Saudi Arabia's newest university. There is a Faculty of Education at the main campus as well as at its branch campus, Taif (Education Catalogue 1990).

Everyone who graduates from any university in Arts or Science has the right to work as a teacher, whether he/she has educational training or not. This is why most of the teachers have no concept of EMT. These teachers have adequate knowledge in the field of the subjects they teach but they have no idea about teaching methods or EMT use. Most of the Colleges of Education offer only one course in EMT which is not enough. In some cases, the students can select an additional course in this field, but there is no guarantee that they will necessarily take this course. All universities require four years of study for graduation. The two Islamic universities follow the annual system, all other universities which include the Colleges of Education follow the semester system. From the accademic year begining 23rd September, 1992, all KSA educational institutions will adopt the annual system.

1-8 Colleges of Education

There are six colleges or faculties of education, as part of the university system and under the control of the Ministry of Higher Education (Fig.1.1 about the

Al-Debassi (1983) included General Education System in Saudi Arabia

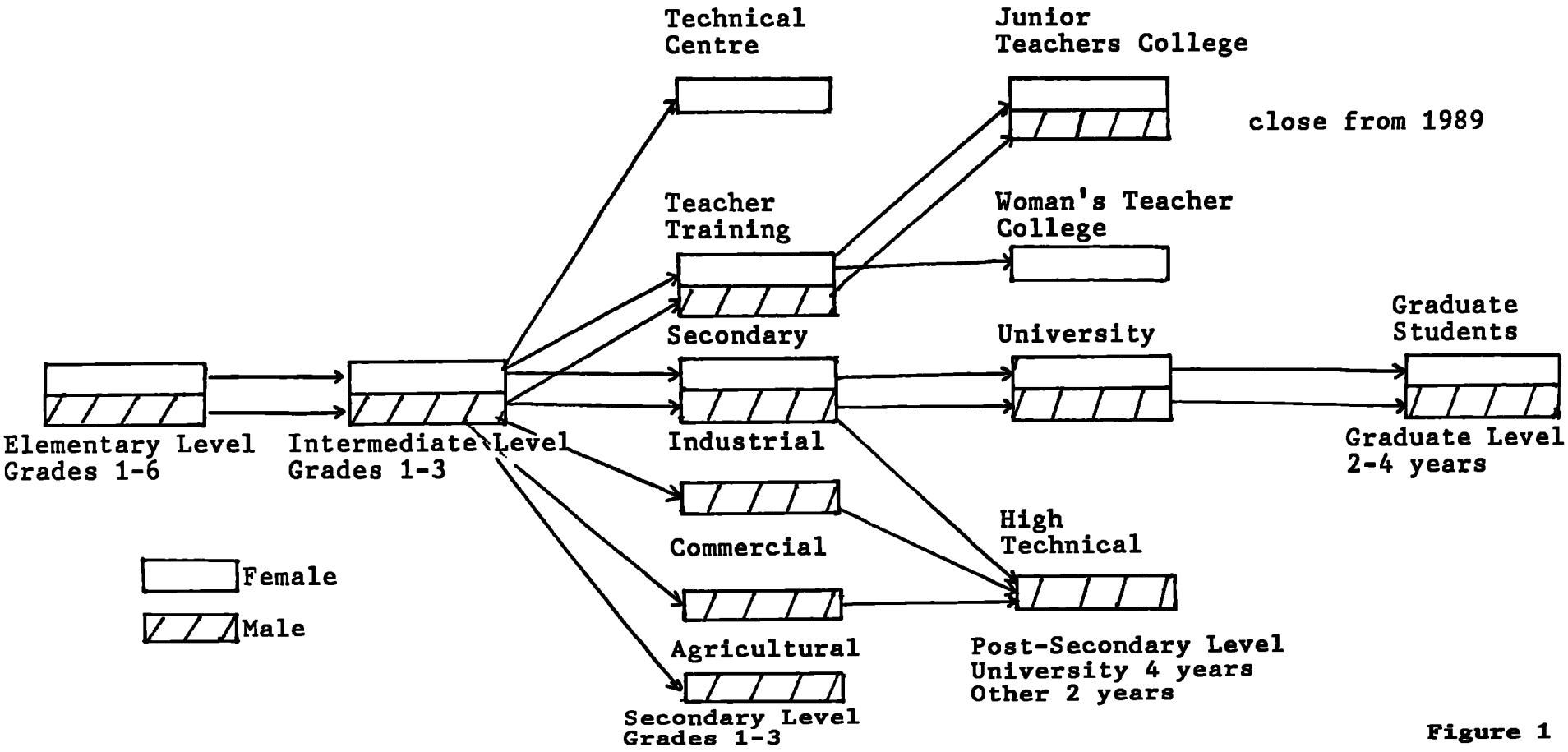


Figure 1

general education system in KSA). The College of Education in Makkah has the first Education Technology Centre, which was established in 1973, twenty-one years after the college was established. This Centre has been expanded over the last fifteen years. Hafiz (1976: 151, 156-157) points out that the centre had four main objectives:

1. to provide instruction in the use of EMT;
2. to provide EMT equipment and materials to faculty and students;
3. to provide technical assistance in the use of instructional EMT;
4. to video-tape and keep records of university activities and ceremonies.

All EMT centres in the Colleges of Education have adopted the above mentioned four objectives. The Colleges of Education in Riyadh and Makkah have their own needs for EMT and they have their own programmes to train teachers. All of the EMT objectives are part of the philosophy of the Makkah Education and Technology Centre, which gives trainees clear guide-lines for evaluating and selecting media. The Ministry of Education and the ETA leaders are satisfied with their record in the EMT field. They should be given credit for that, thought it does not mean that they have fulfilled the country's needs. Their reports and the report reviews have clearly indicated that there is still a lack of awareness of the schools' needs. Bringing awareness about EMT to the schools is not however their sole aim. These Colleges of Education are not adequate to meet the country's needs for quality teachers.

There are also two-year colleges for elementary school teachers which have now been upgraded to four-year colleges, in the case of boys' colleges only. From 1990 onwards there will be thirteen Colleges of Education as opposed to six at the moment, to cope with the growing number of schools and students. As stated above, the

Government has also increased the number of years of study from two to four, in order to improve the quality of teachers at three levels: elementary, intermediate, and secondary education. The researcher believe that policies to improve EMT utilisation should deal with the following issues:

1. **the Ministry of Education should construct school building throughout the country.** Building programmes are difficult to complete adequaely as the growing number of students forces pressure for space. As stated in the Achievement Reports of the Kingdom Development Plans (1985:110, 114),

> The number of students enrolled in all educational institutions has increased from 547,000 in 1969-70 to nearly 2.3 million in 1985/86. In 1985-86, 131,000 more students were enrolled compared to the earlier year.

But, because Saudi Arabia is a rich country and because its leaders understand the value of education in their progress towards modernization, construction of school buildings should, it is hoped be on target in the near future. The planners are committed to completing an average of one school building every day during the Third Development Plan. All school buildings are being built according to a standard plan of school design, as prescribed by the Ministry of Education. The researcher believes that if the country continues with the same pace of construction work in the Fourth Development plan, they will achieve the goal of having fully functional school buildings of their own, provided with all the necessary school facilities, such as electricity and gas, and will be adequately equipped with laboratories and workshops;

2. **the training programme should be divided.** There is a difference between public, comprehensive and developed secondary school EMT needs. Also, there is a

farther difference between elementary, intermediate and secondary schools. For example, the teachers' level of education is different, depending on the type of the school. Most teachers in elementary schools have not attended a four year college. Therefore, I have suggested different levels of training, depending on the level of the schools involved;

3. **the teachers' training programmes and EMT availability must be developed concurrently.** The availability of teacher-training without EMT materials, or vice versa, would not be effective in developing the use of EMT in the schools. This is only one of the many problems regarding the lack of coordination between the aims of the training programme and the materials which are at present available to the schools. It is imperative for media specialists to receive adequate training in the use of equipment, otherwise the knowledge obtained will be quickly forgotten. The need for media availability has been studied and its importance confirmed. Erickson and Curl (1972) maintain that some teachers' reactions to the lack of EMT materials and equipment is a barrier to the proper use of EMT.

1-9 Students' Population Growth

The considerable rate of growth in student population can be seen by looking at the number of schools for boys in 1969-70, which has increased from 2,654 to 9,582 in 1985-86. In 1985-86 alone, 1,055 new schools for boys were added. The number of schools for girls also increased from 453 to 6,643 over this period. In relative terms, the growth in the number of schools

for girls has been much more rapid than in the growth of schools for boys. This increase of schools corresponds with the increase in the number of teachers for boys and girls. The number of teachers for boys increased from a little over 18,000 in 1969-70 to over 84,000 in 1985-86. Over this period, the number of teachers in girls' schools increased from about 5,000 to over 58,000. The number of teachers employed in the educational system was much higher in girls' schools (over 2,400) than in boys' schools (under 1,600) in 1985-86 (Summary Statistics, 1970-1975, 1989-90). This is explained by the fact that there were many branches of Colleges of Education for girls only. Many orthodox families are reluctant to send their daughters to study in other cities, so that a girl must study at a local College if there is one, or not study at all. Another reason is that the General Presidency for Girls Education, which manages the education of girls at all levels, has tried to open two- or four-year Colleges of Education in most cities and towns. Summary statistics on education published by the Ministry of School Education in 1988-89 reports 8,277 boys' schools with an enrolment of 1,260,056 students. The General Presidency for Girls' education has reported that there are 6,923 girls' schools with an enrolment of 1,127,897 students. In 1989, the number of male teachers employed in boys' schools were 81,043 working in 6,990 schools. Similarly, 74,797 female teachers were working in 6923 girls' schools (Summary Statistics 1989-90). In the academic year of 1990-91, the total number of students at different levels of education in KSA stood at 2,840,415 male and 1,184,345 female. The Achievements of the Development Plans (1987) included that the pupil-teacher ratio in the case of boys' improved from 22.7 to 16. The rate of decrease was higher in the case of girls, for whom the pupil-teacher ratio declined from 27.3 in 1969-70 to 16 in 1985-86. Despite this quantitative improvement, the quality, as reported by several researchers (e.g,Khalil 1989, Al-Mushagh 1989 and Jenad

1989) did not improve accordingly. Every one of them has reported the lack of EMT facilities in schools and has stressed the need for its improvement. The number of students graduating from secondary schools increased from 2,437 in 1969-70 to 14,507 in 1985-86. The annual rate of growth of male graduates at secondary level was 13.6 percent (Achievements of the Development Plans,1987). Educators in Saudi Arabia should think about long-term programmes to train teachers. Along with this there should be urgent, short-term programmes to train those thousands of teachers who are without any EMT training at all.

APPENDIX 2

Schooling System Development

2.1 Schools Before the Establishment of KSA

In the following section the historical development of the education system before the establishment of KSA is briefly outlined. Before the establishment of the Saudi Kingdom, the Othmanites and the Hashemites introduced their own system of education and established some schools in 1908. The Othmanites' curriculum included Arabic mathematics and history, but they did not succeed. The main reason for this failure was because Turkish was the schools' language medium in Arabic society. Similarly, the Hashemites opened many different schools for training soldiers, agricultural workers and religious leaders, but none of them is now in existence. The researcher believes that these political schools were closed because they had no real objectives to raise the general level of education in the country, and to make a firm break with the past. In addition to the government schools, certain private schools were also established (by the effort of individuals). Sawlateyah School was established in 1871, Al-Falah School in 1910, the School of Religious Science in 1933 and Al-Olomm Al-Shariya in 1939 along with many other schools. But only these four schools still exist today (Documentary Chapters, 1982) (Al-Katrawy, 1990).

2.2 Establishment of Secondary Schools (1924-1973)

The Office of Director of Education was established in 1924 after King Abdulaziz annexed Makkah to the Kingdom. The first secondary school was established under a Saudi leader in 1926, with the aim of producing gradu-

ate teachers. It was called The Saudi Science Institution. In 1936 Tahther Al-Beathat was established as the first secondary school in Makkah. The graduates of this school continued their studies at Egyptian Universities, because there were no institutes of higher education in Saudi at that time. There were similarities between Tahther Al-Beathat school of Makkah and Egyptian secondary schools (Documentary Chapters, 1982), which were based on the British system. At that time the government was facing problems in education; it also faced the Bedouin movement and suffered from shortage of staff. The government did not have enough income to provide a comprehensive solution to these problems. However, after World War Two, oil started to provide an income for the country, which enabled it to begin to find a solution. The government established the Ministry of Education in 1953, to replace the General Office. The first Minister of Education was Prince Fahad Ibn Abdulaziz, the present king of KSA. It is obvious that in order to open schools it is essential to have sufficient facilities for teachers and students. To solve some of the above problems, the Government brought teachers from outside the country. They tried to stop the Bedouin movement by giving them land for agriculture and housing and they tried to negotiate with the Bedouin leaders to stop them moving around and to persuade them to encourage their children to attend the schools.

Alghamdi (1982: 1) has stated that "The Bedouins (Nomads) are in many areas and comprise between 10 and 15% of the Kingdom's overall population."
At the same time the government took many steps to modernize education. The Ministry organized the school education on (see the next section) a plan known as Elementary, Intermediate and Secondary schools.

The students now gain the Intermediate Certificate (equivalent to Junior Secondary school grade (7-9). They

have to study successfully for three further years to obtain the Secondary Certificate. This is equivalent to the Senior Secondary School. When the students graduate, they take an arts or science certificate grade (10-12). There are three different secondary schools to be included in this study: the Public Secondary School (the only system for both female and male students and the oldest type still in existence in the KSA), Comprehensive Secondary Schools and Developed Secondary Schools.

2.2.1 Development Plans For Public Secondary Schools

Five development plans have so far been floated in the country aiming at the development of public secondary education in the KSA. These plans have led to the establishment of comprehensive secondary schools and very recently the developed secondary schools. The first Education Plan (1958-1961) introduced fine art and physical education for the first level only, along with science of religion, Arabic, English and French language, history, geography, mathematics, physics, and chemistry. The second and the third level students in the arts section could take the same courses as the first level, except mathematics, physics and chemistry, which are replaced by psychology. The science students took the same courses as the first level plus biology. The secondary school timetable had the following number of periods per week:

Level	First	Second		Third	
		Art	Science	Art	Science
Classes	36	36	38	34	35

Fig.2.1

In line with the Educational Plan (1962-1966) social sciences were added for arts students, and geology for

science students. A syllabus was then introduced for all subjects. The period of 1967-1970 witnessed the following change in the timetable:

Level	First	Second		Third	
		Art	Science	Art	Science
Classes	36	35	38	35	38

Fig.2.2

According to the Educational Plan (1971-1974), in the academic year 1970-71 the Ministry of Education removed French language from the curriculum (perhaps a consequence of the change in emphasis of Saudi foreign relations from France to the USA and Britain). In the new Educational Plan both the subjects of religion and Arabic language were made compulsory for Arts and Science Departments; and mathematics was kept as compulsory for First level arts students only and science students in each level. As for the social science subjects, two courses were provided for first level students, then four continuing for art students in each level etc.; Similarly four science couses for the first level and science students in each level; fine art drawing for the first level and sports for all levels; English language for all levels; thirty six classes for each level per week in Arts and Science Departments. **In the Educational Plan (1975-1982),** starting from 1975 the Ministry of Education cancelled two weekly English classes, making four classes instead of six per week. The number of courses in Religious Education was increased to four from three in the last plan. Six weekly periods of classic mathematics were changed into five weekly periods of Modern Mathematics at the first level of Secondary Education. Within the Science Department there were eight weekly periods for Mathematics at the second level and nine at the third level in addition to three religious courses, five Arabic language courses, four science courses, one

sport and four English language classes weekly. The Arts Department still gave the students three religious courses, five Arabic language subjects, four social science courses, one sport and four English language classes per week. They cancelled fine art drawing classes at all levels.
(Documentary and Statistics Study, Ministry of Education 1982).

2.2.2 Curriculum Development For Secondary Education

During the latest development plans, the curriculum started to take note of the students' (both male and female) abilities and their needs, and gave them the option to continue at university level or to look for a job if they did not want to continue their education. The curriculum emphasized the general and specialized objectives of government policy. The Ministry appointed a committee in 1953 which consisted members from all education authorities throughout the country. They were responsible for translating the developmental objectives of the government into educational objectives, and also for the opening up of society within other Arab and Islamic countries who were listening to the recommendations. They were then required to give a newly developed curriculum to the Ministry of Education for approval and make further recommendations to be passed on to the King for final approval. The curriculum thus approved by the Ministry of Education and the King was introduced in a few schools on an experimental basis and was reviewed and revised in the light of the experiment. (Public Secondary Schools, 1974).

2.2.3 Consistency of The Curriculum

All aspects of the curriculum are directed by Islamic thinking. Islam takes into account the demands of the times, the problems of the nation and the society, human need, scientific experimentation, psychology and educational theory. Every subject has religious values and objectives which can be determined to keep up those values. The curriculum is required to include: Islamic truths which fulfil and excite the student's interest by showing examples of great and strong people; knowledge of the Islamic world and Saudi Arabia; the relationship between the Muslim world and others. Also it is required to include human science; theoretical science which does not differ from Allah's orders, as mentioned in the Qur'an, and everything which does not conflict with Islam. Finally, the student is trained for entrance to university. In fact, these constants have an accepted place within the curriculum (Public Secondary School Guide, 1974). The researcher's job is to investigate the practical implications of this philosophy.

2.2.4 New Aspects of the Secondary Education Curriculum

There were many new aspects in the development of the curriculum study plan. The ministry established four study groups for the development of: Mathematics, Science, Social Studies and Teaching of English. These study groups still exist and are always taken into consideration when co-ordinating between subjects. The Ministry of Education has issued the following guidelines and frame of reference to these study groups:

1. analysis of the student's level of understanding by providing objective tests for improvement.
2. study of the limitations of specific subjects.

3. the writing of textbooks for students and teachers' guide books.
4. evaluation of curriculum implementation by specialists from schools, universities and experts from the Ministry of Education.
5. the first year of the curriculum to be an experimental year.

The three main subjects that met the above requirements outlined by the Ministry of Education are: Mathematics, English and Education Technology up to and including secondary level.
(Documentary Chapters, 1982).

2.2.5 Students' Assessment

The Ministry of Education ordered schools to assess students by the following formula: 30% for course work and 70% for exams. They divided the year of study into two terms: 15% for each term for school work; 35% for each term for exams. They then added the marks together. The student needs to have 50% to pass the year and he/she has to have at least 25% of the final exam mark in the second term and 50% of the total to pass each single subject or he/she fails (Summary Statistics, 1982).

2.2.6 Length of Study

The academic year covers a period of nine months consisting of two terms, with a two-week spring break in between the terms. The schools work on the basis of five days a week and each week has 27 to 32 class periods of 45 minutes each for the Arts and Science students according to the following distribution:

I	level	(Arts)	28 class periods
I	level	(Science)	32 class periods
II	level	(Arts)	27 class periods
II	level	(Science)	30 class periods

In 1982, however, the weekly allocation of class periods was reorganized as given below:

Subjects	Level One	Level Two		Level Three	
		Art	Sci.	Art	Sci.
Religion	4	4	4	3	3
Arabic Language	9	11	4	11	3
Social Science	4	8	-	8	-
Mathematics	4	-	7	-	7
Science	6	-	12	-	12
English Language	4	4	4	4	4
Sports	1	1	1	1	1
Total	32	28	32	27	30

Fig.2.3

The student has to complete three successful years of the above study: one general year for all students in the first level. In the second year the students have the right to choose between arts or science. They have to continue for two years in the department they choose, or to start again in case they decide to change the major. On successful completion of three years' study in secondary school, students are awarded a high school certificate, which is the highest grade in public secondary education within KSA. (Public Secondary School Curriculum, 1974). This certificate is an entry requirement for university and to get certain jobs both in government and the private sector. There were only 15 secondary schools in 1958, 14 of them within middle schools buildings; all were for male students only. By 1990 there were 458 secondary schools for females only, and by 1989 there were 549 secondary schools for male students only (Summary Statistics, 1990). The latest projections and development plans led the KSA to two new styles of secondary education (Comprehensive and Developed).

2.3 Comprehensive Secondary Schools

In the year of study 1975-76 comprehensive secondary schools were started on an experimental basis. These schools have two main terms every year; fifteen weeks each, and then ten weeks for the summer term. This system used a credit system, and six main terms are required. This system is only for male students. The students have to choose one of three available streams as a main core:

1. Religion and human relationships,
2. Language and social science with four choices: Arabic, English, French languages and social science;
3. Mathematics and Natural Science with two choices A. Mathematics and Physics. and B. Chemistry and Biology.

In accordance with this credit system the student has to complete 120 credit hours which comprise of: 30 credits in regional activities depending on orientation; 9 credits in religion and human relationships (they are required for all students); 76 departmental or sectional credits; 35 credits from other departments or sections. The student is to take at least 15 credits, but not more than 25 credits every term. There were debates to evaluate comprehensive secondary education every five years: one debate every five years from 1977 onwards.

There were many recommendations about this style, which led the country to start to experiment with a new style of secondary education by the establishment of Developed Secondary Schools in 1986 in a few cities (Comprehensive Secondary School Hand Book, 1981).

2.4 Developed Secondary Education

The only available information about this system is the **Guide to Developed Secondary School** (1986). Developed

secondary education objectives do not differ from the objectives of secondary schools but have new aspects such as:

1. to offer not only Arts and Science subjects but also mre responsive specific programmes and changes in the programme when they are needed;
2. to provide more vocational training for non-university entrants;
3. to focus on three major aspects: modren technology, student's, individual ability and the country's
industrial development requirements.

2.4.1 Salient Features of Developed Secondary Schools

The following were salient features of the **Developed Secondary Schools:**

1- the school followed the term and the credit system.
2- one credit means 45 minutes class period once a week for 15 weeks.
3- the academic year has two terms of 15 weeks each.
4- every student had an academic advisor from amongst the school teachers to offer advice and academic guidance.
5- the academic programme was split up into three parts:

   a. common Core Courses: 67 credits
   b. specialized courses in the major department. 52 credits
   c. optional courses depending on students' choice: 23 credits.

6- The Common Core Courses were divided between the various departments as follows:

1. Religion	18	Credits
2. Arabic language	16	=
3. History of Saudi Arabia	2	=
4. National Geography and Mapwork	3	=
5. Mathematics	5	=
6. Biology	3	=
7. Molecular and Complex		

	Chemistry	3	=
8.	Physics	3	=
9.	Basic Computer Use	2	=
10.	Computer Programming	3	=
11.	English Language	6	=
12.	English Reading Skills	2	=

7. The School had the following three major Departments:

I. Islamic Science and Arts
II. Administrative Sciences and the Humanities
III. Natural Science Programme.

All students in each department have to complete at least 52 credits from the 78 credits they offer. The Science students choose between two courses:

1. Physics and Mathematics	26 credits
2. Chemistry and Biology	26 credits

There are 23 credits depending on the student's choice of courses from other departments or from some practical courses available in the schools. The student has to complete 168 credits to graduate from the school and if he plans to enter university he has to complete at least 24 credits in English language as some colleges require this.

The Ministry provided substantial information including a written syllabus. The main addition to this programme is that French language is included again. But there are no psychology courses in Developed Secondary Education (Guide to Developed Secondary School, 1986).

2.4.2 Length OF Study

1. The student needs six terms to graduate. He can make it shorter or longer-it depends on his circumstances and capacity to work.
2. There are two terms per year. Each term is seventeen weeks; two weeks for registration; and omission week for exams.

3. The length of the summer term depends on many factors: it is twelve weeks long including registration and exam time. All of the three secondary school systems: Public, Comprehensive and Developed Secondary Schools, are now working simultaneously.

But according to the plan all Public and Comprehensive Schools are supposed to be replaced by Developed Secondary Schools by 1992 depending on the availability of teachers and other facilities. (Guide to the Developed Secondary School, 1986), Al-Munsore, (1989).

In fact, the researcher's job was to investigate the running of this system from the utilisation and evaluation of EMT within secondary education and establish proposals to train teachers in the scheme.

APPENDIX 3

Growth In Higher Education

The Achievement of the Development Plans (1987: 271-277). The Kingdom of Saudi Arabia has produced statistical information which gives an idea about growth in higher education as follows:

By the year of 1971-72 there were one thousand female students starting higher education in KSA institutions. This number increased to forty one thousand female students at the same level, in the year 1985-86. In the year 1974-75 there were one thousand female students training abroad in higher education. This number increased to four thousand by the year 1981-82. In the year 1982-83 this number decreased to three thousand and in 1985-86 to two thousand. In fact, as most Saudis know, most of these female students are wives of Saudi students studying abroad, and only a few of them are graduates. This is one way in which the government attempts to give females a chance not only to study in their own country but also to study abroad just like male students. However it is very hard to find a family for the student to live with, or female help, so how can independent female students be expected to study abroad, without the support of their close relative. The researcher believes this is the reason :he found details of male graduate students, but no details about female students who actually graduated. The researcher wished to discover whether there had been an increase or a decrease in their numbers. The increase in numbers continues. By the year 1970 there were 13 female students who had graduated from local universities, 27 who graduated in 1971, thirty nine who graduated in 1972, seventy nine who graduated in 1973, and 157 who graduated in 1974. The first female group to graduate from foreign universities in 1975 consisted ten female students, and by the year 1985, three hundred females graduated from foreign univer-

sities, with 3,925 graduating from local universities. which means the total of females who graduated (1970-1985) is 17,951. There were 16,968 who graduated from local universities and 983 who graduated from abroad. By the year 1970 there were 795 male students who graduated from local universities. In 1971 there were 806 who graduated from local universities and 310 from abroad. Then the number of graduate students from higher education by the year 1981 increased to 4,446 from local universities and 607 from abroad. In 1982 there were 4,820 students who graduated from local universities and the number in 1983 from foreign universities jumped to 2,218. In the year 1985 there were 7,220 students graduating from local universities and 2,500 from abroad. This means that the total number of male students who graduated (1970-1985) was 63,179 . There were 50,824 from local universities and 12,366 graduated from abroad. Now there are many Saudi teachers working outside the country in many Arab and Muslim countries and there are many students from Arab and Muslim countries studying at Saudi Universities. At the Islamic Universities there are students from more than one hundred countries. By 1973-74 the number of Saudi students studying abroad was 1,732 including 713 students in the USA, 465 in Britain and Europe and 554 in Arab and Islamic countries. In 1976 student numbers had increased to 4,000 students. For instance, 414 graduate students out of 1,732 came back to Saudi Arabia in 1973-74.

Once an educated class had been established it started to fight for girls' higher education in KSA institutions. In 1990 there were more than 600 male and female Saudi students in the UK, They were represented by the Saudi Arabian Educational Attachment. (Summary Statistic, 1990).

APPENDIX 4

4.1 Questionnaire

4.1.1 Background

This part of the questionnaire included seven questions about the female teacher's background.

Q1. What age group are you in?

This question was asked to indicate the relevant age group by filling in the correct answer required on the questionnaire. Ages were categorized into five-year intervals as shown in Figure 5.1.

The analysis of variances shows significant differences at level 0.001 with respect to age category (figure 5.1). For more details of comparison between the districts see (figure 5.P1). It is an interesting comment that the teachers in Saudi Arabia are generally younger than teachers in the UK and western countries. One reason for this is the late date of the introduction of girls' education in KSA. This first generation of female teachers would only have graduated in the mid 1970s.

According to the figures above, it would be reasonable to provide a training programme for at least 87.8% of female teachers in the KSA as this percentage has 23 or more years of service still to run in the education system (the retirement age in the KSA is 60 years).

Q2. How many years have you been teaching?

This question was asked to indicate the number of years they had taught in schools, by filling in the correct answer required by the questionnaire.

There were significant differences at level 0.001 with respect to degree of experience (figure 5.2). For more details of comparison between the districts see (figure 5.P2). Again, the results reflect the fact that female education in KSA is a very recent development.

Q3. What courses do you teach?

There were nine major courses included in this study. Seven were included in the questionnaire and specified, the remaining two courses arising out of a final open-ended question. The above question was asked to indicate the related major they taught in schools, by ticking the correct answer or by specifying in another way.

(In fact there is no physical education in girls' schools in Saudi Arabia, instead of it they take tailoring and design. These respondents graduated in physical education and taught tailoring and design or home economics as they specified)
There were no significant differences at level 0.001 with respect to subject experience (figure 5.3). For more details of comparison between the districts see (figure 5.P1). These figures are possibly biased by the selection process. The school administrators may have selected teachers on the basis of their teaching subject being more involved with EMT than others. (i.e. Science and Social Studies).

Q4. What kind of school did you graduate from?

There were seven schools included, four in the questionnaire, three more specified by the teachers themselves.(figure 5.4).There were no significant differences at level 0.001 with respect to type of college attended. For more details of comparison between the districts see (figure 5.P1). The figures for Q.5 show

that altogether 58.44% of the female teachers had graduated as training teachers. The other 41.66% had followed a course in higher education but had no specific teacher-training.

Q5. What kind of school (college) did you graduate from?

There were two categories included (Saudi College or Overseas College).

In the case of the Centre (Riyadh) 96.64% had graduated from a Saudi college. The researcher believes the reason for this high percentage was the early establishment of the College of Education there, similarly the lowest percentage of graduate was in the South and North of the country, because of the shortage of Colleges of Education there (figure 5.5). There were significant differences at level 0.001 with respect to type (home or overseas) of college attended. For more details of comparison between the districts see (figure 5.P1).

Q6. Which subject do you teach?

Responses were obtained through open-ended question allowing the respondents to precisely define their teaching subject (q5 and q.6) Fig 5.3 consists of closed options; the researcher counts Tailoring with House Economics as one subject, because they are taught in one session. (figure 5.6). There were no significant differences at level 0.001 with respect to teaching subject. For more details of comparison between the districts see (figure 5.P1).

Q7. Which subject did you graduate in?

This question contained the same number of possible answers as Q6.
There were no significant differences at level 0.001 with respect to graduation subject (figure 5.7). For more details of comparison between the districts see (figure 5.P1). The figures for questions 6 and 7 show that several teachers are teaching subjects other than their specialism. This is also supported by the comments which teachers wrote on the questionnaires.

4-1-2 EMT Provision in Schools

This part included six items about EMT provision in the school; each item had one of the following possible answers SA; Strongly Agree, A; Agree, D; Disagree or SD; Strongly Disagree.

1. In my school there is sufficient EMT equipment.

There were significant differences at level 0.001 in respect of sufficiency of EMT equipment (figure 5.8). For more details of comparison between the districts see (figure 5.P2). The figures show that almost half (46.9%) of the teachers questioned were not satisfied with the provision of EMT. They also show a marked imbalance in provision in schools across the country.

2. In my school there is sufficient EMT software.

There were significant differences at level 0.001 in respect of sufficiency of EMT software (figure 5.9). For more details of comparison between the districts see (figure 5.P2). Again, a large number of teachers felt dissatisfied with the software provision.

3. The EMT equipment in my school is in good condi-tion.

There were significant differences at level 0.001 in respect of the condition of EMT equipment (figure 5.10). For more details of comparison between the districts see (figure 5.P2).If we look at the results of Item 3, it can be seen that 41.7% of teachers are dissatisfied with the condition of the available EMT equipment. Since we know from Item 1 that EMT is not freely available in approximately 50% of schools, the true figure for EMT provision (in sound working order) must be much lower, i.e. it is available in only about 25% of cases.

4. I can always find the particular equipment that I want.

There were significant differences at level 0.001 in respect of locating EMT equipment (figure 5.11). For more details of comparison between the districts see (figure 5.P2). The lack of availability of EMT is highlighted by the response to Item 4. 57.2% of teachers were not always able to locate the equipment they required.

5. The equipment available in my school is the kind I am familiar with or not very different.

There were significant differences at level 0.001 in respect of familiarity with EMT equipment (figure 5.12). For more details of cmparison between the districts see (figure 5.P2). These figures show that there is a gap between the type of EMT training followed by teachers, and the type of EMT available in the schools. 45% were not familiar with the equipment in their schools.

6. It is easy to order software or equipment from outside the school.

There were no significant differences at level 0.001 in respect to obtaining EMT software or equipment (figure 5.13). For more details of comparison between the

districts see (figure 5.P2). There are obviously problems in the system of ordering equipment and software because 71% were not able easily to use the ordering system.

4-1-3 EMT specialist

There were six items included in this part about EMT specialists. In fact, there were no EMT specialist at any girls' school throughout the Kingdom of Saudi Arabia. The EMT use and evaluation were dependent on the teacher's qualification, with flash training given to teachers' advisers within the districts to train teachers. Sometimes EMT within schools was led by an unqualified teacher, who happened to have an interest in the subject.

1. EMT specialists try to help teachers to use media effectively in my school.

There were significant differences at level 0.001 in respect of the specialist help (figure 5.14). For more details of comparison between the districts see (figure 5.P3). This means that over half (56.1%) of the teachers felt that the specialist help was not effective. Obviously since there was no specialist help available, the teachers' answers may be confused in this case.

2. EMT specialists help to provide equipment for my school.

There were significant differences at level 0.001 in respect of the specialist provision of equipment (figure 5.15). For more details of comparison between the districts see (figure 5.P3).

3. There are enough EMT specialists to give assistance.

There were significant differences at level 0.001 in respect of the ease of availability of specialist help (figure 5.16). For more details of comparison between the districts see (figure 5.P3). 79.67% of teachers felt that there were not enough specialists to give assistance and they commented on the untrained, unspecialised staff. This minority were obviously satisfied and the researcher feels that using untrained staff should be continued until the gap is filled with trained personnel.

4. EMT specialists have encouraged me to develop awareness of media provision.

There were significant differences at level 0.001 in respect of of specialist encoragment in awareness of EMT help (figure 5.17). For more details of comparison between the districts see (figure 5.P3).

5. The media specialist is well qualified.

There were significant differences at level 0.001 in respect of well qualified specialists (figure 5.18). For more details of comparison between the districts see (figure 5.P3).

6. There has been a media specialist since last year.

There were significant differences at level 0.001 in respect of the availability of the specialist since 1990.(figure 5.19).For more details between the districts see (figure 5.P3).

4-1-4 School Availability

In this part of the questionnaire there were fourteen items, with yes or no answers and a "specify"

blank. Item nine was answered by 326 respondents as a highest answer, with forty two empty answers. But item five was answered by 268 respondents as a lowest answer, with 100 empty answers. It may be that those respondents had no idea about EMT availability within their schools. This was also true sometimes in the case of male teachers as one of the researchers observed.

1. There are overhead projectors.

Of 294 respondents 56.6% put "no" as a highest percentage, with 43.4% putting "yes" as a lowest percentage (figure 5.20). There were no significant differences at level 0.001 in respect of availability of overhead projectors. For more details of comparison between the districts see (figure 5.P4).

2. There are slide projectors.

Of 303 respondents 56.6.% had "no" as a highest percentage, with 43.4% having "yes" as a lowest percentage (figure 5.21). There were significant differences at level 0.001 in respect of availability of slide projectors. For more details of comparison between the districts see (figure 5.P4).

3. There are opaque projectors.

Of 315 respondents 55.4% had "yes" as a highest percentage, with 44.6% having "no" as a lowest percentage (figure 5.22). There were significant differences at level 0.001 in respect of availability of opaque projectors. For more details of comparison between the districts see (figure 5.P4).

4. There are film strip projectors.

Of 312 respondents 58.1% put "yes" as a highest percentage, with 41.9% putting "no" as a lowest (figure 5.23). There were significant differences at level 0.001 in respect of availability of film strip projectors. For more details of comparison between the districts see (figure 5.P4).

5. There are 8mm projectors.

Of 268 respondents 80.7% put "no" as a highest percentage, with 19.3% putting "yes" as a lowest (figure 5.24). There were significant differences at level 0.001 in respect of availability of 8mm projectors. For more details between the districts see (figure 5.P4).

6. There are film-loop projectors.

Of 272 respondents 82.8% put "no" as a highest percentage, with 17.2% putting "yes" as a lowest (figure 5.25). There were significant differences at level 0.001 in respect of availability of film-loop projectors. For more details of comparison between the districts see (figure 5.P4).

7. There are 16mm projectors.

Of 271 respondents 71.7% had "no" as a highest percentage, with 28.3% having "yes" as a lowest (figure 5.26). There were significant differences at level 0.001 in respect of availability of 16mm projectors. For more details of comparison between the districts see (figure 5.P4).

8. There are TVs.

Of 325 respondents 62% put "yes" as a highest percentage, with 38% putting "no" as a lowest (figure 5.27). There were significant differences at level 0.001

in respect of availability of TVs. For more details of comparison between the districts see (figure 5.P4).

9. There are videos.

Of 326 respondents 73.1% put "yes" as a highest percentage, with 26.9% putting "no" as a lowest (figure 5.28). There were no significant differences at level 0.001 in respect of availability of videos. For more details of comparison between the districts see (figure 5.P4).

Note Items 8 and 9 appear to show that there are more videos than televisions. One explanation for this may be that some respondents have distinguished between television without video and television with video. Another explanation may be a lack of co-ordination in the provision of EMT equipment.

10. There are audio tapes.

Of 310 respondents 61.4% put "yes" as a highest percentage, with 38.6% putting "no" as a lowest (figure 5.29). There were significant differences at level 0.001 in respect of availability of oudio tapes. For more details of comparisom between the districts see (figure 5.P4).

11. There are language laboratories.

Of 308 respondents 57% had "no" as a highest percentage, with 43% having "yes' as a lowest (figure 5.30). There were significant differences at level 0.001 in respect of availability of language laboratories. For more details of comparison between the districts see (figure 5.P4).

12. There are models and specimens.

Of 313 respondents 72.9% had "yes" as a highest percentage, with 27.1% having "no" as a lowest (figure 5.31). There were significant differences at level 0.001 in respect of availability of models and specimens. For more details of comparison between the districts see (figure 5.P4).

13. There are charts or graphs.

Of 321 respondents 59.7% put "yes" as a highest percentage, with 40.3% putting "no" as a lowest (figure 5.32). There were no significant differences at level 0.001 in respect of availability of charts or graphs. For more details of comparison between the districts see (figure 5.P4).

14. There are illustrations.

Of 277 respondents 59.7% put "yes" as a highest percentage, with 40.3% putting "no" as a lowest (figure 5.33). There were significant differences at level 0.001 in respect of availability of illustrations. For more details of comparison between the districts see (figure 5.P4).

15. There were specified answers.

These answers were specific as fallow:

There were nineteen teachers using sewing machines and fifteen were using cooking facilities, while eleven said EMT was available just for three subjects (History, Geography and Science).

5-1-5 Evaluate EMT Use

This part of the questionnaire included fourteen items, with one of five possible answer categories. Tick the number which corresponds closest to the number of times the teacher has used an item during the term (none, 1-5, 6-10, 11-15, 16 or more).

1. I use an overhead projector.

There were no significant differences at level 0.001 in respect of frequency of use of overhead projectors (figure 5.34). For more details of comparison between the districts see (figure 5.P5).

2. I use a slide projector.

There were no significant differences at level 0.001 in respect of frequency of use of slide projectors (figure 5.34). For more details of comparisom between the districts see (figure 5.P5).

3. I use an opaque projector.

There were no significant differences at level 0.001 in respect of frequency of use of opaque projectors (figure 5.36). For more details of comparison between the districts see (figure 5.P5).

4. I use a film strip projector.

There were no significant differences at level 0.001 in respect of frequency of use of film strip projectors (figure 5.37). For more details of comparison between the districts see (figure 5.P5).

5. I use an 8mm projector.

There were no significant differences at level 0.001 in respect of frequency of use of 8mm projectors (figure 5.38). For more details of comparison between the districts see (figure 5.P5).

6. I use a film-loop projector.

There were no significant differences at level 0.001 in respect of frequency of use of film-loop projectors (figure 5.39). For more details of comparison between the districts see (figure 5.P5).

7. I use a 16mm projector.

There were no significant differences at level 0.001 in respect of frequency of use of 16mm projectors (figure 5.40). For more details of comparison between the districts see (figure 5.P5).

8. I use a television.

There were no significant differences at level 0.001 in respect of frequency of use of a TV (figure 5.41). For more details of comparison between the districts see (figure 5.P5).

9. I use a video.

There were no significant differences at level 0.001 in respect of frequency of use of a video (figure 5.42). For more details of comparison between the districts see (figure 5.P5).

10. I use audio tape recording.

There were no significant differences at level 0.001 in respect of frequency of use of oudio tape recording (figure 5.43). For more details of comparison between the districts see (figure 5.P5).

11. I use a language laboratory.

There were significant differences at level 0.001 in respect of frequency of use of language laboratory (figure 5.44). For more details of comparison between the districts see (figure 5.P5).

12. I use a model and specimens.

There were no significant differences at level 0.001 in respect of frequency of use of a model and specimens (figure 5.45). For more details of comparison between the districts see (figure 5.P5).

13. I use a chart or graph.

There were no significant differences at level 0.001 in respect of frequency of use of a chart or graph (figure 5.46). For more details of comparison between the districts see (figure 5.P5).

14. I use illustrations.

There were no significant differences at level 0.001 in respect of frequency of use of illustrations (figure 5.47). For more details of comparison between the districts see (figure 5.P5).

15. There were specified answers.

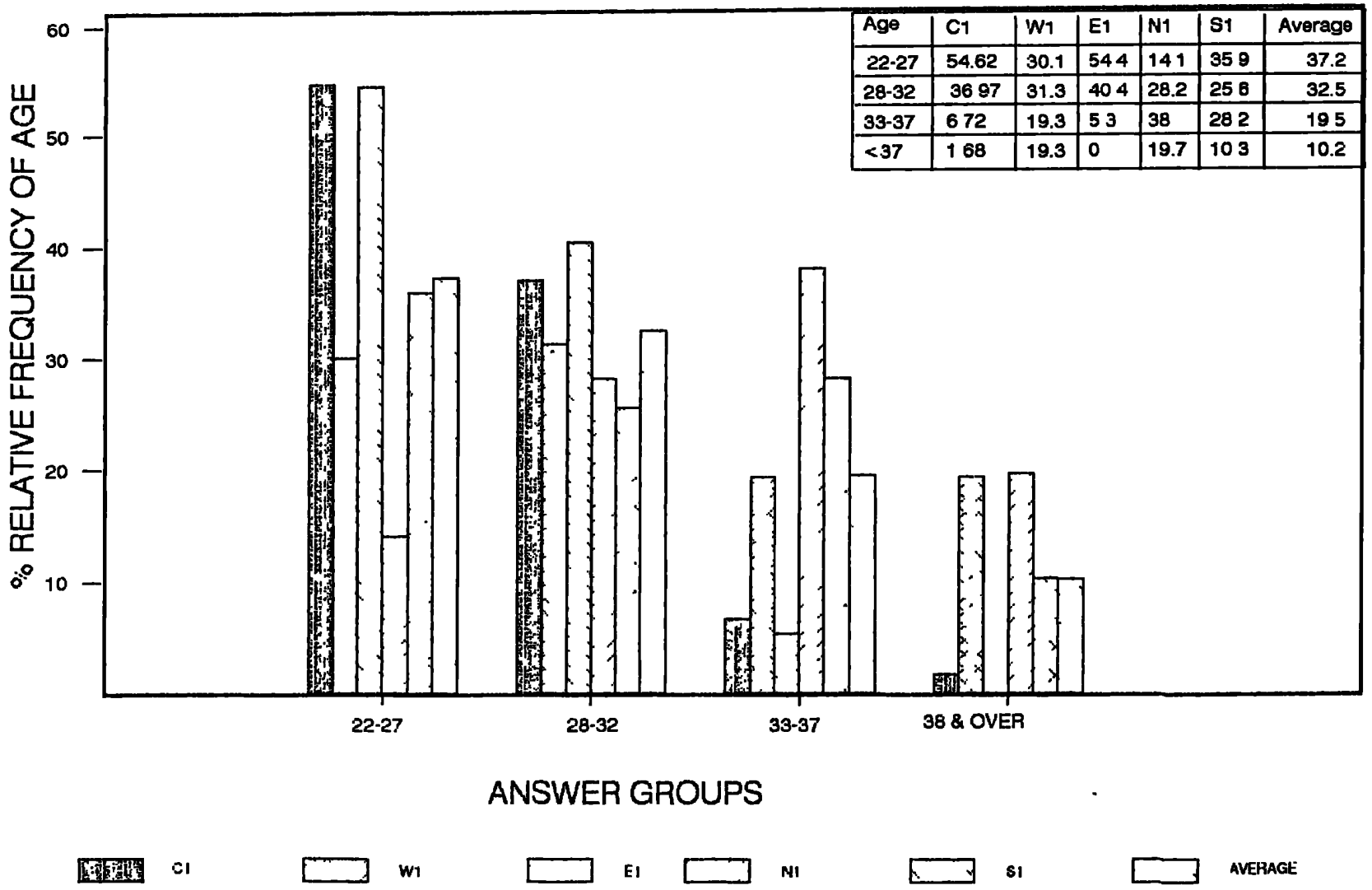
There were thirteen respondents who said EMT was kept in store, which give them no chance to use it, with nine complaints about the lack of head phones and other facilities for the language laboratory. Seven Science teachers complained about the situation of the laboratory equipment being out of order, with chemicals out of date.

Logically, the above problems need to be solved. The faster solution would be to have qualified EMT specialists, a good system of providing spare parts and maintenance.

FEMALE TEACHERS

FIG.5.1

WHAT AGE GROUP ARE YOU IN ?

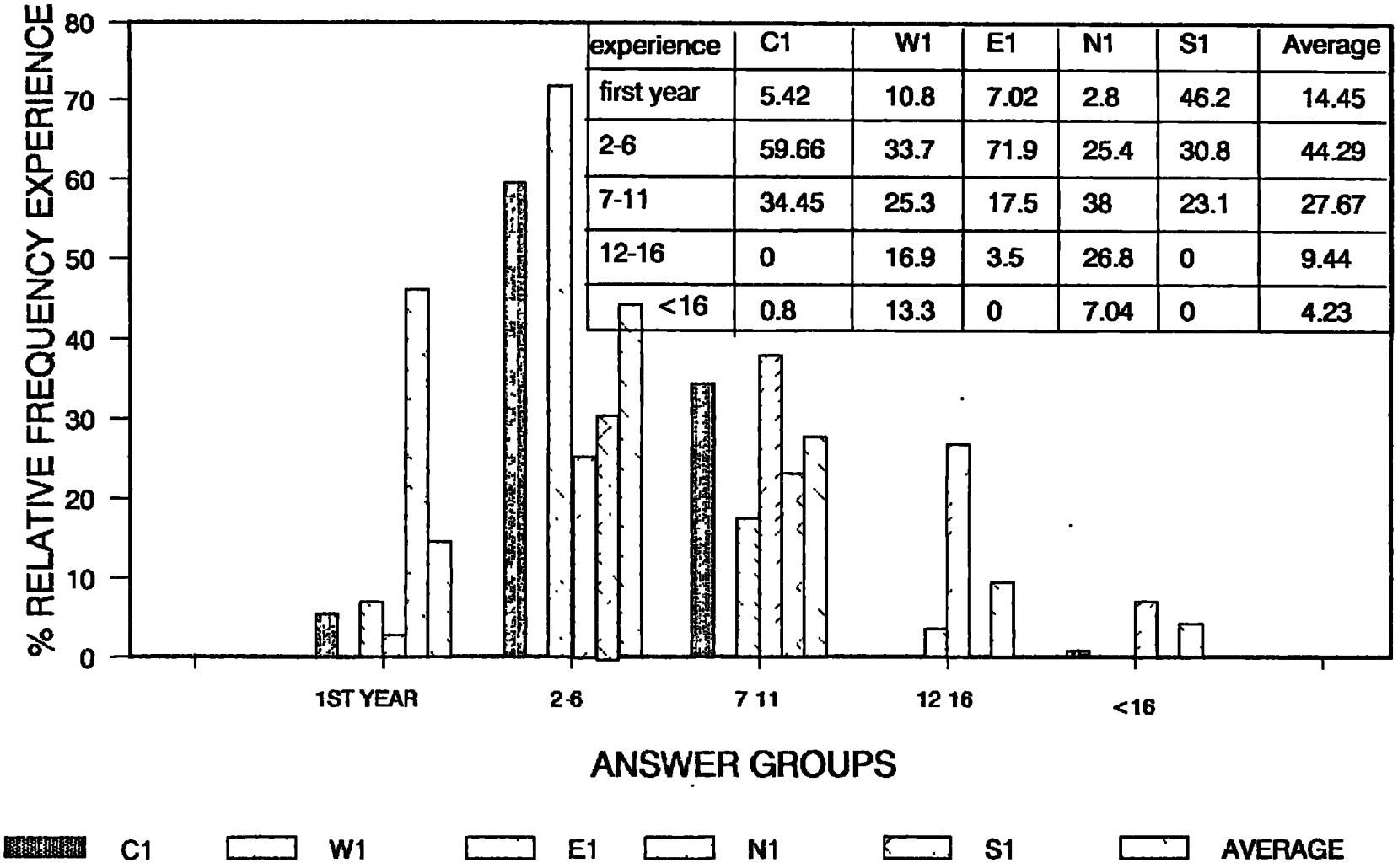


Age	C1	W1	E1	N1	S1	Average
22-27	54.62	30.1	54 4	14 1	35 9	37.2
28-32	36 97	31.3	40 4	28.2	25 6	32.5
33-37	6 72	19.3	5 3	38	28 2	19 5
<37	1 68	19.3	0	19.7	10 3	10.2

Fig.5.2

FEMALE TEACHERS

HOW MANY YEARS HAVE YOU BEEN TEACHING ?

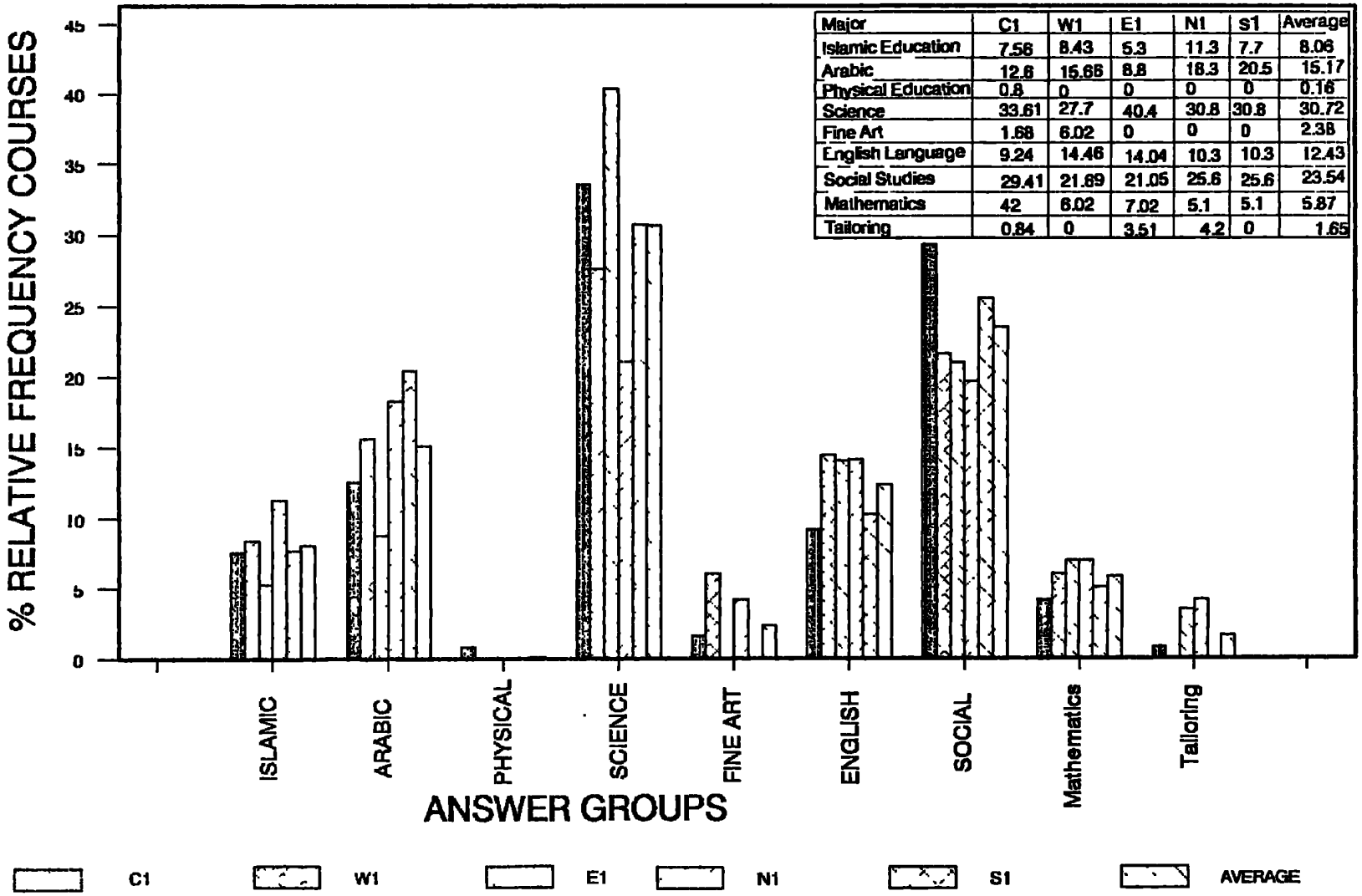


experience	C1	W1	E1	N1	S1	Average
first year	5.42	10.8	7.02	2.8	46.2	14.45
2-6	59.66	33.7	71.9	25.4	30.8	44.29
7-11	34.45	25.3	17.5	38	23.1	27.67
12-16	0	16.9	3.5	26.8	0	9.44
<16	0.8	13.3	0	7.04	0	4.23

Fig.5.3

FEMALE TEACHERS

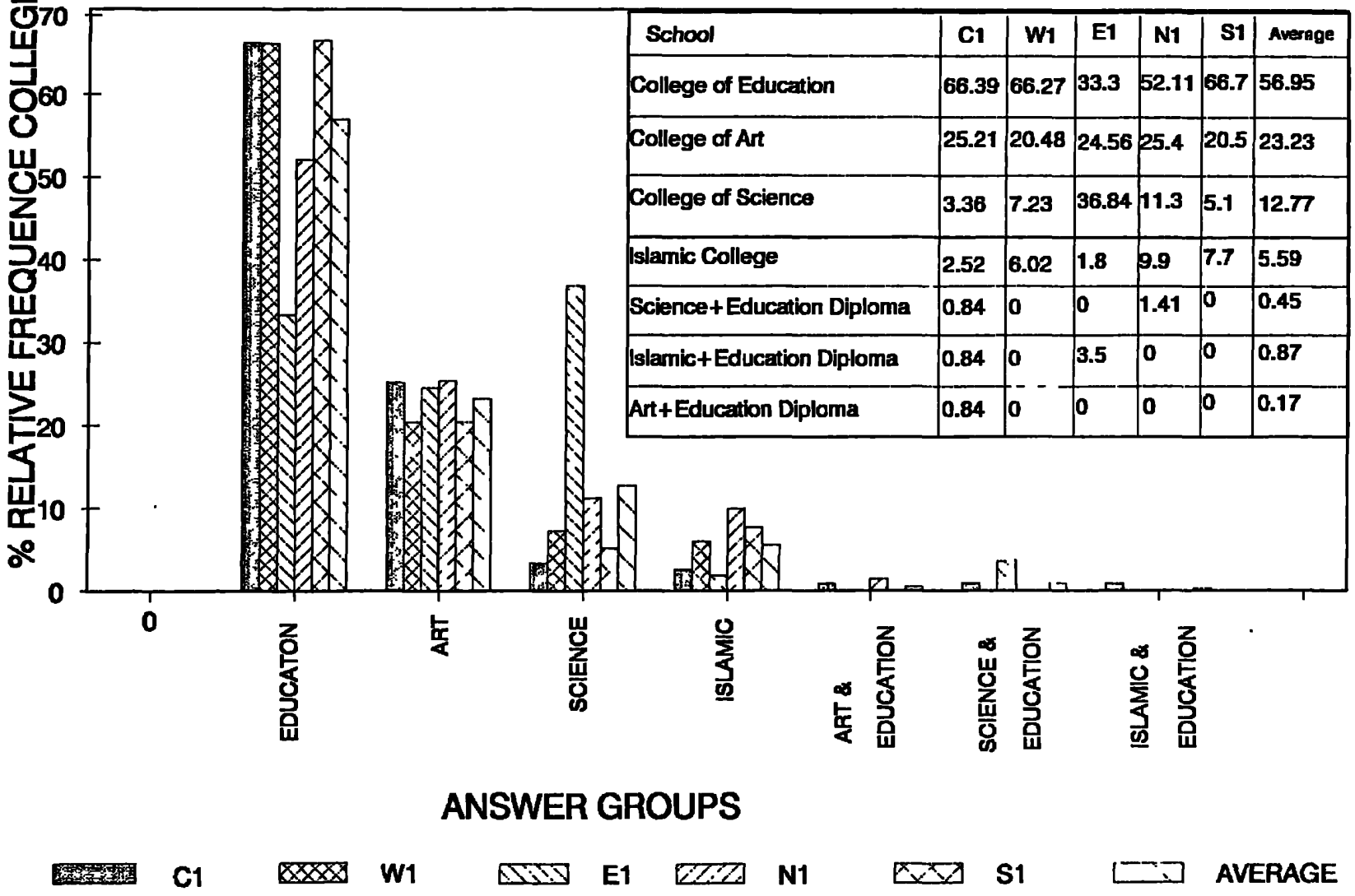
WHAT COURSES DO YOU TEACH ?



Major	C1	W1	E1	N1	S1	Average
Islamic Education	7.56	8.43	5.3	11.3	7.7	8.06
Arabic	12.6	15.66	8.8	18.3	20.5	15.17
Physical Education	0.8	0	0	0	0	0.16
Science	33.61	27.7	40.4	30.8	30.8	30.72
Fine Art	1.68	6.02	0	0	0	2.38
English Language	9.24	14.46	14.04	10.3	10.3	12.43
Social Studies	29.41	21.69	21.05	25.6	25.6	23.54
Mathematics	42	6.02	7.02	5.1	5.1	5.87
Tailoring	0.84	0	3.51	4.2	0	1.65

FEMALE TEACHERS

Fig.5.4 WHAT KIND OF SCHOOL DID YOU GRADUATE FROM?



School	C1	W1	E1	N1	S1	Average
College of Education	66.39	66.27	33.3	52.11	66.7	56.95
College of Art	25.21	20.48	24.56	25.4	20.5	23.23
College of Science	3.36	7.23	36.84	11.3	5.1	12.77
Islamic College	2.52	6.02	1.8	9.9	7.7	5.59
Science+Education Diploma	0.84	0	0	1.41	0	0.45
Islamic+Education Diploma	0.84	0	3.5	0	0	0.87
Art+Education Diploma	0.84	0	0	0	0	0.17

FEMALE TEACHERS

Fig.5.5 WHAT KIND OF SCHOOL DID YOU GRADUATE FROM?

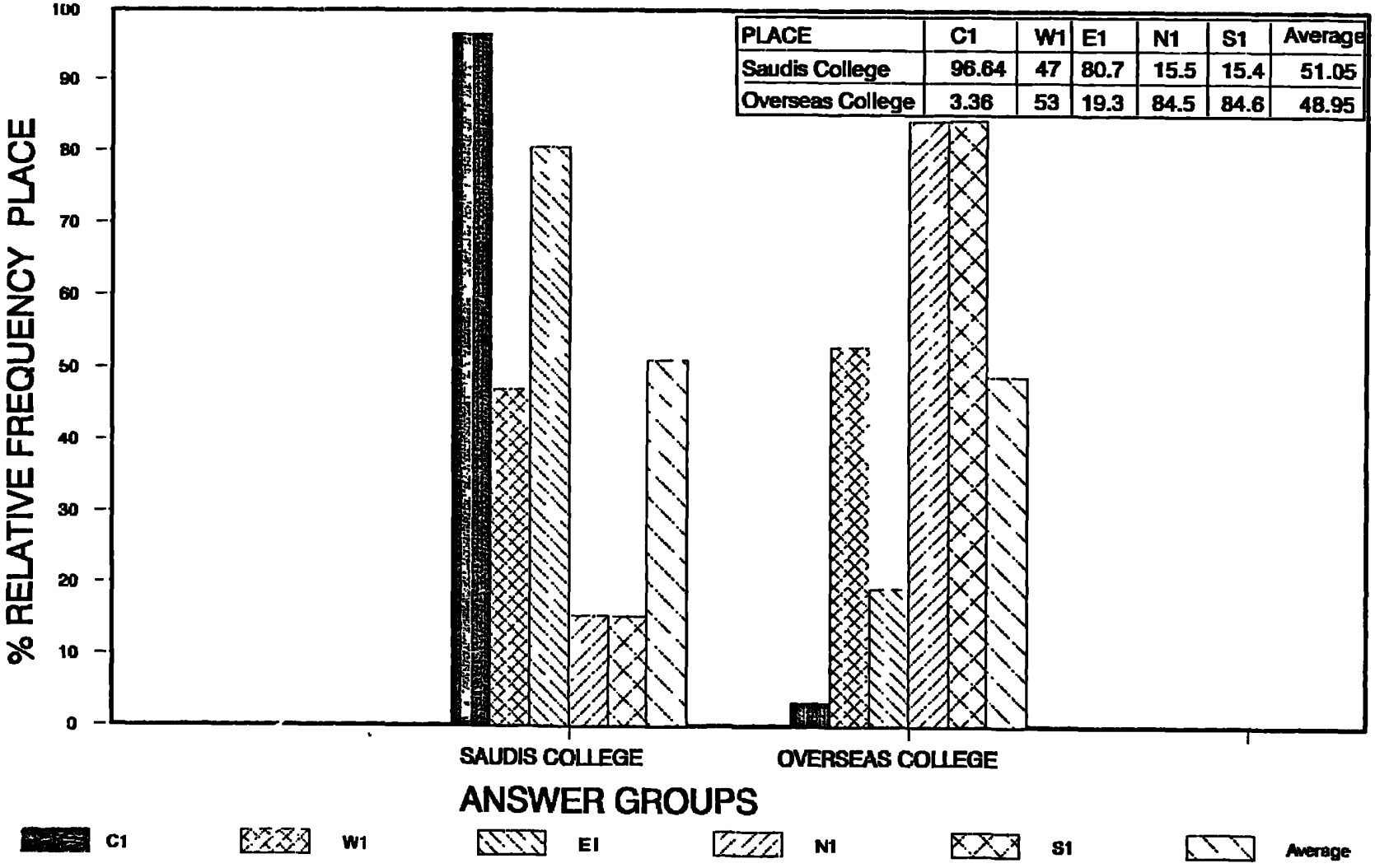
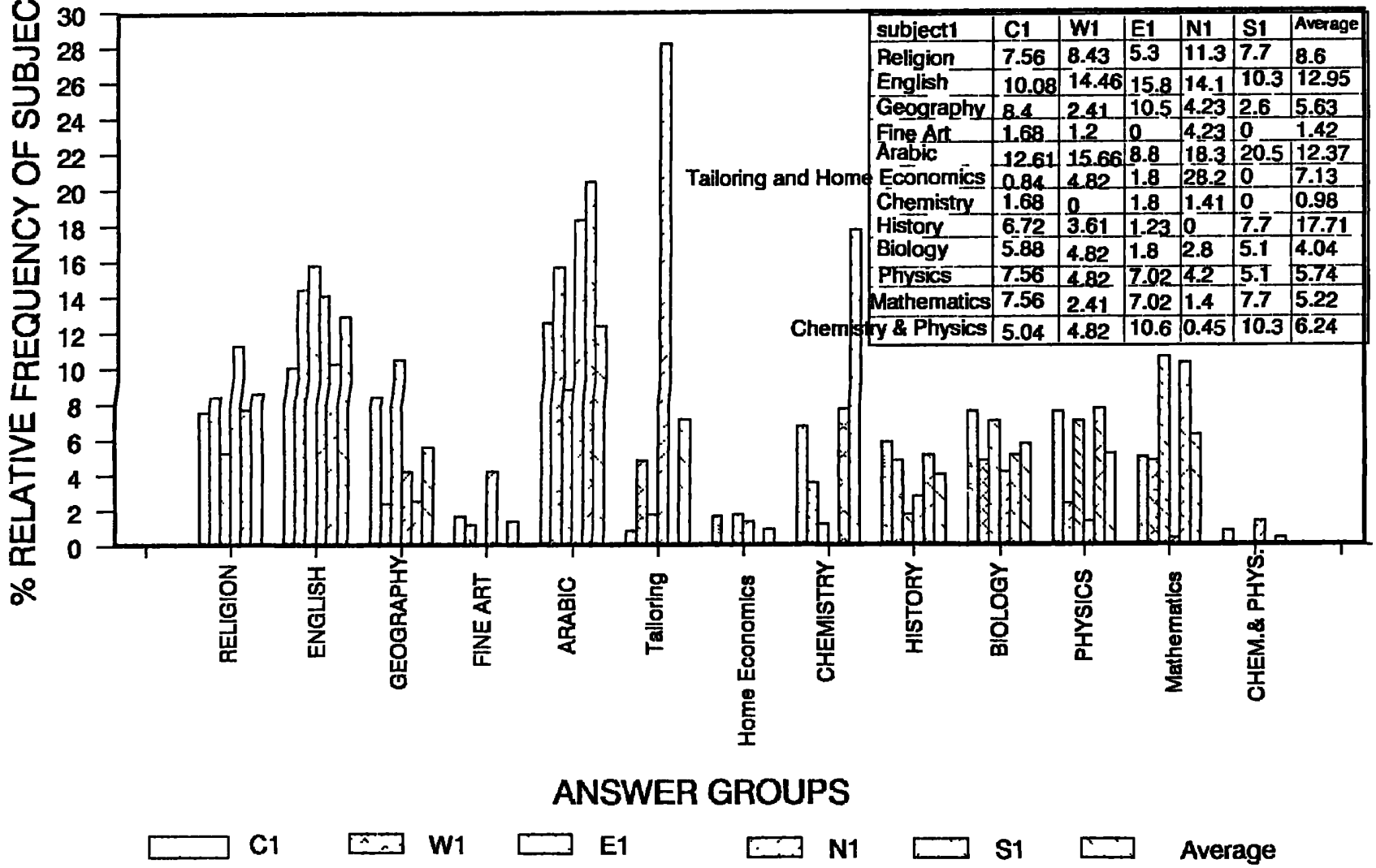


Fig.5.6

FEMALE TEACHERS

WHICH SUBJECT DO YOU TEACH ?

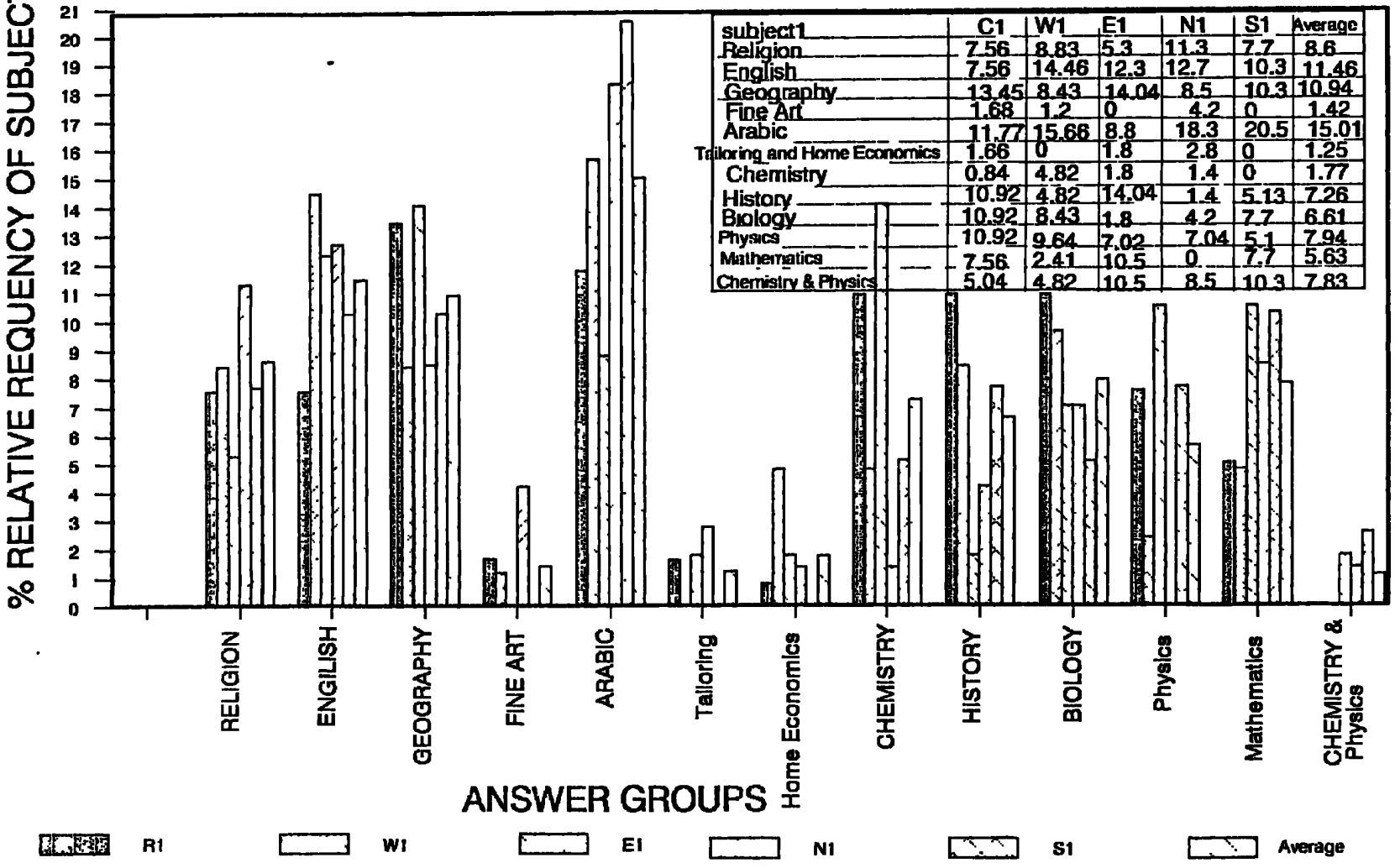


subject1	C1	W1	E1	N1	S1	Average
Religion	7.56	8.43	5.3	11.3	7.7	8.6
English	10.08	14.46	15.8	14.1	10.3	12.95
Geography	8.4	2.41	10.5	4.23	2.6	5.63
Fine Art	1.68	1.2	0	4.23	0	1.42
Arabic	12.61	15.66	8.8	18.3	20.5	12.37
Economics	0.84	4.82	1.8	28.2	0	7.13
Chemistry	1.68	0	1.8	1.41	0	0.98
History	6.72	3.61	1.23	0	7.7	17.71
Biology	5.88	4.82	1.8	2.8	5.1	4.04
Physics	7.56	4.82	7.02	4.2	5.1	5.74
Mathematics	7.56	2.41	7.02	1.4	7.7	5.22
Chemistry & Physics	5.04	4.82	10.6	0.45	10.3	6.24

Fig.5.7

FEMALE TEACHERS

WHICH SUBJECT DID YOU GRADUATE IN ?



subject1	C1	W1	E1	N1	S1	Average
Religion	7.56	8.83	5.3	11.3	7.7	8.6
English	7.56	14.46	12.3	12.7	10.3	11.46
Geography	13.45	8.43	14.04	8.5	10.3	10.94
Fine Art	1.68	1.2	0	4.2	0	1.42
Arabic	11.77	15.66	8.8	18.3	20.5	15.01
Tailoring and Home Economics	1.66	0	1.8	2.8	0	1.25
Chemistry	0.84	4.82	1.8	1.4	0	1.77
History	10.92	4.82	14.04	1.4	5.13	7.26
Biology	10.92	8.43	1.8	4.2	7.7	6.61
Physics	10.92	9.64	7.02	7.04	5.1	7.94
Mathematics	7.56	2.41	10.5	0	7.7	5.63
Chemistry & Physics	5.04	4.82	10.5	8.5	10.3	7.83

Fig.5.8

FEMALE TEACHERS

IN MY SCHOOL THERE IS SUFFICIENT EMT EQUIPMENT ?

1	C2	W2	E2	N2	S2	Average
SA	10.1	10.8	3.51	26.8	30.8	14.6
A	23.5	54.2	33.33	47.9	44	38.5
D	37.8	19.3	24.56	14.1	17.9	24.9
SD	28.6	15.7	38.6	11.3	10.3	22

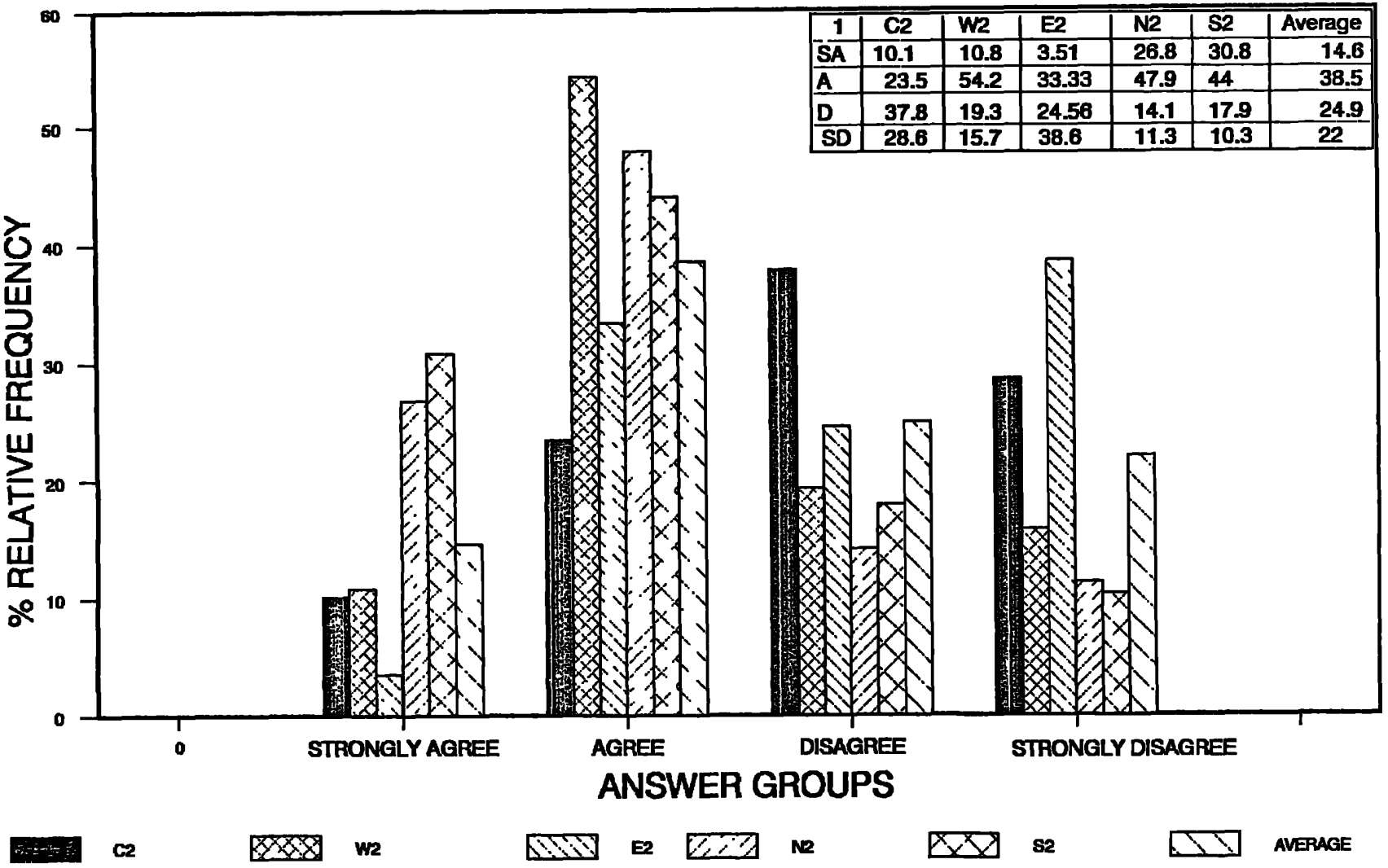
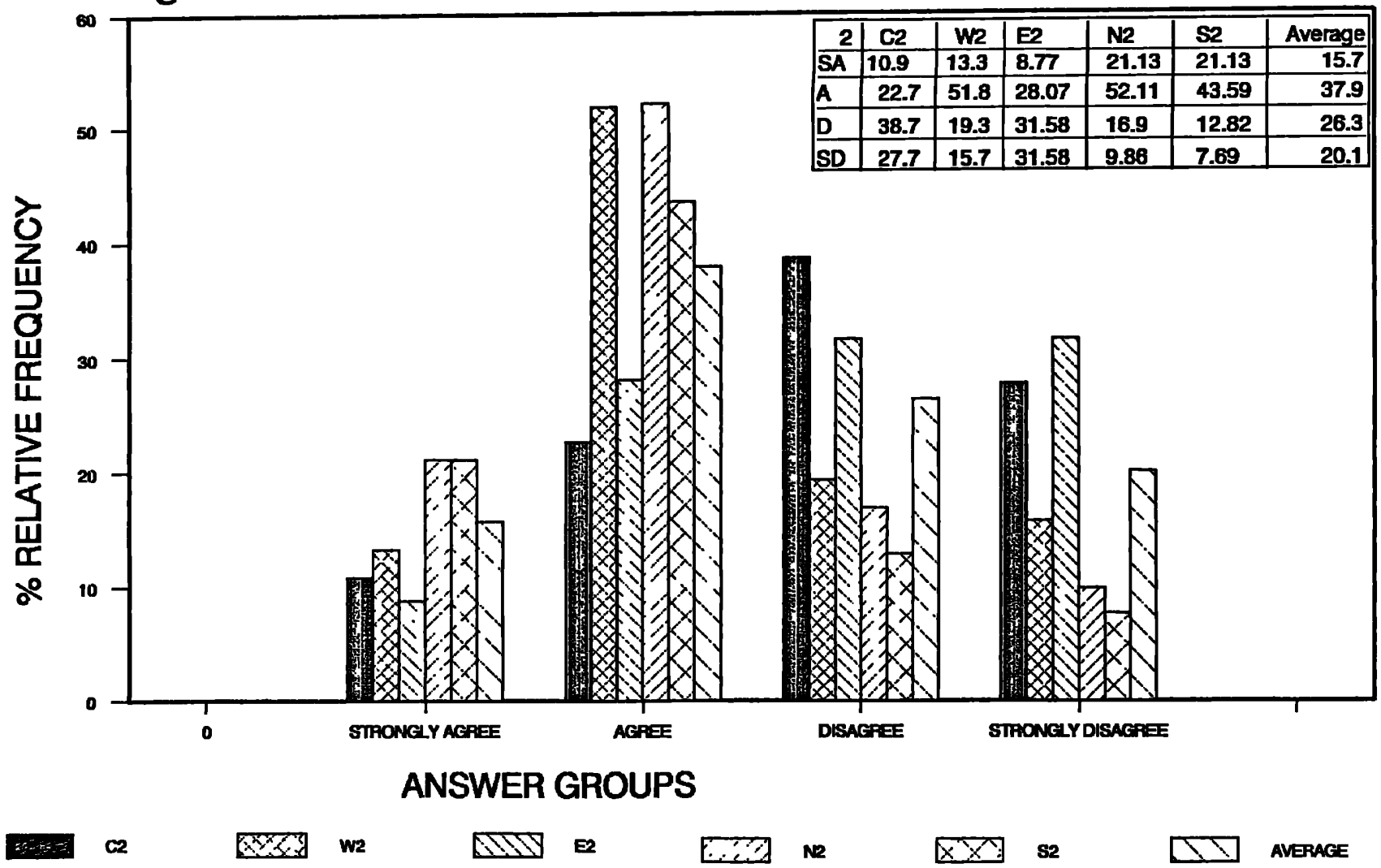


Fig.5.9

FEMALE TEACHERS

IN MY SCHOOL THERE IS SUFFICIENT EMT SOFTWARE ?

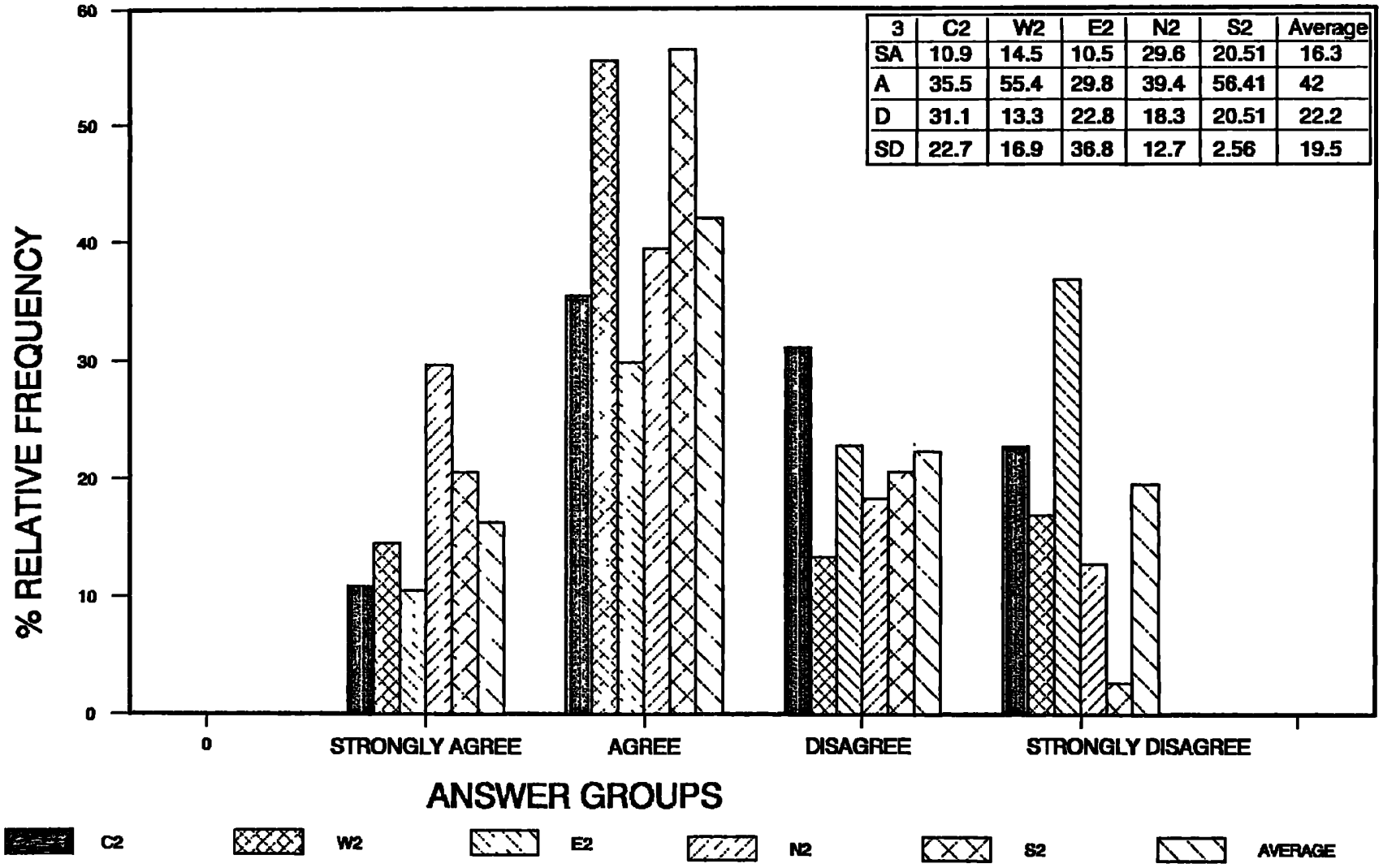


2	C2	W2	E2	N2	S2	Average
SA	10.9	13.3	8.77	21.13	21.13	15.7
A	22.7	51.8	28.07	52.11	43.59	37.9
D	38.7	19.3	31.58	16.9	12.82	26.3
SD	27.7	15.7	31.58	9.86	7.69	20.1

FEMALE TEACHERS

THE EMT EQUIPMENT IN MY SCHOOL IS IN GOOD CONDITION ?

Fig.5.10

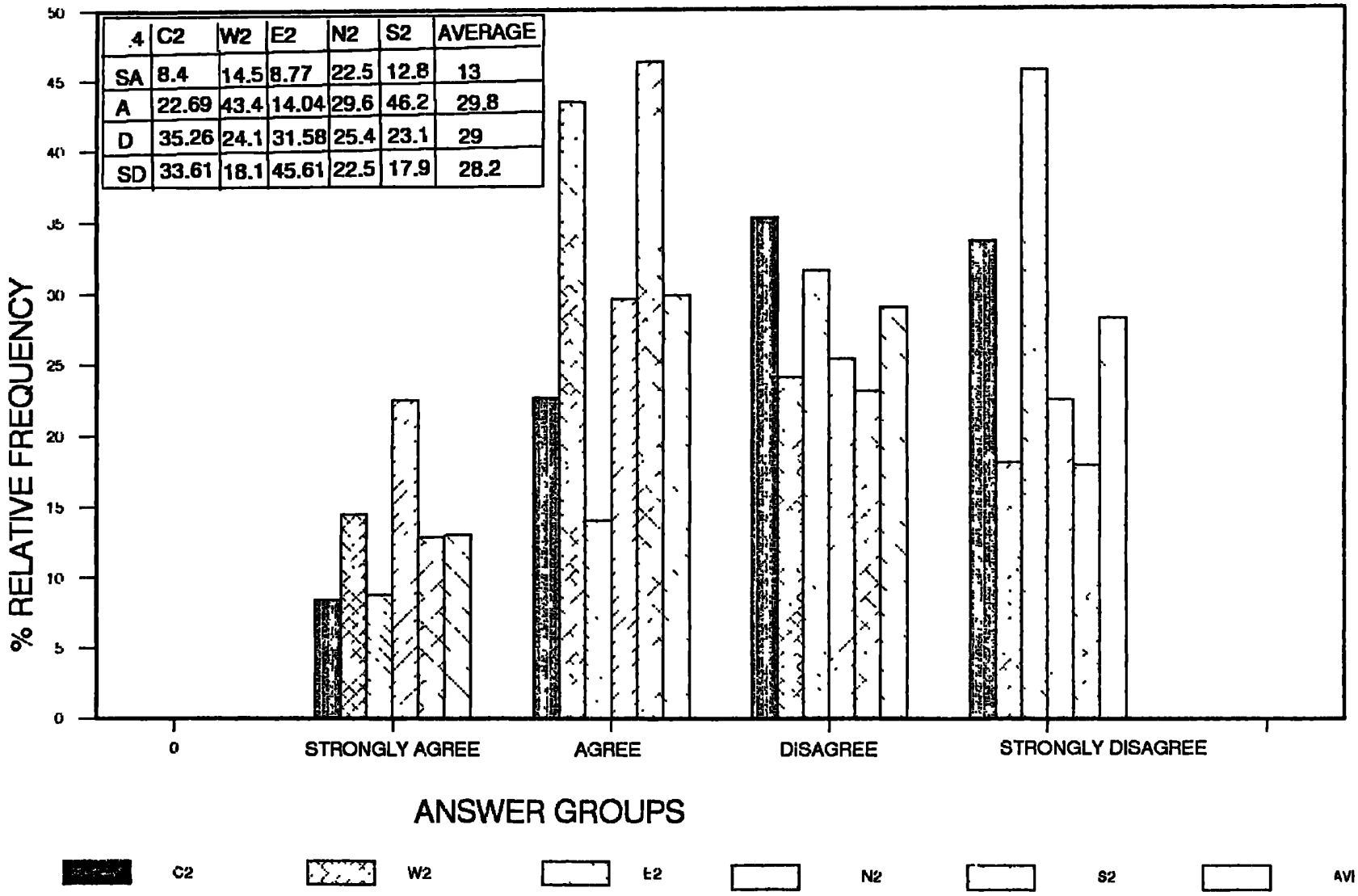


3	C2	W2	E2	N2	S2	Average
SA	10.9	14.5	10.5	29.6	20.51	16.3
A	35.5	55.4	29.8	39.4	56.41	42
D	31.1	13.3	22.8	18.3	20.51	22.2
SD	22.7	16.9	36.8	12.7	2.56	19.5

FEMALE TEACHERS

FIG.5.11 I CAN ALWAYS FIND THE PARTICULAR EQUIPMENT THAT I WANT ?

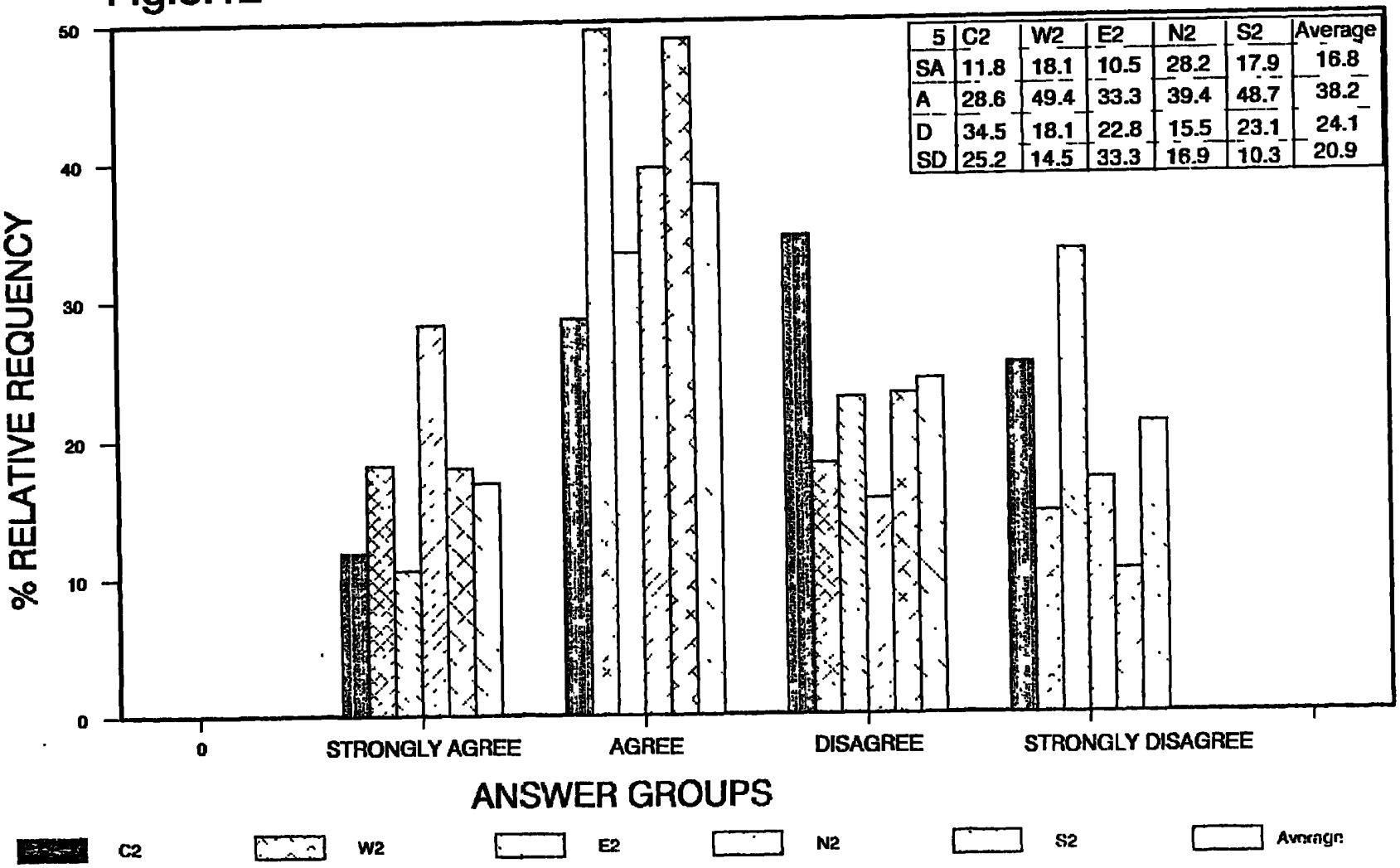
.4	C2	W2	E2	N2	S2	AVERAGE
SA	8.4	14.5	8.77	22.5	12.8	13
A	22.69	43.4	14.04	29.6	46.2	29.8
D	35.26	24.1	31.58	25.4	23.1	29
SD	33.61	18.1	45.61	22.5	17.9	28.2



FEMALE TEACHERS

THE EQUIPMENT AVAILABLE IN MY SCHOOL IS THE KIND I AM FAMILIAR WITH OR NOT VERY DIFFERENT

Fig.5.12



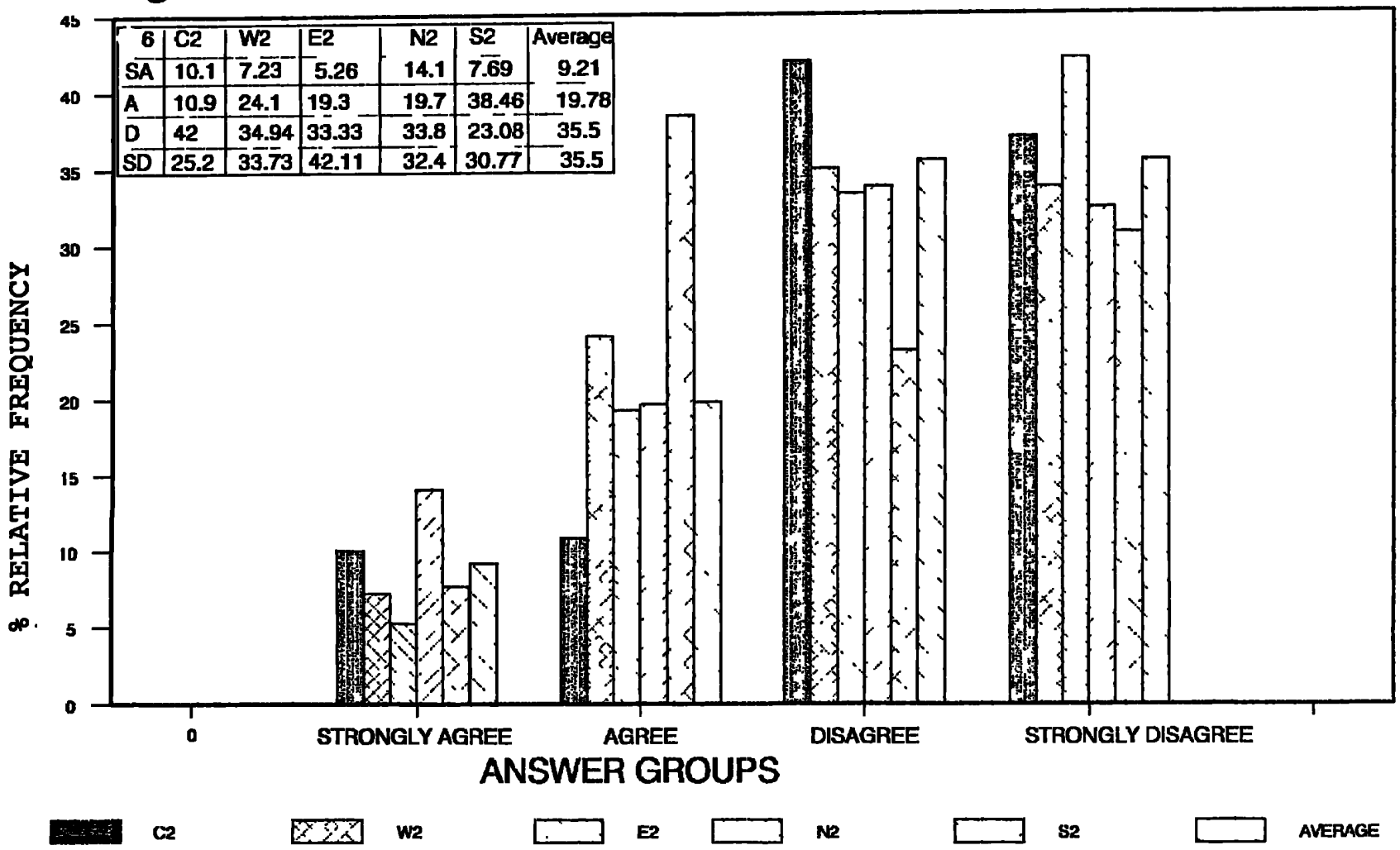
5	C2	W2	E2	N2	S2	Average
SA	11.8	18.1	10.5	28.2	17.9	16.8
A	28.6	49.4	33.3	39.4	48.7	38.2
D	34.5	18.1	22.8	15.5	23.1	24.1
SD	25.2	14.5	33.3	16.9	10.3	20.9

FEMALE TEACHERS

IT IS EASY TO ORDER SOFTWARE OR EQUIPMENT FROM OUTSIDE THE SCHOOL

Fig.5.13

6	C2	W2	E2	N2	S2	Average
SA	10.1	7.23	5.26	14.1	7.69	9.21
A	10.9	24.1	19.3	19.7	38.46	19.78
D	42	34.94	33.33	33.8	23.08	35.5
SD	25.2	33.73	42.11	32.4	30.77	35.5

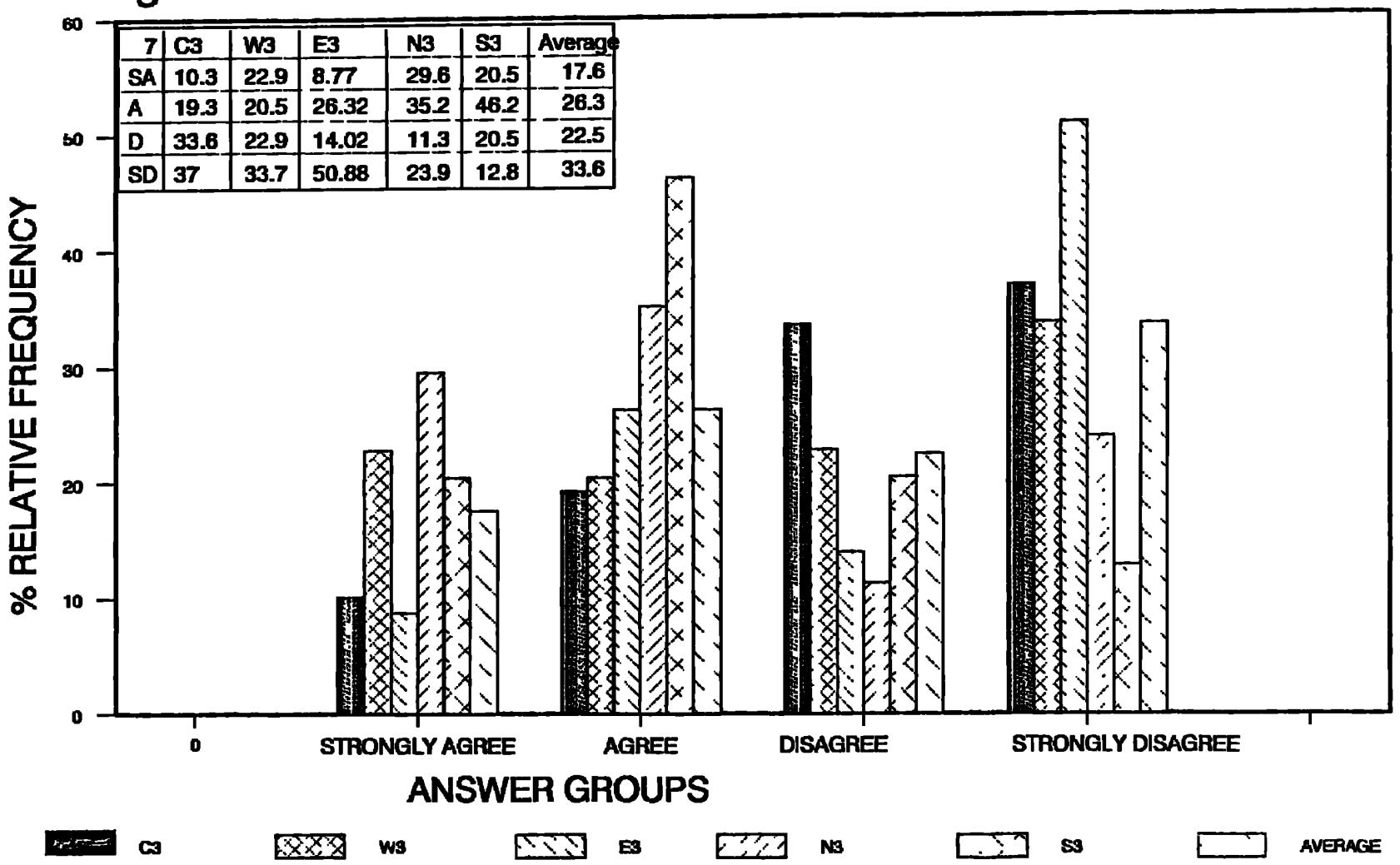


FEMALE TEACHERS

EMT SPECIALISTS TRY TO HELP TEACHERS TO USE EMT EFFECTIVELY IN MY SCHOOL

Fig.5.14

7	C3	W3	E3	N3	S3	Average
SA	10.3	22.9	8.77	29.6	20.5	17.6
A	19.3	20.5	26.32	35.2	46.2	26.3
D	33.6	22.9	14.02	11.3	20.5	22.5
SD	37	33.7	50.88	23.9	12.8	33.6

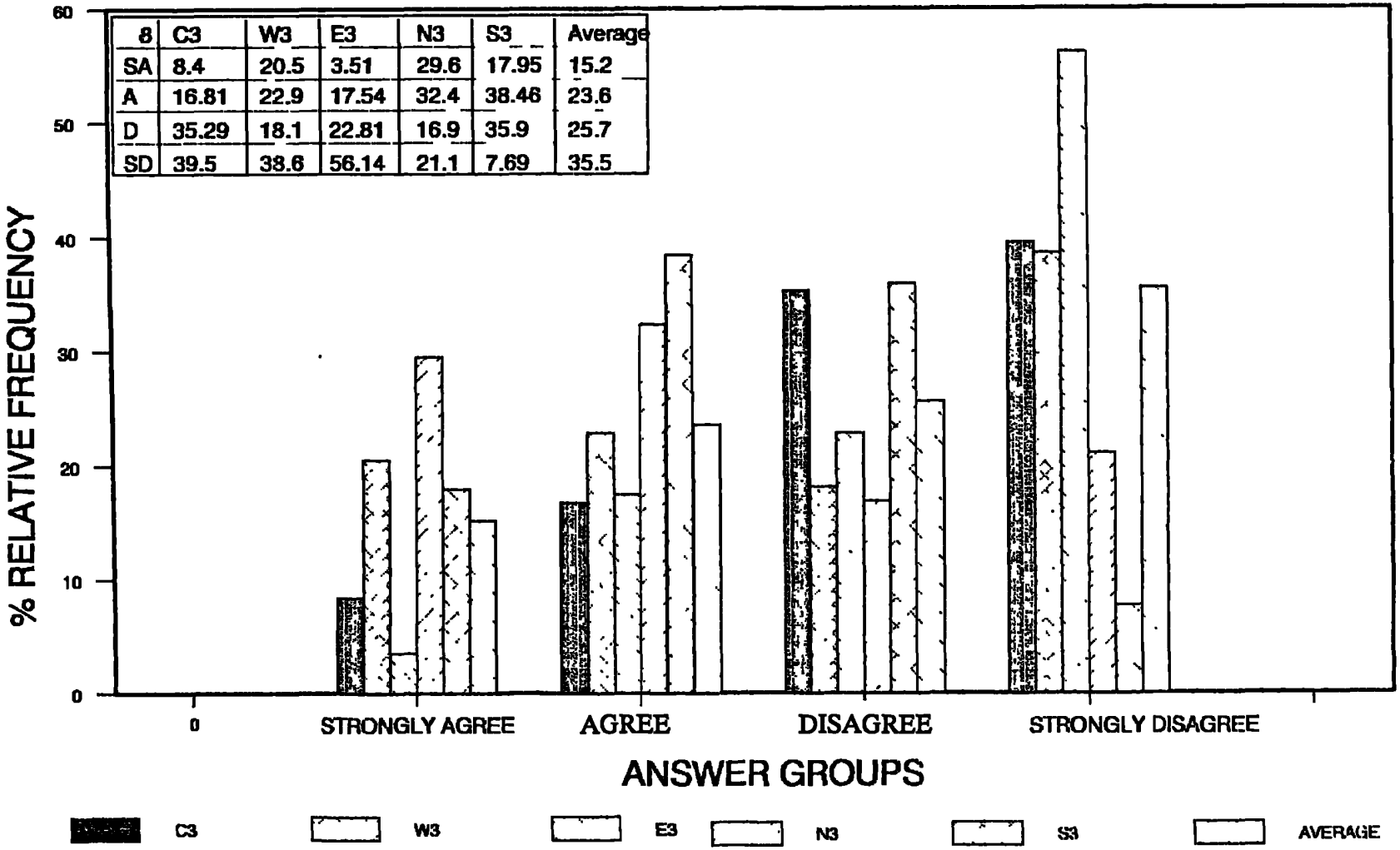


FEMALE TEACHERS

EMT SPECIALISTS HELP TO PROVIDE EQUIPMENT FOR MY SCHOOL

Fig.5.15

8	C3	W3	E3	N3	S3	Average
SA	8.4	20.5	3.51	29.6	17.95	15.2
A	16.81	22.9	17.54	32.4	38.46	23.6
D	35.29	18.1	22.81	16.9	35.9	25.7
SD	39.5	38.6	56.14	21.1	7.69	35.5

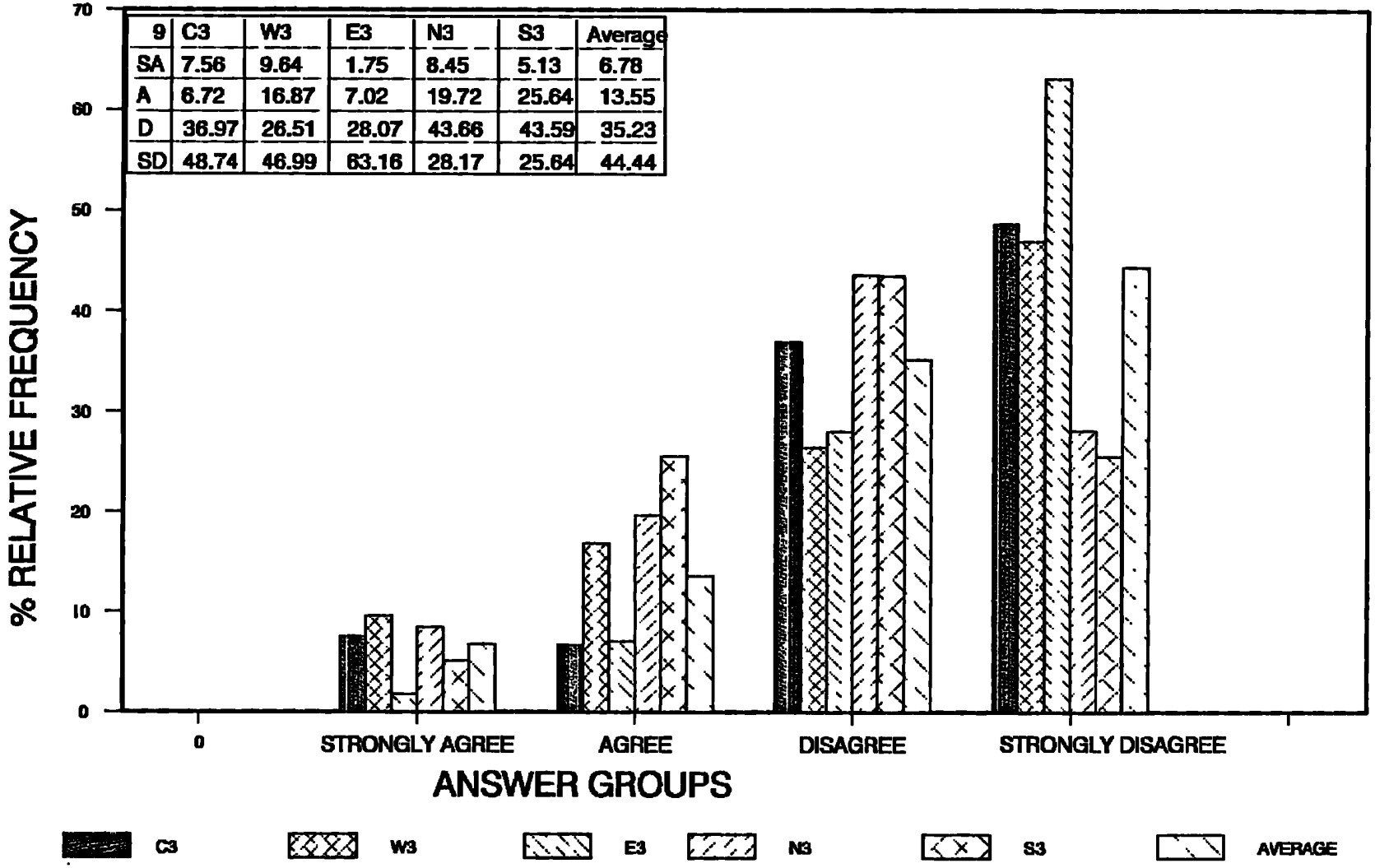


FEMALE TEACHERS

THERE ARE ENOUGH EMT SPECIALISTS TO GIVE ASSISTANCE

Fig.5.16

9	C3	W3	E3	N3	S3	Average
SA	7.56	9.64	1.75	8.45	5.13	6.78
A	6.72	16.87	7.02	19.72	25.64	13.55
D	36.97	26.51	28.07	43.66	43.59	35.23
SD	48.74	46.99	63.16	28.17	25.64	44.44



FEMALE TEACHERS

EMT SPECIALISTS HAVE ENCOURAGED ME TO DEVELOP AWARENESS OF EMT PROVISION

Fig.5.17

10	C3	W3	E3	N3	S3	Average
SA	8.47	13.3	3.51	12.7	0	8.42
A	5.93	21.7	15.79	23.9	25.6	16.3
D	40.68	19.3	24.56	33.8	59	33.97
SA	44.92	45.8	56.19	29.6	15.4	41.3

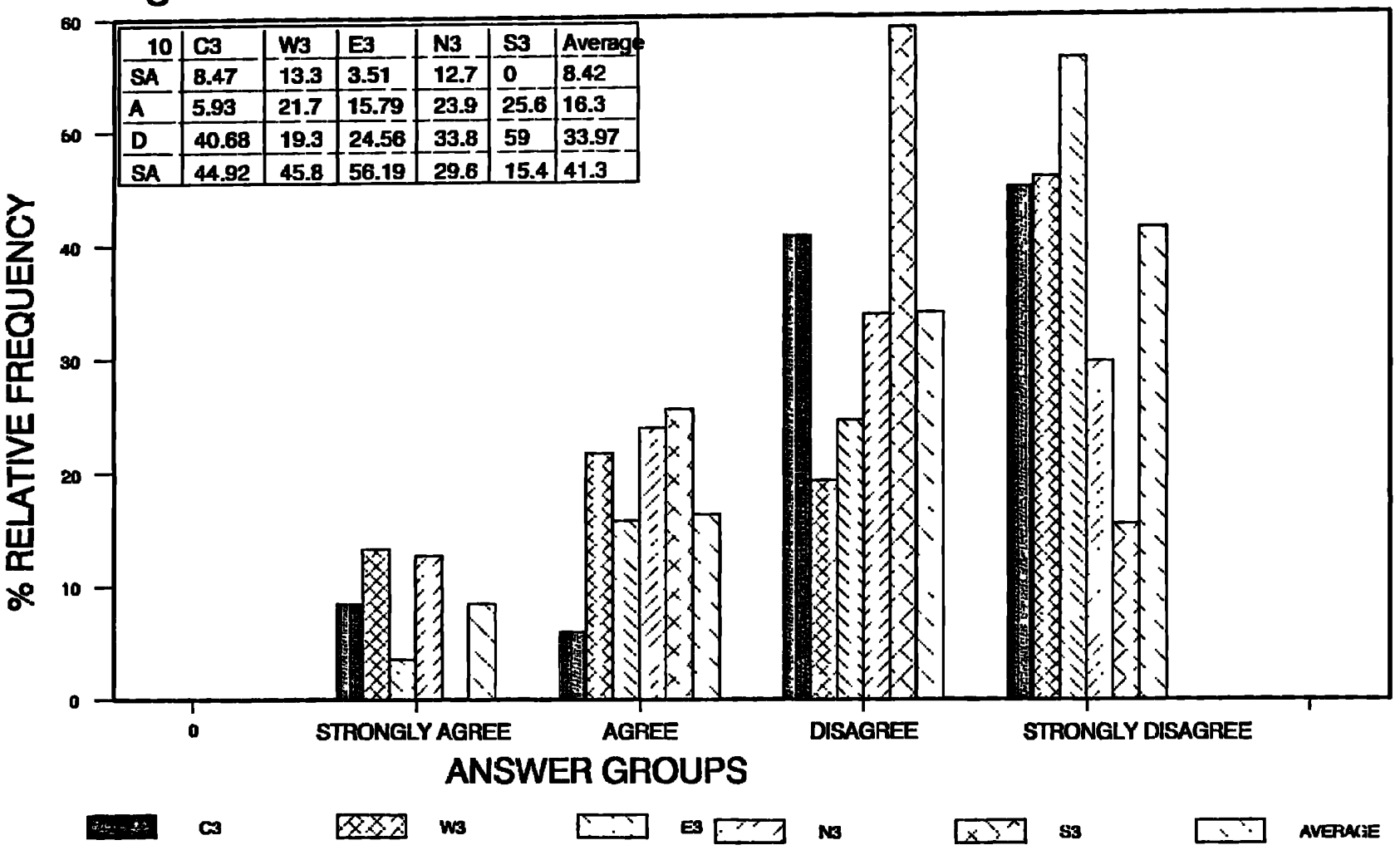
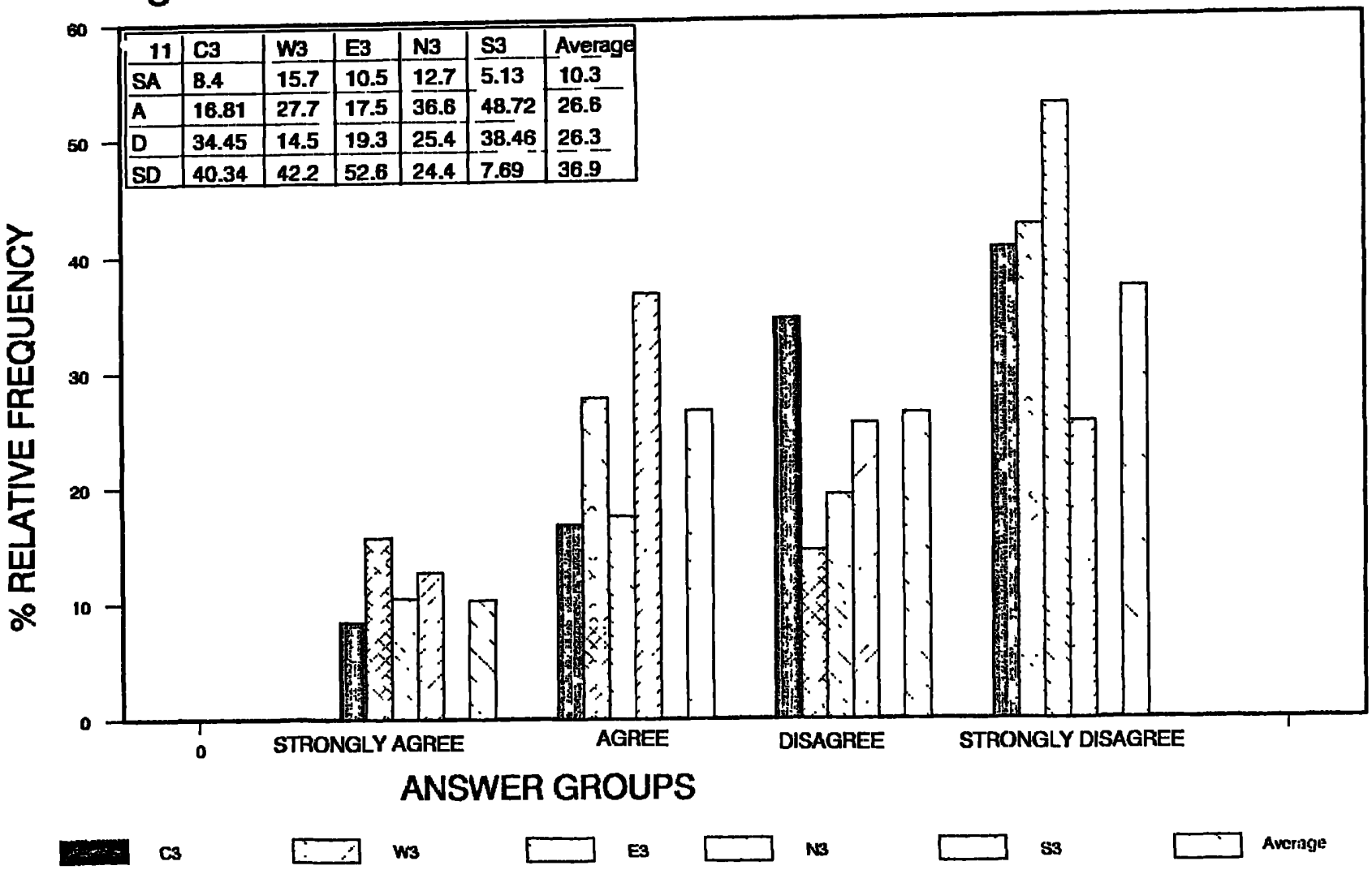


Fig.5.18

FEMALE TEACHERS

THE EMT SPECIALIST IS WELL QUALIFIED

11	C3	W3	E3	N3	S3	Average
SA	8.4	15.7	10.5	12.7	5.13	10.3
A	16.81	27.7	17.5	36.6	48.72	26.6
D	34.45	14.5	19.3	25.4	38.46	26.3
SD	40.34	42.2	52.6	24.4	7.69	36.9



FEMALE TEACHERS

Fig.5.19 THERE HAS BEEN EMT SPECIALIST SINCE LAST YEAR

12	C3	W3	E3	N3	S3	Average
SA	8.62	19.3	3.51	22.5	10.3	13.6
A	19.83	15.7	19.3	22.5	48.7	22.2
D	28.45	14.5	21.05	22.5	30.8	23
SD	43.1	50.6	56.14	32.4	10.3	41.2

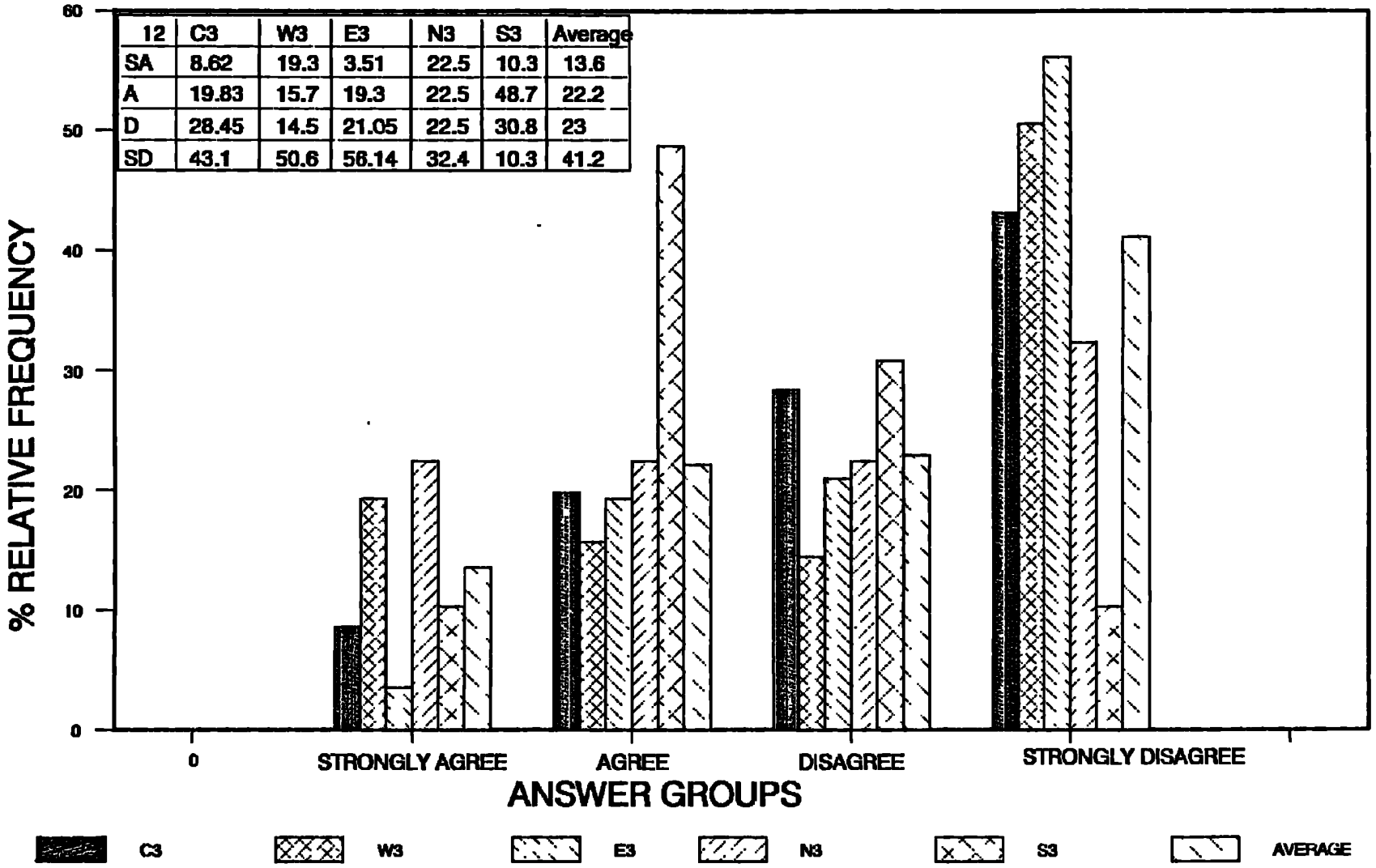


Fig.5.20

FEMALE TEACHERS
THERE ARE OVERHEAD PROJECTORS

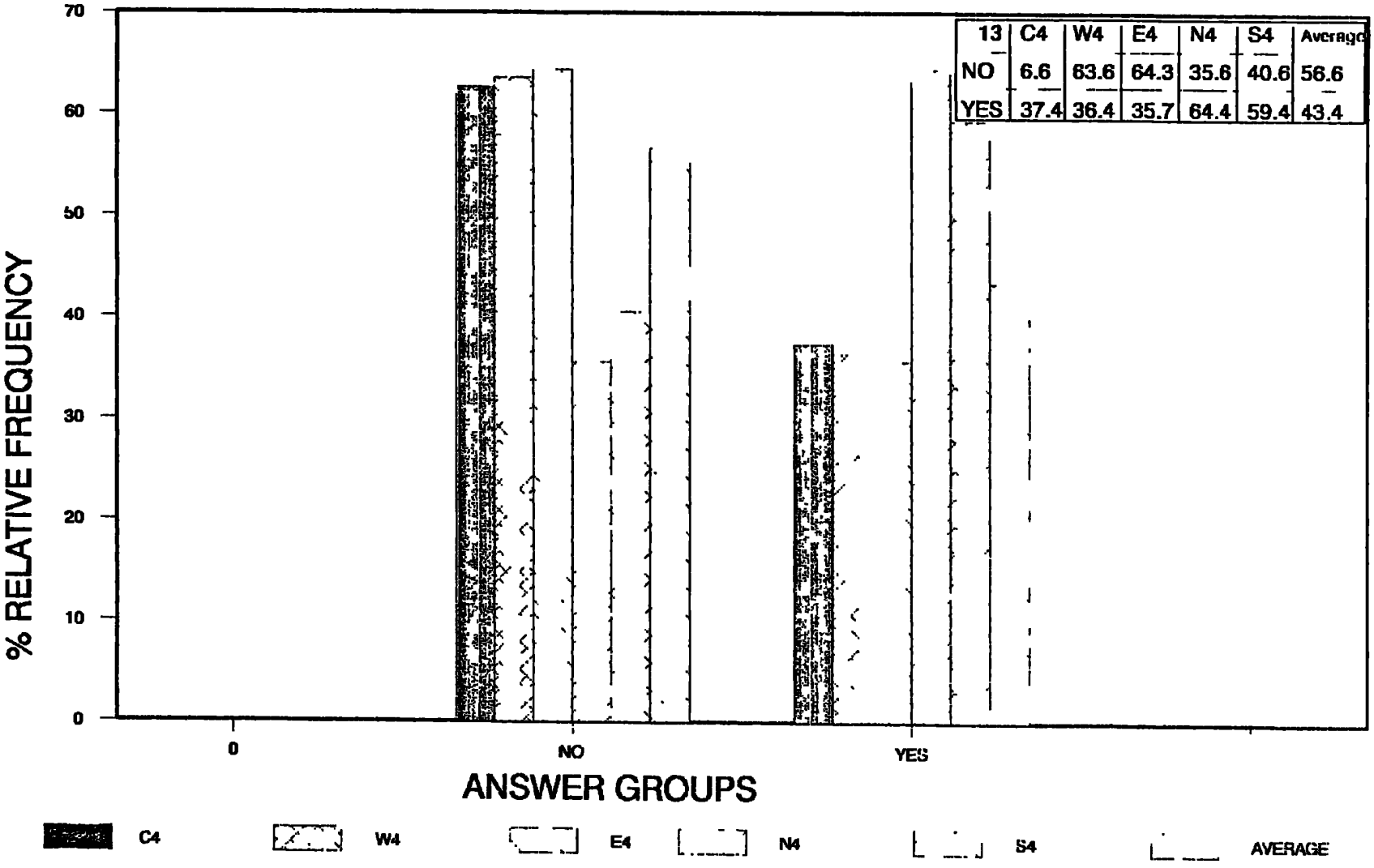
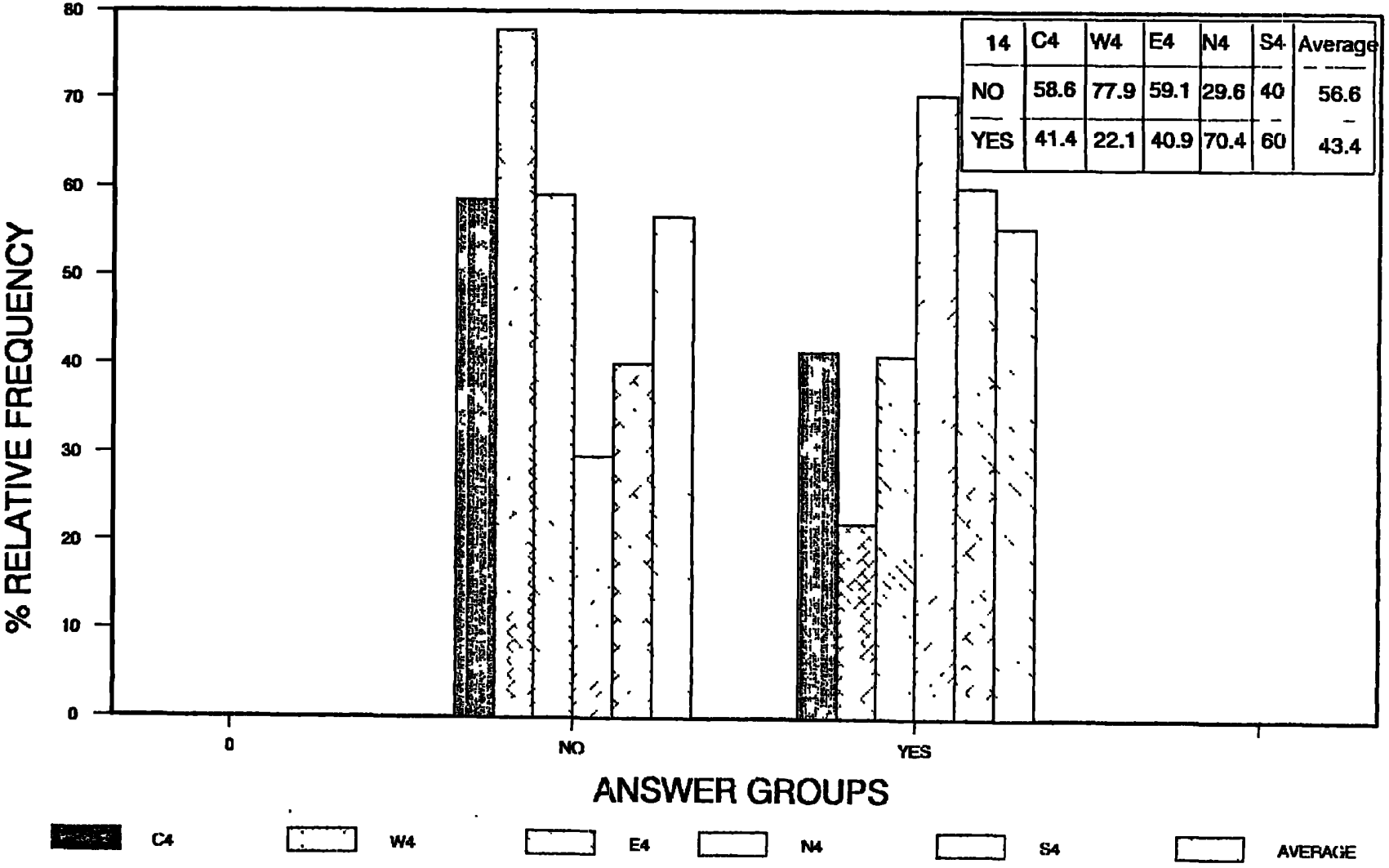


Fig.5.21

FEMALE TEACHERS

THERE ARE SLIDE PROJECTORS



14	C4	W4	E4	N4	S4	Average
NO	58.6	77.9	59.1	29.6	40	56.6
YES	41.4	22.1	40.9	70.4	60	43.4

FEMALE TEACHERS

Fig.5.22 THERE ARE OPAQUE PROJECTORS

15	C4	W4	E4	N4	S4	Average
NO	58.1	59.7	44.7	9.09	25	44.6
YES	41.9	40.3	55.3	90.91	75	55.4

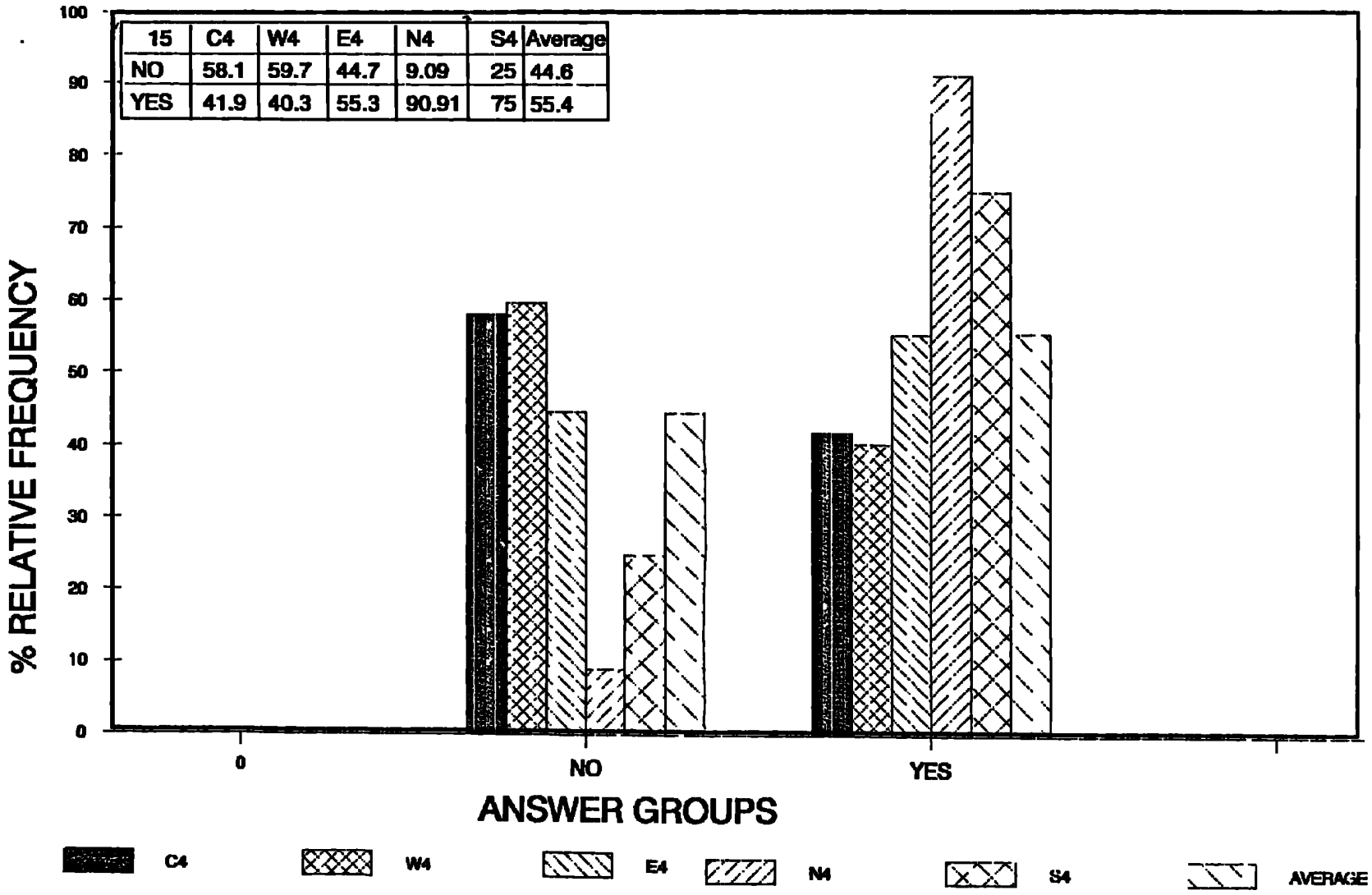


Fig.5.23

FEMALE TEACHERS
THERE ARE FILM STRIP PROJECTORS

16	C4	W4	E4	N4	S4	Average
NO	58.7	46.8	50	11.1	84.4	41.9
YES	41.3	53.2	50	88.9	15.6	58.1

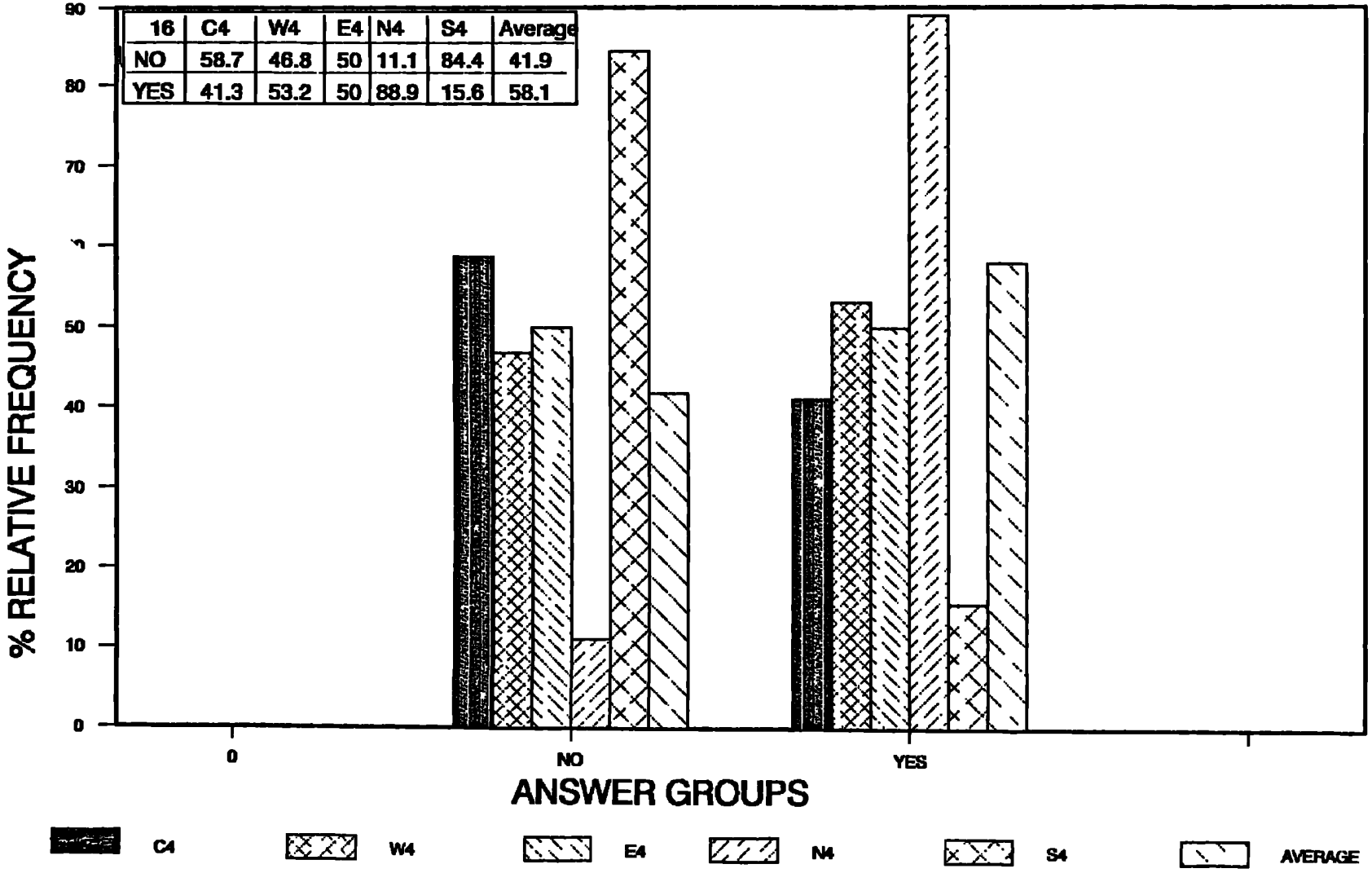


Fig.5.24

FEMALE TEACHERS
THERE ARE 8mm PROJECTORS

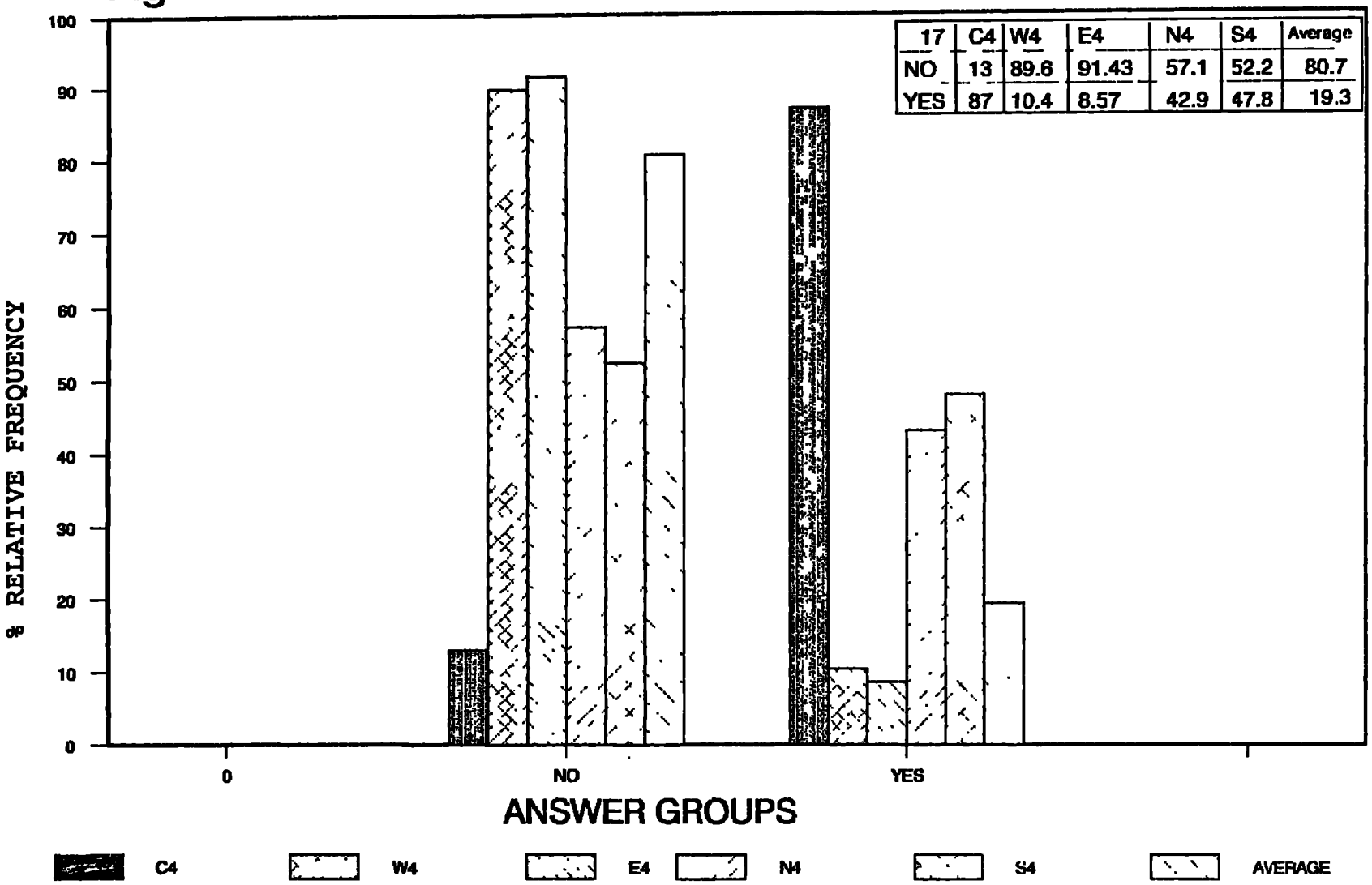
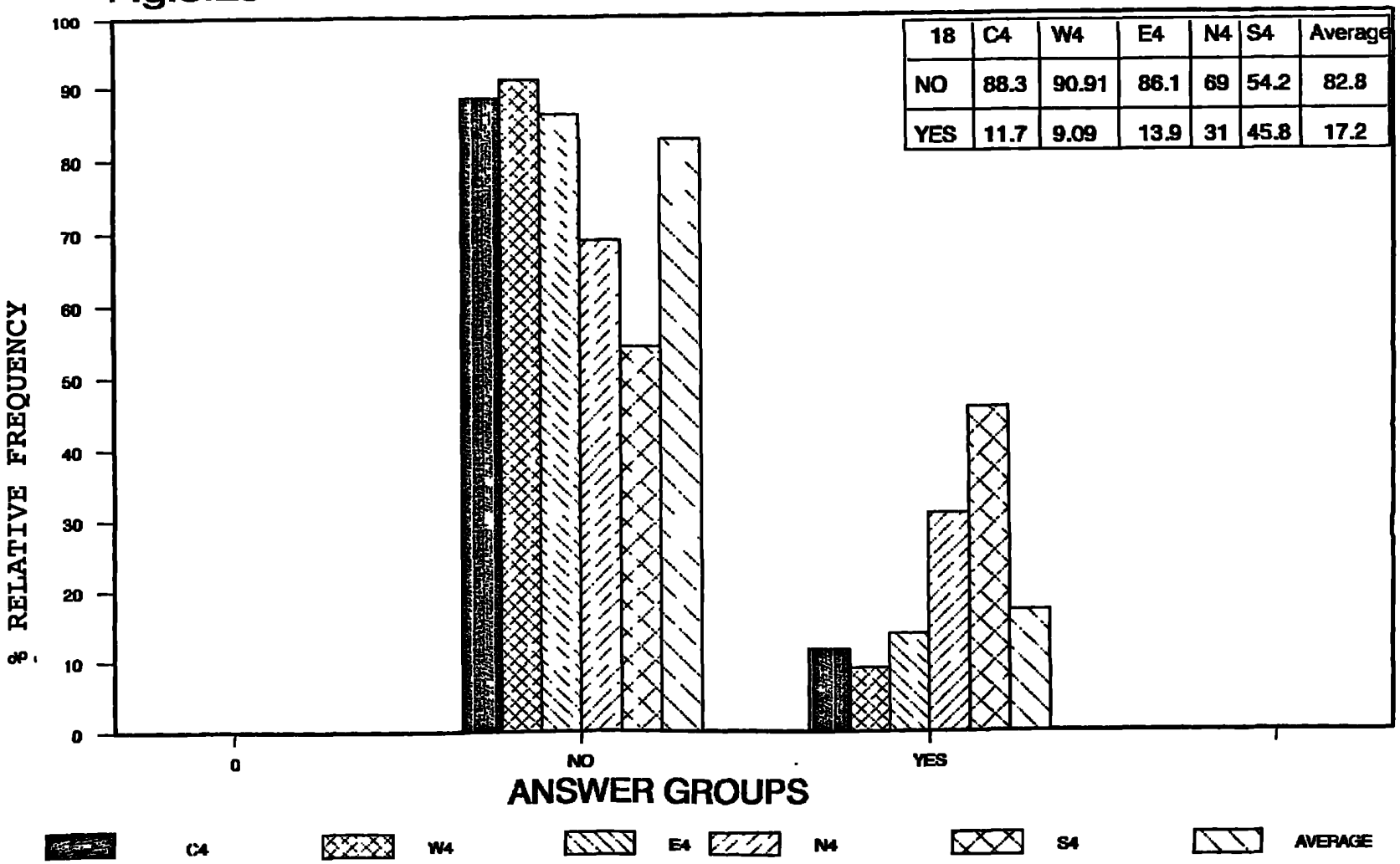


Fig.5.25

FEMALE TEACHERS

THERE ARE FILM-LOOP PROJECTORS



18	C4	W4	E4	N4	S4	Average
NO	88.3	90.91	86.1	69	54.2	82.8
YES	11.7	9.09	13.9	31	45.8	17.2

Fig.5.26

THERE ARE 16mm PROJECTORS

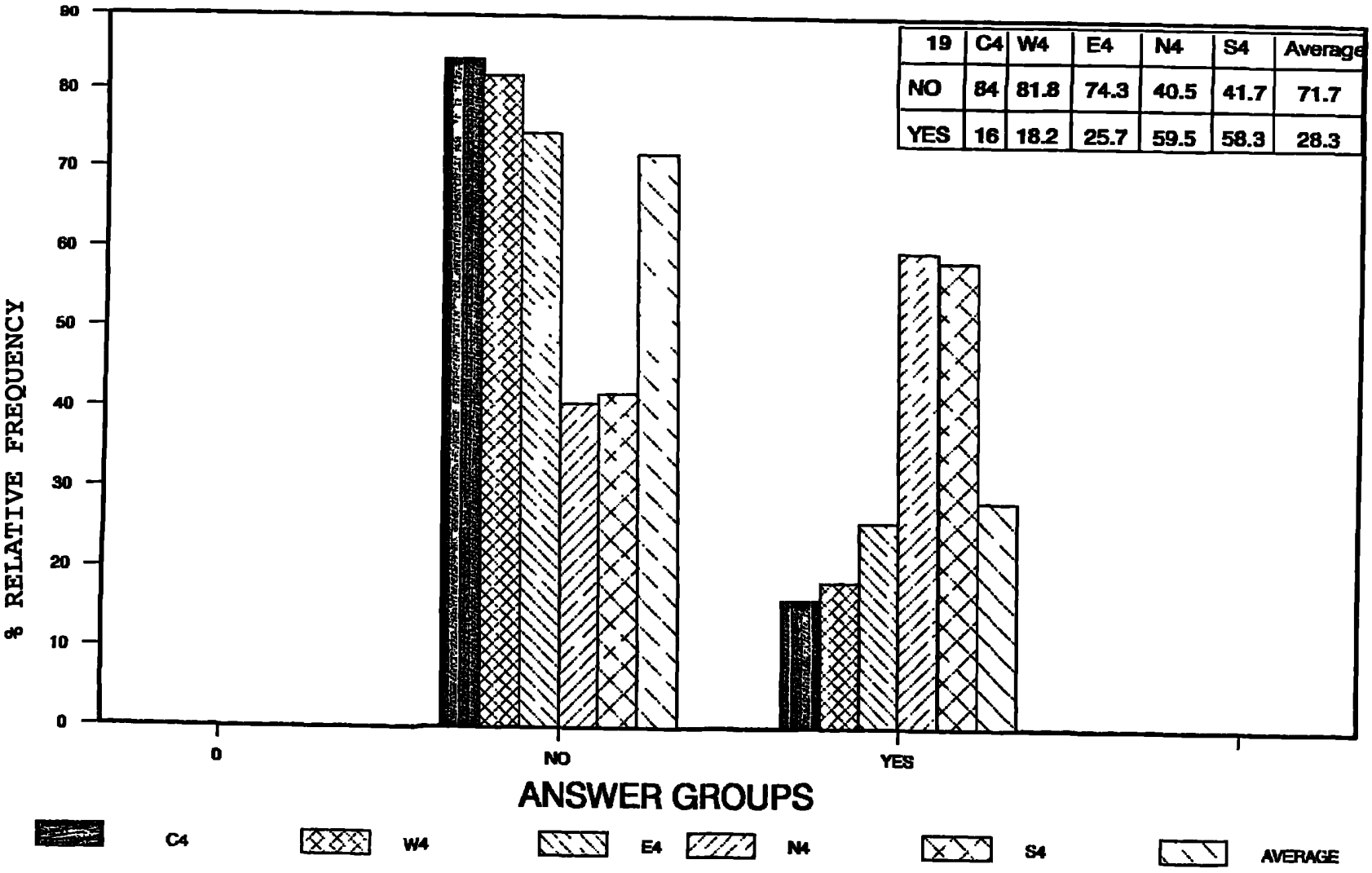


Fig.5.27

FENLE TEACHERS

THERE ARE TELEVISION

20	C4	W4	E4	N4	S4	Average
NO	56	23.7	34	42.4	11.4	38
YES	44	76.3	66	57.6	88.6	62

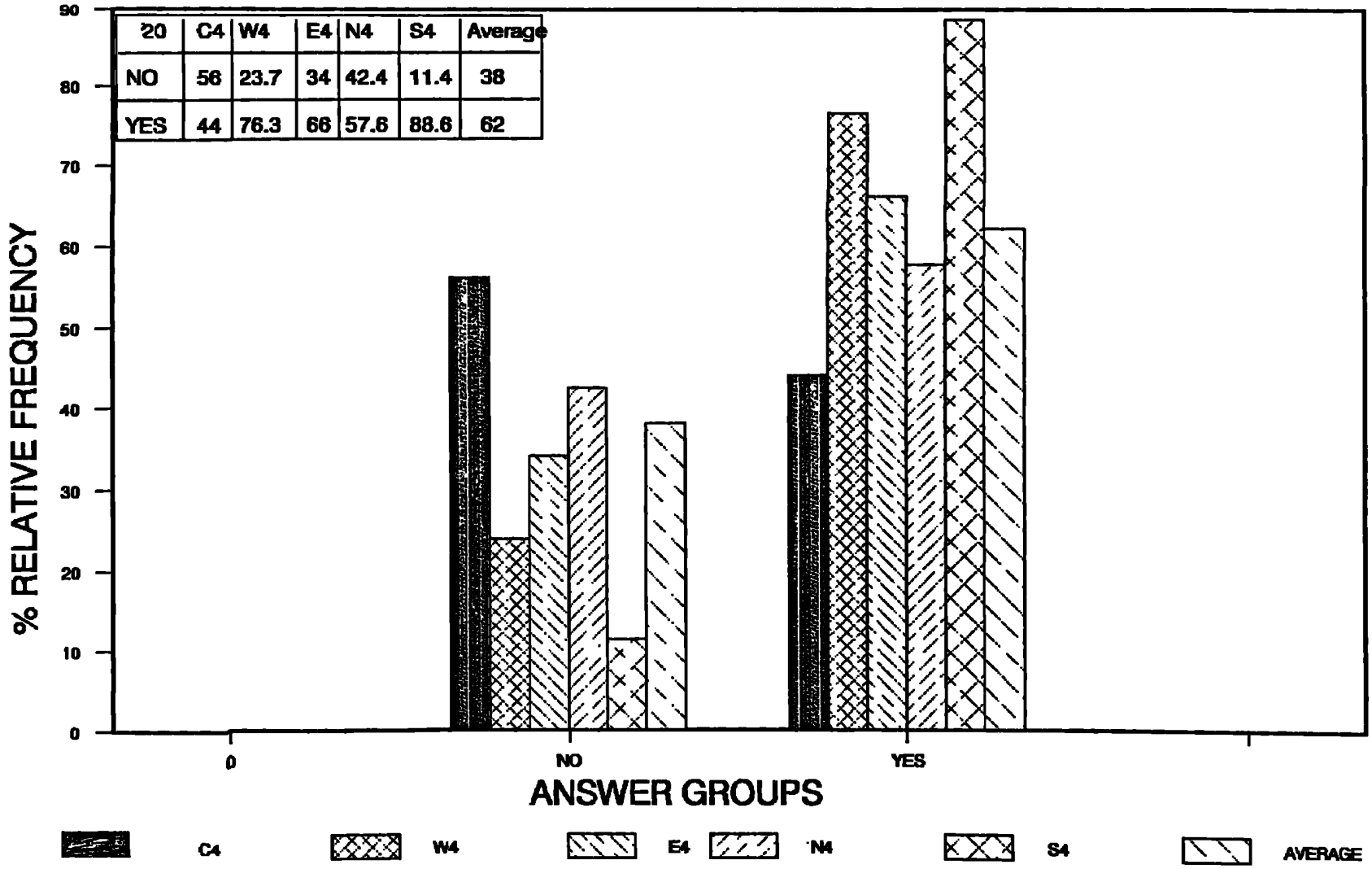


Fig.5.28

FEMALE TEACHERS
THERE ARE VIDEOS

21	C4	W4	E4	N4	S4	Average
NO	37.6	19.7	31.2	23.7	8.57	26.9
YES	62.4	80.3	68.8	76.3	91.43	73.1

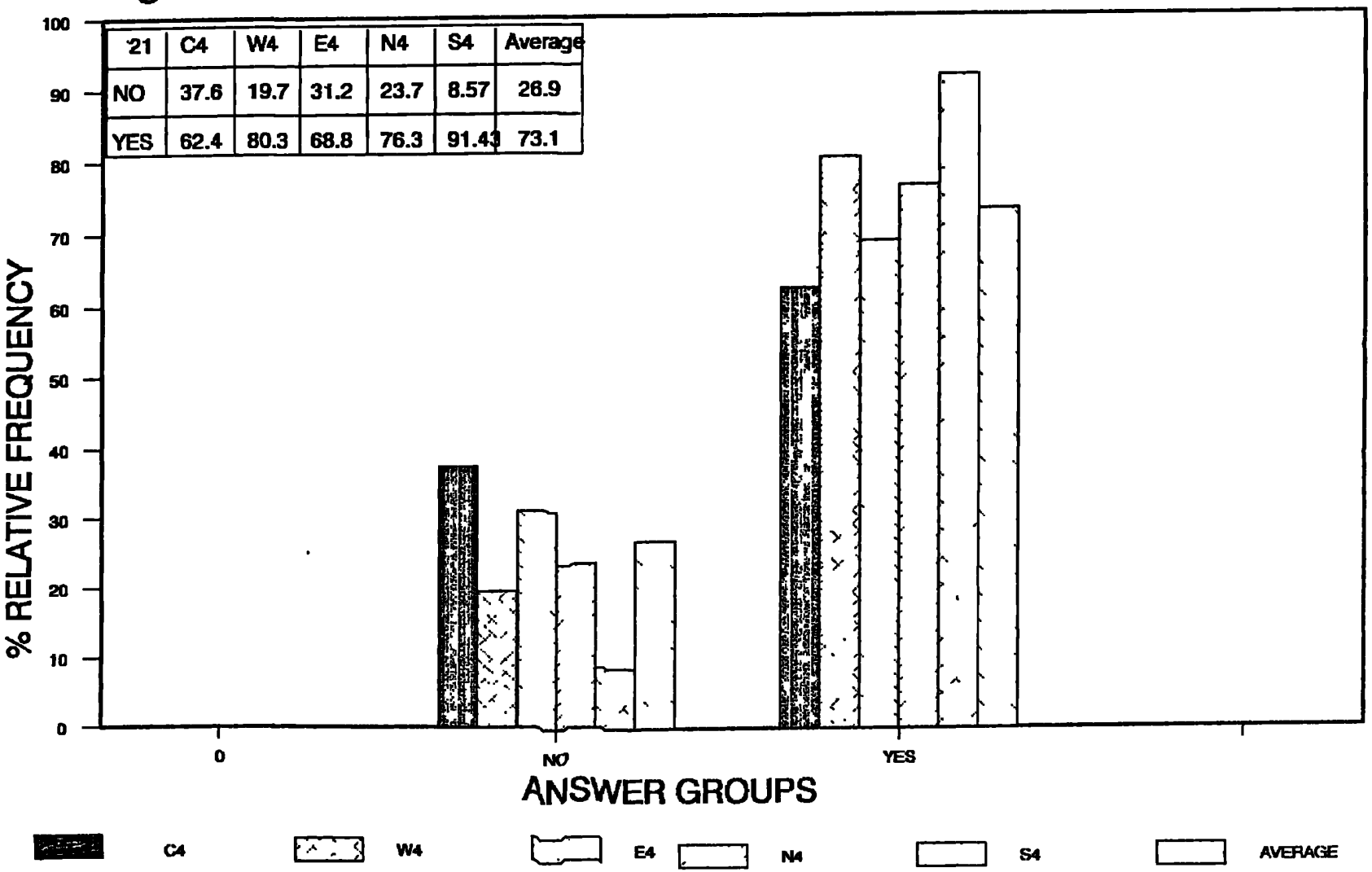


Fig.5.29

FEMALE TEACHERS

THERE ARE AUDIO TAPES

22	C4	W4	E4	N4	S4	Average
NO	44.6	48.1	50	19.3	15.6	38.6
YES	55.4	51.9	50	80.7	84.4	61.4

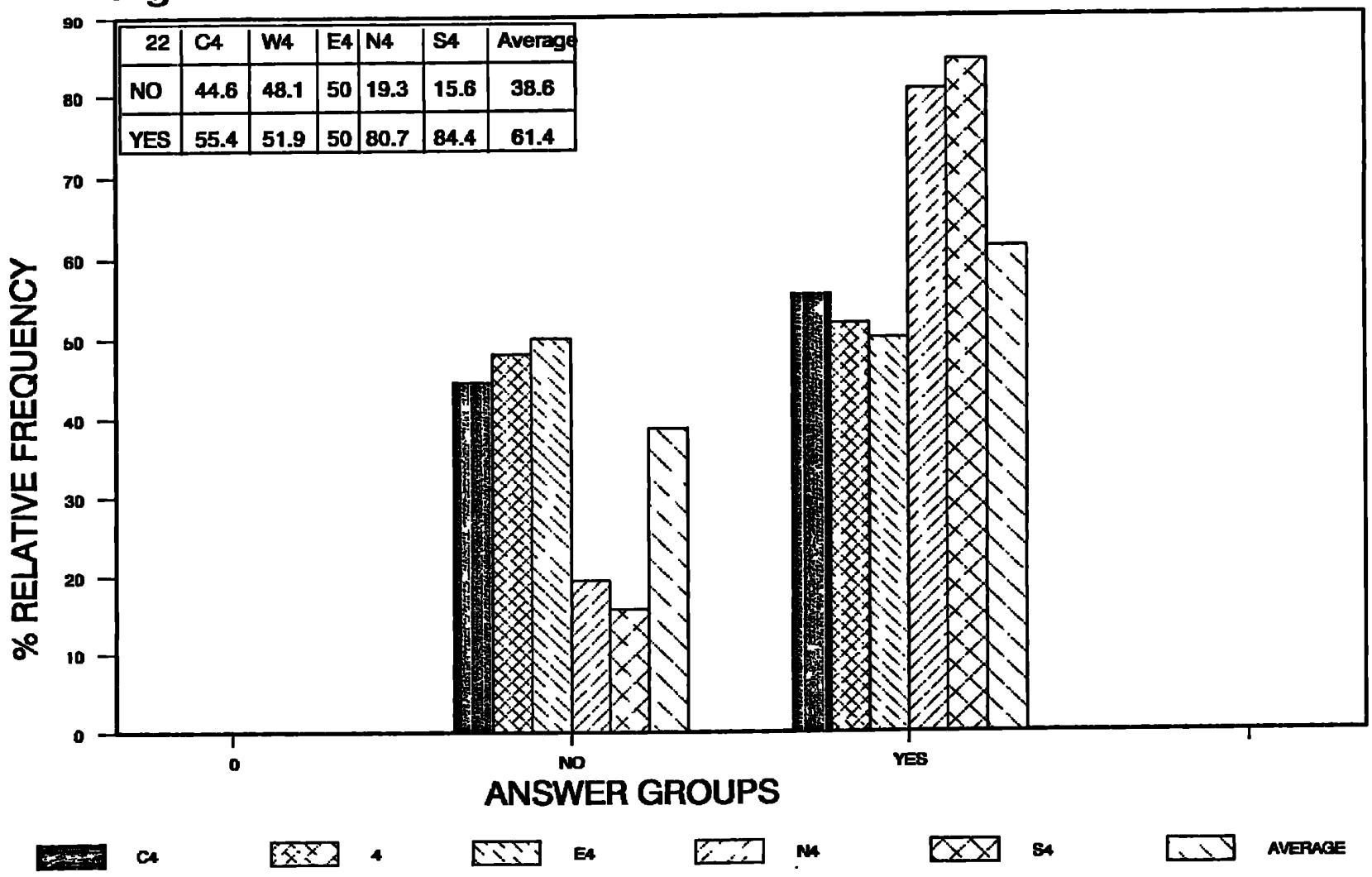


Fig.5.30

FEMALE TEACHERS

THERE ARE LANGUAGE LABORATORIES

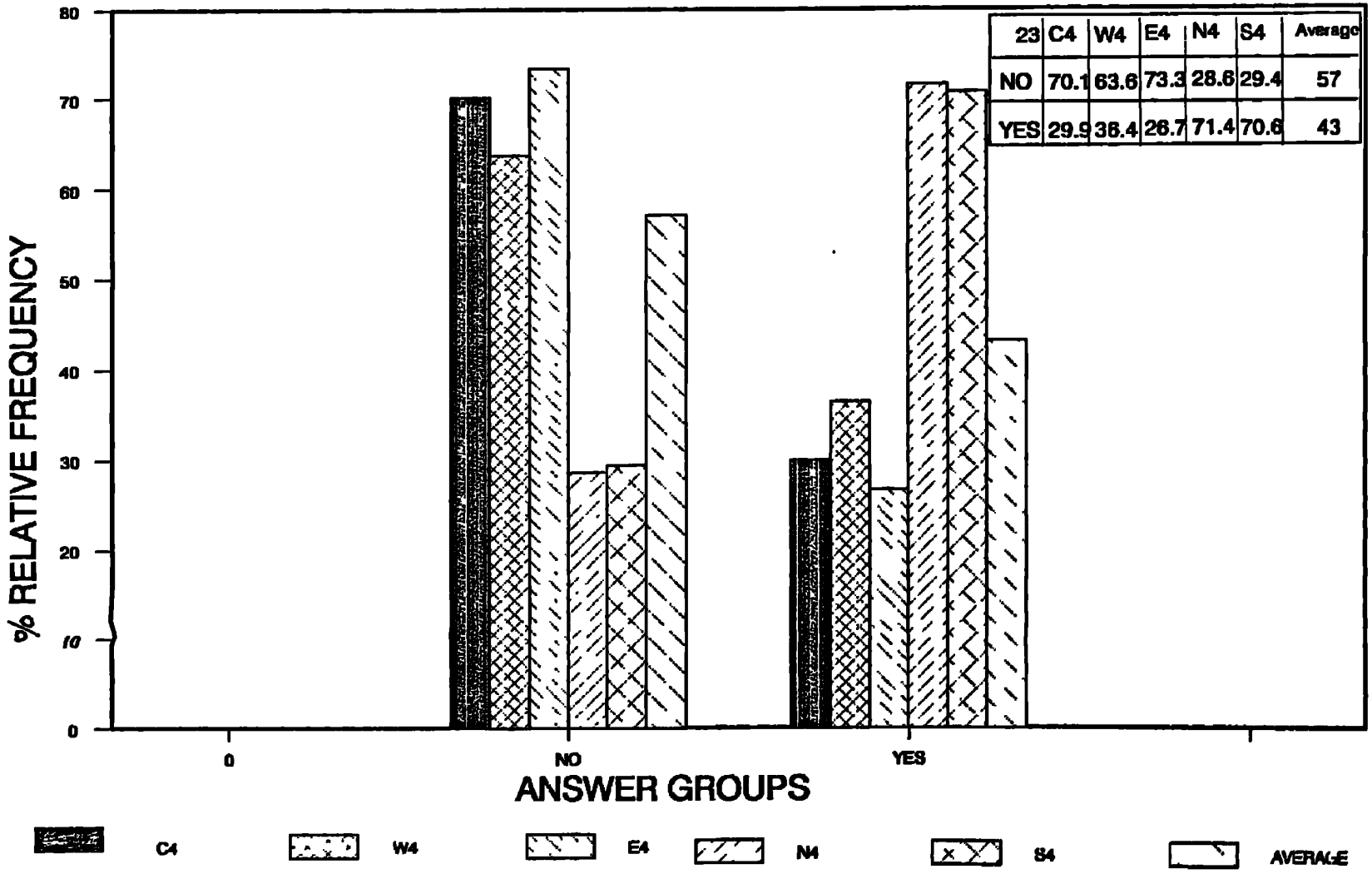
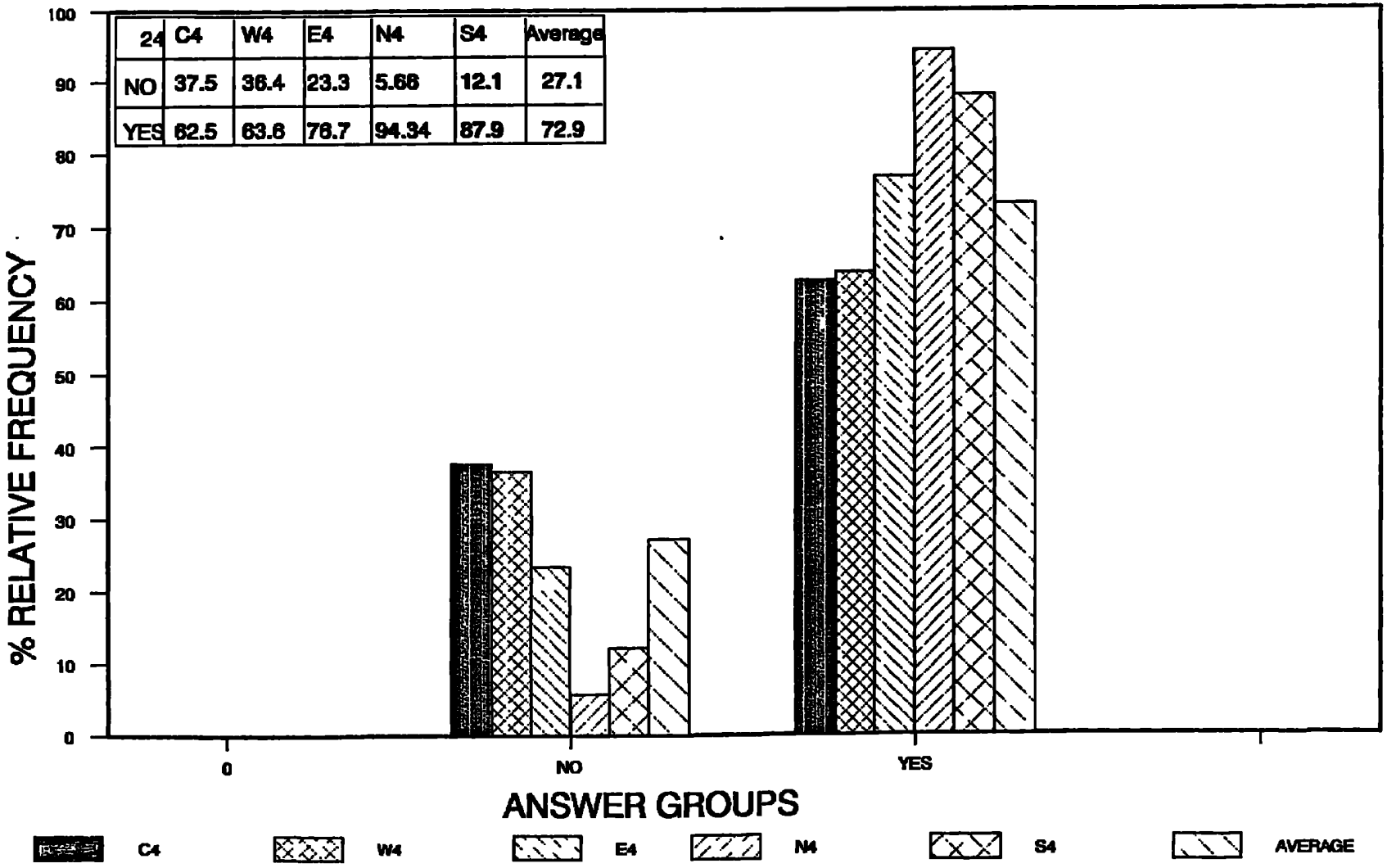


Fig.5.31

FEMALE TEACHERS

THERE ARE MODELS AND SPECIMENS

24	C4	W4	E4	N4	S4	Average
NO	37.5	36.4	23.3	5.66	12.1	27.1
YES	62.5	63.6	76.7	94.34	87.9	72.9

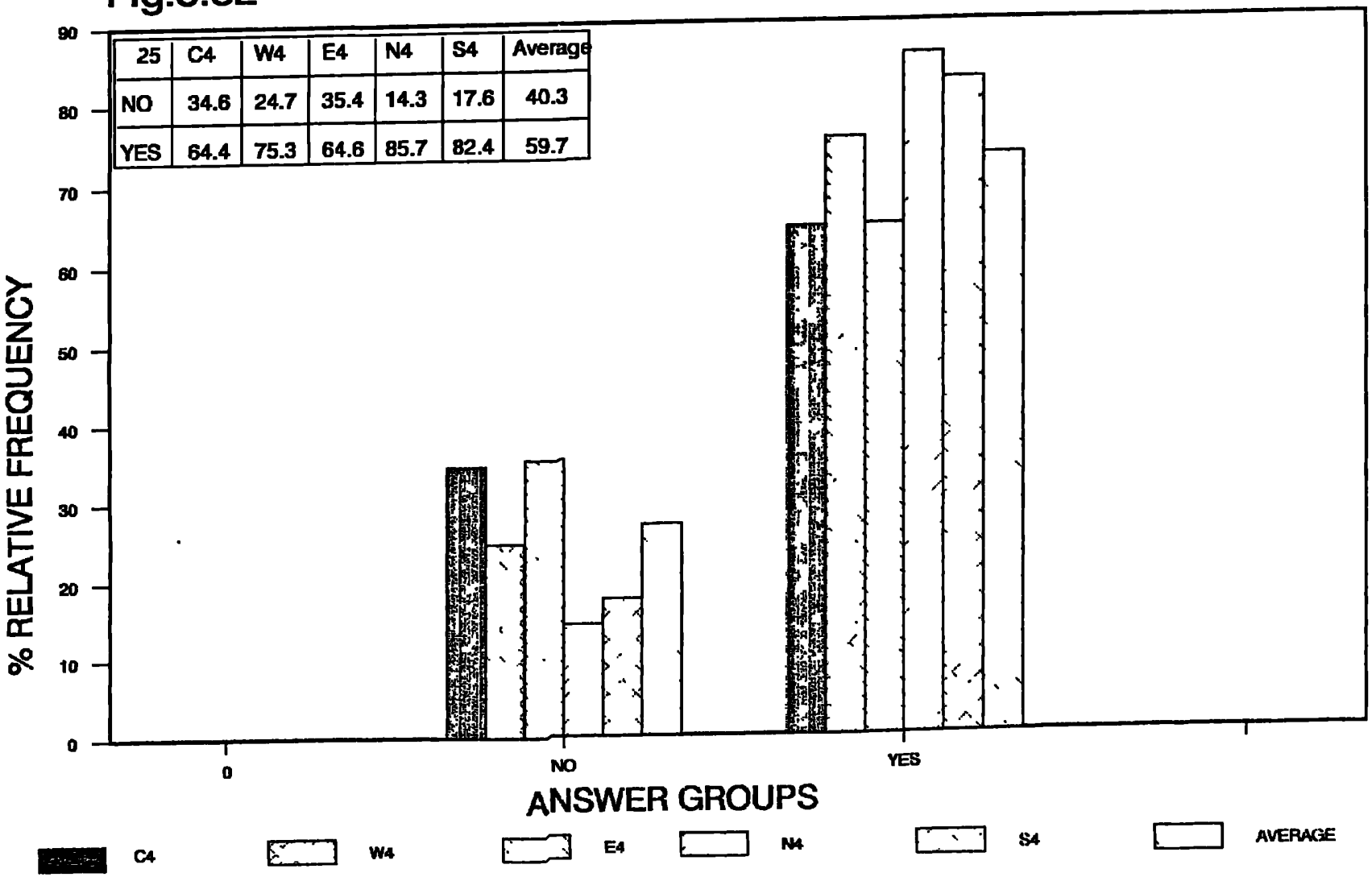


FEMALE TECHERS

THERE ARE CHARTS OR GRAPHS

Fig.5.32

25	C4	W4	E4	N4	S4	Average
NO	34.6	24.7	35.4	14.3	17.6	40.3
YES	64.4	75.3	64.6	85.7	82.4	59.7



FEMALE TEACHERS

FIG.5.33 THERE ARE ILLUSTRATIONS

26	C4	W4	E4	N4	S4	Average
NO	57.6	33.33	45.5	17.78	34.5	40.3
YES	42.4	66.7	54.5	82.22	65.5	59.7

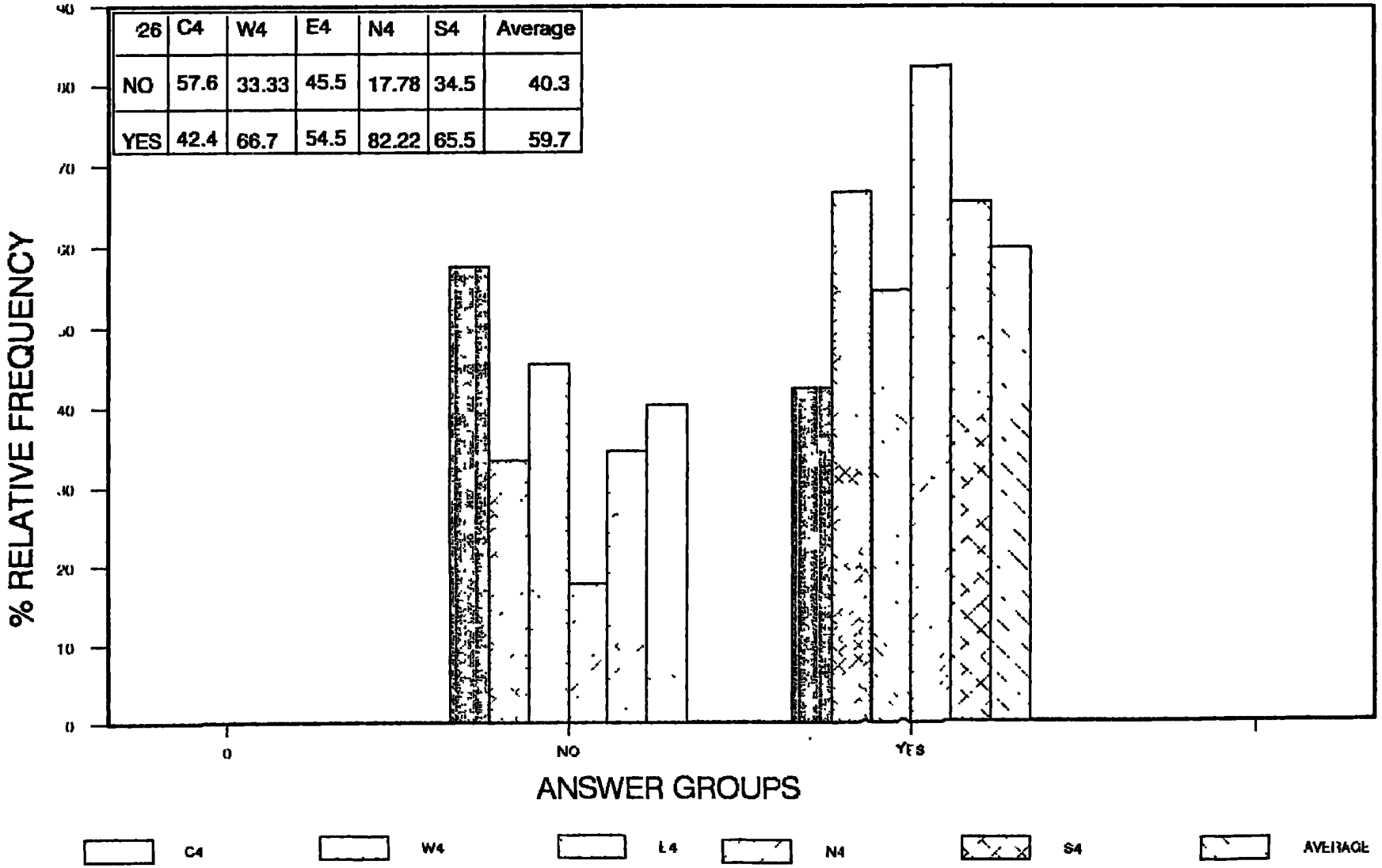
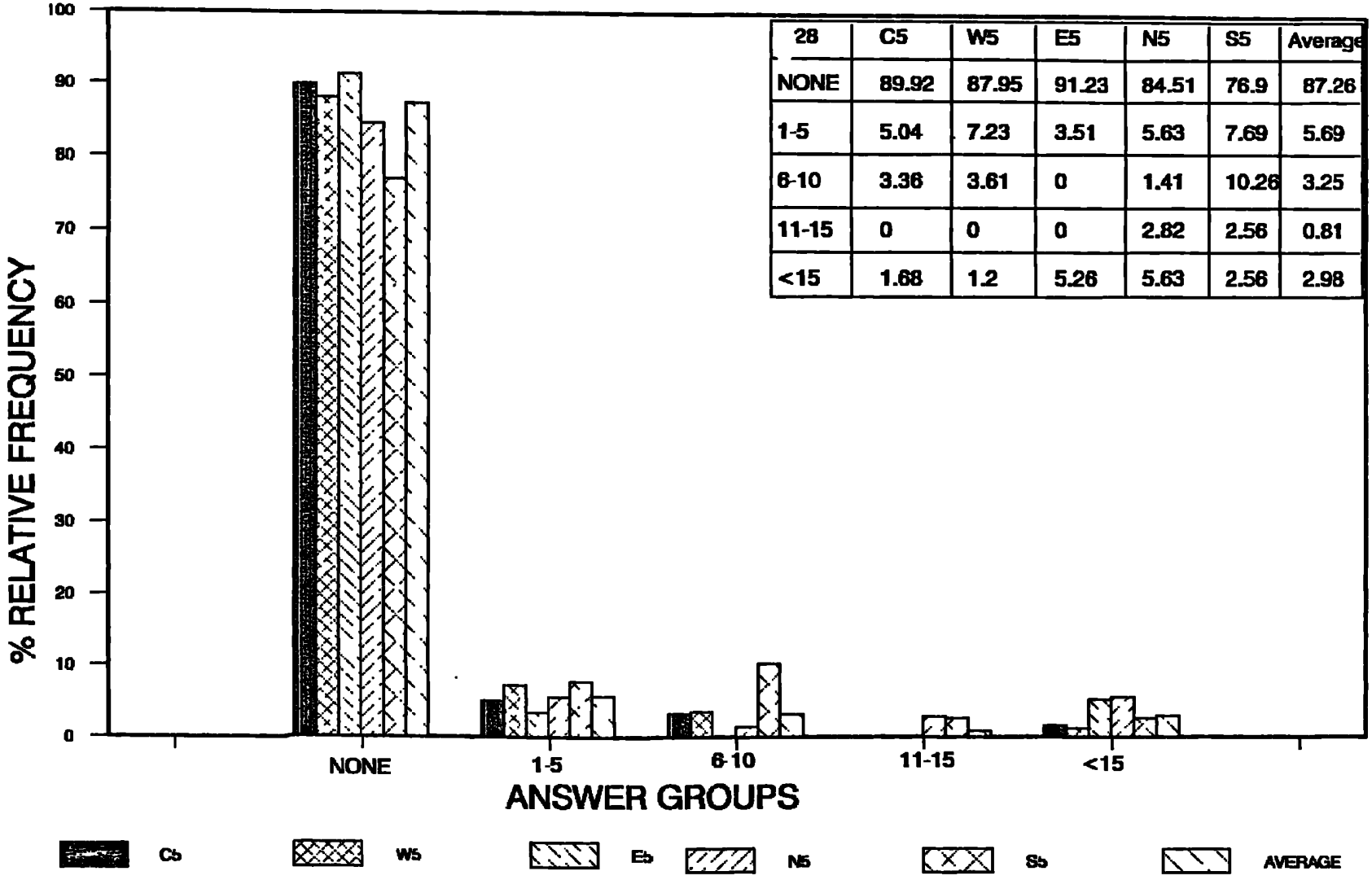


Fig.5.34

FEMALE TEACHERS

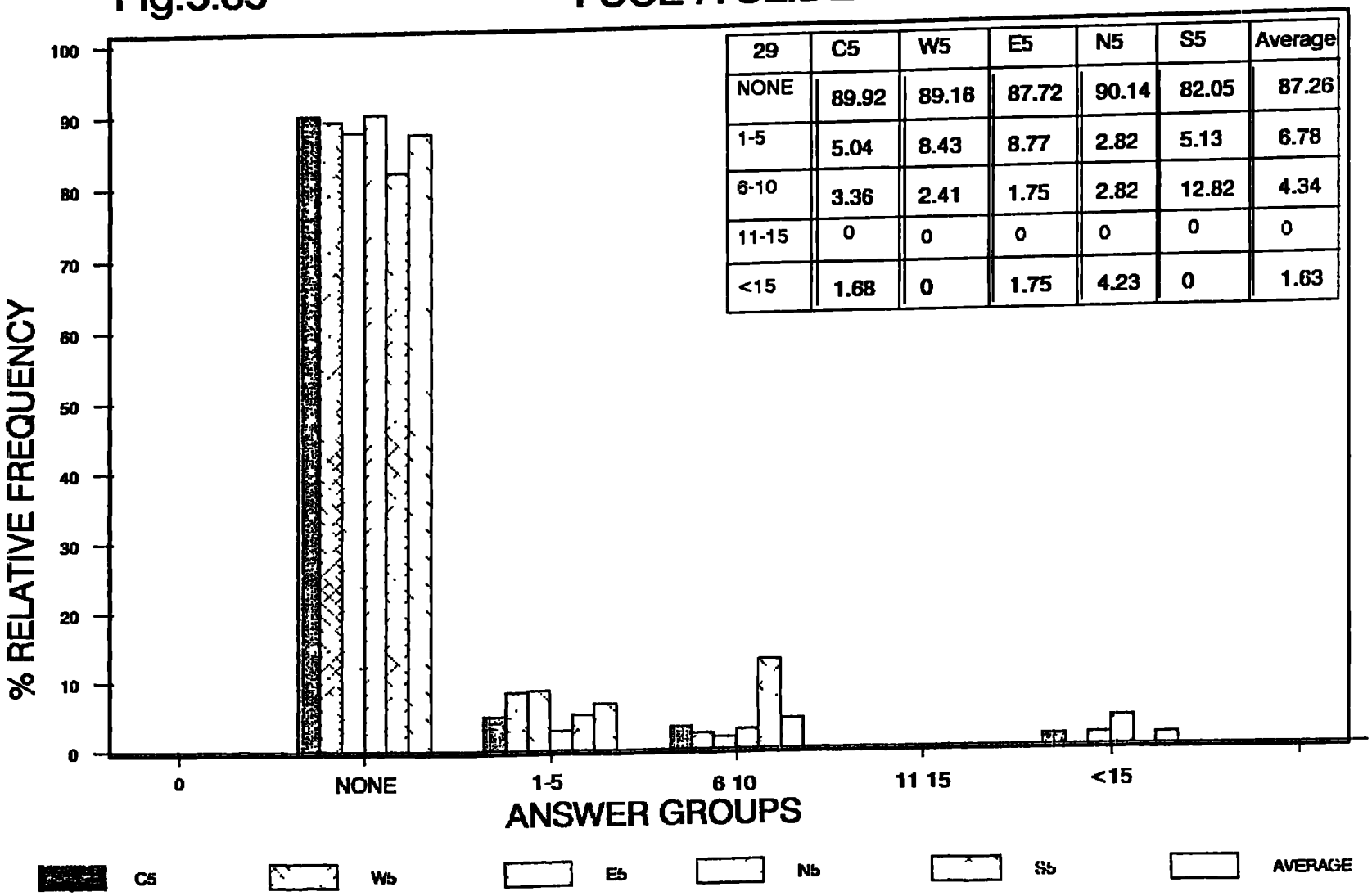
I USE AN OVERHEAD PROJECTORS



28	C5	W5	E5	N5	S5	Average
NONE	89.92	87.95	91.23	84.51	76.9	87.26
1-5	5.04	7.23	3.51	5.63	7.69	5.69
6-10	3.36	3.61	0	1.41	10.26	3.25
11-15	0	0	0	2.82	2.56	0.81
<15	1.68	1.2	5.26	5.63	2.56	2.98

Fig.5.35

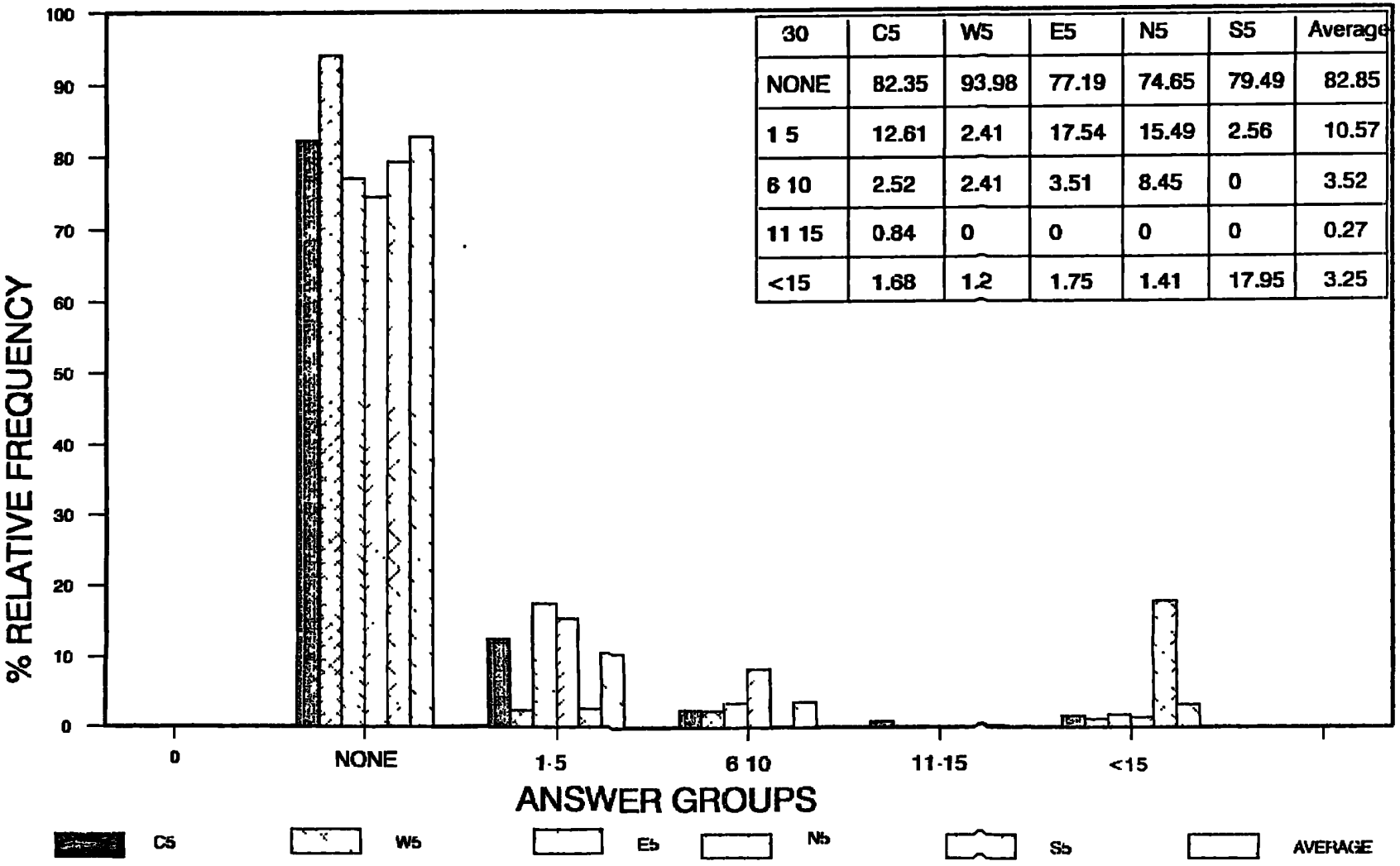
FEMALE TEACHERS
I USE A SLIDE PROJECTOR



29	C5	W5	E5	N5	S5	Average
NONE	89.92	89.16	87.72	90.14	82.05	87.26
1-5	5.04	8.43	8.77	2.82	5.13	6.78
6-10	3.36	2.41	1.75	2.82	12.82	4.34
11-15	0	0	0	0	0	0
<15	1.68	0	1.75	4.23	0	1.63

Fig.5.36

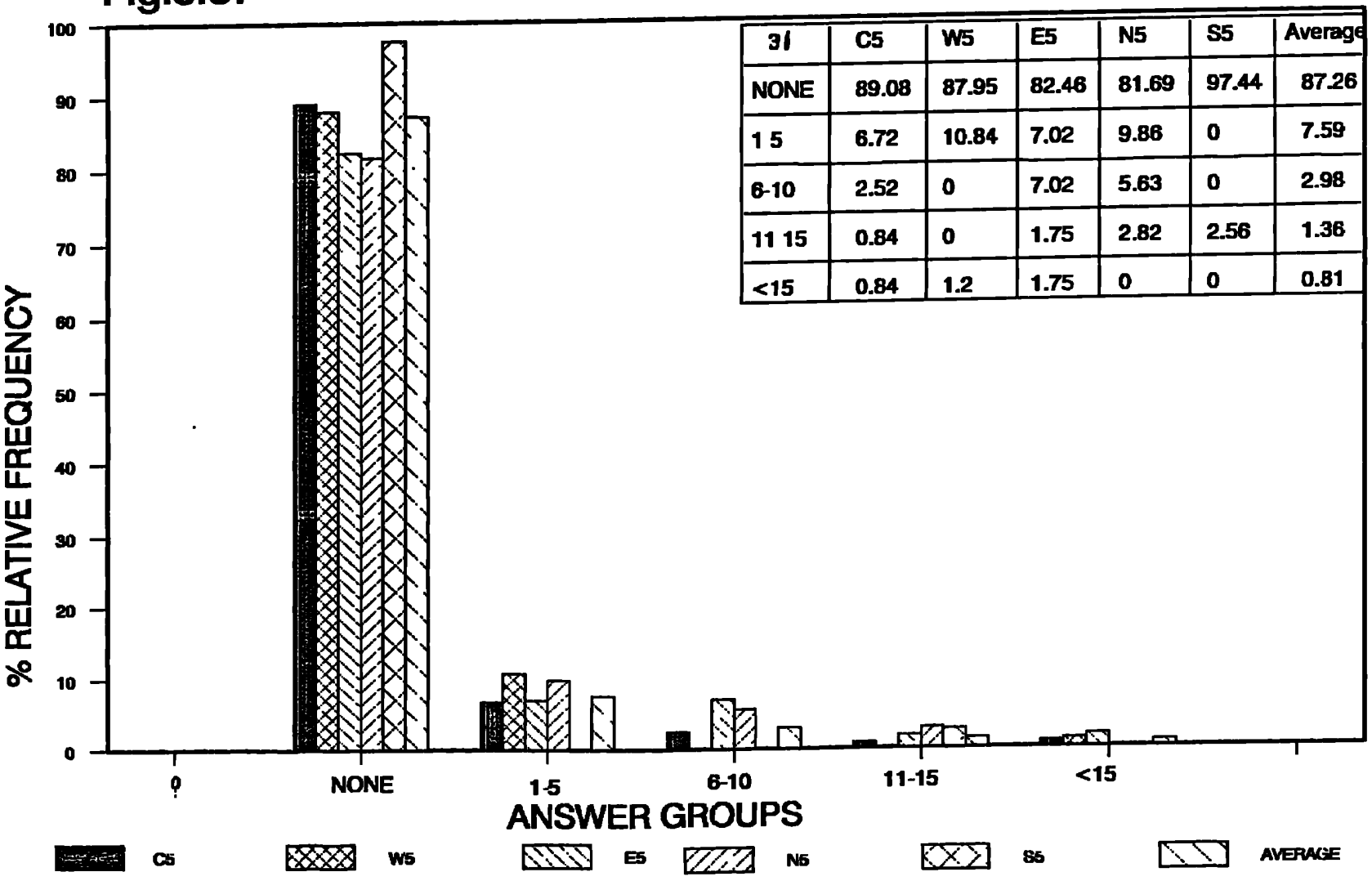
FEMALE TEACHERS
I USE AN OPAQUE PROJECTOR



30	C5	W5	E5	N5	S5	Average
NONE	82.35	93.98	77.19	74.65	79.49	82.85
1 5	12.61	2.41	17.54	15.49	2.56	10.57
6 10	2.52	2.41	3.51	8.45	0	3.52
11 15	0.84	0	0	0	0	0.27
<15	1.68	1.2	1.75	1.41	17.95	3.25

Fig.5.37

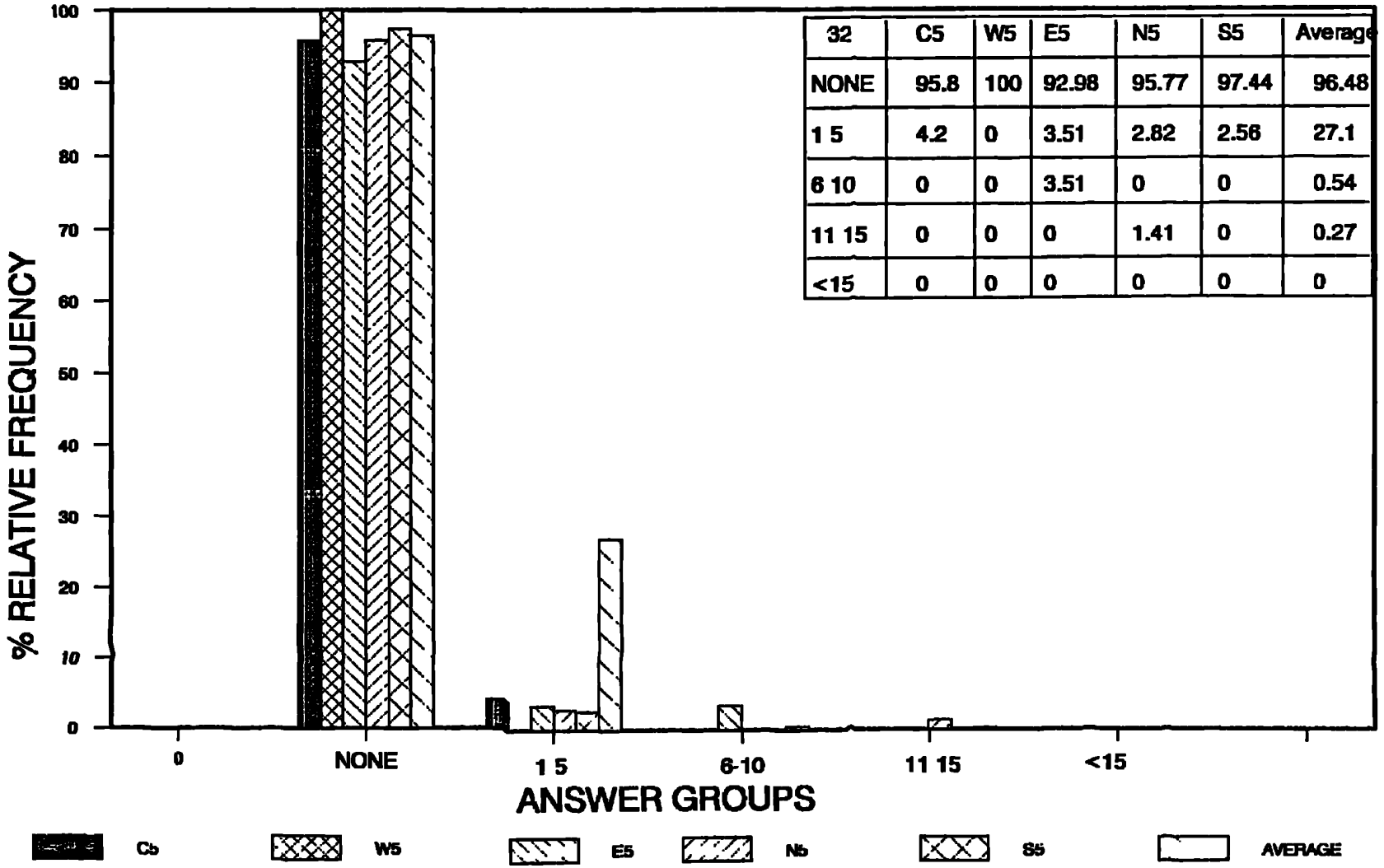
FEMALE TEACHERS
I USE A FILM STRIP PROJECTOR



3/	C5	W5	E5	N5	S5	Average
NONE	89.08	87.95	82.46	81.69	97.44	87.26
1 5	6.72	10.84	7.02	9.86	0	7.59
6-10	2.52	0	7.02	5.63	0	2.98
11 15	0.84	0	1.75	2.82	2.56	1.36
<15	0.84	1.2	1.75	0	0	0.81

Fig.5.38

FEMALE TEACHERS
I USE AN 8mm PROJECTOR

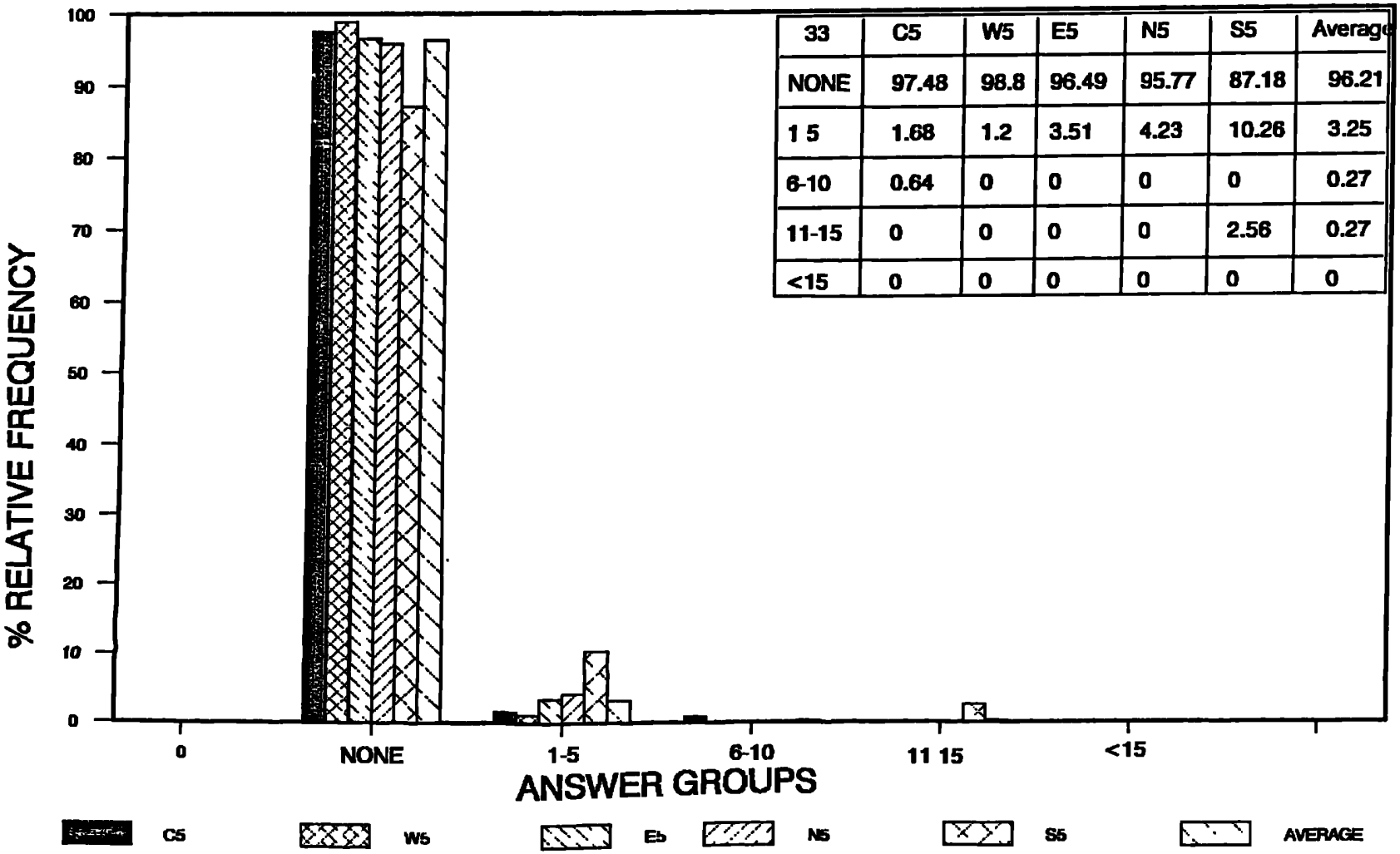


32	C5	W5	E5	N5	S5	Average
NONE	95.8	100	92.98	95.77	97.44	96.48
1 5	4.2	0	3.51	2.82	2.56	27.1
6 10	0	0	3.51	0	0	0.54
11 15	0	0	0	1.41	0	0.27
<15	0	0	0	0	0	0

Fig.5.39

FEMALE TEACHERS

I USE A FILM-LOOP PROJECTOR$

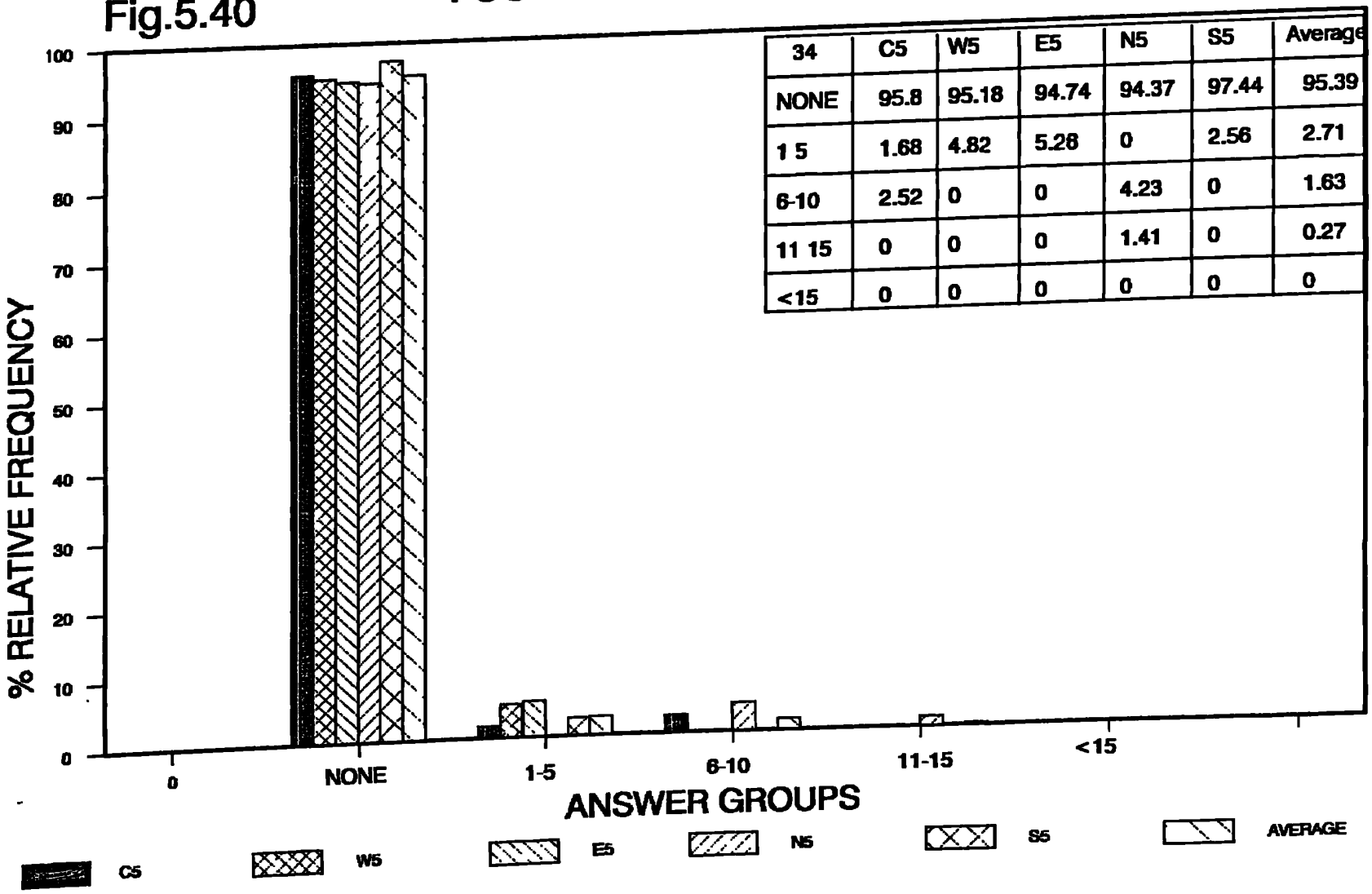


33	C5	W5	E5	N5	S5	Average
NONE	97.48	98.8	96.49	95.77	87.18	96.21
1 5	1.68	1.2	3.51	4.23	10.26	3.25
6-10	0.64	0	0	0	0	0.27
11-15	0	0	0	0	2.56	0.27
<15	0	0	0	0	0	0

FEMALE TEACHERS

I USE A 16mm PROJECTOR

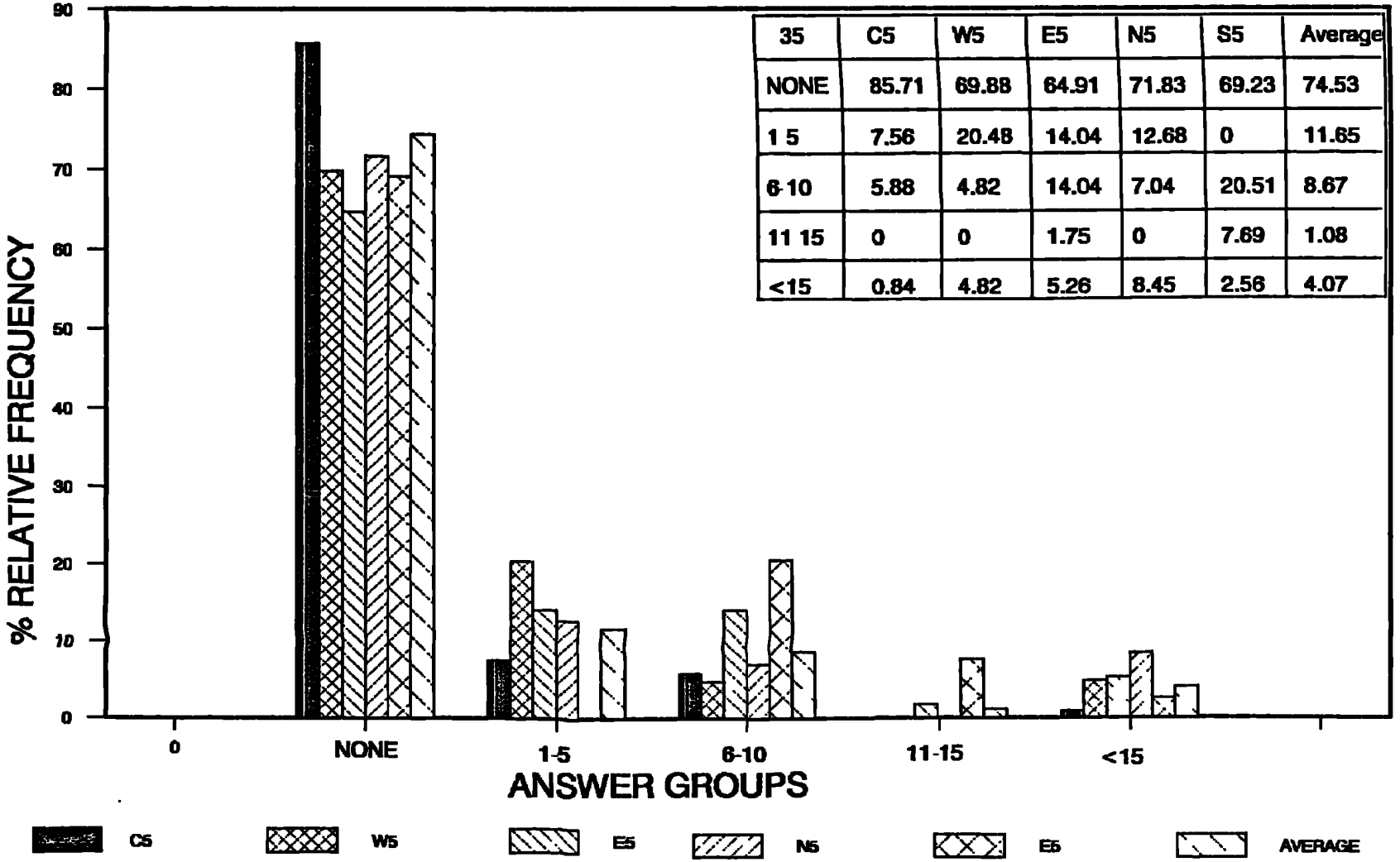
Fig.5.40



34	C5	W5	E5	N5	S5	Average
NONE	95.8	95.18	94.74	94.37	97.44	95.39
1 5	1.68	4.82	5.26	0	2.56	2.71
6-10	2.52	0	0	4.23	0	1.63
11 15	0	0	0	1.41	0	0.27
<15	0	0	0	0	0	0

FEMALE TEACHERS
I USE TELEVISION

Fig.5.41

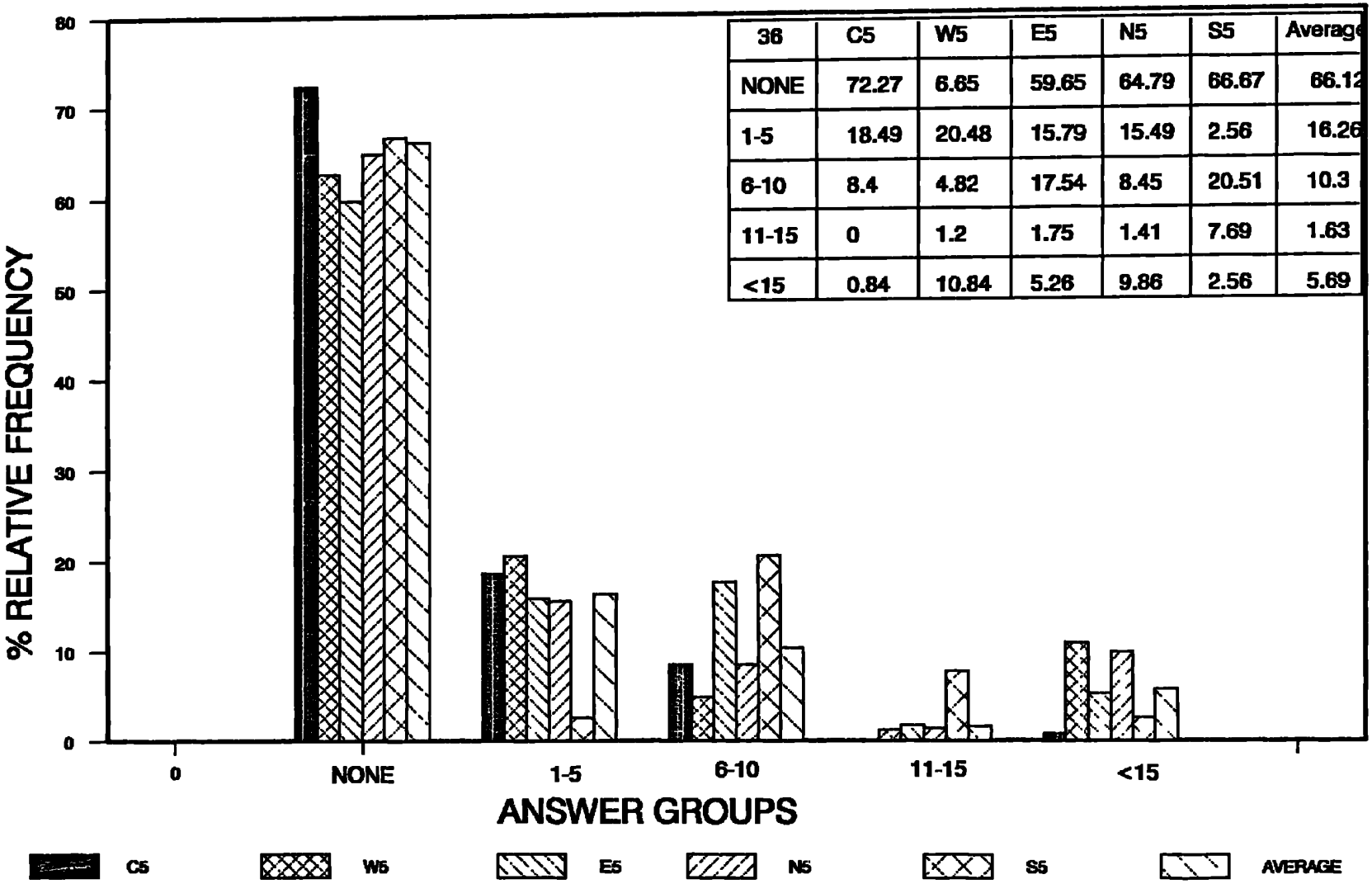


35	C5	W5	E5	N5	S5	Average
NONE	85.71	69.88	64.91	71.83	69.23	74.53
1 5	7.56	20.48	14.04	12.68	0	11.65
6-10	5.88	4.82	14.04	7.04	20.51	8.67
11 15	0	0	1.75	0	7.69	1.08
<15	0.84	4.82	5.26	8.45	2.56	4.07

FEMALE TEACHERS

I USE A VIDEO

Fig.5.42

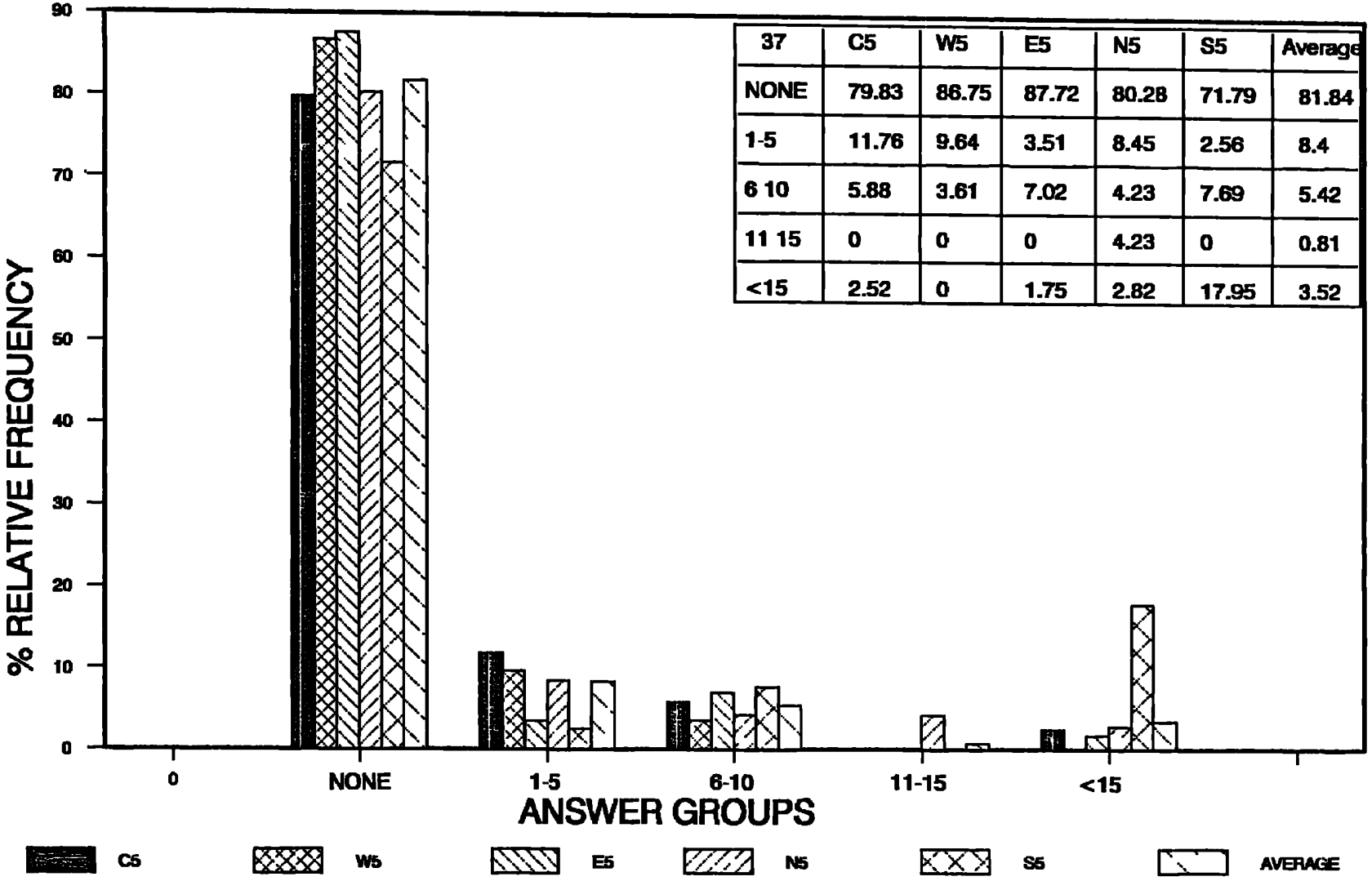


36	C5	W5	E5	N5	S5	Average
NONE	72.27	6.65	59.65	64.79	66.67	66.12
1-5	18.49	20.48	15.79	15.49	2.56	16.26
6-10	8.4	4.82	17.54	8.45	20.51	10.3
11-15	0	1.2	1.75	1.41	7.69	1.63
<15	0.84	10.84	5.26	9.86	2.56	5.69

Fig.5.43

FEMALE TEACHERS

I USE AUDIO TAPE RECORDING

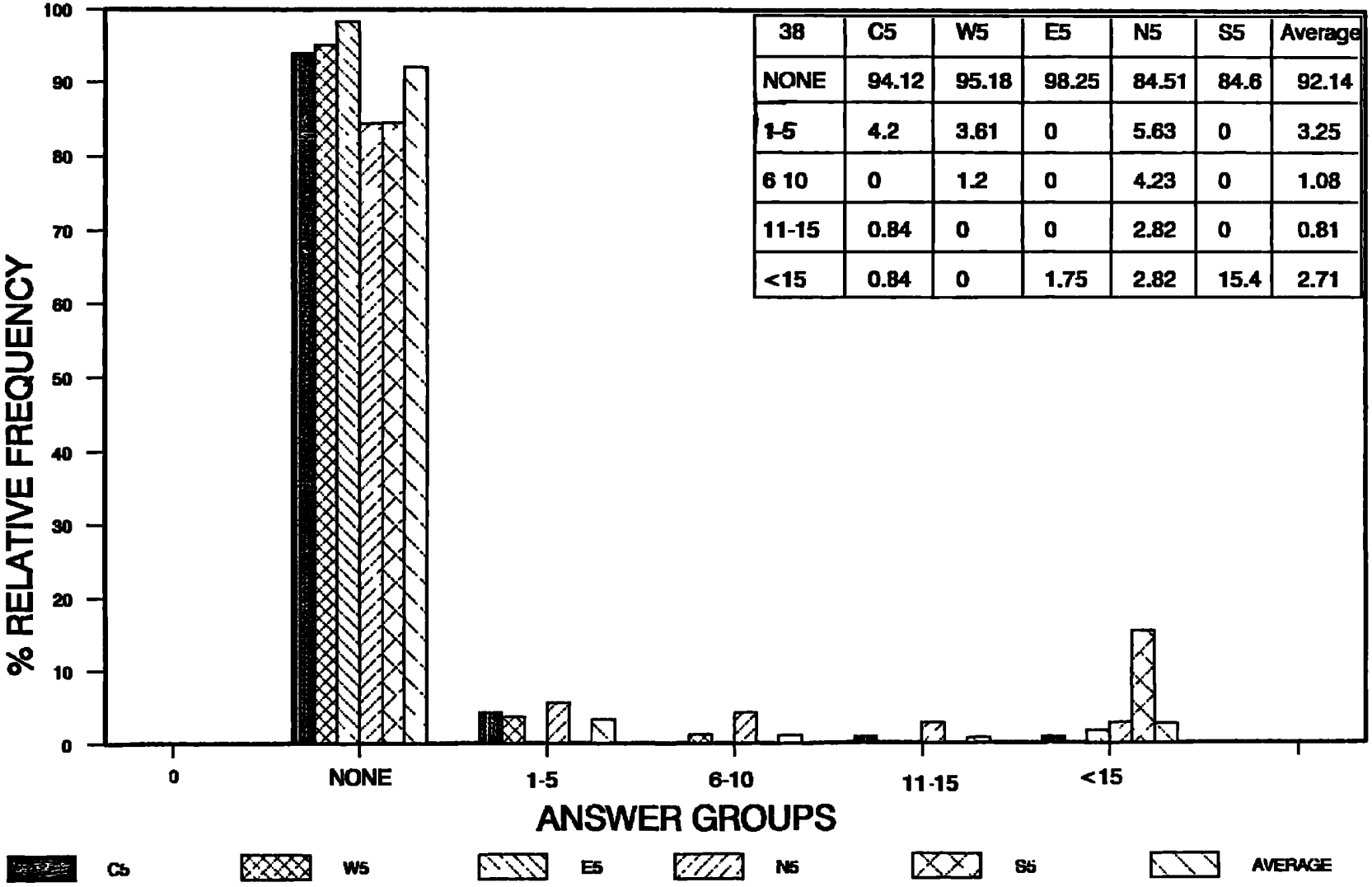


37	C5	W5	E5	N5	S5	Average
NONE	79.83	86.75	87.72	80.28	71.79	81.84
1-5	11.76	9.64	3.51	8.45	2.56	8.4
6 10	5.88	3.61	7.02	4.23	7.69	5.42
11 15	0	0	0	4.23	0	0.81
<15	2.52	0	1.75	2.82	17.95	3.52

FEMALE TEACHERS

I USE A LANGUAGE LABORATORY

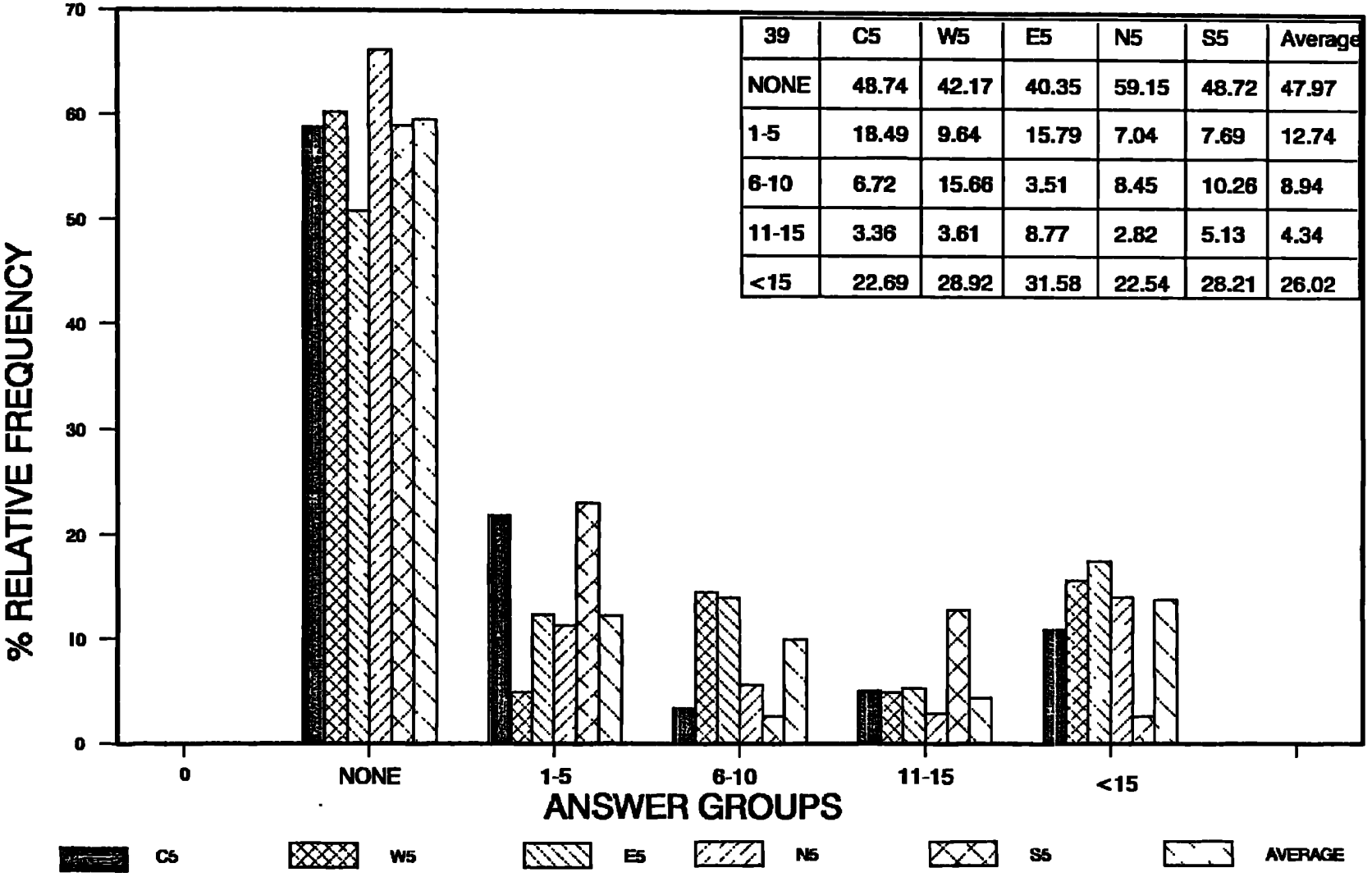
Fig.5.44



38	C5	W5	E5	N5	S5	Average
NONE	94.12	95.18	98.25	84.51	84.6	92.14
1-5	4.2	3.61	0	5.63	0	3.25
6 10	0	1.2	0	4.23	0	1.08
11-15	0.84	0	0	2.82	0	0.81
<15	0.84	0	1.75	2.82	15.4	2.71

FEMALE TEACHERS

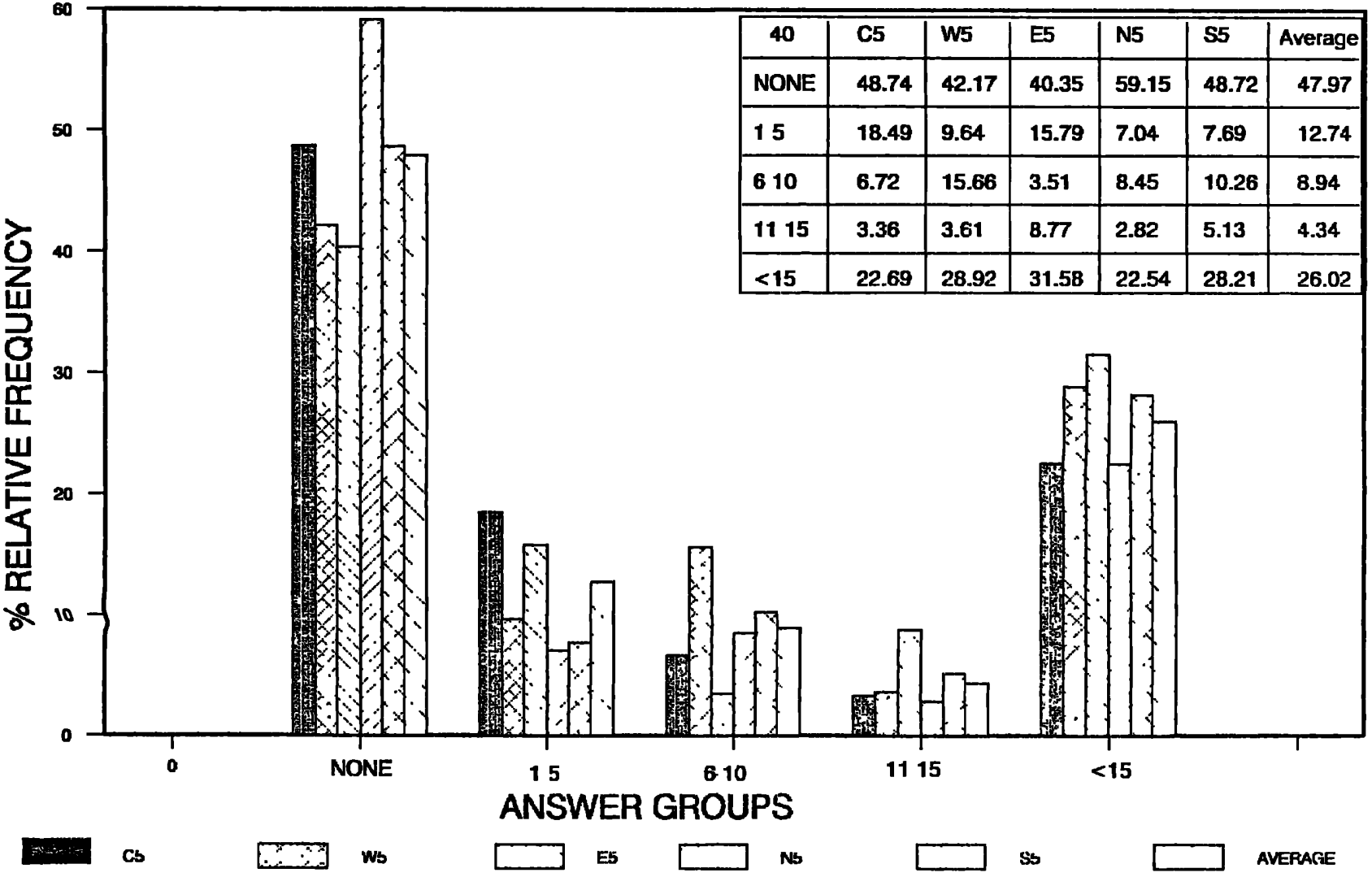
Fig.5.45 I USE A MODEL AND SPECIMENS



39	C5	W5	E5	N5	S5	Average
NONE	48.74	42.17	40.35	59.15	48.72	47.97
1-5	18.49	9.64	15.79	7.04	7.69	12.74
6-10	6.72	15.66	3.51	8.45	10.26	8.94
11-15	3.36	3.61	8.77	2.82	5.13	4.34
<15	22.69	28.92	31.58	22.54	28.21	26.02

Fig.5.46

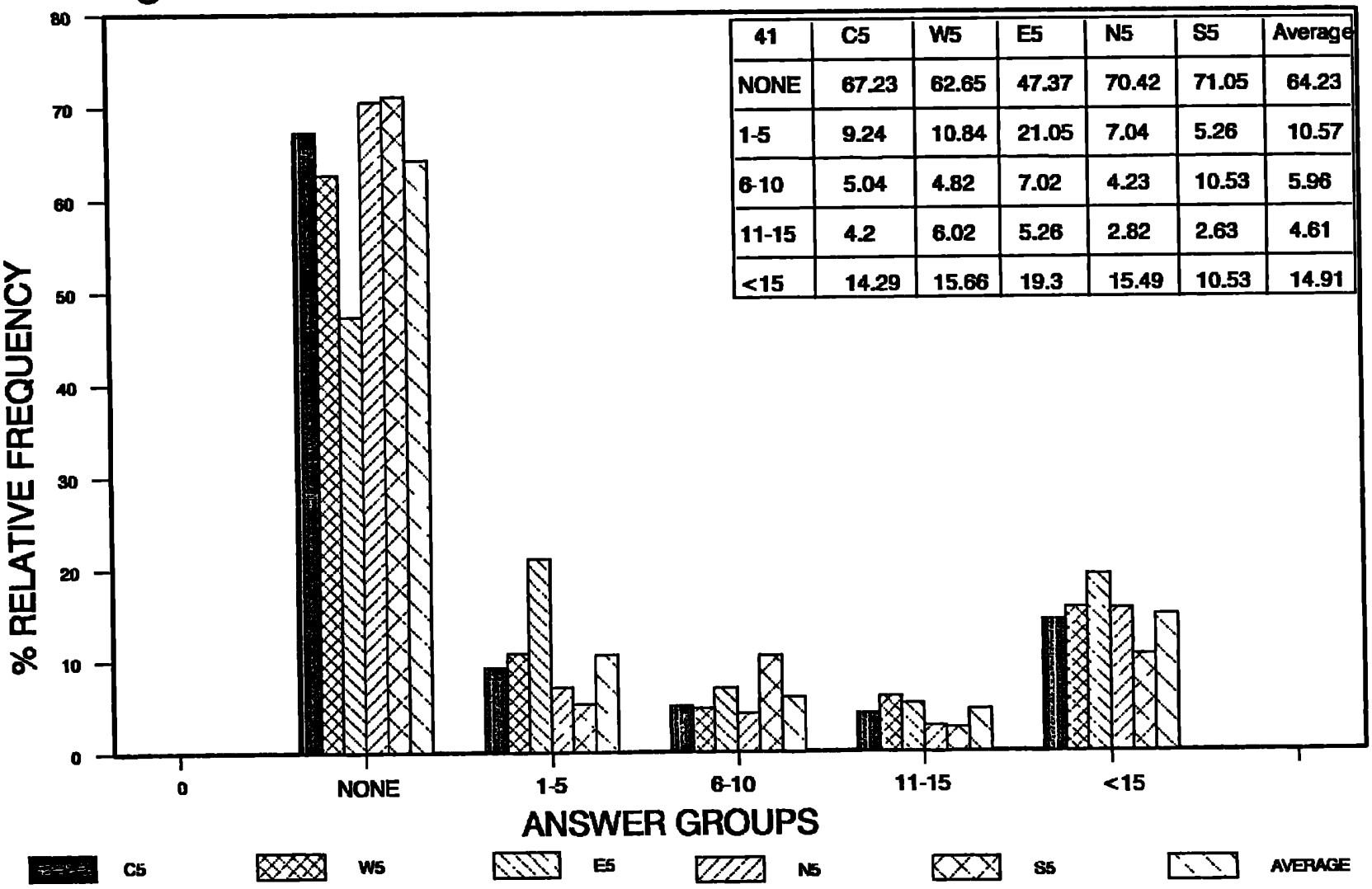
FEMALE TEACHERS
I USE A CHART OR GRAPH



40	C5	W5	E5	N5	S5	Average
NONE	48.74	42.17	40.35	59.15	48.72	47.97
1 5	18.49	9.64	15.79	7.04	7.69	12.74
6 10	6.72	15.66	3.51	8.45	10.26	8.94
11 15	3.36	3.61	8.77	2.82	5.13	4.34
<15	22.69	28.92	31.58	22.54	28.21	26.02

Fig.5.47

FEMALE TEACHERS
I USE ILLUSTRATIONS



41	C5	W5	E5	N5	S5	Average
NONE	67.23	62.65	47.37	70.42	71.05	64.23
1-5	9.24	10.84	21.05	7.04	5.26	10.57
6-10	5.04	4.82	7.02	4.23	10.53	5.96
11-15	4.2	6.02	5.26	2.82	2.63	4.61
<15	14.29	15.66	19.3	15.49	10.53	14.91

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APPENDIX 5

Female Teachers
Part One

Fig. 5- P1

Background	D.F.	F-ratio	p.
Age	4:364	23.542	***
Experience	4:364	14.853	***
Major	4:364	0.382	ns
School	4:364	5.794	ns
Place	4:364	79.208	***
Subject1	4:364	0.355	ns
Subject2	4:364	0.094	ns

*** Significant difference at P < 0.001
ns Not significant

Results of Tukey's multiple range test that examined differences between the five parts of the Kingdom in part one

Non-Overlapping vertical strs represent a significant difference

Background	Age	Experience	Major	School	Place	Subject1	Subject2
Centre	*	*	*	*	*	*	*
West	* *	*	*	*	*	*	*
East	*	*	*	*	*	*	*
North	*	*	*	* *	*	*	*
South	*	*	*	*	*	*	*

Female Teachers
EMT PROVISION IN SCHOOLS

Fig. 5-P2 Part Two

Part two	D.F	F-ratio	P
Item 1	4:364	13.39	***
Item 2	4:364	12.57	***
Item 3	4:364	8.05	***
Item 4	4:364	7.38	***
Item 5	4:364	6.03	***
Item 6	4:364	1.35	ns

ns Not significant.

*** Significant difference at $P < 0.001$.

Results of Tukey's multiple range test that examined difference between five parts of the Kingdom in part two.

Non-Overlapping vertical strs represent a significant difference

Part two	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6
Centre	*	*	* *	* *	* *	*
West	*	*	* *	*	*	*
East	*	*	*	*	* *	*
North	*	*	*	* *	*	*
South	*	*	*	* *	* *	*

Female Teachers

EMT SPECIALIST

Fig. 5-P3 Part Three

Part three	D.F.	F-ratio	P
Item 1	4:364	8.132	***
Item 2	4:364	12.544	***
Item 3	4:364	5.369	***
Item 4	4:364	4.341	***
Item 5	4:364	5.291	***
Item 6	4:364	5.653	***

*** Significant difference at P < 0.001

Results of Tukey's multiple range test that examined differences between the five parts of the Kingdom in part three

Non-Overlapping vertical strs represent a significant difference

Part three	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6
Centre	*	* *	* *	*	*	* *
West	* *	* *	* * *	* *	* *	* * *
East	*	*	*	*	*	*
North	*	*	* *	*	*	* *
South	*	*	*	* *	*	*

Part four	D.F.	F-ratio	P
Item 1	4:290	4.011	ns
Item 2	4:299	9.373	***
Item 3	4:311	13.898	***
Item 4	4:308	12.626	***
Item 5	4:264	10.119	***
Item 6	4:268	6.814	***
Item 7	4:267	12.154	***
Item 8	4:321	8.980	***
Item 9	4:322	3.893	ns
Item 10	4:306	6.085	***
Item 11	4:304	11.985	***
Item 12	4:309	6.816	***
Item 13	4:317	2.843	ns
Item 14	4:273	6.018	***

ns Not significane

*** Significant difference at P < 0.001

Fig. 5-P4

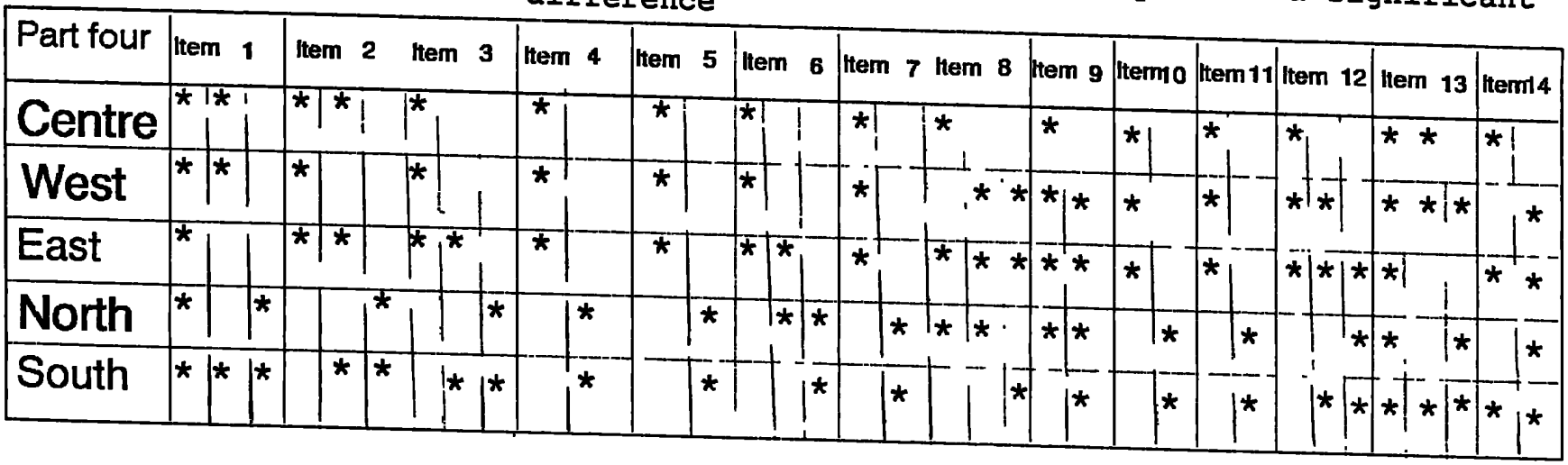
Female Teachers

SCHOOLS AVAILABILITY

Part Four

Results of Tukey's multiple range test that examined differences between the five parts of the Kingdom in part four

Non-Overlapping vertical strs represent a significant difference



Part five	D.F.	F-ration	P
Item 1	4:364	1.405	ns
Item 2	4:364	0.561	ns
Item 3	4:364	3.753	ns
Item 4	4:364	2.589	ns
Item 5	4:364	1.563	ns
Item 6	4:364	1.315	ns
Item 7	4:364	0.774	ns
Item 8	4:364	3.551	ns
Item 9	4:364	2.470	ns
Item 10	4:364	4.259	ns
Item 11	4:364	5.574	***
Item 12	4:364	1.209	ns
Item 13	4:364	1.270	ns
Item 14	4:364	1.075	ns

ns Not signgficant
*** Signgficant difference at P < 0.001

Fig. 5-P5

Female Teachers

EVALUATE EMT USE

Part Five

Results of Tukey's multiple range test that examined differences between the five parts of the Kingdom in part five

Non-Overlapping vertical strs represent a significant difference

Part four	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7	Item 8	Item 9	Item 10	Item 11	Item 12	Item 13	Item 14
Centre	*	*	*	*	*	*	*	*	*	*	*	*	*	*
West	*	*	*	*	*	*	*	*	*	*	*	*	*	*
East	*	*	*	*	*	*	*	*	*	*	*	*	*	*
North	*	*	*	*	*	*	*	*	*	*	*	*	*	*
South	*	*	*	*	*	*	*	*	*	*	*	*	*	*

APPENDIX 6

QUESTIONNAIRE

PART ONE

ABOUT YOURSELF

In this questionnaire about Educational Media and Technology different kinds of media used in secondary schools in KSA will be defined.

Please tick the correct answer.

1 What age group are you in?

22-27 28-32 33-37 38 and over

2 How many years have you been teaching?

1st year 2-6 7-11 12-16 17 and over

3 What courses do you teach?

a Islamic education ---------- ☐
b Arabic ---------- ☐
c Physical education ---------- ☐
d General science ---------- ☐
e Fine art ---------- ☐
f English language ---------- ☐
g Social studies ---------- ☐
h Other, please specify _____

_____

4 What kind of school did you graduate from?

College of Education ---------- ☐
College of Art ---------- ☐
College of Science ---------- ☐
Islamic College ---------- ☐
Other, please specify _____

_____

5 What kind of school did you graduate from?

Saudis College ---------- ☐
Overseas College ---------- ☐

6 Which subject do you teach?

_____

7 Which subject did you graduate in?

_____

PART TWO

Media Provision in your School

Below are four categories:-

Strongly Agree	(SA)
Agree	(A)
Disagree	(D)
Strongly Disagree	(SD)

Please tick the correct box.

		SA	A	D	SD
1	In my school there is sufficient media equipment	☐	☐	☐	☐
2	In my school there is sufficient media software	☐	☐	☐	☐
3	The media equipment in my school is in good condition	☐	☐	☐	☐
4	I can always find the particular equipment that I want	☐	☐	☐	☐
5	The equipment available in my school is the kind I am familiar with or not very different	☐	☐	☐	☐
6	It is easy to order software or equipment from outside the school	☐	☐	☐	☐

PART THREE

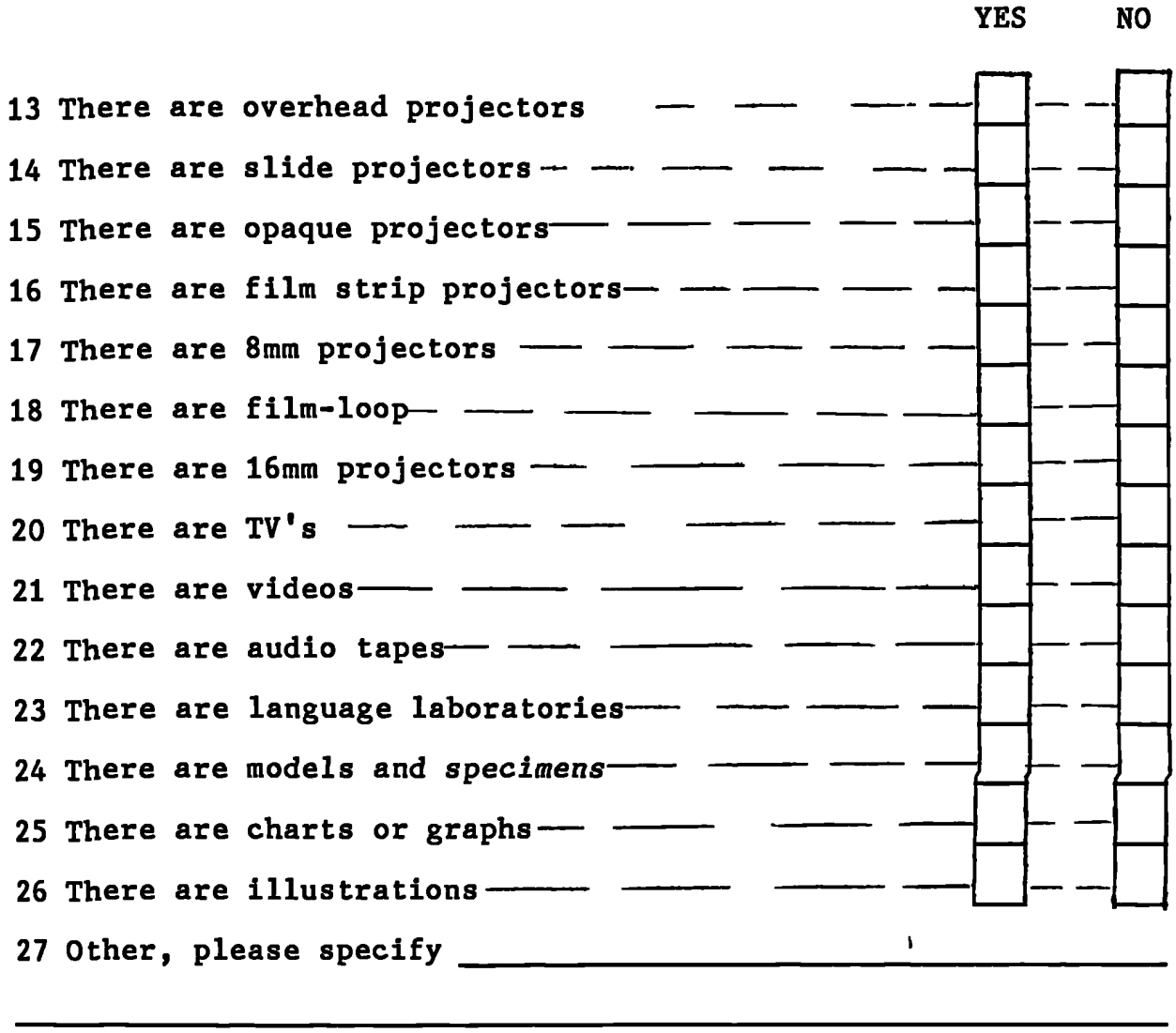
Media Specialist

		SA	A	D	SD
7	Media specialists try to help teachers to use media effectively in my school	☐	☐	☐	☐
8	Media specialists help to provide equipment for my school	☐	☐	☐	☐
9	There are enough media specialists to give assistance	☐	☐	☐	☐
10	Media specialists have encouraged me to develop awareness of media provision	☐	☐	☐	☐
11	The media specialist is well qualified	☐	☐	☐	☐
12	There has been a media specialist since last year	☐	☐	☐	☐

PART FOUR

School Availability

What is available, from the following in your school?

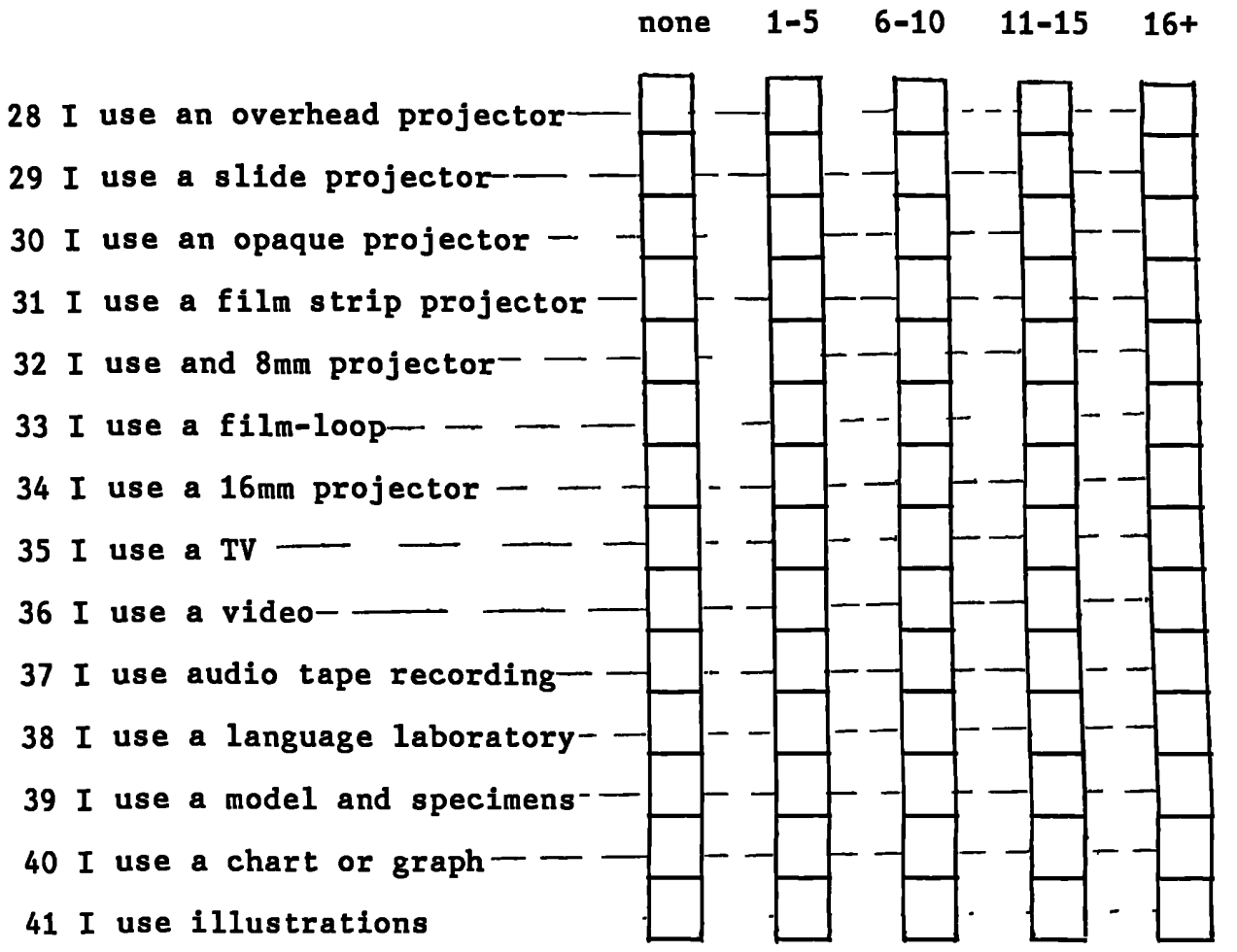


PART FIVE

Evaluate Media Use

How many times do you usually use the following for your students, during the term?

Tick the number which corresponds closest to your use



42 Others, please specify _____

_____

الجـــزء الأول

معلومـــات شخصيـــة

يوجد في هذه الاستبانة انواع مختلفة عن الوسائل التعليمية، استخدمت في المدارس الثانوية بالمملكة العربية السعودية يمكن تعريفها :

* ضع علامة / أمام الاجابة الصحيحة :

١ - في أية مجموعة يقع عمرك ؟

٢٢-٢٧ ☐ ٢٨-٣٢ ☐ ٣٣-٣٧ ☐ ٣٨ وأكثر ☐

٢ - عدد السنوات التي قمت بتدريسها.

سنة واحدة ☐ ٢-٦ ☐ ٧-١١ ☐ ١٢-١٦ ☐ ١٧ وأكثر ☐

٣ - ما المادة التي تقوم بالتدريس فيها من بين المجالات التالية :

☐ دراسات إسلامية.

☐ لغة عربية.

☐ تربية بدنية.

☐ علوم عامة.

☐ فنون جميلة.

☐ لغة انجليزية.

☐ دراسات اجتماعية.

☐ دراسات أخرى - حدد ـــ ـــ ـــ ـــ ـــ ـــ ـــ ـــ ـــ

(تابع) الجزء الأول

٤ - ما نوع الكلية التي تخرجت فيها :

- ☐ كلية التربية.
- ☐ كلية الآداب.
- ☐ كلية العلوم.
- ☐ كلية الشريعة.
- ☐ كليات أخرى - حدد

٥ - ما نوع المدرسة التي تخرجت فيها.

- ☐ كليات سعودية.
- ☐ كليات أجنبية.

٦ - ما المادة التي تدرسها؟

_____

٧ - ما مادة تخصصك ؟

_____

الجـــزء الثاني
تخـص الوسائـل في مدرستـك

فيما يلي أربعة اختيارات، أوافق بشدة، أوافق، لا أوافـق، لا أوافـق بشـدة، ضع علامة (/) في المكان المناسب لك :

	أوافق بشدة	أوافق	لاأوافق	لاأوافق بشدة
١ - توجد أجهزة كافية في المدرسـة الـتي أعمـل بها.				
٢ - توجد وسائل تعليمية كافية في المدرسة التي أعمل بها.				
٣ - أجهزة الوسائل في المدرسة التي أعمـل بهـا في حالة جيدة.				
٤ - أتمكن دائمـا مـن الحـصول عـلى الأجـهزة اللازمة التي أحتاج إليها.				
٥ - الأجهزة الموجود في المدرسة التي أعمل بها من النوع المألوف ولايوجـد بهـا صعوبـة في الاستعمال؟				
٦ - من السهل طلب مواد تعليمية أو أجـهزة مـن خارج المدرسة؟				

الجـــزء الثالـث

تخـــص الوسائـــل التعليميـــة

فيما يلي أربعة اختيارات، أوافق بشدة، أوافق، لا أوافـق، لا أوافقـد بشـدة، ضع علامة (/) في المكان المناسب لك :

	أوافق		لاأوافق	
	بشدة	أوافق	لاأوافق	بشدة
٧ - أخصـائيي الوســائل يحــاولون مســاعدة المدرسين على استخدام الوسـائل بفعاليـة في المدرسة التي اعمل بها.	☐	☐	☐	☐
٨ - أخصـائيي الوســائل يســاعدون في تقــديم أجهزة للمدرسة التي أعمل بها.	☐	☐	☐	☐
٩ - يوجد عـدد كـاف مـن أخصــائيي الوســائل لتقديم المساعدة.	☐	☐	☐	☐
١٠- أخصائيي الوسائل قاموا بتشجيعي على تطوير الوعي بامدادات الوسائل.	☐	☐	☐	☐
١١- أخصائيي الوسائل مؤهل تأهيلا جيدا.	☐	☐	☐	☐
١٢- يوجد أخصائيي وسائل منذ العام الماضي.	☐	☐	☐	☐

الجـــزء الرابـــع
توفـــر الامكانات بالمدرســـة

ماذا يتوافر من الأجهزة التالية في مدرستك :

	[نعم]	[لا]
١٣ - توجد أجهزة عرض فوق الرأس	☐	☐
١٤ - يوجد أجهزة عرض سلايد.	☐	☐
١٥ - يوجد أجهزة عرض صور معتمة.	☐	☐
١٦ - يوجد أجهزة عرض أفلام ثابتة.	☐	☐
١٧ - يوجد أجهزة عرض أفلام ٨ مم.	☐	☐
١٨ - يوجد أجهزة عرض أفلام حلقية.	☐	☐
١٩ - يوجد أجهزة عرض أفلام ١٦ مم.	☐	☐
٢٠ - يوجد جهاز تليفزيون.	☐	☐
٢١ - يوجد جهاز فيديو.	☐	☐
٢٢ - يوجد أشرطة صوتية.	☐	☐
٢٣ - توجد مختبرات لغة.	☐	☐
٢٤ - توجد نماذج وعينات.	☐	☐
٢٥ - توجد رسوم توضيحية ورسوم بيانية.	☐	☐
٢٦ - توجد توضيحات.	☐	☐
٢٧ - اشياء أخرى - وضحها.	☐	☐

الجزء الخامس
تقييم استخدام الوسائل

كم عدد المرات المعتادة لاستخدام لما يلي من الاجهزة في الفصل الدراسي في تدريس الطلاب .

اختر الرقم الذى يتناسب مع مرات استخدام :

	١-٠	٥-١	١٠-٦	١٥-١١	١٦+
٢٨ استخدام جهاز العرض العلوى	☐	☐	☐	☐	☐
٢٩ استخدام جهاز عرض سلايدات	☐	☐	☐	☐	☐
٣٠ استخدام جهاز عرض صور معتمه	☐	☐	☐	☐	☐
٣١ استخدام جهاز عض افلام شابته	☐	☐	☐	☐	☐
٣٢ استخدام جهاز افلام ٨ مم	☐	☐	☐	☐	☐
٣٣ استخدام افلام حلقيه	☐	☐	☐	☐	☐
٣٤ استخدام جهاز افلام ١٦ مم	☐	☐	☐	☐	☐
٣٥ استخدام التلفزيون	☐	☐	☐	☐	☐
٣٦ استخدام الفديو	☐	☐	☐	☐	☐
٣٧ استخدام جهاز تسجيل اشرطه الصوت	☐	☐	☐	☐	☐
٣٨ استخدام مختبر اللغات	☐	☐	☐	☐	☐
٣٩ استخدام نماذج وعينات	☐	☐	☐	☐	☐
٤٠ استخدام رسوم توضيحيه ورسوم بيانية	☐	☐	☐	☐	☐
٤١ استخدام توضيحات	☐	☐	☐	☐	☐
٤٢ استخدام اشياء اخرى – وضح					

_____

_____

_____

_____

APPENDIX 7

مقابلـة معلـم
مـن خريجـي كليـة التربيـة

١ - من فضلك أخبرني عن نفسك بدءا من :
أ - المؤهل ؟
ب - التدريب بصفتك مدرسا ؟
ج - الخبرة في التدريس ؟

٢ - متى بدأت تستخدم الوسائل التعليمية في المدارس ؟

٣ - ما مدى ارتباط مؤهلاتك وخبرتك من حيث :
أ - استخدام الوسائل التعليمية في المدرسة.
ب - تقييم الوسائل التعليمية في التدريس بالمدرسة.
ج - الوسائل التعليمية بصفة عامة.

٤ - ما نوع المشاكل التي تواجهك مع الوسائل التعليمية في :
أ - استخدام الوسائل التعليمية في المدرسة.
ب - تقييم الوسائل التعليمية في التدريس بالمدرسة.
ج - جوانب أخرى مرتبطة بالوسائل التعليمية.
مثال : الامداد بالاجهزة.

٥ - ما رأيك في برنامج التدريب التأهيلي للوسائل التعليمية الذي حصلت عليه من كلية التربية ؟
أ - جوانب ايجابية.
ب - جوانب سلبية.

(تابع) مقابلة معلم

٦ - برنامج التدريب على الوسائل التعليمية في أثناء الخدمة.

أ - ما المحاسن التي تعرفتها.

ب - ما المشاكل التي قابلتها.

٧ - ما نوع المساعدة التي يمكن ان تقدمها الوسائل التعليمية لك ولطلابك.

مثال : مداخل تدريسية مختلفة لإثراء موارد المنهج.

٨ - ما التحسينات التي يمكن أن تعمل على :

أ - استخدام الوسائل التعليمية في المدرسة.

ب - إمكانات الوسائل التعليمية.

ج - تقييم الوسائل التعليمية في التدريس بالمدرسة.

٩ - هل لديك أي تعليقات أخرى حول الوسائل التعليمية في المدرسة ؟

مقابلة المدرسين
خرب- كلية العلوم او الاداب

بر لتكرم بالاجابة عما يلي :

١) هل تستطيع من فضلك اخبارى عن الآتى :

أ – مؤهلاتك ؟
ب – تدريبك كمدرس ؟
ج – خبراتك ؟

٢) مدة استخدامك للوسائل التعليمية في المدرسة ؟

٣) ماعلاقة مؤهلاتك تدريبك وخبراتك بالاتي :–

أ – استخدام الوسائل التعليمية في المدرسة ؟
ب – تقييم الوسائل التعليمية في التدريس ؟
ج – الوسائل التعليمية بشكل عام ؟

٤) كيف يمكن الاستفادة من الدورات التدريبية في عملك من حيث :

أ – استخدام الوسائل التعليمية في المدرسة ؟
ب – تقييم الوسائل التعليمية في التدريس ؟
ج – جوانب اخرى للوسائل التعليمية ؟
(مثل توفير الاجهزه)

٥) مارأيك في برامج تدريبك في كليتك ؟

أ – الجوانب الايجابية ؟
ب – الجوانب السلبية ؟

٦) في مجال الوسائل التعليمية بخصوص التدريب خلال الخدمة :

أ – ماهي الايجابيات التى لاحظت ؟
ب – ماهي المشاكل التى واجهت ؟

٧) مانوع الخدمة الممكن ان تقدمها الوسائل التعليمية لك ولتلاميذك ؟
(مثل : تنوع اساليب التدريس واثراء المصادر الاخرى والمقرر...الخ)

٨) ما التطوير اللازم لي :

أ – استخدام الوسائل التعليمية في المدارس ؟
ب – اجهزة الوسائل التعليمية ؟
ج – تقييم الوسائل التعليمية في التدريس في المدرسة ؟

٩) هل لديك اى تعليقات اخرى بخصوص الوسائل التعليمية في المدارس ؟

مقابلـة مع فنـــيي
الدائرة (الحلقة) التليفزيونية المغلقة

١ - هل من الممكن ان تخبرني عن :
أ - مؤهلاتك ؟
ب - (كمتدرب ، كفني) في الدائرة التليفزيونية المغلقة ؟
ج - خبرتك في الدائرة التليفزيونية المغلقة ؟

٢ - متى بدأت تستخدم الدائرة التليفزيونية المغلقة؟

٣ - أ - ما مؤهلاتك في الدائرة التليفزيونية المغلقة ؟
ب - ما خبرتك في الدائرة التليفزيونية المغلقة ؟

٤ - أ - بأى الطـرق يمكـن لاعضـاء هيئـة التـدريس ان يسـتخدموا الدائـرة التليفزيونية المغلقة بكفاءة ؟
ب - هل من الممكن إعطاء أسباب لذلك ؟

٥ - أ - بأى الطـرق يمكـن لأعضـاء هيئـة التـدريس أن يسـتخدموا الدائـرة التليفزيونية المغلقة بأكثر كفاءة ؟
ب - هل من الممكن اعضاء أسباب لذلك ؟

٦ - أ - ما أنواع التدريب الموجودة بالكلية لأعضاء هيئة التدريس لاستخدام الدائرة التليفزيونية المغلقة ؟
ب - ما محتوى هذه البرامج ؟ وما المدة التي تستغرقها هذه البرامج ؟

٧ - ما مدى فاعلية هذه البرامج في نظرك ؟

(تابع) مقابلة مع فنيي

٨ - ما التحسينات التي يمكن عملها لـ :

أ - استخدام الدائرة التليفزيونية المغلقة في الكليات ؟

ب - تسهيلات الدائرة التليفزيونية المغلقة في الكليات ؟

ج - التقييم بواسطة الدائرة التليفزيونية المغلقة للمواد الدراسية في الكليات ؟

٩ - هل لديك أي تعليقات حول الدائرة التليفزيونية المغلقة في الكليات ؟

مقابلـة الخبـــراء

سؤال افتتاحي :

١ - هل من الممكن اخباري عن :
أ - المؤهل ؟
ب - التدريب بصفتك خبيرا ؟
ج - الخبرة ؟

٢ - فني بدأت تطور الوسائل التعليمية للمتدربين في المدارس ؟

نظـرة عـن :

٣ - ما الذي يجب أن يحتويه برنـامج التـدريب لاسـتخدام الوسـائل التعليميـة لكل من :
أ - متخصصي الوسائل التعليمية.
ب - تدريب المدرسين.
ج - المدرسين في اثناء الخدمة.

برامج الوسائل التعليمية للمتخصصين فيها والمدرسين :

٤ - أ - هل تعتقد ان برامج التدريس لمتخصصي الوسائل التعليمية كافية ؟
ب - ما الفـرق الـذي يجـب ان يكـون بين بـرامج التـدريب للمدرســين ومتخصصي الوسائل التعليمية ؟

(تابع) مقابلة الخبراء

تدريبات المدرسين ومتخصصى الوسائل التعليمية :

٥ - أ - هل تعتقد أن المدرسين يستخدمون الوسائل التعليمية كما يجب ؟
ب - هل تعتقد أن متخصصى الوسائل التعليمية يستخدمون الوسائل التعليمية كما يجب ؟

تأمل وتفكر المدرسين ومتخصصي الوسائل التعليمية :

٦ - أ - هل تعتقد أن المدرسين يقيمون الوسائل التعليمية كما يجب ؟
ب - هل تعتقد أن متخصصي الوسائل التعليمية يقيمون الوسائل التعليمية كما يجب ؟

٧ - هل بالامكان تحديد نقاط القوة والضعف في استخدام الوسائل التعليمية في المدارس الثانوية ؟

التقييم والاستخدام :

٨ - هل بالامكان إعطاء بعض النصائح لما يأتى :
أ - استخدام الوسائل التعليمية ؟
ب - تقييم الوسائل التعليمية ؟

٩ - هل لديك تعليقات أخرى على :
أ - برنامج تدريب المدرسين على الوسائل التعليمية.
ب - برنامج تدريب متخصصي الوسائل التعليمية.
ج - الوسائل التعليمية في المدرسة الثانوية.

مقابلة المختصين في الوسائل التعليمية

اسئلة افتتاحـــــــية :

١) من فضلك هل تستطيع اخبارى عن الآتي :

أ – موءهـــــــــــــــــــــــــــــلك ؟

ب – تدريبك كمختص فى الوسائل التعليمية ؟

ج – خبراتـــــــــــــــــــــــــــــك ؟

٢) فترة تدعيمك لاستخدام الوسائل التعليمية في المدارس ؟

خلفيتـــــــك :

٣) ما مناسبة موءهلك وتدريبك وخبرتك لعملك الحالى فى اعتقادك ؟

وضعك الحالي :

٤) ماهو برنامجك اليومي في المدرســـــة ؟

اتجاهـــــك :

٥) أ – هل تشجع بيئة مدرستك استخدام الوسائل التعليمية ؟

ب – هل وفرت لك كل احتياجات عملك لتقوم به على اكمل وجه ؟

اتجاه المعلمين :

٦) ماهى اتجاهات المدرسين من حيث استخدام وتقييم الوسائل التعليمية ؟

مقارنـــــــة :

٧) من وجهه نظرك ، هل تطور الوسائل التعليمية يتفق مع التطور في الـــــــــدول المتقدمة أو مع وضع مدرستك الثانوية ؟

٨) ماهى مرئياتك لتطوير مجال تخصك ؟

٩) هل لديك اى تعليقات اخرى بخصوص الوسائل التعليمية في المرحلة الثانوية ؟