THE INTRODUCTION OF AUDIO CASSETTES IN AN INTEGRATED STUDY PACKAGE IN SOLVING THE PROBLEMS OF ADULT DISTANCE EDUCATION STUDENTS IN LESOTHO

BY

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SUBMITTED IN FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF EDUCATION IN THE SUBJECT DIDACTICS

AT

THE UNIVERSITY OF SOUTH AFRICA

SUPERVISOR: Professor (Dr.) E.O.De Munnik
                JUNE 1995

ABSTRACT

THE INTRODUCTION OF AUDIO CASSETTES IN AN INTEGRATED STUDY PACKAGE IN SOLVING THE PROBLEMS OF ADULT DISTANCE EDUCATION STUDENTS IN LESOTHO

This research project reports on an empirical study on the suitability and feasibility of audio cassette lectures in solving the study problems of adult distance education students.

Having reviewed relevant literature on the subject the researcher collected data through:

(a)   Empirical investigation by contituting a two-group (experimental/control) design.

(b)   Questionnaires to find out opinions of students on audio cassettes.

The study reveals that there is a significnt difference between the academic achievement of students who study via audio cassette lectures in addition to textbooks and face-to-face lectures and those who study through textbooks and face-to-face lectures only. The study therefore validates audio cassette lectures in an integrated study package.

Other outcomes of the study are:

(a)   Suggestions to I.E.M.S. authorities to introduce audio cassette lectures on I.E.M.S. part-time courses.

(b)   Suggestions to course organisers at I.E.M.S. to liaise with distance education institutions to adopt their instructional strategies.

TITLE OF THESIS:

The introduction of Audio Cassettes in an integrated study package in solving the problems of adult distance education students in Lesotho.

KEY TERMS DESCRIBING THE TOPIC

Integration

Study Package

Audio Cassettes

Technological Media

Hardware / Software

Distance Education

Adult Education

Distance Teaching / Learning

Adult Distance Students

Independent Study.

ACKNOWLEDGEMENTS

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CHAPTER FIVE : FINDINGS, CONCLUSIONS, SUGGESTIONS AND RECOMMENDATIONS

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1.1.1	:	Sub-sub-headings	(Bold)
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a.	:	Sub-paragraph headings	(normal)
■	:	Sub-sub-paragraph headings	(normal)

THE INTRODUCTION OF AUDIO CASSETTES IN AN INTEGRATED STUDY PACKAGE IN SOLVING THE PROBLEMS OF ADULT DISTANCE EDUCATION STUDENTS IN LESOTHO

CHAPTER ONE

Introduction, Problem Statement, Objectives and

Divisions of the Study.

1. INTRODUCTION

In the contemporary modern world one of the important aims of formal education is the transmission of culture through the acquisition of skills, knowledge and attitudes needed by individual citizens in taking up their rightful places in their respective societies. In the developing world in particular school education is regarded by many (i.e. parents, guardians, pupils, teachers and the community at large) as an investment through which the underprivileged in the society could come into the lime-light and secure gainful employment for a living.

In many African countries just after gaining political independence, the new governments, and in some cases the communities and the churches, realising the need for more skilled manpower to carry on the reconstruction of the emergent states, opened more schools to equip their people, especially the youth, with the needed relevant skills (Parmaji, 1984: Preface).

However, it soon became clear to the state authorities i.e. politicians, economists, educationists, community leaders and churches, that the expansion of schools within the limits imposed by finance and the lack of teachers could not meet the demand for education even within a generation or more (Perraton 1982:3). Developing countries therefore have to seek alternative routes to formal education if they are to satisfy the aspirations of their citizens and also to equip them with modern skills.

1.1   Technology and Modern Education

Perraton (1982:3) furthermore reports that until the invention of printing, the cheapest way of passing on learning from one person to another or one generation to another was by human contact. The convenient means of providing education for the elite, according to Perraton (op.cit.) was a school where a person could teach for thirty or more years.

In some traditional or rural communities many people learnt (or continue to learn) how to manage their lives and were taught informally by authority figures like parents,

grand parents and the community at large. However, contemporary changes in technology and communication have made it far more difficult for informal systems and human contact alone to provide people with all the education and/or skills they need for survival in this ever changing contemporary, modern society. Again developing countries struggling to meet their vast and urgent educational demands are confronted by formidable obstacles like shortage of qualified teachers, facilities and finances, outmoded curricula and instructional materials; inadequate and over-taxed administrative structures; a scattered population hard to reach, traditions and inertia resisting change (New Educational Media in Action, 1967: Preface). Chung (1991: Preface) observes, "the greatest educational challenge facing African countries today is how to design a system or learning package that both meets the individual country's priorities and also maximises learning in a cost effective way using resources available." In looking for ways to overcome these obstacles therefore politicians, educational leaders and planners in most developing countries have resorted to a search for better alternative methods of education i.e. teaching that can reach their people more cheaply. This search for alternative methods of education has led to the application of modern technology (e.g. radio and television broadcasts, audio and video cassettes, telephone, computers, etc.) in

teaching and learning at a distance in most developing countries. This is a pointer to the fact that the experience of multi-media distance education in the developed countries has been seen by many people as immediately relevant to the educational needs of the developing world.

Van Niekerk (1985:29), restating this viewpoint of Van Peursen, writes: "technology will enable man as organiser to break (open) the world as a natural and closed system, turning it into a structure that points beyond itself." Technology has since the origin of man been a means for him to control his environment and will continue to remain a tool in man's hands to facilitate his efforts to reach set objectives. Electronic technology for example is reshaping and restructuring patterns of social interdependence and every aspect of mankind's life. It has become so much an integral part of culture that the very being of culture depends on it (Van Niekerk, 1985:29).

Thus the upsurge of technology in the contemporary modern world has had tremendous implications for education i.e. teaching, training and learning - especially at the tertiary level. A communication "explosion" has become the major significant leap in mankind's development in the present century. This explosion in communication

which is concomitant to technological advancement has brought not only countries of the world closer to each other but also the classroom nearer to the learner than ever before. Bhola (1988:120) states: "If the world has become one big classroom then the sky has become one big chalkboard." Today virtually every sector of society is dependent on technology and education and for that matter teaching and learning is no exception. Technology including the use of media is making spectacular strides in the field of education. In the so-called Third World countries advancement in technology has made it possible to upgrade the skills of adult workers while still at post. Thus technology has made it easier for individuals to earn and learn at the same time. With this amazing rapidity in technological advancement, paradoxically, the rate of unemployment continues to soar as machines are now performing almost everything man used to do hitherto. As Toffler (1971:39) rightly states: "..the rising rate of change in the world around us disturbs our inner equilibrium altering the very way in which we experience life. Acceleration without translates into acceleration within." To survive these drastic changes, Toffler (op. cit.) contends that ".. the individual must become infinitely more adaptable and capable than ever before."

In his observation of this technological advancement and its concomitant knowledge explosion, Parmaji (1984 : Preface) also says: "The entire range of human knowledge exploded in our times at an ever accelerating rate rendering even the best educated increasingly outdated. To fight the consequent obsolescence in his knowledge modern man needs to update his equipment continuously; irrespective of the quality of his previous exposure to formal education." This need to study further stems from the fact that in the wake of the accumulation or explosion of knowledge and information no initial training of man will ever remain sufficient. Ironically enough the same technological advancement which could render man's previous knowledge and skill obsolete has helped him to make effective use of the media to communicate new knowledge even at his doorstep.

Thus in the light of this predicament in which the contemporary modern man finds himself, he has no choice than to learn continuously in order to become more versatile, more skilful and more indispensable to the technological society if he is to survive the onslaught, i.e. retrenchment by technology. One therefore realises that in a world which is characterised by change and changeability the only surest way of surviving is for one to be more flexible, adaptive or responsive to change. Indeed technology has come to stay and therefore the contemporary modern man has to adapt to it. In the opinion of Moody

(1989:29) "Coming to terms with technology merely requires keeping up with it; enjoying it, learning what it can do - and letting your imagination as an educator or as a parent move one step beyond." This is because we live in a world characterised by rapid change which in turn imposes upon educators the necessity of making continuous adjustments to keep abreast, if not ahead, of changing conditions.

Bogaerde (1990:45) also emphasises the need for continuous training or lifelong education for all ages when he contends that "it is not just the new arrivals in the population for whom educational provision must be made; development and progress require that the educational levels of those who are already there are upgraded." It is economically advantageous and wise for every developing country to upgrade its present cadre of professionals since they would continue to hold the fort of development, productivity and progress until new entrants or the youth complete their training and join them. Truly speaking both the young and adults really do need more than just a rudimentary education to enable them to control and make sense of their immediate environments.

Many adult workers therefore respond to the changes taking place in the modern technological world by seeking to enrol for courses at tertiary institutions to upgrade themselves.

In view of the fact that their services are greatly needed and that as breadwinners or community leaders they cannot attend full-time and or residential courses, some universities in Africa have begun to offer this "new generation" of students equivalent courses through the media. The extension and extra-mural courses offered to adult workers by Universities of Ghana, Kenya, Nigeria and Tanzania are cases in point (Bown and Tomori 1979:154). Thus in all certainty modern educational systems through technological advancement have evolved an own offshoot - distance education - through which ambitious individual workers could upgrade themselves in order to avoid retrenchment and or stagnation in status or in income.

2. BACKGROUND TO THE STUDY

"New knowledge is the chief cause of progress and without it the world would soon become stationary." (Russel 1976:201). Perhaps it is in line with this philosophical thought that the Extra-Mural Section of the National University of Lesotho (N.U.L.) started formal courses in both business and adult education in 1984 as a means of equipping adult workers in Lesotho with new knowledge and skills needed by men and women who are engaged in all types of adult

education or socio-economic activities in the Mountain Kingdom of Lesotho (N.U.L. Yearbook 1993:67).

In view of this the clientele is drawn from all sections of the community e.g. nurses, family planning personnel, teachers, agriculture extension officers, social welfare officers, personnel from the Army, Police, Prison Services, administrators from the various ministries and non-governmental organisations (NGO's) such as the churches and the Lesotho National Council on Women and Development (L.N.C.W.D).

In order to offer a wide spectrum of workers the opportunity to upgrade themselves, the University ruled that the minimum entry requirement for the Certificate in Adult Education i.e. a two- year part-time preliminary course to gain admission to the Diploma Programme, will be at least a junior certificate - the equivalent to a Standard 8 certificate in South Africa. However, direct entry to the Diploma Programme requires a Cambridge Overseas School Certificate plus professional training in any field.

There are no age restrictions. A few of the participants are however over 40 years of age with the majority of them falling between the ages of 25 and 35 years (Quan-Baffour 1992:17).

Some of the adult students left school about ten or more years ago and are experienced and responsible senior personnel in their various places of work. According to the co-ordinator of academic programmes, Mrs Mohapi, (Interview: 20 June 1993), the Institute for Extra-Mural Studies (I.E.M.S.) is currently re-structuring its courses and plans to start a junior degree in Adult Education through the existing mode of instruction. The Programmes Co-ordinator told the writer (op.cit.) that graduates of the diploma courses who distinguish themselves academically would be considered for the initial intake of students for the proposed degree programme. The co-ordinator further said that the proposed programme may take off in August 1994 - if all the necessary ground work is completed by then.

The I.E.M.S. courses in adult education offer modular programmes in which the participants as full-time workers, travel from their homes or duty stations once every fortnight to attend a two-day presentation (a weekend) of face-to-face lectures in Maseru. At these lectures participants are given lecture notes, handouts and sometimes photocopies on important topics they have covered. Students read their notes and printed study materials such as photocopies made from portions of unobtainable reference books from the I.E.M.S library, when they are at home.

Thus much of the academic work is done independently by the adult worker students at their respective places of domicile alongside other socio-economic and/or career responsibilities.

It is desirable that all teaching be directed in such a manner that the selected segment of reality i.e. learning content, may be unfolded unambiguously to the learner in the most effective way. However, the present pedagogical strategy at the I.E.M.S. may not be adequate to reveal reality to most of the participants who are adults and full-time workers. Indeed the conditions under which students of the Institute study and receive lectures make effective learning rather difficult for many of them.

3. STATEMENT OF THE PROBLEM

As a former lecturer on the Diploma in Adult Education programme, the writer considers the 2-4 days in a month contact teaching period as inadequate in achieving the intended goals of both the I.E.M.S's course organisers and lecturers and that of the adult learners. The question arose if audio cassettes in an integrated study package could not be introduced as a distance teaching strategy to boost, reduce or even replace the short-time face-to-face lecturing encounters in future.

The problem for this study and empirical investigation can therefore be expressed thus:-

"Would the introduction of audio cassettes in an integrated study package solve learning problems facing part-time adult distance education students?"

3.1 The Research Hypothesis.

In considering a suitable solution to the above stated problem this investigation set out to test the following Nul Hypothesis:

"There is no significant difference between the academic performance of adult distance education students studying at the I.E.M.S. via an integrated audio cassette package and those who study through the present methods that do not include audio cassettes."

3.2 Subsidiary Hypotheses.

Answers to the following subsidiary hypotheses derived from the nul hypothesis must also be found:

3.2.1 That studying through an integrated audio cassette package will not necessarily solve the learning problems of adult distance education students, like boredom and lack of

motivation.

3.2.2 That it is not practically feasible at the I.E.M.S. to introduce audio cassettes in an integrated study package for adult distance education students.

3.2.3 That the integration of audio cassettes in an integrated study package will have no positive impact on the academic performance of adult distance education students.

4. ASSUMPTIONS

Based on the nature of the problem stated above the writer formulated the following assumptions:

4.1 That the existing pedagogical technique of 2-4 days in a month face-to-face lecturing alone is not sufficient to enable adult distance learners to achieve their study objectives i.e. the acquisition of knowledge, skills and attitudes regarding their courses.

4.2 That because adult distance students have many responsibilities outside their studies they do not have sufficient time to do much studying at home. They may either return from work too late or too exhausted to read and study for long.

4.3 That frequent fortnightly weekend lectures might affect career and family obligations and could subsequently lead to student attrition.

4.4 That adult distance education students encounter financial, transportation and accommodation problems in attending lectures in Maseru.

4.5 That frequent trips to and from Maseru might, apart from the risks involved, inconvenience the students, their employers and their families.

5. OBJECTIVES OF THE INVESTIGATION

This study and empirical investigation has the following objectives:

5.1 To test the suitability of audio cassettes in an integrated study package as a medium of instruction for adult distance education students at I.E.M.S.

5.2 To evaluate the possible and foreseeable impact of audio cassettes in an integrated study package on adult distance students.

5.3 In general a positive outcome of the research and investigation might help to assist lecturers and organisers of formal academic programmes at the I.E.M.S. to

assess the effectiveness of their instructional techniques.

5.4 In the long run this study might also be of special interest to educators whose students are engaged in full-time career activities AND study at a distance. Indeed this investigation might help them to understand some of the unique problems that sometimes face the lonely, adult distance worker-student.

6. RESTRICTIONS AND LIMITATIONS OF THE STUDY

It would have been ideal for this empirical investigation to study the possibility of adopting other means and media of instruction for distance students studying at the I.E.M.S. in Maseru. However the study is a part-time undertaking of the writer for academic purposes who consequently could not, as a full-time employee, stay away from career obligations for a considerable length of time.

Coupled with the difficulty of combining field study and full-time work is the distance from where the writer works to the study area i.e. about 480 kilometres.

There were also logistic problems in that the research work was undertaken without sponsorship and as such the investigator has had to economise on the resources at his disposal in order to complete the study.

Another restricting factor is the fact that the study had to be done concurrently with the sessions of the Institute's academic programmes. The Institute was in session between the middle of August 1993 and May 1994. This means that any empirical investigation could only be done during the first semester i.e. mid-August to mid-December when students were available for lectures but not too occupied with preparations for examinations.

In view of the above-mentioned restrictions and constraints facing the writer the present investigation, for all practical purposes, was limited to finding ways to effectively integrate audio cassettes in study packages at the I.E.M.S.

7. TERMINOLOGY

The terms used in the title of this study viz:

"The introduction of audio cassettes in an integrated study package in solving the problems of adult distance education students in Lesotho,"

as well as others which the researcher employed in the text of this study need elucidation.

7.1 **'integrated study package '** as used in the title refers to the combination of various instructional media e.g. face-to-face lecturing, the use of audio cassettes, text books and study guides in a single andragogic situation or environment.

7.2 **'distance education'** - Keegan (1991:43) describes distance education as "...that field of educational endeavour in which the learner is quasi-permanently separated from the teacher throughout the length of the learning process; the learner is quasi-permanently separated from the learning group throughout the length of the learning process; a technological medium replaces the interpersonal education; the teaching-learning process is institutionalised - thus distinguishing it from teach- yourself programmes; two-way communication is possible for both student and teacher - thus distinguishing it from other forms of educational technology."

7.3 **'adult students'**- as used in the title refers to people who have completed the basic compulsory schooling (i.e. form five) in Lesotho; are either working or are independent economically and socially and want to take advantage of existing educational opportunities to upgrade themselves academically and professionally through part-time study programmes even while still working.

7.4 **'empirical investigation'**- as used in the text of this study refers to a research project undertaken to discover new knowledge and to determine the viability and possibility of an idea (such as the educational use of audio cassettes) through experimentation and testing.

8. CHAPTER DIVISION OF THE STUDY

In brief this study is divided into five chapters with the following content:

8.1 Chapter One is devoted to general orientation with regard to the study. It sets the stage and therefore contains an introduction, background to the study (i.e. awareness of a problem), statement of the problem, hypotheses to be tested, objectives of the study, and an explanation of the terminology used in the title and text.

8.2 Chapter Two provides concise information on the existing teaching strategies at the I.E.M.S., a literature study of the use of audio cassettes and how the inclusion of audio cassettes in an integrated study package could improve the performance of adult distance students.

8.3 Chapter Three discusses the techniques of preparation, production, integration and evaluation of audio cassettes in a study package. Methods are suggested for students to extract information from the cassettes.

8.4 Chapter Four contains the research design, pilot study, selection of samples, the research project, use of questionnaires, results, criteria used to indicate successful integration and use of audio cassettes to do assignments and to prepare for an examination.

8.5 Chapter Five deals with the conclusions and recommendations of the project and indicates the shortcomings of the research and the report.

CHAPTER TWO

Existing Didactic Techniques at the Institute of Extra-Mural Studies and Literature Studies on Audio Cassettes.

1. INTRODUCTION

This chapter discusses the existing didactic techniques in operation at the Institute of Extra-Mural Studies (I.E.M.S) where adult workers from all over the Mountain Kingdom of Lesotho undertake part-time courses in adult education. It also attempts a literature study on the audio cassette as a medium of instruction at a distance.

On attainment of adulthood - for example in the home country of the writer, Ghana, adulthood officially starts at 21 - formal education is no longer compulsory for the individual. Compulsory education ends with the completion of school and therefore participation in any formal learning activity or training by an adult is an exercise solely based on self-motivation and need fulfilment e.g. the need to update one's competence or acquire new skills. Modern societies however do encourage their adults to consciously undertake further training or studies because as Cropley and Dave (1978:2) observe:"continuous change requires continuous learning."

Emphasising this need for continuous education Bengtsson (1989:44) also contends that "educational opportunities should not be confined to the individual's early years but should be available over the whole lifespan." Adults who heed to this call to undertake further studies usually come to the learning situation with high motivation and a wealth of experience from life and working environments. With this advantage of experience and self-motivation adult learners usually need just a little push in the form of guidance on the part of the lecturer or educator in achieving their learning objectives. Knowles (1990: 55) succinctly puts it thus: "as the individuals mature their needs and capacity to be self-directing, to utilize their own readiness to learn and to organise their learning around life problems increases..." These experienced adults who form a "new generation" of students are volunteers of learning and in many respects have experiences very different from younger learners who in most cases attend school because they were forced to. Indeed one cannot dispute the fact that all learners do not learn the same way or an individual learner may not learn the same way all the time. In view of individual differences in the learning styles of adults, institutions offering academic

and professional programmes for adult learners, need to diversify their didactic techniques in order to assist most, if not all, of their students to overcome their learning difficulties. Piek and Mahlangu (1990:2) crown it all in the following words: "Education is a practical matter and so wherever it must be provided, whether at home, at school, at university or at college, both the content (what must be taught) and the teaching (how it must be taught) are matters essential to the educational and educative situations."

1.1 An overview of existing didactic techniques at the I.E.M.S.

Frazer, Loubser and van Rooy (1990:3) define didactics as "the science which studies teaching and learning." In other words didactics could be seen as the science of teaching and learning. Teaching and learning are closely related intentional didactic activities of human beings. These two activities of imparting and receiving knowledge and or skills are known as didactic acts. The andragogic didactic environment of the Institute of Extra-Mural Studies at Maseru for example comprises an adult learner, a lecturer and learning content. The adult learner comes to the Institute's teaching and learning environment with specific learning needs. It then becomes the responsibility of the lecturer to assist the learner by utilising various teaching techniques and principles which may enable the latter to achieve his intended goals. The following paragraphs give an indication of the existing didactic techniques generally in operation.

1.1.1 Didactics in operation during the 2-4 days face-to- face sessions

The mode of instruction at I.E.M.S during the 2-4 days in a month face-to-face session has mostly been the traditional talk and chalk type of presentation in a lecture hall where students listen spellbound and attempt to put down in writing whatever they hear as notes. In addition to the face-to-face verbal presentations most lecturers offer students handouts containing the many ideas in their lectures. Lecturers also give photocopies of relevant portions of scarce books to take home as study materials. In addition to the formal lecture handouts and photocopies, tutorials are sometimes organised for students by various lecturers. Tutorial questions usually centre around important themes of a lecture. A lecturer may put a sample question on the chalkboard and invite students' views on how to approach that question. Having listened to the students the lecturer may add his input to correct and strengthen their responses thereby guiding them to the right approach in solving the given problem.

Group discussion is another didactic technique employed by lecturers during the face-to-face contact sessions. A class may be divided into groups and each group given a different learning task to perform. At the end of the given time representatives of the various groups would read their essays to the entire class. After reading, his colleagues may offer suggestions to improve the essay. At the end of it all the lecturer may give his opinion on the various topics or essays presented by the students.

These didactic techniques assist students to participate fully in learning activities and also understand contents better.

1.1.2   Didactics in operation during the distance education phase.

Students are separated from their lecturers in space and time during the distance education phase. They therefore do independent study using their lecture notes, the various handouts and photocopies given to them by the lecturers during the short face-to-face encounters. To encourage students to study on their own lecturers give them assignments which they are to complete and submit during the face-to-face sessions. Since continuous assessment is an important aspect of student evaluation they are always motivated to do all written assignments.

Sometimes students are given tutorial questions and or topics to prepare during the distance education phase so that they could read them in class during a tutorial session.

Students are encouraged to note all study problems encountered during the distance education phase so that they could present these to lecturers for guidance and assistance. These didactic techniques encourage students to study independently or do much of their academic work on their own during the distance education session.

1.1.3   Evaluation of students

Evaluation of students at the I.E.M.S is done through continuous and end-of-year major examinations. Students' performance in semester tests and assignments throughout the year are accumulated. The mean mark for these exercises is put at 40% while the mean for the end of year examinations is put at 60%. When a student fails to obtain 50% for both end of year examinations and semester exercises in a particular subject that student sits for a supplementary examination in the subject concerned in July or August. In case a student still fails in one or two papers after a resit s/he trails the subject concerned i.e. s/he takes those courses again concurrently with the new ones of the current year.

During the second year diploma students

write long essays under supervision of lecturers appointed by the head of the department. Marks obtained for the essays are added to the final mark before awarding diplomas to deserving students. Against this background the literature study that follows places the possible use of audio materials in distance education at I.E.M.S. in perspective

1.2 Literature study on distance education and the utilisation of audio cassettes

This section briefly discusses the role of distance education, and audio cassettes in particular, in educating people who because of their circumstances cannot attend full-time residential courses. Other important aspects discussed here are the role of auditory perception in the learning process, audio cassettes as a substitute for lecturing and the necessity for integrated course design when using audio cassettes as a support for print.

1.2.1 The role of distance education in educating adult workers in developing countries.

In his description of distance education Keegan (1991:43) says it is: "....that field of educational endeavour in which the learner is quasi-permanently separated from the teacher throughout the length of the learning

period; the learner is quasi-permanently separated from the learning group throughout the length of the learning process; a technological medium replaces the inter-personal education; the learning process is institutionalised (thus distinguishing it from other forms of educational technology)." The above definition suggests that the use of modern technological devices like radio, television, audio and video cassettes, telephones, computers coupled with print and a limited amount of face-to-face presentations constitute distance education.

In most parts of the so-called third world countries, because of the remoteness of places which is due in part to geographical circumstances, political problems, scattered communities, poor communication and transport networks, many ambitious and intelligent adult workers are denied access to further training or educational opportunities. As Prudence Smith (1992) rightly puts it: "face-to-face teaching can only reach a few people and if you want to reach a large number of people you have to find alternative ways". Distance education through the media or modern technology like television, radio, video or audio cassettes is surely one of the alternative ways or wider range of options available to every teacher and any individual with the capacity for independent learning.

Indeed the most effective form of

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communication in distance education is the transmission of information through modern technological media supplemented by some face-to-face interaction. As noted by Curran and Murphy (1991:33): "In Africa the separation of the teacher from the student (a common feature in distance education) is rarely absolute; usually provision is made for at least some face-to-face teaching or student teacher meeting." Limited face-to-face meetings as found at Unisa and elsewhere, offer mutual opportunity for lecturer and student to meet each other and to discuss and find solutions to teaching and learning problems.

Commenting on this system of learning Perraton (1991:8) contends that distance education has been used to pursue entirely conventional educational ends of the kind that shape the agenda of every ministry of education in Africa. It has been used to widen access to education; to raise the quality of education, both through teacher training and by bringing resources into the classroom; and to bring new methods and approaches into schools. In doing so distance education has attempted to address the geographical problems that confront most educational systems on the continent and it has been valued because it seemed to offer economic advantages that were significant to any hardpressed ministry of education or finance.

Thus economic and social factors make it imperative to use cost-effective methods of educating adult workers without disrupting their career and family lives. This seems to indicate that the conventional mode of education demanding the physical presence of both the educator and the educand is not always viable in the ever changing technocratic society.

In places or situations where face-to-face or contact teaching is not feasible the media can alleviate the problems of distance in teaching and learning.

Commenting on the innovations in distance teaching Perraton (1982:7) says: "its greatest departure from traditional education is its explicit recognition that education is measured by what the student knows rather than how or where he learns it."

To be more effective media teaching has to be woven into an entire system of teaching with all the supporting activities. Media should not stand alone in distance teaching. Distance education through the media can therefore challenge and supplement the more traditional methods and pace of instruction.

This writer shares the view of Pagney (1982:107) that, "if distance education becomes a partner in the educational process of the developing countries it would be in a

position to contribute a great deal to formal education, whether it is a matter of filling some of its gaps, of offering an occasional support at set times or of putting at its disposition specific techniques developed for the purpose of individualised instruction."

In considering using media for teaching, the distance educator faces a wide and rapidly expanding range of choices. The choice of media, however, according to Bates (1982:278), "should obviously be based as far as possible, on a rational attempt to analyse both likely costs and benefits." Bates (op. cit.) argues that it is not possible to give meaningful, simple rules of thumb for choosing media - such as "television is always better than radio." The reason is that in an affluent or first-world society almost everybody has access to television and therefore distance educators could make use of television broadcasts as medium of instruction. However in a developing country television broadcasting may not be the appropriate medium since many people do not have television sets. Thus if distance educators use television as a medium of instruction they might not be able to reach most of the target audience.

In teaching at a distance in a developing country like Lesotho a good alternative to television might be the audio cassette. Using this non-traditional method of teaching, i.e.

audio cassettes, many people could be reached and taught at a distance because unlike television, many scholars have audio cassette players or recorders. Bates (1982:282) reports that a survey on students of the Open University in Britain found that 70% had cassette players. This level of popularity and ownership of cassette players among students of most countries calls for the utilisation of the audio cassette in teaching students at a distance.

Emphasising the importance of non-traditional methods of instruction Perraton (1982:4) argues: " In all five continents correspondence methods have been used to help with the in-service training of teachers called upon to teach beyond the limits of what they themselves learned at college, if ever they went to one."

It is the observation of this researcher that most Departments of Education in South Africa seem to prefer a method of education that allows their teachers to be retrained without being removed from the classroom. This perhaps could be the raison d'etre for similar encouragement given to teachers and other professionals by their employers to take further courses through distance education institutions like UNISA, TECHNISA, VISTA, CESA and others to upgrade their qualifications while still at post.

Parmaji (1984:22) concludes: "the greatest contribution of media in distance education is that media have widened the frontiers of education available to the public. Supplemented by an effective, auxiliary face-to-face inter-personal network, media effect is tremendous and entire societies can be changed and modernised in a short span of time."

In the opinion of Santos (1993:55) traditional education with its limitations of places and schedules, imposing a uniform learning rhythm on all students would be most unsuitable for adult learners eager to finish their studies and get a degree or for those who, having already got a degree, want to gain further knowledge and qualifications or to specialise in a certain field. Santos argues (op. cit.) that: "Distance education has proved to be the best alternative offering them a self-study system free from time constraints or space restrictions, using multi-media didactic materials - books, audio and video cassettes, radio and television programmes - and encouraging the dialogue between student and institution wherever necessary or appropriate."

Therefore distance education seems to be an effective means of up-dating or completing and enriching the range of training programmes in formal education.

Distance education has interesting characteristics - for instance, learners enjoy a high degree of freedom. They plan their own study programme without the assistance or interference of a teacher. Learning materials in distance education are of high didactic standard, i.e. they are well organised, simple and clear to understand since there is no teacher present to explain difficult learning content to the learner.

Again in distance education the underlying factor is LEARNING and not teaching per se. Students are normally highly motivated hence they take the initiative of doing much of the academic work independently. There is therefore not too much reliance on a tutor. At best the tutor encourages, guides and leads the learner; he does not spoonfeed him. Thus in distance education willingness and the ability of the learner to work without direct supervision is of greater importance.

Communication between the learner and the tutor is through print e.g. textbooks, study guides, tests, exercises and /or audio lectures or telephone. As Ingesman (1993:86) rightly states "While we bring communication back into the learning situation, we also try to retain one of the strong points of distance education, namely the individualising of the teaching/ learning process, without giving up another basic pedagogical assumption i.e. that learning is both a social and an

individual process."

In view of the separation in space and time between the tutor and student, comments on tests or assignments are more personal, copious and detailed with positive and encouraging suggestions.

There seems to be many reasons for distance education to be popular, some of which will be discussed below.

1.2.1.1 *Reasons for the popularity of distance education among adult workers.*

To many people distance education presents one of the most significant and promising growth expansion possibilities as part of social and economic development. Barker (1977:37) for instance argues: "When a country wants to transform itself from an agrarian-based into an industrialised economy it must create a cadre of trained specialists from within its own people instead of relying on the so-called Western experts."In such a case there would be no time to build the necessary schools and institutions or train all the teachers needed since this could take a lot of money and time to achieve. Moreover, in most developing countries a higher percentage of the educated and highly skilled personnel live in the urban areas and would not like to move to rural areas. Distance

education therefore has a serious and substantial contribution to make to help solve educational problems such as the failures of the conventional educational systems (Harris and Williams, 1977:1) and methods.

Distance education also offers the promise of reaching out to the rural areas where the training needs are greatest and the absence of training facilities is most acute.

Thus the traditional approach to education characterised by "talk and chalk" cannot rapidly help solve the colonial legacy of illiteracy and lack of skills - hence the need to educate and train more people at a distance through the use of modern technology. The time has now come for all educators to be more courageous, innovative, adaptable and to shed any conservative stance and suspicion for technology. As Maepa (1993:1) states: "educators to a large extent often mistrust technology, preferring face-to-face interaction. It is time to stop thinking that the only meaningful way for people to interact is face-to-face."

This method of education has been used to support the orthodox educational system through the provision of education equivalent to those available within face-to-face institutions.

With the ever changing conditions in the

contemporary modern society, however, many semi-skilled people have realised that it is only through further training that they could take up their rightful places in the new societies. However, because of socio-economic reasons many such adults who are also breadwinners, family and community leaders, cannot attend full-time courses. Sharing this viewpoint Curran and Murphy (1991:21) state: "One of the problems many African countries inherited at independence was a large number of able people who did not have access to second level education. As many of them were working and could not easily get to night classes, distance education provided a ready solution."

Distance education therefore solves some situational and economic problems for ambitious and motivated adults. While these adults cannot secure sponsorship or leave work and family to attend full-time courses they can still earn and learn to acquire the needed relevant skills and qualifications through distance education.

Apart from the foregoing factor, the demand for positions in the few conventional educational institutions outstrips the available vacancies for all prospective students. This situation forces some ambitious adult workers to take advantage of the existing opportunities through distance education to upgrade themselves in knowledge and skills.

Many people opt for distance eduction because of the variety of courses that the system offers its clientele. In a recent article titled "Tomorrow is becoming today," De Sio (undated) reports that in the United States of America where partnerships exist among a number of universities, ambitious individual adult workers could undertake a variety of courses under a distance education system via the use of modern technology - in this case personal computers. Thus one can work full-time and study for higher degrees from two or more universities which through these partnerships offer integrated degree courses using technology.

From the researcher's own experience and observation many working adults are the products of the colonial type of education which offered liberal arts courses. Realising that their qualifications are no longer in high demand such persons divert to professional courses like accounting, commerce, economics, education, computer science, administration, etc, through distance education. Thus as they continue to work they also study to make themselves more versatile and qualified to suit the ever changing contemporary society.

Distance education is dynamic and adaptable and therefore meets the needs of private individuals who are desirous to obtain particular kinds of vocational or professional

education and training needed so much in present day societies.

Harris and Williams (1977:4) in stressing the importance of distance education state that: "there might have been no Western Commercial and Industrial revolution in the late 19th and early 20th century in all its momentum and power without distance or correspondence education." Distance education was indeed half-hidden reinforcement and background to the more visible improvement of the formal education system at the time of the Industrial Revolution (Harris and Williams, op. cit.).

Many people study through distance education because of the independence this system of education offers its clientele. Under distance education the learner could value the control over his or her pace of study; the times of commencing courses; the relative power to adjust a study programme and possibly its content as well as planning one's own study work to suit one's many adult commitments and responsibilities. This is unlike the conventional education system where no individual learner has much freedom regarding his studies. Thus the feature of distance education most attractive to adult workers is perhaps its convenience - for it avoids the tiresome travel to classes or the possibility of group meetings involving fellow students, some-times after a day's hard

work. Indeed this system offers education at one's doorstep.

Ingesman (1993:86) is of the opinion that the basic pedagogical idea behind our distance teaching/learning concept can be summed up as follows: "Communication is central to learning; thus we should use technology to bring communication back into the (distance) learning situation. Bringing communication back into the learning situation also allows us to bring teaching back into the distance learning environment and with the use of computer conferencing systems we can give back to distance teachers their most important tool and allow them to do the same sort of things that they do in normal classroom environments:- summing up, drawing analogies, adding experiences and perspectives."

Distance education offers its clients a host of advantages. It is very suitable for people who for economic, social, geographical or political reasons cannot attend full-time residential courses. Such people, if they are highly motivated and self-disciplined would prefer to earn and learn at the same time. Through working and learning the individual's source of income and job security is always assured.

Distance education offers a real democracy in education. It provides the opportunity for people of all races, gender and

circumstances; the rich and the poor; the privileged and under-privileged; the deaf, blind and cripple alike to have equal access to good quality education. Andrew (1990:38) sums up the democratic nature of distance education in the following words: 'it provides equal education to .... persons regardless of race, colour, religion, gender, national origin, political affiliation or domicile.' Distance education is therefore a move towards greater education opportunities for every individual and away from educational elitism.

This system of education offers the individual learner the opportunity to study at his own pace. It suits individual differences, where some people are fast learners others are quite slow. Distance education therefore meets the needs of shy and slow students who perhaps cannot learn under the taxing competition in class at a residential institution. For instance, in a situation where fast learners could push slow learners too far there is also the possibility of the latter dragging the former behind schedule. Distance education therefore allows every individual the opportunity to study for a degree or a diploma at his own pace without inconveniencing the other learners.

1.2.1.2 *The Advantages of Distance Education.*

In addition to the above-mentioned popularity of distance education the system has further advantages that need to be stated.

Distance education allows public education to extend its range economically and effectively to much larger, culturally very diverse populations of children and adults. Again its use of technology contributes to the technological culture of the society where educators can take advantage of sophisticated modern technology to extend education to all individuals domiciled and working in the remotest parts of the world - thereby contributing to the culture of technology which is a characteristic of modern contemporary societies.

Secondly distance education offers the prospects of individualising many aspects of learning. Cropley and Kahl (1983:31) are of the opinion that: "in distance education learners engage in learning activities, not when the organisational schedule says they have to, but when they want to. They can go over materials repeatedly if they wish to or consult additional sources; can polish and rework material which is evaluated until they are satisfied with it." Rowntree (1992:234) is also of the opinion that support staff of a distance education system "can respond to each individual's needs and interest rather than aiming their discourse at what they hope is the 'average level' of a group."

In fact these different aspects of learning can provide the most striking contrast between distance education and face-to-face education.

Thirdly distance education has been used to solve educational problems of both quantity and quality and has also been regarded as a valuable tool in an educational crisis - for instance it has been used to improve the weakest bits of the orthodox system of educational practice (Harris and Williams, 1977:4).

Through innovation on the traditional system the distant teacher can record subject matter on a tape and thus liberate himself from the traditional role of conveying information in written form.

Distance education is an attempt to keep the adult population abreast with the technological changes in the various fields of the modern society. With the ever increasing explosion of knowledge in the contemporary modern society specialised knowledge or skill soon becomes obsolete. Distance education therefore enables the ambitious adult working populace to update their skills without necessarily curtailing work.

Distance education offers learners the opportunity to use the media that better suit their preferences or seem more motivating e.g. audio cassettes, text books or radio broadcasts. Distance education also offers its clientele better quality teaching - both in context and in treatment - than they might get from any local conventional course.

Perraton (1982:27) concludes:
"Distance education can help towards the Copernican revolution in education for which many have been asking - the concentration on learning rather than teaching."

1.2.1.3   The Disadvantages of Distance Education.

Distance education is, however, not without its limitations. Indeed it is not the right option for individual adult learners who lack the willpower, direction and drive to do independent studies. From the researcher's own observations it can be stated that in most cases where adults lack these personal qualities and start courses through distance education they fall out within the first year.

Loneliness, boredom, lack of competition and encouragement from classmates are some of the problems encountered in distance education. In most cases distance students do not know their tutors or classmates - they therefore cannot share ideas through discussion. When a distance student in the rural area wants to discuss a study problem with his or her tutor he/she has to travel to the

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nearest town to use a public phone, which may be engaged or out of order. In instances where the student communicates by letter, explanations or answers to such letters could take days or weeks before he receives them.

Furthermore critics of distance education argue that it has difficulty in achieving teacher-pupil interaction as promptly as in the classroom situation, where the teaching has an immediate impact and learning is guided by the teacher's knowledge of learners' personalities and of problems inherent in the study material. A UNESCO training manual (1987:10) reports that: "some educators fear that the rapid introduction of some technology in education will make education dependent on alien software that might have undesirable effects."

There is also some fear among some educators that the application of technology to education could erode the traditional teacher's authority and position as educator - elements they were used to in the face-to-face system of education.

In teaching and learning there is usually a stimulus and a response. The lecturer provides the stimuli with the hope of eliciting certain desirable responses from the learner. The lecturer also provides the learner with feedback in the form of information about the adequacy of the responses in question. In

distance education both stimuli and responses contain very little peripheral information about things like the feelings and the social relationships of the people involved, i.e. the teacher and the learner.

Usually there is some delay between the emission of responses by learners and provision of feedback by lecturers. This is because students' exercises and lecturers' comments which are exchanged by mail are not immediate - they are delayed in reaching the parties concerned. Thus in distance education important reinforcing stimuli like verbal praise or a smile on the lecturer's face for a correct response given by a student is obviously absent from the educating process. In a summary Rowntree(1992:247) says: "Sadly, group interaction - allowing an opportunity to relate the package's ideas to a known context, to hear and perhaps grapple with other people's contradictory viewpoints or experiences, to articulate and get feedback on one's own, to engage in collaborative enquiry - is what the open learner gets relatively little of. In the absence of such live "process" many home-based learners may feel, as Winfred Hirst (1986) suggests, that packages are like fast food take aways - seemingly you lack that "real honest-to-goodness flavour."

When it comes to learning by imitation, e.g. steps in a particular activity - like dancing,

distance education may have distinct disadvantages. The opportunity of extensive imitation offered by face-to-face instruction cannot be realised in distance teaching and learning - unless the sequence is taped on video step by step so that it could be followed closely and imitated. The advantage of imitating the video lecturer or demonstrator, when we think of it, is that he cannot get tired as a live instructor would. The distance learner cannot, in most cases, concentrate on a wide variety of actions relevant to a particular learning activity.

Distance education does also not readily offer lecturers the opportunity to modify the flow of information on the basis of a moment to moment feedback from learners. As Cropley and Kahl (op. cit.) see it: Communication via body language is also non-existent as are spontaneous expressions or reactions to a momentary situation. This situation, however, is rectified somewhat through the use of interactive television - in most cases the learners can see and hear the lecturer - on television - whereas she or he can only hear the learners on the feedback telephone.

Table 1 on page 26 below gives a comparison between distance education and face-to-face education which includes some ideas from Cropley and Kahl (1983).

However, in spite of these criticisms or limitations, distance education has become an indispensable feature of contemporary modern tertiary education. Its wide application could help developing countries to upgrade the skills and qualifications of many ambitious adult workers without losing or curtailing their services.

In practice purely or totally face-to-face or distance education is difficult to obtain. The reason is not far fetched; even in the face-to-face dominated situation some elements of distance education exist. For example, there is some degree of freedom where the teacher allows learners to plan and execute exercises without his presence or supervision just as in distance education.

Again in the distance system there are elements of face-to-face education. In recent times most distance students do meet their lecturers for a limited amount of time, either at their own initiative or when invited by the institutions or lecturers concerned. Telephone discussions between students and lecturers, for example, reduce the psychological distance element that applies. The major contrast, however, between face-to-face and distance education remains the fact that in distance education the emphasis is on learning independently and not on teaching per se as found in face-to-face education.

1.2.2 The role of auditory perception in the learning process.

An important element in distance education is the learning process and the possibilities that technology offers. A discussion of the role of audio perception in this context seems to be called for. Bigge and Hunt in Vrey (1990:19) define perception as: "... a unitary process in which sensation hinges on meaning and meaning on sensation, and sensing and finding meaning occur simultaneously." Zigmond and Cicci (1968:8) also describe perception as: "a mental process by which significance is attached to the sensation bombarding the brain."

Perception is thus a process which structures the stimulation, organising it into a foreground appearing against a background and bringing past experience to bear on the sensations in order that they can be understood in a meaningful context.

Morgan (1961:367) also contends that: "through hearing we can understand speech and speech is our chief medium for acquiring and imparting knowledge." Hearing and/or listening is an important sense in appreciating our environment.

Table 1: A Comparison between Distance and Face-to-face Education. (With some ideas from Cropley and Kahl, 1983).

DISTANCE EDUCATION	FACE-TO-FACE EDUCATION
1. Contact is through modern communication media.	Immediate personal contact between learner and teacher.
2. Adaptation is delayed.	Teachers can readily adapt to the learner's immediate behaviour.
3. Learner's environment is designed to serve other purposes (distracters).	Learner's environment is primarily designed to support learning activities.
4. Meta-communication is difficult.	Meta-communication between teacher and learner is possible.
5. Personal relationships are of little importance.	Personal relationships can moderate learning.
6. The teacher's influence is indirect.	Direct control of the learner is possible.
7. Learning materials must be of high didactic standard.	Learning material can be of lower didactic standard.
8. Learners experience a high degree of freedom.	Learners experience a limited degree of freedom.
9. Few opportunities exist for imitation or identification learning.	Wide opportunities exist for imitation and identification learning.
10. Communication is usually well planned.	Communication need not be planned to the last detail.
11. Information is mainly provided by content and organisation.	Information is provided by a mixture of cues (personal, content-related, organisation-related).
12. A comparatively low degree of evaluation and feedback from the teacher is possible.	A high degree of evaluation and feedback from the teacher is possible.
13. Internal motivation, self-direction, self-evaluation, planning ability, etc., must be high.	Internal motivation, self-evaluation, planning, etc., can be lower
14. Willingness and ability of learner to work without direct supervision must be high.	Willingness and ability of the learner to work without direct supervision might not be high in some cases.

Each individual contacts his or her world by means of senses. As Vrey (1990:20) aptly states: "Perception relies on the efficacy of the senses but it transcends them." One's auditory or visual capacity may be normal but one would not see or hear everything in one's immediate environment. This is because perception, either visual or auditory, is an intentional act where cognitive awareness needs to be focused on an object before the individual can come into contact with it. Morgan (1961:367) is of the opinion that: "the mere fact that physical sound exists, however, does not ensure that we shall hear anything - even when the hearing mechanism is in good order - because there are limits to what we can hear." Thus intensity of sound obviously could influence a person's hearing. If for instance a tone is too weak one cannot hear it at all even though physical

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measurement might show that a sound wave exists; a sound wave that is too weak cannot be an adequate stimulus (Morgan, op. cit.). Under normal circumstances listeners usually and automatically target their audience in time to anticipate more stressed elements of a speaker's utterances.

Obviously one must be aware of the object one observes. People do not observe or perceive everything within their field of perception because the whole personal involvement in perception occurs with the intention to attribute meaning. McAdams and Bigand (1993:1) feel that: "no theory of knowledge is complete without a theory of its acquisition and thus perception." Auditory information thus participates in a fundamental way in the development of knowledge. If for instance we don't pay attention to something, we cannot expect to perceive, understand or remember it. In the ordinary sense attention involves the mind's tendency to focus and concentrate on something in particular at a time. In real life situations we always have to select attention, thus focusing on one of the several possible stimuli. (i.e. the one most important to us).

Cognitive audition therefore implies that beyond the elementary phases that bring into play mental representations, decision making, interference and interpretation by the perceptual system are necessary to elaborate

a coherent representation of the sound world. (McAdams and Bigand, op. cit.)

Commenting on the importance of auditory perception Zigmond and Cicci (1968:2) state: " even the proverbial early bird relies on his sense of hearing to catch the worm". Indeed, each individual must have mechanisms for dealing with the immense complexity of the sound world in order to survive in his acoustic environment.

Hearing serves vital functions in man. For instance - it serves as a warning and scanning system for keeping a constant vigil on the activity of the world around us, especially sounds which have particular reference to us.

Zigmond and Cicci (op.cit.) argue that hearing is the primary channel for language acquisition and communication and man's first language system is auditory. In fact, listening is the chief mode of learning - especially among children during the early school years. These writers (op. cit.) say children usually prefer gaining information by listening rather than by reading. Childhood is really a time for listening to favourite stories being read by an adult, listening to records, being intrigued by unusual noises and sound making toys or listening to corrections made of speech patterns and attempting to comply. Actually it is through hearing and listening that much learning takes place among most

people.

According to Zigmond and Cicci (op. cit.) about 75% of what we learn as adults is through listening. Listening is therefore the pivot around which much of the things individuals learn revolves.

Auditory perception, which is the main focus of this discussion, could be described as the act of receiving information through the sense of hearing of sound. The volume of information that comes to the individual through the medium of sound is tremendous. When a person perceives s/he recognises, compares and interprets what has been heard. Perception is thus partly the product of sensing and partly of thought. Auditory perception of an object takes place in totality and this total image is subsequently analysed. Thus the information which the individual receives through hearing is passed on to the brain for interpretation and meaning.

Writing about auditory sounds and the teaching/learning process De Munnik (1993:17) argues that there is a difference between hearing and listening. According to De Munnik (op. cit.) "hearing is the physical ability to perceive sounds, music, words and to recognise or understand their meaning." This differentiation supports the fact that one does not necessarily listen to all that one hears.

Learning from an auditory medium such as the audio cassette can only therefore be effective when the learner makes a conscious effort to listen by concentrating on what he or she hears. A concentration on what one hears usually leads to thought, analysis, understanding and consequently conscious or unconscious learning. Hearing, listening, thinking, understanding and eventual learning seem to be related. This is because we concentrate on (or listen to) what we hear, think about it instantly and understand it before the content of that information can be learned. In De Munnik's (op. cit.) view: .." listening is therefore much more than hearing." Listening gives meaning to the sounds one hears and places these sounds and their meanings in a context that already exists in one's mind.

Except in the case of a defective sense of hearing people normally act instantly on what they hear. An invigilator in an examination hall for example can set into motion many candidates through a sound signal like " start working." Auditory perception thus plays a major role in the learning process; for example, through verbal transmission of sounds by a lecturer, learners can perceive specific learning content imparted to them. Now as a result of technological advancement, technology has become an indispensable feature of education and the modern student living thousands of

kilometres away from his lecturer could receive tuition through the medium of organised sound put on audio cassettes.

Since face-to-face teaching can only reach a few learners, one way of educating ambitious adults living and working outside the formal educational settings in the developing countries, especially in the rural communities, is to teach them through audio cassettes in an integrated study package. Audio cassettes, integrated into study materials like text books and study guides may have tremendous impact on auditory perception, comprehension and general academic performance of distance students.

Teaching at a distance through the medium of sound cassettes could be motivating, effective and powerful. A mere friendly voice of a lecturer heard on cassette for example could spur a lonely distant student on to gather courage and work harder. Durbridge for example (1984:100) argues that the human voice can be modulated, i.e. a student hearing the human voice with the correct and artistic use of pitch, sound, pause, tone and phrasing has certain advantages over his counterpart who uses only printed materials. Durbridge (op. cit.) further contends that: " tutors who adopt a friendly personal approach in their cassette teaching are very highly regarded." This indicates that a personal style appears to be very effective for

in a way it can create the sense of a one-to-one tutorial for many listeners and draw distance students towards active participation in teaching and learning.

1.2.3 The role of audio learning and lecturer's training and competence in auditory learning.

Auditory learning could be described as a type of learning that the individual receives through the sense of hearing. What the individual intentionally hears or listens to goes to the brain for interpretation and immediate action to be taken. Thus sensory observation of things becomes meaningful only when it is followed by understanding and internal assimilation; and when external observation is followed by internal experience. In a more explicit manner one may argue that through the medium of thought man transcends his concrete experiences. In the words of Piek and Mahlangu (1990:30): "The process of thought constantly makes use of concrete images." In their observation on hearing Zigmond and Cicci (1968:7) argue that: "the ear does not hear - it merely receives sound. It is an assembly line worker performing its function of intercepting the sound and transmitting the sensation to the brain for interpretation". Information processing therefore takes place in the brain for the individual to perceive or

understand what message has reached him. Thus sets of sound can be organised into concepts which will form the basis of our understanding of the sound world.

Freysen, et al. (1989:113) describe hearing activity as "the physiological activity where sound waves are changed into neural impulses by the human auditory system which are carried to the brain." Freysen et al. (op. cit.) argue that during listening sessions impulses are received by the brain and the person becomes aware of the sound and decodes and interprets it against the background of his or her existing frame of reference.

Piek and Mahlangu (1990:30) concur with the foregoing argument in the following words: "It is clearly essential for man to establish a certain order in the mass of concrete or observable impressions he is constantly receiving through his senses." Auditory learning therefore begins with the recognition and identification of sounds, localisation and discrimination. Some individuals, however, develop remarkable skill in tuning out auditory stimulation - like studying with a radio blaring in the background or dozing off during a lecture.

In the light of the fact that face-to-face teaching is only available to a small section of every population, modern technological advancement has made it possible to teach or learn at a distance and media technology has devised some teaching strategies which aid auditory learning. The use of radio, television broadcasts and audio cassettes in modern teaching and learning are cases in point.

Using this technology the learner may not see his/her lecturer but can hear him/her stressing or explaining facts cogently on a particular topic. The distance student who for instance hears and listens to the lecturer on radio can copy the lecture onto audio cassettes so as to have a permanent record for studying at home.

The cassette tape recorder in particular is an indispensable auditory aid with great possibilities for increasing the effectiveness of learning. Verbal stimuli heard or listened to on radio or on an audio cassette can increase the efficiency of independent study. Examples of how such audio media can assist the learner are:

■ While listening to the broadcast or the audio cassette the distance student could summarise important facts as an aid to further preparation for examinations.

■ Auditory learning through audio cassette could be done while jogging, walking, travelling by air, car or train, when cooking, ironing or relaxing.

- As an aid to auditory learning the lecturer should instruct, hint, and suggest to the learner / listener what he should do, i.e.
  - stop the tape; replay.
  - react by answering questions in a workbook or on an assignment page.
  - stop the tape; carry out actions or steps; restart the tape to check actions, etc.

Since in auditory learning the lecturer need not be physically present the lecture should be well organised, logically and sequentially arranged in a step-by-step or section-by-section order. Such a logical design is essential to assist independent learning at home.

The designer of auditory learning material must be well trained in the arrangement, writing, copying or presentation of lectures. He must have the skill of speaking clearly and smoothly but not too fast, harsh or in a shouting manner. S/he needs to have listening skills in order to evaluate own presentations before broadcasting or duplicating for a distance audience. Indeed, the success of an auditory learning medium such as the audio cassette depends very much on the course designer's ingenuity, level of training and competence. These characteristics would no doubt aid him in preparation of auditory materials for distance learners.

The lecturer, like his students, should therefore develop listening skills in order to optimise the success of auditory learning. This is because the effective use of sound resources depends upon the lecturer's ability to listen effectively and again effective listening is about decision making and good practice is based on well established habits that have to be learned. Experienced listeners using recorded sounds as study material exploit the machine by stopping it to gain thinking time, winding back for a repeat, adjusting tone and volume controls for clarity.

It is always necessary for the listener to make links between what is heard, existing knowledge and past experience in order to make good judgements concerning the information received. In actual fact, selection, spotting and making sequences and mental classification of information are all part of effective listening skills. The International Encyclopedia of Education (1985: 4712) explicitly states: "Effective listening is not a subject but an interdisciplinary ability developed and used across subject boundaries and ideally all teachers contribute to its development and monitor its application."

The person who designs auditory learning materials should have in-depth training in sound production and recognition as well as

direct listening activity. These skills could help him train his students in listening and auditory learning.

Since the learner must be given some practice in sound recognition from his immediate environment, the distance educator providing auditory learning materials should be well versed in that area in order to impact those skills on his students.

The lecturer designing auditory learning materials could obtain systematic training in auditory teaching and learning from distance education institutions, workshops or seminars organised by professional associations where he could learn from or share ideas and skills with colleagues in the field. As someone who is already a professional person the lecturer's training is cumulative, i.e. each training activity progresses from previous achievements and adds that which he has already achieved.

In designing auditory learning materials for students, the distance educator, in the words of Freysen et al. (1989:114), should be able to "draw the learner's attention to specific aspects that are to be decoded in an auditory presentation (e.g. lecture, audio recording)" These, in addition to skills in giving specific and direct instructions to the listener, should be the hallmark of the training of any designer of auditory learning materials like

audio cassettes.

1.2.4 The possible uses of audio materials in distance education.

Rowntree (1992:108) quoting Temple (1991) states: "The main benefit of sound is to reduce the number of printed words required to be read by the learner, whether these are on a page or on a screen." Rowntree (op.cit.) has put forward the following possible uses of audio material which are relevant to our cause. Rowntree states audio materials could be used:

- To give learners relief from reading.
- To present new ideas to learners who don't care for reading.
- To help learners make the best use of their time by giving them a means of learning while doing other things e.g. cooking.
- To talk them through tasks like studying a map or a table of figures - where they might find it distracting to have to keep turning aside to look at written guidance.
- To help learners practice skills.
- To make teaching more human and personal.
- To say things that are not so easily expressed in print.
- To encourage or motivate learners.
- To touch learners' feelings and

attitudes.

- To bring to learners the voices of people who would be unable or unwilling to say anything in writing.
- To provide "source materials" e.g. excerpts from an interview for learners to analyse or react to.

1.2.5 The audio cassette as a substitute for lecturers.

As mentioned in the previous discussion, technology has made it possible for learners living several kilometres away (some who have or would never meet their lecturers in person) to receive effective tuition from their institutions via the audio cassette medium. Indeed the audio cassette as a medium of instruction has been tried and successfully utilised as a substitute for lecturers by some distance teaching institutions. According to Bates (1990:101) "there are important lessons to be learned from this humble and unsung 'low-tech' medium which need to be applied to the more publicized "high tech" media." In a more recent use of audio cassettes as a substitute for face-to-face lectures, Conradie (1990:363) successfully taught a Criminology course to over 600 first-year distance students studying at the University of South Africa.

Perhaps Conradie's technique of integrating study guides, prescribed books and audio cassettes in a normal conversational manner

contributed greatly to his success. At the end of each of Conradie's dialogical discussions the cassette referred students to parts of the text book or study guide before listening to the cassette again. This writer is of the opinion that if course developers use audio cassette as a substitute for lecturers in teaching distance students they could include self-tests, questions and suggested answers based on the study guides and textbooks in their cassette lectures, so that revision and self-evaluation could be easier and less complex for the lonely distance worker-student.

Touching on the effectiveness and popularity of the audio cassette as a substitute for face-to-face lectures, Le Roux (1990:143) reports that in 1986 150 courses at the University of South Africa sent out over 281 558 audio cassettes to thousands of students living in and outside Africa. Le Roux (op. cit.) argues further that "the greatest media development during the British Open University's 12 years experience has been the humble audio cassette." Thus developing technology has gradually provided the activity with many powerful new allies in teaching and learning via communication over distance by recording and storage; distribution and retrieval for use. One fact that emerges prominently from this report is the fact that the audio cassette has become an indispensable medium of instruction at a

distance and a suitable substitute for lectures. Notwithstanding the emergence of other modern methods of teaching at a distance like telephone, radio, video and television, the audio cassette stands out prominently as a substitute for teaching distance students due to its numerous advantages.

1.2.6 The advantages of using audio cassettes as a substitute for lectures.

The biggest challenge that confronts distance educators is how best to use the media at their disposal - be it the printed word, audio or video cassettes, radio or television - to facilitate students' learning at a distance. Since in a distance education system educators and educands are usually separated both in time and space, the former need to select and utilise effective but inexpensive media that could enhance a self-teaching and learning process among learners; be accessible to most learners; could elucidate content (subject matter) well and personalise instruction in order to bridge the psychological distance between the teacher and the student. Herein lies the justification for selecting and using audio cassettes as a substitute for face-to-face lecture presentations.

Audio cassettes as a medium of instruction and a substitute for lecturing has numerous advantages which cannot be exhausted in a single discussion. Unfortunately the advantages and potentialities of audio cassettes seem to be overlooked by many distance educators who prefer teaching through media like television and radio. Audio cassettes therefore seem to be underutilised.

Commenting on its under-utilisation as a substitute for face-to-face lecturing Barker (1977:40) has this to say: "Our own experience in using audio cassette material for management training in developing countries convinces us that all the many aspects of this exciting new medium have not yet been explored. But we know that it is going to provide the answer to a lot of learning problems in the future." Barker (op. cit.) sees the audio cassette as the most potent new educational aid for developing countries because of its numerous advantages. Many authorities on the use of audio cassettes as a substitute for lecturing including Laaser (1986), Hales (1987), Kelly and Ryan (1983), Durbridge (1984), Murphy (1988) and Bates (1990) have come out with many of the advantages the cassette medium can offer. Some of these advantages are discussed below.

■ Audio cassettes as a substitute for lecturing provides news, subject content, participative learning exercises, plays, games and above all an entirely

new learning dimension for most people. Not only does the cassette recording of the lecture contain all the words of the delivery but it captures those nuances of expression of pace, of emphasis and of intonation that the printed medium cannot do.

- Under certain circumstances the audio cassette is cost-effective (both in production and sales) and very flexible. According to Junor (1992:94) "(The) audio cassette is cheap to buy. The cost of recording a lecture on tape is inconsequential when compared with production of the lecture in print form."

- Audio cassettes could be played over and over again at the convenience of both the sighted and the visually impaired distance student. Le Roux (1990:151) observes: "the features that appeal to the students are their convenience (they can use cassettes whenever they wish to study), the control students have over them (they can play parts of the cassette as many or as few times as they need), and their informality". Students using audio cassettes to learn can stop, pause, replay and organise their private study approaches according to personal style and preference.

- Audio cassettes can also provide students with a learning medium which shares many of the advantages inherent in the written text. Remarking on its convenience Durbridge (1984:100) says: " the audio cassette is adaptable to such study techniques as skimming and reviewing and listeners can to a large extent control the pace and methods with which they engage with particular content."

- Added to its convenience and popularity the audio cassette is relatively inexpensive, simple to operate, portable, durable and can be didactically qualitative. Production costs and distribution costs for audio cassettes are less than for other media like television and radio broadcasts. These merits make the audio cassette method of instruction very suitable for even smaller numbers of students such as those of the I.E.M.S. at Maseru. A well- prepared text on audio cassette could be very helpful and a good companion for a student living in an isolated area or in the countryside.

- In practice distance teaching involves a combination of media. The more effective programmes seem to benefit from linking the audio cassette and print to some kind of face-to-face study.

Perraton (1982:5) for example states that distance teaching projects "have used more than one medium in an attempt to balance the advantages and drawbacks of each and to provide reinforcement." Indeed studying through correspondence alone is almost a by word for boredom. Thus audio cassettes can provide or convey excitement more easily than print although permanence of print is very essential if one wants to refer back to what has been said. Again the use of audio cassettes and a limited amount of face-to-face study can lead distance educators to what Perraton (op. cit.) describes as: " the best of both worlds." i.e. the economics of mass production together with the humanity and individualism of personal contact. Hardwick (1984:32) argues, however, that although the audio cassette is no substitute for contact with the tutor it could yet play an important role in preparatory or revision packages designed to help in the transition from one level to another or across faculty boundaries. It could also be a useful resource for students building a broadly based degree profile or for those with difficulties in particular areas.

■ Teaching through audio cassettes also has objectives in the cognitive, i.e. knowledge, the affective, i.e. attitude-changing and psycho-motor (skills) areas. The interactive features of audio cassettes, for example, begin with the fact that its use requires the student to manipulate the cassette player. The cassette should be started and stopped by the student at points that reflect his own needs, i.e. to hear a passage again as well as the natural breaks introduced by the course designer.

■ Such activities as play, listen, stop, write, etc, make the student alert and active in learning. Daniel (1983:158) is of the opinion that the manipulation of the audio cassette by the student "is reciprocal action or influence at a fairly low level but it does respect two principles of sound educational practice - keeping the student active and using as many senses as possible." Indeed the key feature of the audio cassette is that the student controls when s/he plays it and how often s/he stops and starts the tape. The audio cassette is thus a means of communication between the educator and the educand - not only at a distance but also in the residential institution.

■ The audio cassette can be used by both distance and face-to-face teachers and students to support teaching and

learning efforts. Hardwick (1984:32) is of the opinion that the value of the audio cassettes used in conjunction with written materials lies in the fact that it can help students develop course specific skills based on looking, reading, hearing and thinking. Because the student can look and listen at the same time, the audio cassette and notes are arguably better than course units alone for teaching. Thus used in an integrated way, i.e. combined with print and face-to-face teaching the audio cassette could be a powerful medium of instruction which may, among other things, provide useful reinforcement in learning for adult distance students.

- The audio cassette as medium of instruction can be used to inform students regarding some additional aspect of a course or a subject. In a situation where the lecturer wants to give extra information which could be too voluminous when put into writing, the lecturer concerned could put the information on audio cassette. The students could then play and listen to the content at his own pace and time.

- The audio cassette could be used to elucidate and instruct distance students. Adey (1987:81) adds that: "When a cassette is being used to elucidate other

material this material fulfils the primary role in the conveyance of the message, while the cassette plays a secondary role complementing it." Distance students who experience problems in reading or understanding the content of a textbook could find the audio cassette elucidation of printed material very useful.

- The audio cassette could also be used for specific instructional purposes such as explaining or illustrating concepts, formulae and equations; revising what has been taught and for drilling students on specific learning items.

- The cassette medium can be used for evaluation and giving feedback on both lecturing and learning activities. In providing feedback on student activities the audio cassette can provide correct answers; thereby encouraging students to attempt learning tasks or activities for themselves.

- Audio or sound cassettes can be used for recording audible performances like drama, music or language rehearsal lessons. Once the sound is played back, both students and lecturers can evaluate their own performances or progress.

- The evaluation process through audio cassette can also be beneficial, especially to handicapped students. If for instance a learner sustains injuries on the hands he could request his lecturers in the institution to allow him to do the assignments or examinations orally via audio cassette. In this case an audio cassette can allow a student to progress in his studies even when thus incapacitated.

- A well prepared audio cassette could even be better - in some cases - than a face-to-face lecture. Junor (1992:95) stated that the audio cassette lecture can avoid "the vagaries of the lecture theatre in which the speaker's voice may be too quiet, in which people at the rear do not hear because of late arrivals and other interferences."

- Again, in the audio cassette the speaker's loudness is adjustable via the tape player's controls and this enables the listener to set the loudness at the required level. Thus the audio cassette is convenient for most people - the sighted, the blind, as well as the slightly hearing impaired alike.

- Getting the recorded tapes into the hands of the users is not a complicated exercise. Junor (op. cit.) says: "from the master tape recorded in the lecture theatre (or in the studio) duplicates are made at high speed without the needs for highly-skilled personnel to perform this operation." Thus neither the lecturer nor the student need any special skill in copying or duplicating the original lecture. Again, with copying the turn around time is very brief; much less than that required for a transcription of the audio information and a published or printed version.

- Added to its feature of being convenient is the fact that during presentation or listening taped cassettes need neither to be handled often (as with turning pages in printed matter) nor given visual attention. Indeed this allows the user to perform other tasks at the same time while listening.

- The audio cassette could be used in talking students through practical procedures e.g. home experiments, computer operations, learning songs and reading music, etc. In this way distance students could freely and correctly do their practical work. Thus backed by sketches or diagrams the sound cassette medium could assist the distance student to set up and execute some important practical tasks - at home.

■ Bates (1990:102) argues that audio cassettes could be used in "analysing human interaction (e.g decision-making, personal experiences, conduct of meeting, etc.); here the use of print and audio is reversed in that text is used to analyse audio recordings of people talking."

■ The audio cassette offers voice modulation, i.e. it can exhibit variations in pitch, tone, pace and volume, provide clues that are truly helpful in conveying educational messages or information. Hales (1987:15) is of the opinion that "tapes can convey a sense of the speaker, allowing the student to perceive the presenter as a human being rather than an authority figure." The presenter's enthusiasm can motivate the listener thereby aiding the educational process. The spoken word is an efficient way of conveying abstract content which takes considerable length to express in writing.

Daniel (1983:157) sums up the value of the audio cassette as a medium of instruction in the following sentence: "audio cassettes can be used in a variety of ways - for mastery learning, for commenting on diagrams, charts, tables or text, for backing up and commenting on other media (cassettes have been found very useful for the analysis of linked television programmes), as resource material bringing recordings of real life situations, conversations, interviews etc, which are then analysed or used for specialist lectures that explore the wider significance of the course subject." Indeed the key feature of the audio cassette is that the student controls when s/he plays it and how often s/he stops and starts. This feature - control by student - is a great advantage to the course designer since it facilitates the integration of other media like study guides or textbooks.

Other advantages experienced and envisaged by the researcher (as a result of this study) of the audio cassettes as a substitute for lecturing can be summarised as follows:

* Control of the production of the audio cassette on behalf of the distant educator is easy as compared to television production.

* Cassette players are normally at the disposal of distance students, i.e. many students own cassettes players/recorders.

* Audio cassettes can be dispatched easily together with print materials, e.g. tests, exercises and study guides.

* Audio cassettes allow for other activities during listening, e.g. note taking,

drawing, carrying out experiments, summarising, mind mapping, etc.

* Audio cassettes can be listened to at any time, e.g. bed time, lunch time, study time, relaxation time, while driving a car to work and back, etc.

* Audio cassettes are portable, easy to operate, durable and, above all, cheaper than other media of instruction like television or videotext.

* Audio cassettes are suitable for both urban and rural distance students because a tape or cassette player can operate on batteries as well as on electricity.

* Students forming a study group can play, listen to and discuss it's contents.

* The production of audio cassettes needs relatively little professional knowledge.

* It provides feedback on student activities, for example it allows for correct answers to be tucked away thereby motivating students to do more independent work.

* The audio cassette has a feature of personal contact. It can help to bridge the distance between a student and a lecturer thereby humanising the relationship between educational institution and students - through the voice of the lecturer on a cassette.

* It is more personal than the printed word and creates a sense of individual contact with students.

* The audio cassette has the ability to integrate with and supplement other media of instruction because of its adaptability and flexibility.

* The audio cassette lecture is more motivational owing to the emotional involvement that is associated with the sound message.

* The audio cassette is more effective in teaching because of the available analogue codes for conveying information.

* The audio cassette can be produced with a variable duration in playing time to suit the objectives and length of every lesson. Tapes are however limited to the length of audio tape that the cassette can take.

* The individual student can be addressed directly in the audio tape thus making it so much more personal.

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* It enables students through repetition to obtain mastery learning of certain skills and techniques e.g. language pronunciation or mathematical computations.

* Audio cassette makes it possible to analyse or critically review complex arguments or carefully structured logical arguments.

* Audio cassette could be used to bring students the views or knowledge of eminent people who can condense in an interview the essential points of an opinion or an argument which otherwise, in a written form, may have been more complex or lengthy.

* Audio cassette could be used in recording specially the voices of people who have not been recorded before, but whose contribution to the course would provide a unique experience, e.g. famous poets reading their own work.

* Audio cassette could be used in changing students' attitudes:-
   (i)   By presenting material in a dramatised form, enabling students to identify with the emotions and viewpoints of the main participants.

   (ii) By presenting material in a novel manner or from an unfamiliar viewpoint.

* Audio cassette could be used to provide students with a condensed argument in lecture form which may:-
   (i)   Reinforce points made elsewhere in the course.
   (ii) Introduce new concepts not covered elsewhere in the course.
   (iii) Provide an alternative view to that presented in correspondence text or television programme.
   (iv) Draw on quotation, recorded information, interviews, etc. as evidence in support of (or against) an argument.

* Audio cassette could provide students with performances of music, drama or poetry for appreciation.

Audio cassettes, however, do have some disadvantages that will now be discussed.

1.2.7 The disadvantages of using audio cassettes as substitute for lecturing.

Notwithstanding numerous advantages, audio cassette, as a substitute for lecturing, however has some limitations. The limitations are more or less apparent to those who use the cassette as their study and information

medium and those who design and provide courses in which the cassette is an important method of communication. Remarking on its shortcomings Hardwick L. (1984:30) says: "An audio cassette or course unit, however skilfully prepared, cannot anticipate every student's difficulty, question or specialised interest."

* Students studying at a distance may have a variety of problems which a distant tutor, preparing audio cassettes for them, cannot anticipate or foresee at all. In view of the fact that the audio cassette designer cannot serve all the interests of students - those who see it as either inadequate or irrelevant to their cause, do not see the need to listen to it. They would regard listening to such a cassette as a futile and boring exercise.

* Also an audio cassette lecture is a stereotyped didactic technique which does not permit or facilitate two-way interaction. Unlike in face-to-face lecturing where an alert and sensitive presenter could easily pick up cues from his audience and adjust accordingly to the situation, an audio cassette lecture is in this case static. It cannot answer individual situational queries arising from the lecture.

* A poorly prepared audio cassette lecture could also pose didactic problems like the lack of comprehension and boredom. Where the arrangement and presentation of content is not dialogically done, students could find it difficult to use effectively as study material.

* Durability could also sometimes be a shortcoming - for example cassettes which are inferior in quality may be damaged, torn or erased easily. In this case the cassette cannot be used for a long time.

* The cost involved in preparing cassettes and in sending them out to large numbers of individual students, could also be high. The cost of high- speed duplicating equipment for instance, can be exorbitant.

* In some instances cassette alone, without supplementary print, might not be effective in teaching and learning. To overcome some of these limitations Freysen (1987:81) suggests that: "the lecturer/compiler of the programme should therefore take note of the technical, pedagogic/andragogic and didactic criteria as well as some practical considerations when planning and producing the programme."

* The cassette medium is not referable owing to its distinctive attributes. For instance the sound cassette can only accommodate auditory symbol systems and their respective analogue codes. As a sound programme, once set in motion, the audio cassette produces only what was initially recorded. Moreover later additions would imply that a new programme has to be made and this could be time consuming and expensive.

* In Freysen's words (1987:81) "a well-planned programme, especially in cases where a multi-media approach is considered, the compiler of the programme must, besides his subject knowledge, have a working knowledge of educational media and instructional communication." However, in practice it is usually rare to have a cassette compiler with skill or training in educational media.

* Again, apart from perhaps lack of knowledge and skill in educational media, in order to obtain a programme of high technical standard, the lecturer should have access to sophisticated or modern apparatus and technical assistance. Unfortunately there is a scarcity of sophisticated apparatus and skilled technical personnel in most developing countries.

From the above discussion it should be clear that the audio cassette in teaching at a distance has become an accepted norm and an indispensable aspect of con-temporary tertiary education in some institutions, despite its shortcomings. In view of its numerous advantages many people seem to favour audio cassettes alone or in combination and integrated with other media of instruction such as television, print, video and face-to-face teaching.

1.2.8 The necessity for integrated course design when using audio cassettes in support of print materials.

A major weakness of the audio cassette is its inability to teach effectively unless it is used in conjunction with other media of instruction. Moreover in view of the peculiar problems surrounding the adult learner as he or she studies at home (very often at the end of a hard day's work) distance educators need to integrate various and relevant instructional media in order to provide some inter-personal relationship between them and their students. The inter-personal relationship which could be concomitant to proper integration of various instructional media could ease frustration and increase motivation for independent study. The hearing of the voice of one's own lecturer for instance, could

dispel psychological fears common with distance students studying at home.

Fleming in Curzon (1990:310) aptly contends that: " any instructional situation must provide for four needs: stimulation (selectivity, novelty, etc), order (organisation of concepts), strategy (mental imagery and elaboration) and meaning (meaningfulness and feedback)."

Indeed it is for the meeting of the needs of the learner and objectives of distance teaching that the audio cassette is utilised as an instructional medium in modern education.

In emphasising the importance of learning needs of students and the teaching objectives of integrating various media, Curzon (1990:310) writes: "the selection, orchestration and delivery of stimulation by means of various sources comprise a large portion of the decisions the teacher must make every day...." and ...."The ultimate guide to decisions about the sources of instructional stimulation is the learning objective." Thus as new resources for teaching and learning become available, the lecturer's androgogical competence and innovative qualities could play a decisive role in fulfilling the educational needs of the distance learner. The audio cassette is therefore included and integrated into the teaching and learning process in a study

package in order to provide guidance, instruction, stimulation, encouragement, and motivation for the lonely adult distance student. It is therefore a necessity to integrate the audio cassette and other methods and media of instruction such as face-to-face and print e.g. study guides and textbooks when designing a course for distance students.

An audio cassette designed to marry print and face-to-face lectures could better utilise advantages of each of the media combined than when using only audio cassettes in teaching. Thus since no single medium of instruction is sufficient to realise the objectives of distance teaching, there is the need to integrate all available media of instruction.

In a comparative study of the use of print, radio, film, television, and live teachers in distance education, Perraton (1980:18) concluded that the success of a lesson or the achievement of teaching and learning objectives does not depend on a particular medium of instruction. Perraton (op. cit.) contends that: " the pedagogical quality and clarity of presentation, the relevance of the content and the motivation and interest of the learners are the significant variables rather than the particular medium of instruction."

In a similar argument Ferguson (1975:340) has this to say: "..every tool or instrument has

its values and its limitations. Even an inferior instrument in the hands of a master may produce something of worth and beauty, while a sophisticated apparatus handled by unskilled people may give results not worth writing home about."

In view of the foregoing exposition the researcher is of the view that when designing an integrated course involving the audio cassette and other media of instruction, the course designer should plan and execute it well. He should make use of materials and methods suitable to the cause and comprehension level of the adult distance learner. The vocabulary used and its level of sophistication as well as the rate at which the content is presented and integrated with other instructional media are therefore crucial issues to be considered when designing audio cassette materials. This is very important in view of the fact that the lecturer or course designer would not be with the student when the latter plays and listens to the cassette or reads the textbook.

Touching on what he refers to as tutorial-in-print, Rowntree (1990 : 82) suggests to distance tutors that it is vital to keep in mind the learners you are writing for; "but do not imagine them as part of a lecture audience....... nor as textbook readers whose teacher is hovering somewhere in the vicinity."

In an integrated course design the audio cassette lecture should be based on the contents of the textbooks for a particular course. The cassette lecture should therefore constantly refer to some relevant sections, pages, topics and chapters in the key prescribed book. A study guide prepared by the course designer should also accompany the package. The study guide would offer the student instructions and guidance in how to use the audio cassette and text books concurrently or in an integrated manner.

An audio cassette course design meant to support print materials should also of necessity contain some trial tests based on the contents of the textbook for students. Such tests and their model answers could assist students to evaluate their own progress in their studies. Daniel (1983:158) stresses the point in the following words: "the use of two channels - sound and vision - in a controlled and integrated way through the combined use of audio cassette and print or "media" is a very powerful teaching medium."

The integration of the audio cassette in a study package leads to the realisation of many advantages and objectives of distance teaching and learning. The concept of instruction which is based on the teacher relying solely on his voice and personality stems from the belief that communication is best achieved through the medium of sound.

However the integration of the audio cassette with other media, e.g. textbooks, study guides and face-to-face teaching could practically provide appropriate stimuli for desired responses that engage the learner's senses of hearing, seeing and touching. It makes teaching and learning at a distance more practical and real. Sometimes verbal description alone cannot go far enough in helping the distance student to understand the meaning of what he reads. A verbal description of the formation of rift valleys or waterfalls on audio cassette for geography students who have never seen such landforms could be vague and abstract. The same lesson, however, could be clear and well understood by the distance learner when the teacher's verbal explanations on the cassette are backed by a textbook or sketch expositions. Thus a well-integrated course design, involving audio cassettes and face-to-face presentations and students' textbooks, could supplement each other, focus students' attention, stimulate, maintain interest in and above all, promote retention of facts.

Thus produced with skill, competency and insight in the needs of the target group the audio cassette can be part of an integrated study package which could guide distance students in their search for truth, knowledge and skill.

In a design where the audio cassette refers to sections, topics or chapters of the main textbooks, distance students could play, pause, repeat, (i.e. replay), make notes and read the relevant sections of the book to strengthen what they listen to and hear in the audio cassette. They can pause to attempt some trial questions and refer back to evaluate themselves. Such an interaction between textbooks, lecture notes and the audio cassette could go a long way in assisting the distance student in acquiring, mastering and memorising the relevant information needed to pass examinations. The interaction between print and sound can also help students to acquire effective study habits like constant reading, drill and practice.

A proper inclusion involving an integration of the cassette with other media of instruction can make it possible for students to hear the view of authorities in their disciplines of study, thereby adding the impact of direct sound stimuli to those presented by the printed page.

With the audio cassette firmly integrated with other media, distance students could not only read or listen but also analyse facts in order to consolidate what they learn and evaluate themselves better. The integration of audio cassettes can reinforce what students have learnt.

This strategy of teaching, i.e. the integrated media approach, could involve the student at all the levels of cognitive, affective and psycho-motor learning. Thus instead of being a passive listener, the student is required to interact and use a number of activities, e.g. writing, reading, summarising facts, answering questions or sketching out ideas. This method of teaching and learning therefore fires the imagination of the learner and sets him in motion to work, listen, read, analyse, evaluate and arrive at sound judgements or conclusions.

Discussing the necessity and importance of integrated media Curzon (1990:311) states: "as mediating in students, assisting students to achieve understanding; as component of a teaching situation requiring a combination of instructional techniques, their value is beyond doubt."

1.2.9 The role of the study guide and its design in the study package.

Print media has always been an important part of formal education. Print in the form of study guide has always been used in supporting the lecturer's and student's efforts in distance education. A study guide has therefore become an indispensable element of distance education. Where the lecturer and the student do not meet face-to-face as in distance education, textbooks, reference books, or recommended books and sometimes audio cassettes, are the usual companions of the lonely student domiciled in the countryside. Lecturers therefore use study guides as part of the study package to offer assistance, guidance, direction and support needed mostly by the distance student.

Among other things, study guides contain important topics to be mastered; references to be consulted for completion of assignments, course outline or the syllabus to be covered during the course and the number of assignments to be completed before gaining the required credits for admission to end of year or final examinations - if that is the strategy of the particular institution.

In most cases study guides are very elaborate since they contain the "skeleton" of the facts selected for a particular course. Thus they contain lectures and elucidations that supplement the audio cassette lectures and textbooks.

A well-written study guide gives structure and illustrations needed to understand particular subject matter.

Study guides are useful where they are used to complement and even replace scarce or non-existent textbooks or textbooks that are in the process of being developed.

The study guide accompanying audio cassette lectures can refer to important aspects in the other components of the package i.e the textbook or tutorial letters. In this way the student can read the textbook and listen to the cassette guiding him/her through the study materials. The constant interaction between print and audio materials helps the student to comprehend and retain the facts taught in the course.

The success of the study guide as a supplement to audio materials and text in the teaching and learning process depends on how well the materials are structured and compiled. Emphasising the need for correct structure and arrangement of study guides or materials Aitchison and Aitchison (1990:225) state: "the structuring of the materials also needs to take into consideration the possible use of organisers; study formulae built into the text and the chunking of the text into an appropriate number of sections. All of this will be enhanced (or hindered by) the quality of the text layout."

Indeed the proper structure of the study guide contents is of paramount importance in distance teaching as the lecturer will not be available to help the student out of any dilemmas that s/he might experience. Proper designing and writing of a study guide is therefore crucial to the success of this instructional strategy.

1.2.10 Guidelines for the selection of contents for a study guide as part of the integrated study package.

* Structure the study guide into easily readable, learnable, digestible texts bearing in mind the cognitive level of the target group. This could go a long way in making self-study real, practical, less frustrating and less cumbersome.

* Include advanced organisers, i.e. hints on what the students can expect to encounter in the text. These advanced organisers also serve as summaries of a lesson and prepare a student's mind in advance for details of information to follow. Aitchison and Aitchison (op. cit.) describe the role of advanced organisers as: "bridge the gap between what the learner already knows and what he needs to know if he is to learn the new materials most actively and expeditiously."

* Its is also essential for the study guide to contain study skills and study formulae. Most adult distance students left school a long time ago and therefore lack modern methods of independent study. It is therefore necessary to have study methods built into the guides to direct and support learning efforts of the distance students

scattered all over the country.

* Study guides should help students to plan and follow a distinct and effective method of study even for the short time at their disposal. A study guide could for example encourage students to follow the S.R.Q.R.R. (Survey, Read, Question, Recite and Review) formula of study. This formula guides the student to glance through or survey the pages of the textbook or other study material to get a global view or picture of the content and to read to pick facts from the content and to attempt answering trial questions on a topic.

* The study guide should contain clearly stated objectives of lessons and sample self-evaluation exercises to give a student confidence in studying the course materials.

* The information should be presented in an interesting and attractive manner in order to appeal to the distance learner who might be tired after a day of hard work and not feel like studying.

* The physical features of the text in the study guide i.e. the print, layout, illustrations, size and format should be easy to read.

* The layout or arrangement of the information on the pages should be clear and attractive to the reader. Clarity of layout will obviously lead to clarity in content. Since crowded pages could make study guides less readable, headings and sub-headings need to be printed boldly so as to capture the eyes and attention of the reader.

* Illustrations in the study guide should be unambiguous. Captions of diagrams, sketches, passages and paragraphs in the study guide should be put in logical positions in order not to confuse the reader. In conclusion as Aitchison and Aitchison (op. cit.) put it: "there must be consistent and trustworthy frames of reference in the topography, the positioning of functionally related parts and in the sequential organisation. The reader's question - where am I supposed to go from here? - should be easily answered.

1.2.11 **The possibility of disseminating audio materials through radio for students to record.**

Radio has the potentiality of educating students at a distance. Roth (1990:30) observes that "radio is regarded as one of the most useful literacy media because it can reach anyone who can hear. Because of its ability to reach a large number of people in

the rural areas it is able to stimulate learner participation among them and provides them with a sense of immediacy."

Harris and Williams (1977:26) also argue that "radio today is a versatile and familiar `personality' in societies and as different as the urban university campus and the isolated nomad desert household. It is at different times entertainer, teacher and everyone's friend. It is a powerful ally for correspondence education if the unseen listener audience can be realistically estimated and understood." Radio teaching is really an excellent method of encouraging students to study; to use their initiative and imagination.

Many educational institutions all over the world have been transmitting excellent series of sound programmes (via radio) intended for students at distant and remote places. In Africa a number of teaching projects have successfully used radio broadcasts to provide support and guidance for learners at a distance. The University of South Africa's Radio Unisa broadcasts on Radio 2000, weekly radio lessons presented by the Lesotho Distance Teaching and Radio Mmabatho's transmission programmes for high schools in the North West Province are but a few cases in point. The University of South Africa, for instance, using Radio 2000, is currently reaching 100 000 of its 128 000

students in 23 different subjects or courses, 11 to 15 hours every week (Interview: de Munnik). During school terms Radio Mmabatho also beams educational broadcasts for students in middle and high schools. The writer as a guidance counsellor in one of the high schools in the North West Province used to copy lessons on English, Afrikaans, and Setswana setbooks at transmission times for students to use as study aid material.

Using radio broadcast to disseminate information to students has many advantages. Some of the advantages as reported by Bates (1987 : 249) are summarised here below:

*   Radio broadcast can provide remedial tutorials or some other form of tutorial based on feedback.
*   It can provide corrections where print remake budgets are limited or where print cannot reach students quickly enough.
*   Radio broadcast could relate course material to current events (e.g. news stories).
*   Radio broadcast could update course material in order to take account of events during the life of the course.
*   Radio can be used where only one hearing of the material would generally be considered sufficient. This might cover a number of circumstances:-
    (i)   An introduction, summary or overview of a unit or block.

(ii) A discussion, where the raising of issues and counter-views is considered to be more important than actual arguments themselves.

The aforementioned examples and advantages clearly show that the possibility exists for lecturers to transmit lectures on the air for distance students to copy for themselves. Course designers at the (I.E.M.S.) can therefore consider the use of radio to disseminate audio materials for their adult distance students scattered all over Lesotho to copy and use as supplementary material to face-to-face lectures.

However, since the adult learner has only limited time for study in view of occupational and social demands, he would find it difficult to comply with the schedule when broadcasting programmes are presented too frequently. If however educational broadcasting is done once a week for a particular course the learner might be able to listen and copy onto audio cassette the information he is studying.

Distance educators transmitting lectures on air for the purpose of copying by their students should as a necessity direct their attention to characteristics of the wave lengths and efficiency of the transmitters. As Waniewiz (1972:64) observes: "In certain regions specific frequencies provide signals of different quality during different parts of the day. Programmes designed for educational purposes particularly for group reception should be broadcast during those hours when the signals are of the best quality."

Again particular programmes need to be repeated on the air at least once during the week on a different wave length in order to give every distance student the opportunity to hear and copy off air. The use of different wave lengths could alleviate reception difficulties and also enable the distance educator to cater for more students.

Educational broadcasts, unlike other social programmes, are done in order to obtain particular information necessary to achieve a determinate functional objective. For this reason distance educators should, in preparing scripts for transmission, endeavour to match the contents of their scripts to the intellectual capacities of the target group. This is because lack of comprehension of any element in the educational message could incapacitate the entire pursuit.

Radio broadcasts can also be best utilised as a teaching and learning aid where and when they are preceded by an introduction from the lecturer who explains their purpose and their place within the instructional scheme and where they are followed by a recapitulation given by the lecturer.

1.2.12 The anticipated or possible impact of audio cassettes on the performance of adult distance students at the I.E.M.S.

The adult, distant, part-time students at the I.E.M.S. are scattered all over Lesotho and therefore operate under very difficult and trying conditions. They are adult workers in responsible positions in the various sectors of the country's economy. Saddled with socio-economic, i.e. career, social and family responsibilities, they do not get enough time to read as full-time students can do. Moreover the weekend face-to-face lectures of 2-4 days in a month may not be enough to cover more ground for part-time students to acquire the relevant needed skills or knowledge which will enable them to do well in university examinations.

In view of the numerous problems facing the participants on the adult education courses, one possible way of encouraging them to study effectively on their own might be the inclusion of the audio cassette in an integrated study package. Indeed for a relatively small number of students at the I.E.M.S. (Mrs Mohapi, course leader, puts it at 300 students) it may be economically feasible and didactically conducive to support them with audio cassette lectures.

It is envisaged that audio cassettes in an integrated study package could solve some of the learning problems of adult distance students of the I.E.M.S. When course organisers at the I.E.M.S. integrate audio cassettes with textbooks, study guides and face-to-face lectures, students could read, stop to play and listen to relevant topics on the cassette. They could read again from the textbook following the lecturer's explanation on the audio cassette. Such an approach could help the adult learners to better understand what they read. Even the very tired student resting in bed could play the cassette and listen to the lecture if he could not sit up to read at a particular time.

The introduction of audio cassettes in an integrated study package into the I.E.M.S.'s teaching programme could serve as a motivation for the adult distance student. The "I - thou" i.e. close interaction which audio cassettes offer lecturers and students, could encourage students to study. The lecturer's voice alone could for example dispel the psychological loneliness and anxiety that taunt the distance student in the country side.

The inclusion of audio cassettes in an integrated study package could also provide distance students with clear and structured discussions on various topics covered during face-to-face lectures and relevant chapters of their textbooks.

The literature on the topics thus by far suggests that if the audio cassette as medium of instruction could be well integrated into study guides and textbooks students' academic performance could greatly improve.

Further discussion in the following chapters will aim at finding scientific proof of the "anticipated impact" of audio cassettes on students' academic performance.

CHAPTER THREE

The Didactic Design of Audio Cassettes for Distance Education

1. INTRODUCTION

An instruction given during a teaching/learning encounter, whether through face-to-face presentation or audio cassette medium, is a deliberate act by an educator to draw the learner's attention so that effective learning can occur. Put in another way, the purpose of instruction is to give meaning and explanation to new concepts and to stimulate the learner's interest and involvement in a learning activity. As Adey (1987:3): states "learning is an activity and must be performed by the student and not the tutor through some kind of transmission process. One of the tutor's main functions is to make content available to students in the best possible form."

In making content available to the learner the tutor should be continuously involved with the learner through direction, controlling mistakes, testing insight, repeating some aspects of the lesson and letting the learner exercise certain activities; for after all, as the old adage goes, 'practice makes perfect' and 'we learn by doing.'

The teacher should therefore break the content into sequenced, manageable parts in order for the adult distance learner to achieve mastery learning. Piek and Mahlangu (1990:41) say: "As far as the sequencing of learning activities is concerned, it is important that the prescribed learning content for a specific subject be carefully organised to ensure systematic and comprehensive learning and most judicious use of the learner's time, energy and effort." Indeed, materials offered to a learner in the absence of a teacher - as in the case of distance education - need to be structured or organised in a way that encourages the distance student into learning activities that go beyond passively reading or listening. Thus, as someone occupying the centre stage of education, the educator has an enormous part to play in "unlocking" the learner's mind and shaping his opinions and attitudes; thereby putting him - the learner - at the centre of *"androgogic"* concerns.

With this intention in mind, in his preparation of audio materials for the purpose of instruction, the author tried to focus learners' attention in order to ensure that teaching/learning development, as presented in the lecture, progressed in the right direction. As Piek and Mahlangu (1990:200) aptly put it:., "teaching through conversation

is highly structured, more bound, clearly directed and restricted than a conversation between a parent and a child."

In a distance didactic situation where a teacher teaches through an auditory medium such as taped cassettes, verbal communication is more in line with educative teaching and learning. In reality and in practice teaching techniques such as lecturing, discussions, tutorials and question-and-answer sessions are based on the ground form of verbal communication. This is because telling, conversation or discussion is primarily and fundamentally peculiar to a human being's life-style. As noted by Piek and Mahlangu (op.cit.) this form of existence has its origin in the fact that the human being is the only being which possesses language. By means of language man is able to impart meaning to his existence or communicate with his environment. By communicating through language the distance educator, using modern technology, is able to put content or information on audio cassettes in the form of conversation, monologue, elucidation or discussion for students both far and near, to listen to in order to acquire the needed skills for survival and progress. Thus the appeal of language forms the basis of thinking and human communication.

Curzon (1990:110) emphasises this role of communication in the following words: "the

essence of communication is the transmitting and receiving of information through a common system of signals and symbols, whether in the form of writing or other signs, expressive moments or in the spoken word."

The educator's style of communication and presentation of facts on the audio cassettes could greatly influence students' listening and learning - for instance, where the speaker's voice is not clear or audible enough the distant student cannot hear or listen well and therefore learning could be jeopardised. However, when the educator's voice is clear and the information is presented in a simple and straightforward manner, the distant student using the audio cassette for study may not encounter problems in listening, hearing and eventually absorbing facts.

Parmaji (1984:19) is of the view that whatever the channel or means of communication, the amount of information which is learned, absorbed, understood and assimilated will depend on factors such as the source, credibility, clarity of presentation and credibility of content, on the one hand, and the ability of the students, their willingness to learn and the time they devote to the subject, on the other hand. Hempel (1970:395) crowns it all in the following words: "...educational technology should free the teacher .... not only from the drudgery of classroom drill, but from the whole concept

of pedagogy that requires the teacher to dominate, both psychologically and physically, classroom communications." On a seemingly more cautionary note Innocenzi (1993:100) also has this to say: "..the concept of multi-mediality is not seen as the mere sum of technology, instruments and languages but rather as a structured communications system that stimulates and imposes new rules on didactic designing."

In the following paragraphs relevant topics need to be discussed. We need to look at effective utilisation and application of the audio programme within the context of distance teaching; techniques in preparing audio cassettes; the production of audio materials; the production techniques used in the preparation of audio materials for the study; designing the audio material; techniques for integrating audio cassettes with existing educational materials; the production of the audio cassette package; suggested techniques for extracting information from the audio cassettes; techniques of evaluating the audio cassette package and a summary of the discussions in the chapter.

2. EFFECTIVE UTILISATION AND APPLICATION OF AUDIO PROGRAMMES WITHIN THE CONTEXT OF DISTANCE EDUCATION

The International Encyclopedia of Education, (1985:3295) states that from early times teachers have relied upon various forms of visual and auditory media to help them explain. The simple drawing in the sand and demonstrations with actual objects under study which primitive humans early on learned to employ, have not been replaced. Teachers have simply expanded their repertoire of materials and teaching procedures to include some of the new aids as and when they have become available.

These new aids in fact do not replace the teacher but play a supporting role in his efforts to carry his message across. In his emphasis on Kurland's viewpoint on the supplementary role of instructional aids, Tickton (1970:21) says: "instructional technology is today largely supplementary to the two primary media of instruction: the textbook and the teacher. Eliminate either of these and the educational system would be transformed. Eliminate all of technology and education would go on with hardly a missed lesson." The effective utilisation of any medium in the didactic-andragogic situation, however, very much depends on the user's

ingenuity.

It is a fact that in any didactic environment important elements of teaching, such as the situation under which interaction occurs, objectives of the instruction, planned learning experiences, learning opportunities and learning contents, are usually taken into account by the educator. However, as Freysen, et al. (1989:27) argue: "it is the media attributes in particular that are of decisive importance in determining which medium is the best one for a particular didactic situation."

In choosing audio programmes for effective teaching at a distance, the researcher was attracted by the control both the educator and the learner may have over the audio medium (i.e. its referability and flexibility), the interaction which it could offer the educator and the distance learner as well as its appeal to the sense of hearing. Freysen, et al. (1989:105) have put forward some important steps which could lead to effective utilisation of existing audio programmes in distance education. These steps, covertly or overtly, are important and relevant in determining the ways and means of recording audio programmes for teaching and learning purposes. It is therefore useful to examine these steps in the light of using existing audio programmes and in the preparation of new audio materials for distance learners at the

I.E.M.S. in Maseru. The following paragraphs, as indicated in asterisks, are devoted to the discussion of these steps:

*   The author should familiarise himself
        with the intended programme.

Before an educator could utilise audio materials for distance teaching and learning purposes, he should study the programme thoroughly in order to become conversant with the contents. Information thus obtained could help the educator to determine the suitability of the programme contents to the needs of his students. It will also enable him to decide the best way of unlocking the contents to the students in order to achieve the envisaged teaching and learning outcome. This first-hand study of the programme could also make the teacher aware of technical concepts that need to be explained to the learners before they use the audio material.

*   Structuring the learning and teaching
        environment.

The teaching and learning environment should be conducive to auditory learning. Freysen et al. (op. cit.) suggests: "things that could possibly distract the learner's attention must be removed from the field of observation of the learner." This the educator could do by avoiding noisy backgrounds

during the preparation of the audio programme. The educator could also advise listeners of the programmes to use earphones where necessary in order to eliminate any auditory stimuli that could distract their attention when listening.

* Preparing the learners for using the audio materials.

Freysen et al. (op. cit.) contend: "before the listener listens to the programme he must know why he must listen to the programme, what he must look out for and how he must use the programme within the context of individual instruction." In preparing the listener for the programme the educator must try to motivate him to listen and should also orientate him in respect of important concepts as well as the manner of presentation of the lecture.

In line with the foregoing principle and suggestion, the cassette designer of this study (Chapter 3, section 3.2) introduced his cassette lecture with some inspirational music in order to arouse and sustain the listening interest of the students. He also explained to the students the contents of the lecture and what is expected of them.

* Listen to the programme.

The way in which a programme is listened to is determined by the purpose of the programme. The purpose of the audio material for this study project, for instance, is to inform, i.e. to give information in both cognitive and affective domains. In view of these objectives the cassette lecture for this project stops periodically in order to give listeners the opportunity to practice some learning tasks.

* Follow up the listening activities.

After listening to the programme the distance educator (or the cassette designer) should obtain some feedback from the listeners. Such a feedback could help him in evaluating this audio medium of instruction. The follow-up activities in distance education could consist of completing an assignment or asking students to indicate their opinion on the audio material. This can be done through the application of tests and completion of questionnaires to solicit the opinions of the students on the value of using audio cassettes in a distance learning situation.

What is needed now is to discuss the techniques for preparing audio programmes.

2.1 Techniques in preparing audio programmes.

There are a number of techniques in preparing audio programmes for distance

teaching and learning. The techniques that are to be discussed here, as indicated by asterisks, are:

* Copying radio broadcasts and duplicating them for students.

* Preparing a script, recording, editing and copying and duplicating the master cassette for the students.

* Recording a live lecture and duplicating it for use by distance students.

These techniques will now be discussed in more detail.

2.1.1 Copying radio broadcasts.

The strategy of copying radio broadcasts on particular academic subjects as teaching and learning aids for distance students has become a very important aspect of education in recent times. Some educational institutions team up with radio stations to beam their lessons for target groups living and learning at distant places. Cases in point here are the Radio Mmabatho transmission of lessons, the Lesotho distance teaching radio programmes and the University of South Africa's Radio Unisa programmes on Radio 2000 for distance students scattered all over Southern Africa. This strategy has important advantages in that lectures have already been thoughtfully designed, sequenced, piloted and revised by subject specialists in the institutions concerned, before being sent for public broadcasting and dissemination via radio.

In this case, with the permission from the authors or the educational institution concerned, other schools, colleges or educators wishing to supplement their existing methods of instruction, e.g. face-to-face or textbook teaching strategies, could copy a master cassette of the trans-mission. Once the relevant sections of the lecture have been copied the educator, using a tape recorder, could duplicate as many cassettes as are necessary for his students both far and near.

Listening in to and copying a broadcast lecture for students are of crucial importance when considering the sometimes awkward transmission times and the constant shift in transmission frequencies. Since the target audience of a transmission could be full-time workers or students engaged during broadcast times, it is important for an educator to be willing to facilitate distance learning by copying programmes "off air" and to duplicate them for their students. Copying off air can therefore be much cheaper than other methods.

The major disadvantage of this strategy,

however, is that the level of vocabulary and manner of presentation of broadcast lectures could sometimes be too high or sophisticated for the less academically motivated students.

2.1.2 Writing and recording original scripts.

A second technique of preparing audio programmes is the writing of an own original script. Here, based on the course outline or syllabus, the distance educator can write out his own lecture, edit the script, record it on tape and edit the taped lecture before finally duplicating it for students to use as a study aid.

It is always best to do the editing professionally through sophisticated editing machines. However, some educators living and working under unique and difficult conditions and handling very few students might find it difficult to gain access to such professional editing equipment, either because it is not available or the cost involved for an individual studying privately could be exorbitant.

In preparing a script for recording a programme the author may consult a number of sources on the subject or discipline concerned. He would then draft a script in a logical and step-by-step order, taking into consideration the target audience. The author or programme designer would then load a tape recorder and teach the lesson as he would in a live teaching situation.

Emphasising the importance of the previous point Anderson (1976:88) suggests that script writers should "read your own writing aloud into a recorder, listen, evaluate your work and, even more important, have others listen to your recording and let their reactions help you improve your work."

Having recorded the lecture he would then edit the recording by eliminating or cutting out irrelevant sections and by including instructions, trial questions and a summary or recapitulation of the lecture.

After editing the original cassette the designer may take the recording, together with the script, to a sound engineer or educational technologist for further editing and rearrangement before duplicating it for dissemination. Following step-by-step guidelines in preparing audio materials helps script writers to present a systematic and time-tested approach used by writers to produce good audio material for distance teaching and learning.

This strategy of preparing a programme for distance teaching and learning could be time consuming and costly. It enjoys the advantage, however, of making the finished

product the author's brain child. Danielson and Burrow (1973:443), for instance, argue that "although the preparation of a script may take several hours, we feel the time spent worth while because the result is a tape designed with the needs and interests of our students in mind." Teacher-made tapes also present a conversational tone with which the students feel comfortable or may be more familiar with than with commercially made tapes.

2.1.3   Recording lectures live

Another important procedure for preparing a programme for distance teaching and learning is the live recording of a lecturing session by an experienced lecturer. This would need an agreement with such a lecturer beforehand. This lecturer would prepare a script for a lecturing session of one-and-a-half hours and the distance lecturer, i.e. the author of the programme, would be in attendance to record the programme. The audio material for this research project (See Chapter 3, section 3.2,) was in fact obtained through this strategy of recording a live lecture.

After the recording the author and the lecturer spent time together to edit the master cassette. The author rearranged the lecture by including some music, instructions, trial questions and answers as a means to make the cassette an effective medium of instruction. This arrangement could be time consuming since the author and the lecturer have to meet to discuss, criticise and edit before the final cassette could be made.

One other limitation of this teacher-made tape is that it may lack the recording studio polish of their mass production counterparts. This may be because the author does not necessarily have sophisticated skills in script-writing, recording and editing of cassettes. It does, however, have the advantage of making the final product the author's own work. He could also include whatever he considers important elements of the programme. He could change and explain difficult concepts during the editing phase in order to adapt to the various levels of his students.

This strategy of preparing teacher-made cassettes for teaching and learning is inexpensive because no sophisticated, costly studio techniques are used. With careful planning and execution teacher-made audio cassettes do not lower the standard and quality of the content of lectures. The method is also suitable for small-scale projects like preparing audio material for research and study purposes. Here the number of cassettes needed for the study could be fewer hence the researcher could quite easily prepare the recordings himself to suit his purpose without having to depend on studio productions with

accompanying high costs and/or bureaucracy which can result in delays.

3. PRODUCTION OF AUDIO MATERIALS

During the production of the audio materials for the project the following production techniques were used:

3.1 Designing the audio cassette materials

Designing and preparing attractive self-study material such as audio programmes on cassettes for instructing distance students is indeed a challenging task. Taking into consideration the conditions under which the students of the I.E.M.S. operate - isolation from lecturers, transfer of knowledge in an impersonal manner, etc, - the author, in designing the audio package for independent study, formulated clear teaching and learning objectives, self-assessment devices, student activities, and the provision of feedback from and to students.

The educator thus taught through activities. Teaching through activities or involving the learner in activities could keep the learner alert and involved, thereby making him learn better. In most learning activities we learn by doing. As Rowntree (1990 : 121) puts it, bearing in mind the following Chinese proverb:

I hear, and I forget
I see, and I remember
I do, and I understand,

the educator designing audio material for distance learners should include learning activities in order not to make the learner a mere listener. Activities like short exercises, tasks, answering of questions on what they hear or listen to, could keep learners purposely engaged with their study materials. The researcher therefore designed his audio material in such a way that learners listen, pause, attempt some tasks or exercises or read before listening again. Rowntree (op,cit) rightly states: "and if more than four or five pages went by without your requiring the learners to do anything but read then I'd suggest you've forgotten about them. And I'd expect them to have dozed off." Listeners to audio material need to reflect on what they hear and analyse a new piece of text in the light of such reflection.

This approach was guided by the view of Harris and Williams (1977:10) that: "in practice the real objectives in a distance situation must always be a broad compromise between teaching aim and learner expectations and the variable factors are even more numerous than in a face-to-face group." Thus since the lecturer would not be with the students when they listen to the recording the study package should be systematically designed to suit the objectives, purposes and

needs of the target group.

In preparing audio programmes for distance teaching and learning the educator should end all audio lectures with a consolidation of the learning content. This he could do by summarising the content and pointing out links between the learner's previous knowledge or experience and the learning content just presented.

3.2 Production techniques used in preparation of audio materials for the current project study.

The author, not being involved as a lecturer on the part-time Adult Education Diploma Programme at the time of the investigation, had to make special arrangements to complete the investigation. The head of the department of I.E.M.S., where he was formerly employed, gave him a relatively short space of time (September 1993 - January 1994) to complete the task in order not to interfere with the normal academic programme of the I.E.M.S.

In the process of saving time and resources the author decided to present on audio cassette very much the same mode of instruction in using the same familiar voice of their lecturer. He therefore negotiated with the lecturer, who agreed to the recording of her normal weekend lectures to a group of

students. In view of this agreement the author and the lecturer went through the course outline of the 3-unit course, i.e. AED 130-3, Sociology of Adult Education, and selected some important and interesting topics which the lecturer intended to cover during the first semester - mid-August to November 1993.

The topics selected for sound recording during the lectures included the following:

a. Society and adult education.
b. Social beliefs, attitudes and values.
c. Social class, wealth and power.
d. Community education and socialisation.

All face-to-face lectures took place every fortnight - during the weekends. The author therefore travelled more than 1000 kilometres to and from his duty station to attend the face-to-face presentations. At the first meeting 50 of the 60 students registered for the AED 130-3 course were present.

The lecturer present introduced the author to the students as a friend of the I.E.M.S and a fellow adult distance student from the University of South Africa who had come to take part in their lectures. The author took his place at the back of the class and prepared the portable tape recorder to record the lesson to be presented by the lecturer. After the day's lectures both the author and the

lecturer listened to and edited the recording to be used as a master copy for further copies to be made. Some of the parts considered irrelevant were eliminated - this action being taken because the author was of the opinion that the objectives of the lectures were to INFORM, MOTIVATE and EXPLAIN to students the content and concepts in the Sociology of Adult Education - hence the lecturer's jokes and mannerisms were to be reduced to the necessary minimum.

The author, as the audio programme designer, believes that the key to success in teaching at a distance lies in the ability of the lecturer to arouse the interest and maintain the motivation of the students to learn. It is against this background that the programme designer introduced his lecture with inspirational music which was meant to arrest, sustain and increase the students' interest throughout the lecture. At certain intervals students were referred back to some sections of the textbook.

The incumbent lecturer, Dr Remi Bamaiseye, was a visiting lecturer from the University of Ibadan in Nigeria - an experienced academic in the discipline Sociology of Adult Education. She presented the lectures in a normal conversational manner through active verbal and objective interaction with the students. The lecturer spoke clearly, cheerfully and frequently varied the tone of her voice. She sometimes paused, repeated or stressed a point to make an argument cogent, clear and easier for the adult students to comprehend. In fact, she combined teaching and lecturing as an effective means to reach her audience. In view of the fact that the students would replay and listen to the cassettes without a lecturer's presence, she used simple language and explained terms with clear and common examples.

As the lecture progressed, the initial conversational nature became increasingly more formal. The lecture on the cassette was well-structured, since various topics were arranged into teachable units or sections. This approach concurs with Greyling's (1981:267) idea that the "subject matter should be divided into sections and units which are easily digestible and coherent." Each of the sub-sections of the various topics formed a full lecture on its own with a listening duration of 45 minutes - though sometimes the lecturer paused at certain intervals to stress some vital point in the lecture.

At the end of each lecture, section or unit, the main ideas were summarised to make learning easier for the adult students. At certain intervals the author inserted trial questions on the topics for the students to answer. These trial questions served as self-tests which could guide students in their studies. In an accompanying guide and in

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instructions to the students the programme designer urged them not to proceed further with listening until they had answered the trial questions. After the self-test, students could play the cassette and listen to the suggested answers or a suitable approach to answering the questions. They could then compare their written answers with what the author expected of them. These self-evaluation tests were based on the content of the cassette lecture. The author believed that this technique could assist the students by making content matter easy and simple to understand. In the words of Adey (1989:3): "When students find they are successful, they will experience satisfaction and be motivated to continue their efforts to learn. This requires opportunities for them to test understanding and application of knowledge and skills and to be informed of success or the need for improvement."

Listening, pausing, starting, stopping the cassette to make notes or attempt sample questions involved the students in the teaching and learning activity at the affective, psychomotor and cognitive levels. Piek and Mahlangu (1990: 200) also argue that the use of language in teaching "enables man to transpose the surrounding reality in such a way that it becomes a part of his inner spiritual world." Thus teaching through conversation on audio cassettes can increase the learner's knowledge in the sense that he

(the learner) can order the facts, repeat and use activities for learning.

From the cassette the students were referred back to the textbook. This means they would listen to the cassette and also read the relevant sections in the textbook. In this way the cassette simplified and summarised the main ideas of the text and reference books. As students read the relevant sections of the textbooks and listened to the cassette, understanding and insight in the subject matter might seem to increase. In all the author used two full cassettes (each with a total listening time of 90 minutes) in this study.

During the editing process it was arranged that the voice of the full-time lecturer dominated the recording, but at some intervals the author's voice could also be heard. This was in accordance with Laaser's (1986:146) views that: "additional comments by a course author to facilitate (and) supplement understanding of the printed course units can be better structured by using different voices for different didactic tasks e.g. summarised or specific comments." Indeed, at specific intervals the author gave instructions, tests or exercises and a few comments to enhance the package and also to give students the opportunity to stop, rewind and listen again. This technique also was meant to activate student participation in

the appropriate domains. It is also in line with the views of Postlethwaite et al. (1972:73): "specially recorded sounds, voices of outstanding people, short dialogue, etc, when used functionally provide variation and add realism to the study."

A brief statement from the author could provide the immediate reinforcement necessary to help the adult distance student proceed with confidence. The author's voice on the tape therefore provided information, explanation of answers and tutorial assistance. Teacher- made tapes can thus be a personal and informal method of presenting course material in a special way to distance students. The audio cassette and textbook combination therefore forms a good integrated package which can be conveniently used by the adult distance students when and wherever they choose.

3.3   Planning the editing process

In editing the recorded cassette the author planned the process carefully so as to achieve the objectives of the study. This
is in line with the viewpoint of Anderson (1976:87) who argues: "When inappropriately prepared and well used, audio programming can be produced and distributed at a relatively low cost. When appropriately designed and poorly used, audio programming can be an expensive

disruptive in student learning." Thus, as with any other medium, audio instruction must be done with skill and artistry, and planned in advance as carefully as with any other medium.

After recording the live lecture the author arranged for a tape recorder with two compartments and a capacity for playing and recording at the same time. He discussed the editing process with the full-time lecturer, who agreed that the editing could be done at her office after lectures when all the students had left the campus for their respective places of lodging. The author procured 10 TDK cassettes of 90 minutes duration for the editing process. The author met with the aforementioned lecturer at her office three times to edit the whole cassette. Each of these meetings lasted 3-4 hours before the whole process was completed. During editing the master cassette was first played and listened to by the author and the said lecturer for step-by-step criticism. The cassette was stopped at intervals for discussion on what sections needed to be deleted. When it was agreed upon what sections were to be omitted the master copy was reversed for the full length so that the relevant sections could be copied onto a new cassette. Whilst copying onto the new cassette the author inserted his comments, instructions, music, exercises and answers at the appropriate intervals.

The planning and the subsequent editing of the cassette, however, did not pass through a professional sound studio and a sound desk with various facilities to merge into one tape the different aspects for a final tape. The reason for this was that the project is a small-scale experimental study for which the author was given a short time at the I.E.M.S. so as to complete all the face-to-face interactions with adult students without interfering with the normal academic programme of the institute. Nonetheless, the author and the lecturer concerned evaluated the accuracy and logical sequence of the content, as well as the quality and clarity of instructions and explanations before the final product was duplicated and given to the students.

When the author contacted the Department of Educational Technology at Unisa, they declined assistance in the editing process due to a tight production programme and the fact that a very low priority is given to private work - which this project is in fact. They further said that if the cassettes needed to be edited and reproduced it would have to be done in their own time and would be costly. Realising the scale of the project and the little time available for the empirical study the Department of Educational Technology advised the author to send his own edited cassette for duplication as a means to save time and costs. In view of this explanation the cassettes were not professionally edited.

However, it did not lower the value and standard of the content, since both the author and the lecturer took time to scrutinise the master cassette before it was sent for duplication.

3.4   General guidelines for the integration of study materials

The provision of distance teaching for adult learners has been substantially text-based, often with minimal use of face-to-face presentations. The popular trend now, however, is the integration of audio cassette lectures and existing instructional media in order to make teaching and learning in a distance mode more effective and less frustrating for both educator and educand.

De Munnik (1993:3) aptly states that in a course consisting of print and audio materials the two "are so effectively integrated that you cannot make a complete study of the subject if you do not use all the printed matter, recordings of radio programmes and audio cassettes." These various components forming the integrated package support each other and are planned to provide variety and different perspectives and opinions that make distance education lively, easy and successful.

To promote independent and effective use of the audio cassette medium in teaching and

learning, the cassette designer should encourage the skills of reading, listening, note taking, and the judicious use of information in various forms among students. This could be effectively done when the cassette designer integrates or interweaves the cassette lecture into the existing media and methods of instruction such as face-to-face lectures, textbooks, radio and/or television broadcasts, thereby activating the learner. Thus tapes used for instruction are likely to receive attention when structured in a way which compels the listener to perform a task before proceeding further. This is more so when and where the cassette lecture is designed in an informal conversational style. In this way the lecturer could bridge the psychological distance between himself and the student, thereby creating almost a person-to-person relationship. The task given to students may refer them to other sources of information for additional data or may require completion of an exercise based on what has already been presented to them.

Junor (1992:101) succinctly argues: "integration of learning, review and confirmation tasks as part of the teaching tape, maximise the chances of `opting out' of the learning experience by necessitating interaction with the teaching medium." Smit (1990:250) is also of the view that "repetition and emphasis are important in presentation of new learning content; and that opportunities should be given for practice in the learning situation e.g. compulsory assignments."

Thus as the adult distance learner interacts with listening, reading and writing materials, he will not become bored and could continue his learning efforts in order to acquire the required skills and knowledge to pass his examination. Smit (op. cit.) suggests that the learner should be an active participant in learning activities, and the learning content should be divided into units which can be studied and mastered in an appropriate way and at a suitable pace. Thus the learning content should be presented in such a way that specific characteristics and similarities of factual knowledge, which are to be mastered, will have meaning for the adult learner.

Van Niekerk (1985:29) also contends that: "Whatever teaching method is used, it will render an influence on how the subject matter is comprehended by the learner. In this respect it has to be accepted that technology as a means of instruction will represent subject matter in such a way that it will influence the learning results of the learner." It is for this reason that there is the need for an educator to plan for the implementation and integration of educational technology in a teaching and learning situation. The aim of educational technology, so integrated, should therefore be to create a meaningful learning experience

for the learner in order to make the educator achieve his teaching objectives.

In connection with the foregoing viewpoints the author included self-tests or exercises in the integration of the various media of instruction in order to encourage students to practice. The author's examples in the exercises provided clues and guidelines for the student so as to be able to do independent study. Such cassette exercises based on the lecture were seen by the course author as mini-tutorials designed to underpin weekend face-to-face lectures. The students could view the audio cassette as a means of revision, preparation for term essays and examinations. In fact, this experience has indicated that the audio cassette could be used in a variety of ways by the students studying at the I.E.M.S., e.g. for mastery learning, for instructions in using diagrams, charts, tables, graphs, tests and exercises; for backing and supporting face-to-face lectures and print and for giving feedback on student assignments or exercises. This strategy (if proved to be effective) might go a long way in improving the academic performance of adult distance education students. In integrating audio cassettes into the main stream of existing modes of instruction the author took the following factors into consideration:

*   The student's learning needs.

As adults who have career and family responsibilities or economic and social obligations, most of them might not have sufficient time for their studies. In view of this the author, in preparing the study package, selected and made use of simple words, expressions, phrases, sentences, examples and references which were down to earth and not too remote from the learner's experience gained from conventional face-to-face presentations.

The simplification of the presentation of lectures on the cassettes did not in any way lower the standard of the content or the subject under discussion. In actual fact terminologies, explanations and presentations were generally made in such a way that each student would understand the content of the lecture, bearing in mind the background of students and the fact that students would study on their own - without the lecturer.

These viewpoints are in line with Bates (1990:104) who says: "In distance education media need to be simple, widely available in students' homes.... easy to design well, interactive and integrated with other media." The value of audio cassettes depend very much on their design and presentation.

Touching on an appropriate design and presentation on audio cassettes Smit (1990:248) contends that: "the tutor must

ensure that the learning content, the study material, is compiled in such a way that the learner can easily comprehend it. In particular the approach should be logical and in plain language." As adults who left formal school some years ago and are now confronted with socio-economic responsibilities AND part-time studies, they really need instructional and learning strategies which could supplement existing ones (i.e. textbook and lectures) and ease their possible anxieties, thereby making learning simple, easier, lively, accessible and learner friendly without necessarily lowering standards.

In the words of Moody (1989:28): "In addition to the book, spoken word recording has become extremely popular - not in competition with books but as a new literary vehicle to be offered as a supplement or companion to the printed book."

*   Selection of media.

Curran and Murphy (1991:31) argue that the factors that affect the choice of media and teaching methods in distance education systems include the objectives of the institution providing the programme, the scale at which it operates, the number of students and the students' geographic dispersion. Other factors are the specific educational goals of the course, the degree to which students have access to the particular medium or teaching method and how best to combine media in order to realise a specific educational objective.

Different media have different strengths and rarely can one medium provide everything. Supporting the above assertion Farr and Shaeffer (1993:52) say: "Once an instructor has optimally matched methodology and objectives media selection becomes a routine matter." Thus the most appropriate is not necessarily the first one that comes to mind and in most cases low-technology media can be more powerful than high-tech media (Farr and Shaeffer op. cit.)

Rowntree (1992:98) suggests the following criteria for selecting media in distance education and states that in selecting the appropriate media the script writer or distance educator should consider or answer the following questions:

■ Do any of your learning objectives dictate certain media?

■ Which media will be physically available to the learners?

■ Are any media likely to be particularly helpful in motivating learners?

■ Which media will be most convenient for learners to use?

■ Which media will you as the teacher be most comfortable with?

■ Which media will the learners already

have the necessary skills to use?

- Which media will you, the teacher, be able to afford to use?
- Which media will the learners be able to afford to use?
- Which media might you - the teacher - need to back up the main media and/or ensure variety?

Bearing in mind the circumstances under which the adult distance students learn (i.e. 2 - 4 days a month face-to-face presentation) the author chose to marry audio cassette tutorials with the other instructional media, viz textbooks and face-to-face presentations in order to solve some of the learning problems of the participants on the distance education course.

In designing the course the author found that the adult distance students, living in the countryside, had access to or would be in possession of audio cassette players cum radio, which could operate on batteries, rather than more sophisticated hardware like video recorders and tapes, television, etc., which many rural dwellers do not have. The audio cassette as a medium of instruction has some attributes that seem to suit the needs and circumstances of the adult distance learner. For example, its unique characteristics, like the ability to appeal to the learner's senses of sight and hearing when integrated with text, and the interaction and

the control the adult learner may have over the audio cassette. These attributes influenced the author's selection of this particular medium.

* Analysis of the target group

The course designer analysed the target group, taking into consideration the background, problems and limitations of the adult distance students. The target group of this teaching and learning programme consists of adults who could benefit from general education or would like to obtain new skills, knowledge and qualifications, while still pursuing gainful employment. Since these adult students are also full-time employees in the various sectors of the economy, they nevertheless play multiple roles, i.e. they may be parents, family heads, community leaders -all these roles at the same time, and in addition to being part-time students. They therefore can face role conflicts as each of the multiple roles exert demands and pressure on their daily lives. Piek and Mahlangu (1990:40) strongly argue that: "as far as learning activities are concerned it is important that the prescribed learning content for a specific subject be carefully organised to ensure systematic and comprehensive learning and economic use of learners' time and effort."

It is against this background that the author

designed and integrated the cassette lecture into existing media and methods of instruction in such a way that it could appeal to most of the adult distance students. The lecture was presented in a straightforward, easy to comprehend and clearly informal conversational manner fully interwoven with other existing media, so that even the tired students would not be bored in listening to it. Again, the author selected and structured the content or subject matter to match the objectives of the half-course AED 130-3, i.e. Sociology of Adult Education, in order to assist the students to achieve their goals.

3.5 Techniques for integrating audio cassettes with existing educational materials.

The main medium in most self-instructional courses is print and this could be conveniently supported by audio visual materials, especially audio cassette tapes. In addition to print and audio cassettes, personal interactions between learners or learners and lecturers may be possible through occasional face-to-face or telephone discussions.

Freysen et al. (1989:3) refer to educational media as: "persons or objects that are used deliberately to put across (communicate) learning content in the didactic situation." In other words, educational media are the physical means by which an instructional message is communicated to the learner. Educational media assist the educator in putting his message across during educational teaching or instruction. One can therefore argue that educational media comprise the human medium, e.g. the conventional face-to-face teaching; the software and hardware, e.g. chalk, chalkboard, radio, television, video and audio tapes, cassettes, pictures, textbooks, maps or realia, the use of which could assist educative teaching and learning. In distance education since the lecturer does not usually meet his students face-to-face, the course designer should choose media that could make learners perform many learning activities, which will lead to the realisation of teaching and learning goals and objectives. Rowntree (1990:74), for instance, rightly suggests that distance educators should choose media that could make them:

* Catch the learners' interest.
* Remind them of earlier learning.
* Stimulate new learning.
* Explain and provoke thought.
* Get learners to respond actively.
* Give them speedy feedback to their responses.
* Encourage them to practise and review.
* Help learners assess their own progress.

Reality is thus unlocked to the individual learner either through a direct experience and situation or the recreation of a situation (through the media) which could not be

attained otherwise. McLuhan (1974:16) appropriately puts it thus: "... the medium is the message because it is the medium that shapes and controls the scale and form of human association and action."

However, it is the opinion of the researcher that since no single medium can effectively carry an instructional message or appeal to the senses of all individual learners during the teaching-learning encounter; educators usually combine two or more educational media in a single lesson in order to satisfy the needs of a larger proportion of their students. This combination of different media (be they auditory or visual) in a single lecturing/ teaching encounter is what educators refer to as "media integration." Thus the study package approach to teaching can be a marriage of audio cassette and many other methods of instruction, like face-to-face, textbook and study guide, in a single lesson. The learning efforts of distance students can therefore be supported by contact with other learners or lecturers. This contact could be by:

* Writing.
* Exchange of audio cassettes.
* Limited amount of face-to-face meeting.
* Computer conferencing.

Students living within a given geographical vicinity, for instance, could be encouraged to meet together regularly to discuss and share ideas or sometimes invite a lecturer to meet them and address their study problems. Adult distance students may worry about many things. As Rowntree (1990:267) rightly puts it, "they may worry about whether their approach to learning is appropriate; whether they are reaching satisfactory standards; about how to reconcile their studying with the demands of family life and friends; about whether it will all be worthwhile for their career or other aspirations - and so on." Rowntree (op.cit) further argues that the necessary

encouragement and support can best be provided through "live" contact with other human beings, for instance, a more experienced colleague can help learners talk through their problems either telephonically, through letters, face-to-face inspirational teaching, audio cassettes or computer conferencing.

3.6 Applications of general guidelines for integrated study materials.

In nearly every field of experience or endeavour an appropriate blend of components is required as a necessary strategy. People differ in terms of receptivity to different approaches to a subject. There is a tendency in this age of technological advancement in education for an educator to become a faddist and attempt to use one device to the exclusion of all others. Such a

practice could be detrimental to many learners because, while some may respond through the textbook method or the human medium of instruction, some others would be receptive to a multiplicity of media. Freysen et al. (1989:65) report that: "research in respect of multimedia use shows that the meaningful use of more than one medium can definitely contribute to the teaching learning activity."

This, however, depends upon certain conditions, according to Freysen et al. (op. cit). For example, if the coding rate is too high the learner could find it difficult to decode and integrate the different messages in an attempt at attaching meaning to them. Thus a high encoding rate could make the learner concentrate on one sensory channel only at the expense of other supporting channels. The symbolic systems of the various media should supplement each other and also facilitate the making of connections. Where this connection is lacking between the various systems, they may not serve the intended educational purpose.

Emphasising the importance of media integration and the need for proper arrangement and co-ordination of all components of the integration in teaching and learning, Postlethwaite, Novak and Murray (1972:5) indicate that: "musical instruments sounded in random fashion result in cacophony, but the same sounds if sequenced and appropriately timed produce a melody or arrangement which is meaningful and pleasant to hear." Postlethwaite et al. (op.cit.) equates this to eating: "Seldom does one eat food which is not a blend of several components and it is a natural approach at mealtime to have a sequence of foods and in a specific order." Undoubtedly this same pattern holds good for intellectual endeavours such as teaching and learning. When several activities are appropriately sequenced and related to each other in teaching they could appeal to all the students (with diverse receptive abilities) to experience greater achievement and understanding than if these same events are randomly sequenced or disassociated. Moreover, for effective and meaningful learning to occur the learner needs to be stimulated. This is done in order to capture his attention and interest in the didactic environment. Avenant (1988:5) states: "Without sensation and perception learning cannot take place. Learning starts with the seeing of objects, the hearing of sounds, the smelling of fragrances, the tasting of flavour and the feeling of stimuli on the skin surface." A multimedia approach such as the integration of audio-cassette, textbook and the human medium offers every learner the opportunity to understand lectures better and acquire knowledge and skills needed to survive in his or her environment.

In line with the foregoing principles in this study project, the author integrated auditory media, i.e. audio cassettes, with the existing instructional media - in this case printed and human media. The audio cassette lecture used in this study project covered some aspects of the half-course in Sociology of Adult Education (AED 130-3).

In integrating the various study materials the author applied the guidelines set out under section 3.4 of this chapter. For instance, bearing in mind the conditions under which the adult distance students learn (e.g. 2-4 days in a month face-to-face teaching), the author used the most appropriate, simple to operate and quite easy to obtain medium, (the audio cassette) to supplement the other media in presenting the content of the course.

As adults who left school some years back and are now confronted with socio-economic responsibilities, they must hardly get enough time to study. These adult learners therefore needed a didactic environment and a medium that could appeal to most of their senses and thus stimulate them to study. With this background in mind in preparing the cassette package the author introduced the lecture with the aforementioned motivational music, followed by an informal conversational approach to lecturing where he set out the objectives of the lecture in a simple straightforward manner.

Easy to grasp words, phrases and sentences were used in presenting the subject matter without lowering the standard of the content.

The cassette package made references to some portions, pages and chapters of the prescribed book used by students. There were a number of reference books but the main recommended book for the half-course was that of Ansu Datta (1984) titled: "Education and Society: Sociology of African Education." Using the prescribed book the students prepared lecture notes, read relevant chapters and listened to the audio cassette as well. The integration was made in such a way that the student could listen to the cassette, pause to read some sections in the prescribed book, take notes or attempt exercises before listening to the tapes again.

This learning strategy aimed at promoting the skills of independent study among the distance students. Thus, to understand the content of the cassette lecture the student was advised to read the information, refer to diagrams and sketches from his textbook and complete some activities or solve problems under the direction of the audio cassette which would guide his progress as he went through the various activities. Laaser (1986:151) states: "a closer integration and interaction seems to favour learning because it offers a great amount of stimuli and uses a greater variety of media attributes to further

understanding."

This "closer integration" seems to exist where audio cassettes are made part of a teaching strategy. The author believes that by using the various media simultaneously in a single study unit the adult learner would be able to comprehend and absorb the subject matter of the course, Sociology of Adult Education, more easily.

At the end of the introductory music the approach used in the course is explained, as well as what students could expect as they play and listen to the tape. The introduction also related the content of the course to previous knowledge and placed it in perspective within the subject matter, "Sociology of Adult Education," as a whole. The design, structure, implementation, and the purposeful and imaginative use of the audio cassette is presented in didactic events as if the lecturer is actually present while the learning content on cassette speaks to the learners. This is done by referring students time and again to selected sections of their main textbook. Putting it more succinctly Smit (1990:155) says: "the distance educator though physically `absent' should at all times be `present' in the heart and communication media of the absent, remote learner. As a person she or he should feature in such a way in the lecturer's life that the learner will constantly keep him or her in mind, not as a

provider of information and didactician but also as a sympathetic, accompanying supporter and guide."

4. THE PRODUCTION OF THE AUDIO CASSETTE PACKAGE

The process of arranging, recording and producing the audio cassette package went through a number of stages. These steps are discussed below.

4.1 Stage 1.

In the first stage, as mentioned under 3.3, the author recorded live the lectures of the half-course in Sociology of Adult Education, AED 130-3. The recording was done on two occasions, i.e. during two weekend lecture sessions. The script for this study package (See Appendix C) was prepared and developed by the full-time lecturer and the author. At the end of the day's lecture the author and the lecturer completed the initial editing. This was done by playing back the master cassette and marking the sections which were not relevant to the needs of the study.

4.2 Stage 2.

At the second stage the author copied the original cassette and cut off the undesirable sections identified by him and the lecturer.

The author and the lecturer played back the edited cassette making sure that what was left could be useful for both students and the researcher.

4.3 Stage 3.

At the next stage the author copied the edited work and inserted some trial questions and model answers at certain intervals to guide students in their studies. He also added instructions on how to approach the trial tests, which were based on the content of the cassette lecture. The trial questions were meant to serve as a recapitulation exercise for the students.

This series of editing steps was aimed at making the final product worthy of its purpose. As Miller (1973:413) rightly puts it: "Experience has shown that a carefully edited taped lecture can present content in one half to one third the time most lectures would use in the classroom."

4.4 Stage 4.

At the last stage of the production the recorded tape, i.e. the original copy, was sent to the Department of Educational Technology (UNISA) for fast copying. Using a reel-to-reel quarter inch tape in a continuous production process, the tape was cut and packed into cassettes. In all, 80 cassettes with a listening duration of 90 minutes each were cut and produced for the experiment. The cost of production was R2,50 per cassette.

5. THE SUGGESTED TECHNIQUES FOR EXTRACTING INFORMATION FROM THE AUDIO CASSETTE PACKAGE.

As part of the research project the course author gave the students guidelines on how to use the cassettes. The guidelines were incorporated into the cassette lecture. The objectives of the lecture and a general orientation on the content of the cassette were explained at the beginning of the lecture. Students were also told the length or duration of the cassette lecture. The master cassette for this study has a 90 minutes listening period - 45 minutes per side.

The author offered students the aforementioned information in order to prepare them psychologically for listening to and extracting information from the study package. The audio cassettes were used alongside other teaching methods (i.e. face-to-face lectures, textbooks, readings and discussions), as an element within an integrated teaching programme.

To extract information from the audio cassettes students were told first to browse - skim and survey, the relevant sections of their textbooks; browse through their lecture notes,

the guide which accompanied the package; listen to the cassette without taking notes before re-listening to make notes and then reading again. Students were also advised to listen to the cassette often while doing other things, e.g. note taking or answering simple questions. The questions posed during the course of listening were to help them remember what they had learnt and also to focus attention on the cassette. Thus, whilst learning the students could move between print and audio material and perform short tasks, thereby making learning and studying both interesting and more active.

Students were advised to listen to the cassettes at a time when they were sure of a high degree of concentration and would be able to relate the content of the cassettes to their own experiences or to write answers to the questions stated.

For students of both higher and lesser capabilities the opportunity to stop and repeat portions of the tape in addition to answering a number of trial questions, allowed them to use as much time as they deemed necessary to master the content of the audio cassette.

6.   TECHNIQUES OF EVALUATING THE AUDIO CASSETTE PACKAGE

Evaluation is an important aspect of the formal education process. Piek and Mahlangu

(1990:29) define evaluation as: "the process of examining an individual, group, product or programme as carefully, thoroughly and objectively as possible to ascertain any strengths and weaknesses." The evaluation in this study examined both the students and the product, i.e. the audio cassette package, and this was done through the following strategies:

(i) Pre- and post-test items.
(ii) Questionnaires.

6.1   Pre-test items.

A pre-test was undertaken to enable the researcher to diagnose the relevant abilities of the subjects for the study - the learners - to determine the entrance level of performance of all the students taking the half-course in Sociology of Adult Education (A ED 130-3) before conducting the experiment. The two tests - a pre-test and a post-test - were based on the content of the audio cassette lecture. Each test was made up of 20 multiple choice questions or test items (See Appendix D). The student was required to select what he or she considered to be the correct answer from four options given in each item. The pre-test items were taken and marked before the post-test was administered.

To control any possible improvements in student performance, as indicated in the post-

test, due to other factors like maturation or experience, the author changed the wording, arrangements or positions of the questions and answers completely although the answers were the same. The pre-test was taken and marked two months before the post-test was conducted.

6.2   Post-test items

A post-test (See Appendix E) or summational test was undertaken at the end of the two-month period to determine the achievement of the learners (or not) as a result of the new device - the audio cassette - incorporated into their teaching. The two-month period was not deliberately planned to be two months but was the long vacation period for the IEMS. The researcher therefore took advantage of the students' absence from lectures and offered the experimental group the audio cassette to listen to during the vacation time. The object of the two tests was to assist in the evaluation of the audio cassette as medium of instruction.

6.3   Questionnaires.

The researcher also used questionnaires sent to students in the experimental group to determine their opinions on the use of an audio cassette package in teaching (See Appendix A). This was done to determine if there was any congruency between students'

achievements in the tests and their opinions on the new device (the audio cassette).

The results and findings of the evaluation are reported on in Chapter Four.

7. SUMMARY

In this chapter the author has outlined the various methods used in preparing, editing, integrating, producing, evaluating and extracting information or facts from the audio cassette package.

It was mentioned that the preparation, integration and production of the audio cassette package went through a number of phases and processes.

It was also noted that in selecting the audio cassette medium of instruction, the author took into consideration the following factors:
*   The learning needs of adult distance students; and
*   The conditions under which the adult distance students learn and live in Lesotho.

Students were given guidelines on how to use the cassettes, i.e. how to extract information from the cassettes; they were told to read the textbook first, then listen to the tape and read the book again before re-listening to make notes.

This discussion has made it clear that the package approach with its novel mixture of educational media, simulations and other teaching and learning techniques seems to be more enjoyable to learners than the use of a face-to-face lecture only. This fact is deduced for the findings of the experiment reported on in Chapter 4.

CHAPTER FOUR

The Empirical Study

1. INTRODUCTION

This study was undertaken primarily to investigate the feasibility and effectiveness of using the audio cassette medium of instruction in solving the problems of part-time adult distance students of the I.E.M.S. in Maseru. The study designed to test the hypothesis on the problem, is an empirical investigation which ran a full course of 10 weeks i.e. from the third week in November 1993 to the later part of January 1994.

2. RESEARCH DESIGN

A research design deals with the planning and execution of a research project or study. In other words it involves the strategy, the plan and structure of conducting a research project. In the words of Leedy (1980:96) a research design is: "the common sense and the clear thinking that is necessary for the management of the entire research endeavour; the complete strategy of attack upon the central research problem."

The design of this empirical study embodies a pilot study undertaken by the researcher, using sampling techniques to collect data, the use of a two-group design approach (i.e. experimental and control groups), the result

of the research as it was executed and the use of questionnaires in addition to the empirical data collected.

2.1 The Pilot Study

The pilot study deals with the testing of data gathering instruments on a smaller population to ascertain their suitability for research work before employing them in the gathering of data.

In this study, before students were sampled into experimental and control groups for the empirical investigation, both the researcher and the full-time lecturer tested the programme on the students verbally on similar multiple choice test items from the "Sociology of Adult Education" syllabus. They spent one tutorial session to review some of the topics taught to students during the first semester through the question and answer method of teaching. Various questions were asked with options or answers (a to d) to help students recall what they have learnt in the discipline "Sociology of Adult Education." During a discussion with a few of the students after the verbal drill session the researcher found that students enjoyed the new form of

testing i.e. the multiple choice approach. Their only qualm was the fact that such questions were "trickish" and brain scanning i.e. the questions made one think a lot before choosing an answer, since one cannot score by mere guessing.

As part of the pilot study the researcher also tried his questions on a few part-time lecturers and friends both at the Institute and at the nearby St Joseph's High School before administering them to the selected students. The criticisms and suggestions (through feedback), received during the trial run helped the investigator to make the necessary corrections and adjustments to suit the purpose of the questions.

The purpose of the pilot study undertaken before the empirical investigation was to make the researcher aware of possible problems he would encounter in gathering the data for the study. For example he re-worded and re-phrased unclear and ambiguous questions in both the multiple choice test items and the questionnaires. Thus the pilot study assisted the researcher to refine his data gathering instruments by making sure that all questions and instructions in both the multiple choice test and the questionnaires were clear in order to enable respondents to answer with little or no difficulty.

2.2 Samples and Sampling techniques

The universe, i.e. the entire population for this study, comprised all part-time adult distance students enrolled at the I.E.M.S. for various certificates and Diplomas. It would have been ideal to include the entire student population of 300 but in view of constraints relating to time, logistics and distance, the researcher chose a sample of 60 students who formed a cross-section of the entire group of participants for this investigation. The sample was therefore selected from an entire adult student population made up of first- and second- year certificate and diploma students.

To give each class and/or year group an equal chance of being selected the researcher wrote down the names of all the classes e.g. Certificate 1a, 1b; Certificate IIa and IIb; Diploma IA, IB and Diploma IIA and IIB. With the help of a full-time lecturer on the programme names of individual groups were written on papers that were folded and put in a small basket. The researcher shuffled the contents in the basket in order to give each of the classes or year groups an equal chance of being selected. The basket was shaken gently until the first folded paper fell from it. The researcher picked up the paper and unfolded it to find the name of the course group that was thus selected. There were 8 folded papers in the basket representing the above-mentioned courses.

The selected group for this study was a Diploma I class of 60 adult students following a Sociology of Adult Education course i.e. AED 130-3. The selected group had similar characteristics, for instance they possess similar entrance qualifications. The sample drawn from all the classes and year groups in Adult Education represents the entire student body doing courses in this field. The sample is representative because of similar entrance qualifications; they study under similar conditions, are lectured to under the same conditions by lecturers using the same syllabi.

After dividing the group into two parts the researcher ascertained that the groups were in fact similar in terms of the following criteria: the groups were equal in number; they had a similar age spread that indicated a similar measure of experience; they had average intelligence spread, as results from previous test indicated and they were all exposed to the same methods and media of instruction, e.g. textbooks and face-to-face lecturing.

Looking at the samples drawn it is fair to state at this stage that the results of the empirical research should only be applicable to the Adult Education courses, since entry requirements as well as objectives and content for other courses taken at the Institute differ from the Adult Education courses.

As can be seen from the above research design the researcher adopted the two-group design technique in this experimental investigation. Assisted by the full-time lecturer for the course AED 130-30, the researcher used the same randomisation technique as used in selecting the year group in dividing the 60 Diploma 1 students into two equal groups of 30 students each. The two groups were referred to as "K" and "B" respectively; "K", being the first initial of the researcher, was used for the experimental group, while "B", the first initial of the full-time lecturer, referred to the control group. Moulded on the ideas of Cohen and Manion (1980:161) the pre-test/post-test 2-group design was represented as follows:

Experimental RO1 X O2

Control   RO3   04

Where:

i)   R indicates random assignment to separate treatment groups.

ii)   O refers to the process of observation or measurement.

iii) X represents the exposure of a group to an experiment variable or event; the effects of which are to be measured.

iv)   O1 and O2 are the two evaluations of the experimental group.

v)   O3 and O4 represent the two separate evaluations of the control group.

The two groups were pre-tested on the same topics and questions from the half-course AED 130-3 - "Sociology of Adult Education."

All 60 students forming the Experimental and Control groups during the first semester took the pre-test. Both the pre-test and post-test batteries developed for the pre-and post-test were used as summative evaluation in the study. The tests consisted of 20 multiple choice items each and were meant to establish the students' level of academic achievement in the discipline Sociology of Adult Education before and after the experiment.

2.3   The Research Project

The two groups, i.e. experimental and control groups, were students who attended lectures together under the same lecturer. They all had and were supposed to read copies of the main text book: "Sociology of African Education" by Ansu Datta. All the students in the two groups also benefited from handouts and tutorials offered by the full-time lecturer.

The experimental group was however given an additional teaching device i.e. an audio cassette to supplement the other media of instruction. This additional teaching device, which was an audio cassette lecture, covered the same areas of the syllabus lectured to students since the start of the first semester. At the end of the last lecture for the first semester the researcher met with the experimental group (dubbed "K") to bid them farewell after the semester. The control group also met with

the full-time lecturer for a discussion. The meeting with the experimental group was deliberately arranged in order to give the group the audio cassette lecture. Each student received 2 audio cassettes with lectures of 90 minutes duration "as Christmas presents?" The researcher encouraged the students to study hard during the break in order to do well in the mid-year examination which was to be written in January 1994. He also requested them to play and listen to the cassettes in order to give him a full account of the contents during the second semester.

The researcher offered placebo cassettes to the control group through the full-time lecturer. Each of the members of the control group also received 2 cassettes made up of Christmas carols and modern interesting songs. This measure, i.e. giving the audio cassette lectures to the experimental group at the last meeting, was taken in order to avoid leaking the content of the cassettes to the control group. It is for this same reason that the control group was also supplied with some audio cassettes to avoid suspicion and possible resentment. The two groups were not told of the contents of the cassettes. It was assumed that since every student (experimental and control group members) got two cassettes at the time of departure no exchange would take place.

The experimental group used the audio cassette lectures for a period of 10 weeks -

mid-November to mid-January 1994. The strategy was well timed in that the students had completed the half-course - A.ED 130:3, and would therefore not meet as a class again during the second semester. Again students were shown their lecture halls where they were to meet for the mid-year examinations on the very first day of reporting for the residential lectures.

The mid-year examination was to be taken before the residential lectures started.

At the end of the experiment, which coincided with the beginning of the second semester, students in both groups were post-tested on their arrival at the campus. The two groups wrote the same test for the second time. This second test was done to find out the effect of the audio cassettes on the achievement of the experimental group. The technique of giving the experimental group an additional teaching device - the audio cassettes - was in line with Mahlangu's (1987:16) reiteration of Mill's assertion that: "if two situations are alike in every respect and one element is added to one but not to the other, any difference that develops is the result of the operation of that element added." Or "if two situations are alike in every respect and one element is removed from one but not from the other, any difference that develops may be attributed to that element subtracted."

To reduce the possible effect of experience, i.e. history and maturation, on the performance of the students in both groups at the second test the investigator changed the complete wording, arrangements and positions of all the questions and answers.

After the experiment and its subsequent final test the investigator computed the mean gain for both the experimental and the control groups. He compared the two mean gains of the final test to the two main gains of the first test before making a judgement on which of the groups achieved higher marks. In other words he compared the average results of the two groups to find out if there has been any significant difference in achievements as a result of the additional teaching device applied to the experimental group.

3. **REPORT ON THE RESULTS OF THE PROJECT**

3.1 **Introduction**

The main objective of the study was to find out whether audio cassettes can be used in an integrated way as a medium of instruction for solving the problems of adult distance students in Lesotho. In establishing the possibility of introducing audio cassettes into the lecturing and learning programmes of the I.E.M.S, Maseru, an empirical study in the form of an experiment was undertaken.

3.2 Experimental and control groups

The above-mentioned two groups were formed from a homogeneous class of 60 first-year adult distance students for the purpose of this study. The adult distance students had some common characteristics. For example, they were all first-year students on the Diploma in Adult Education programme; they were all taking a common course, viz "Sociology of Adult Education;" were handled by the same lecturer; were all full-time workers who had some responsibilities and all members of the two groups had never before been subjected to a similar experiment.

The two groups were formed through the simple random sampling technique. They were pre-tested on the same 10 minutes, 20 multiple choice items and the results were computed before the experiment was undertaken. The pre-test items were marked out of 100 and the following scores were obtained:(Table 1 on page 87).

3.3 Operation of the group.

Members of the experimental group were given two 90-minute audio cassette lectures each to supplement their face-to-face lectures and notes and textbooks for a period of 10 weeks. The audio cassette lectures covered the same topics covered by both groups in the discipline "Sociology of Adult Education." The control group was, however, not given the audio cassette lectures; instead they used only the conventional face-to-face lecture attendance and notes and textbooks for their studies. The two groups were formed during the last meeting of the first semester to avoid discussion on the contents of the cassettes among the students. Students in both groups were post-tested on the very day they arrived at the campus for a two-week residential face-to-face teaching session.

3.4 The Post-achievement test

The post-achievement test was taken by the two groups on the first day of their arrival at campus for the two-weeks residential face-to-face lectures in January. This was done to minimise the possibility of students in the experimental group divulging the contents of the audio cassette lectures to their course mates in the control group. The post-achievement test taken by the two groups was the same 10-minute, 20 multiple choice items given to the students at the start of the experiment. The post-achievement test for the two groups were marked and the results were as shown in Table 2 on page 88.

Table 1:

Comparison of the pre-test scores of the experimental and control groups.

	Experimental Gp	Control Gp
Number of cases	30	30
Total Scores	1444	1430
Mean	48,13	47,66
Std deviation	9,32	12,02
Difference B/N means	2,70	
"t" value	0,1183068	

3.5 Analysis of the results of the project.

The analysis of the test scores of the two groups was based on achievements of students in both the experimental and control groups. Indeed all the students in the two groups (60 students) took the pre- and post-achievement tests held in November 1993 and January 1994 respectively. A comparison of the pre- and post-test results was made to determine differences in scores between the experimental and control groups. As shown in Table 2 the experimental group achieved a higher mean score than the control group in the post-test. A comparison of the pre-test scores shows that there was an initial difference in the students' achievements between the two groups. Although the groups were randomly selected with no special treatment the experimental group achieved higher at the pre-test.

The calculated value for the post-test scores is 2,1903799 and the tabulated t- value at the 5% level is 12.67. Since the calculated t-value is greater than the tabulated t-value, it can be argued that there is a significant difference between the means of the two groups with 95% confidence i.e. .05 significance level. This means that adult distance students who used audio cassette lectures in addition to textbooks and face-to-face lectures performed far better than those who did not, i.e. those who studied through the conventional manner. Both groups, however, scored an average of more than 60%. Students who used the audio cassette lectures scored an average of 75.66% marks, while their counterparts who did not use it scored an average of 64.33%.

The relatively poor performance of students who did not use audio cassette lectures validates the audio cassette as medium of instruction in distance education. The analysis of the post-test scores of the two groups has therefore disproved the initial hypothesis of this study which stated:

Table 2

Comparison of the post-test scores for the experimental and control groups.

	Experimental Gp	Control Gp
Number of cases	30	30
Total Scores	2270	1930
Mean	75.66	64.33
Std deviation	8,743	17,65
Difference B/N means	11,33	
"t" value	2,1903799	

"There is no significant difference between the academic performance of adult distance education students studying at I.E.M.S. via an integrated audio cassette package and those who study through the present methods that do not include audio cassettes."

This study project has proved that there is indeed a significant difference between the academic achievement of students who study through audio cassette lectures in addition to the conventional mode of learning. Such students achieved higher than their counterparts who did not study through audio cassette lectures.

4. THE USE OF QUESTIONNAIRES.

Apart from using the empirical technique like conducting an experiment to test the hypotheses the investigator also administered questionnaires (Appendix A) to the experimental group. The questionnaires were used in order to collate views of students on the use of the audio cassette as medium of instruction. In the words of Leedy (1980:135): " Data sometimes lie buried deep within the minds or within the attitudes, feelings or reactions of men and women. As with oil beneath the sea, the first problem is to devise a tool to probe below the surface. A commonplace instrument for observing data beyond the physical reach of the observer is the questionnaire." It is against this background that the researcher used questionnaires as part of his data gathering instruments.

A series of carefully formulated but brief and simple questions were given to the experimental group i.e. a cross section of the student population, to answer. The investigator read and explained the questions to the respondents, who were a captured audience, before they answered them. This was done to help the respondents understand the questions well and also to afford them the chance to ask questions (if any) for clarification. The researcher used both close- and open-ended questions in collecting data for the study. In the open-ended type of

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questions respondents were free to give answers in their own words. In view of this the researcher left enough blank spaces for the respondents to fill in their responses.

In the closed form, questions suggested certain possible answers where respondents only had to underline or check answers of their choice, i.e. responses they agreed with. This technique of using both closed and open-ended questions was adopted to assist respondents to answer the questions well and also to afford them the freedom and opportunity to add information of their own where necessary.

4.1 Analysis of the questionnaire on students' opinions on audio cassettes.

4.1.1 Background information.

This study was intended to examine the possibility of employing audio cassettes as an additional medium of instruction for teaching part-time adult distance students at the I.E.M.S. in Maseru.

In this regard, in addition to conducting an experiment to establish the possibility and/ or suitability of audio cassettes, questionnaires which were also administered, therefore sought information on several items, including age, marital status, occupation of participants on the programme, their qualifications, experience in work, reasons for enroling on the programme, distance from the campus to home or place of work, problems distance students face in attending fortnightly weekend lectures, time available for study at home, how adult distance students view audio cassette lectures, the contribution of audio cassette lectures to adult distance students, the most appropriate method of teaching adult distance students and suggestions from students for improving the part-time adult distance education programme.

The data collected from the field by means of questionnaires were tabulated. The questionnaires consisted of 31 items and were administered to 30 adult distance students who formed the experimental group of the study. The objective of administering the questionnaire was to collate the opinions of students on the audio cassette as a teaching medium in distance education. Students' responses were classified in order to determine (through comparison) where agreement and disagreement existed among the students' opinions.

4.1.2 Student questionnaires: Results and Discussions.

This researcher adopted a new style of arranging items in the questionnaire. Unlike in most surveys where questions on age or

marital status feature as first items, the researcher placed these questions in the middle to avoid any psychological effects they might have on responses. Some people might not feel comfortable in answering questionnaires that include a first question on age and marital status. In view of this, questions which did not border on emotions were asked first in order not to put the respondents off. The first question therefore asked respondents to state in which course-year they were. From the responses it was found that all the 30 adult distance students in the experimental group were in the first year of the Diploma in Adult Education course. Twenty-six of them (87%) were females - an indication that there are more women on the course than men. This could stem from the fact that in Lesotho most men are migrant workers in South African mines while the majority of the women work as public servants in the various sectors of the Kingdom's economy.

4.2 Occupations of adult distance students.

A major item on the questionnaires related to occupations of adult distance students and the findings are tabulated below in Table 3.

As can be seen from Table 3, the largest number in the experimental group is in the teaching profession. Most of these teachers teach in either primary or secondary schools and desire to upgrade themselves through part- time studies. Ten individuals from the group of 30 respondents confirmed this desire. They had enrolled for the diploma course in order to acquire higher qualifications although unfortunately for them the Ministry of Education has not yet recognised adult education qualifications for salary purposes for teachers. The other occupations represented in the experimental group give an indication of the variety of other interest groups seeking to improve their qualifications by undertaking part-time courses in adult education.

4.3 Work experience of the distance education students

Regarding work experience and tenure as shown in Table 4 below, 67%, i.e. 20 respondents, have worked for between 10 and 20 years, while 10 (33%) had work experience of between 3 - 9 years. This analysis indicates that the adult distance students are very experienced in their various professions and careers. This wealth of experience coupled with age might have influenced the adult education students to study harder in order to change their circumstances before they became too old to study.

4.4 Age distribution of adult distance education students.

Another major item on the questionnaire related to respondents' age distribution and the *facts* are tabulated in Table 5.

The ages of the respondents in the experimental group ranged from 20 to 49 years. This is an indication that they are socio-economically independent and responsible adults.

Thirty per cent of the respondents fall within the age group 30 - 34 years. This perhaps implies that most people within this age group are desirous either to change careers through the acquisition of new skills or to work their way through to senior positions by undergoing further training.

The prime age group, i.e. 35 - 39 years, also represents 30% of the respondents. This could be an indication that at the prime adult age the quest for more knowledge is of paramount importance to most adults. Of special interest is the group of people at the peripheries, i.e. those who are above 40 years and those below 25 years. The first group consists of 7 adults between 40 and 49 years. Their enthusiasm in formal courses at the threshold of old age implies that further education is never the preserve of the youth and early adults. Thus it seems there is no age

limit for formal education. One could study even after having acquired material things like cars, houses, children and even senior positions. Thus skills are also important even at the consolidation and maintenance stages of life. People of this age group are perhaps preparing themselves skilfully and professionally so that even in retirement they could still be hired on contract basis or be in a position to set up and manage their own private businesses. At the other periphery which covers the age group between 20-24 years there is only 3.3% of the adult distance students who answered the questionnaires. The only very young adult among the respondents (who is between 20 and 24 years of age) seems to be very ambitious to get better skills and qualifications in order to face the future well.

The study of the age structure further suggests that as human beings pass through various stages of life the quest for more knowledge and better skills increases. Mullins (1981:123) for instance sees the adult part of one's life cycle as "consisting of a set of stages or phases which make different demands on education and offer different opportunities to the educator."

Of the sample who answered the questionnaire 53% (i.e. 16) are married, 17% (i.e. 5) widowed, 17% single (i.e.5) and 13% (4) divorced. The four males in the sample

Table 3:

Occupations of adult distance students

in the experimental group.

Occupation	N	%
Teaching	17	56.66
Police	2	6.66
Social work	2	6.66
Administrative staff	2	6.66
Health	2	6.66
Librarian	2	6.66
Agric. extension	1	3.33
Private business	1	3.33
Hotelier	1	3.33
Total	30	100%

Table 4:

**Work experience and tenure of adult distance students
in the experimental group.**

Work experience: Years	N	%
10 - 20	20	66.6
3 - 9	10	33.3
Total	30	100

Table 5:

**Age distribution of the adult distance students
in the experimental group.**

Age group	N	%
20 - 24	1	3.3
25 - 29	4	13.3
30 - 34	9	30
35 - 39	9	30
40 - 44	5	16.6
45 - 49	2	6.6
Total	30	100

constituted 13% - 3 of them married and one single.

Twenty-six of the respondents (87%) have between one and three children - in fact only 4 stated that they had no children. This

indicates that the majority of the adult students on the I.E.M.S part-time programmes have both social, and economic responsibilities to grapple with apart from their studies. This is perhaps one of the main reasons why a more flexible and innovative approach to both teaching and learning (like audio cassette lectures) could be introduced to solve some of their study problems.

4.5 Professional and academic qualifications of adult distance students.

With regard to the academic and professional background of respondents as shown in Table 6 below, a majority (i.e 50%) of the students are teachers by profession. Those who hold only C.O.S.C. have done the two-year certificate course in adult education before qualifying to enter the Diploma Programme.

4.6 Reasons for enrolling on the adult education course.

Motivation and reasons for enrolling on the Diploma in Adult Education course was a major item in the questionnaire. Students' responses to this question are shown in Table 7 below in order of magnitude.

Responses from the above table show that a majority (i.e.33.3%) of the respondents have a quest for higher qualifications - perhaps as

a prerequisite for senior positions in their respective professions.

4.7 Distance from home or duty station to the I.E.M.S. Campus.

Regarding the distance from the home or duty station to the I.E.M.S.Campus it was realised from the responses as shown in Table 8 below that 40% (12) of the respondents live within 50 kilometres radius of Maseru; 20% (10) live from 120 to 200 kilometres from the campus and in all 60% of the students travel between 80 and 200 kilometres to Maseru every two weeks to attend the face-to-face lectures.

4.8 Whether or not students faced problems in travelling to attend face-to-face lectures in Maseru.

A sequel to the distance from home or duty station was the question of whether students experience any difficulties in travelling to the I.E.M.S. campus. Table 9 below indicates that 90% experience difficulties and only 3 (10%) stated that they did not have difficulties with travelling.

4.9 Most serious problems relating to attendance of face-to-face lectures at Maseru.

Table 10 below gives an indication of the

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most serious problems that students encounter, stated in order of seriousness:

An analysis of Table 10 provides the following information:

- Finance seems to be the most pressing problem for the students.

Most of the students have social responsibilities like children at school or aged parents to care for. Generally during the second half of the month public servants encounter financial problems because of too many commitments. It therefore becomes difficult for the students who are also public servants to finance their trips to attend lectures in Maseru.

- The second most important problem is accommodation.

As stated in a previous paragraph over 60% of the students live between 50 and 200+ kilometres from the campus. It is possible that some of these students do not have friends or relatives living in Maseru. It therefore becomes a serious problem when faced with spending 2-4 nights of the month in Maseru to attend lectures. With generally a small income most students cannot afford hotel bills and so accommodation remains an unsolved problem to many students.

- Transportation

Coupled with financial and accommodation problems is also the question of transportation. Lesotho is a mountainous country, hence often referred to as the Kingdom in the Sky. Like in most third-world countries transport is slow and inadequate in Lesotho. In some areas, apart from the mountains, snowfalls and ice could disrupt road transportation, especially during the winter period. In some areas students have to use horses to descend hills, valleys and mountains in order to reach places from where they could take buses to Maseru. This situation makes transportation slow, expensive and risky for the students. Most of them reach the I.E.M.S.campus either late or too tired to concentrate and benefit from the lectures.

- Inconvenience to family members, permission to attend and disruption of planned work programmes.

Other responses included inconvenience to family members, difficulty in obtaining permission from heads of departments and disruption in planned programmes of work. In a situation where a student stays with her children she has to make alternative arrangements for the care of her children during her absence, This could inconvenience both friends and family members.

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Table 6:

Academic and professional background of the adult distance students

Qualification	No of people	%
Teachers' certificates C.O.S.C. Plus	15	50
Certificate in adult education	10	33.3
Diplomas	5	16.6
Total	30	100

Table 7:

Reasons for enrolling on the I.E.M.S. part-time programme.

Reasons	No of people	%
Higher qualifications	10	33.3
Self-enrichment	8	26.6
Knowledge	6	20.0
Status	2	6.6
Skills	2	6.6
Company and breaking of boredom	2	6.6
Total:	30	100

Table 8:

Distance from home to the I.E.M.S. Campus.

Distance in kilometres	No of people	%
Up to 50	12	40.0
50 to 80	4	13.3
80 - 120	4	13.3
120 - 200 +	10	33.3
	30	100

Table 9:
**Difficulties in travelling to attend face-to-face lectures in
Maseru**

Response	No	%
Students responding : Yes	27	90
Students responding : No	3	10
Total	30	100

Table 10:

**Most serious problems encountered with attending the face-
to-face classes at Maseru.**

Problems encountered	Number of responses
Finance	25
Accommodation	13
Transport	10
Inconvenience to family	5
Permission from employer	4
Disruption in work programmes	3
	60

Again, constant requests to employers for permission to attend lectures while they perhaps insist on higher productivity with little or no consideration for human resource development, could be difficult for the students.

Also, frequent absence from work could disrupt one's planned activity. As transportation is difficult and slow students might have to leave their duty stations early in order to reach campus in time. This means that some planned activities could be left incomplete unless alternative arrangements are made for the execution.

4.10 Available time for study

As regards the question whether students get enough time to study 83% (25) answered NO and 17% (5) said YES.

The actual time available is presented in Table 11 below.

An analysis of Table 11 indicates that half of the students study between 5 and 6 hours per week. This, in the experience of the writer, is woefully inadequate for success in any university course study. A study of the responses clearly shows that time used for study is too little to ensure success.

4.11 Most important reasons for insufficient study time

As regards the important reasons for lack of enough time to study, various reasons were given by the respondents. The responses are stated in Table 12.

From the Table above lack of books for the course and returning from work late are the two most serious reasons stated by the students as causes for insufficient time spent on studies. Social i.e. family obligations of students, who may be either wives or husbands, are also stated as important. One may return from work late and tired but would have to cook and attend to the spouse and children.

Other reasons like lack of motivation after a day's work and loneliness beset a number of students living away from their lecturers or colleagues.

4.12 Assessment of audio cassettes by students.

Regarding how students assess the audio cassette offered to them by the researcher the responses are stated in Table 13.
With 28 (93%) of the students regarding the audio cassette lectures as useful and only 2

who found the cassettes less useful the indication is that majority of the students thought that they could benefit by using the cassettes as study support. In both the last cases the students stated that they found that the sound was not clear enough.

4.13 Specific benefits derived from the audio cassette package

As a sequel to the assessment of the audio cassette package there was the question on any specific benefits that the students felt they had derived from the audio cassette package. Their responses are recorded in Table 14, page 102.

From this reaction the audio cassette lecture seems to be regarded as supplementing the text books, providing motivation, support and guidance on study skills - one can hear the voice of the lecturer explaining concepts as if he is right in front of the class.

4.14 Response on the number of times students listened to the cassette.

Respondents were asked how many times they had listened to the audio cassette lecture during the long vacation (i.e end of November 1993 to mid January 1994) and their responses are shown in Table 15.

Responses as shown in Table 15 indicate that most students made use of the cassettes despite their career and social obligations, especially during the festive season. The one respondent who listened only once explained that she was away from Lesotho on a short course. She could not therefore get time to play and listen to the tapes as many times as she wanted to.

The data in Table 15 also indicate enthusiasm for the use of audio cassettes when they are integrated in the study package for a course.

4.15 Specific listening times used by the students.

Regarding specific times that respondents listened to the audio cassette lectures, they gave the following information tabulated in Table 16 below.

An analysis and interpretation of the data indicates:

■ The 11 students in the "late at night" group probably listened after they had completed all the household chores.

■ Those listening in the "afternoon" probably used their lunch break between 13h00 and 14h00.

■ It is interesting to note that the students listened to the tapes when they were less busy. 25 of them confirmed this when they were asked why they chose specific times to study and listen to the recordings. 5 of them said that they usually listened when their homes were quiet and they were sure of high concentration.

4.16 How audio cassettes should be used in order to derive maximum benefit.

On the question of how best use could be made of the audio cassettes and therefore maximum benefit be derived the respondents expressed various opinions. These opinions are shown in Table 17 below.

4.17 How adult distance education students regard the audio cassette lectures.

Various responses were received on this question as indicated in Table 18 below.

Students were given the option to state more than one response hence, as seen from Table 18, seventy (70) responses were given by 30 students. The above-stated responses indicate that the audio cassette lectures could play a meaningful role in teaching and learning at a distance when they are integrated into I.E.M.S. part-time study programmes.

Table 11:

Time available for study purposes

Time for study: Hours per week	No of persons	%
9 - 10	1	3
8 - 9	0	0
7 - 8	2	7
6 - 7	0	0
5 - 6	15	50
4 - 5	9	30
3 - 4	0	0
2 - 3	3	10
Total	30	100

Table 12:

Important reasons for spending insufficient time on studies - experimental group.

Reasons	No of persons
Lack of books	25
Return from work late	22
Social obligations	10
Loneliness - no study mate	8
Lack of motivation	5
Total	70

Table 13:

Students' assessment of the audio cassette lectures

Response	No of persons	%
Most useful	14	47
Very useful	10	33
Useful	4	13
Less useful	2	7
Total	30	100

Table 14:

Specific benefits derived from the audio cassette package.

Specific benefit	No of Responses
■ It supplemented textbooks/lectures	17
■ Provided motivation and support	10
■ Offered guidance on how to study	10
■ Made independent study interesting, simple and less frustrating	10
Total responses	47

Table 15:

Number of times students listened to the audio cassettes.

Number of times - in order of magnitude	No of respondents	%
4 - 5 times	12	40
3 - 4 times	8	27
more than 6 times	6	20
2 - 3 times	3	10
once only	1	3
Total	30	100

Table 16:
Specific listening times used by the students.

Specific listening times	Responses	%
Between 5 and 6 pm	15	50%
Late at night - 11 pm to 2 am	11	37%
Afternoons - 1 and 2 pm	3	10%
Mornings between 5 and 6 am	1	3%
Total	30	100

4.18 The contribution of audio cassettes to distance learning.

As regards the contribution of audio cassette lectures to distance learning, respondents stated 65 responses. Again the students were allowed to respond to more than one question or statement. The responses are shown in Table 19 below. The various positive opinions expressed by students clearly indicate the importance of the audio cassette in distance teaching and learning. The researcher believes on the basis of the research and opinions stated that a well-

structured and integrated audio programme could be the reason for the positive reaction of the students as indicated in Table 19 below.

Diverse opinions were expressed by the students on the effectiveness of the

Table 17:

The best way of using audio cassette lectures in order to gain maximum benefit

Opinions	No of Responses	%
Scan through the notes and textbooks before listening to the tape.	20	66.6
Frequent listening to tape while making notes.	7	23.3
Frequent listening only.	3	10
Total	30	100

presentation on cassette and the lecturer's ability to emphasise important facts. The reaction of 28 students (93%) who judged the presentation as "very effective" and "most effective", were those who are used to the lecturer's manner of speaking, articulation and presentation. The 2 students who viewed the presentation as less effective, added that they were not used to her manner of presenting lectures. Perhaps the three-months (mid-August to November) period of interaction was still not enough to acclimatise themselves to a new lecturer's style of presentation. This is however normal of cross-cultural teaching. The various opinions expressed by the respondents appear in Table 20 below.

4.20 Method of instruction preferred by the students.

Regarding which lecturing and learning methods they prefer in distance education the respondents were unanimous in the answers. Three options were put to the students and all of them - 30 - voted for an integration of face-to-face lecturing, use of textbooks and well-designed audio cassette lectures. Their responses on the three options are stated in Table 21 below.

4.21 Reasons for the students' choice of an integrated study package.

The students were requested to state the

reasons for their choice of an integrated study package and 60 responses were received. Three options were once again given in the questionnaire and their reaction is recorded in Table 22 below.

4.22 Motivation for the audio cassette as compared to other methods of instruction.

Regarding how motivating the audio cassette lecture is when compared to other instructional and learning methods the respondents offered the following answers as stated in Table 23 below.

While 2 of the respondents seemed to be negative about the motivating value of the audio cassette the vast majority (28, i.e. 73,3%) judged the medium used as very motivating and added that the hearing of your lecturer's voice during private study at home is very encouraging to the distance student.

4.23 Students' previous experience of the use of audio cassette lectures.

When analysing the data in Table 24 above it is clear that a large number of the respondents, in fact 22 (73%), never used audio cassettes as a learning medium. The few who indicated that they did have experience, stemmed from taking courses at Colleges where they trained, at workshops or at part-time learning centres like the Alliance Francâis du Maseru where they studied functional French.

4.24 Response to the most appropriate (effective or possible) way of assisting part-time adult distance students to study independently.

On the question of what the respondents regarded as the most appropriate way - i.e. the most effective or possible way - of assisting students to study independently, the responses stated in Table 25 page 105 were recorded.

The responses supported the concept of providing lectures on audio cassette as an add-on to face-to-face contact which could enable students to study independently at home. This practice could reduce the fortnightly weekend lectures to once in three months.

4.25 Students' suggestions for the improvement of the I.E.M.S. part-time study programme.

Suggestions on how to improve the part-time study programme were received from many students and ranged from enthusiastic support for the introduction of audio cassettes into the programme, to improving the library, subsidising study material, changing the attitude of lecturers towards adult distance

Table 18:

How the students regarded the audio cassette lectures.

Opinions of students	No of Responses
As a "companion" to a lonely student	24
As lecturer's substitute	18
As a supplement to notes and face-to-face lectures	15
As similar to face-to-face lectures	13
Total responses	70

Table 19:

The contribution of audio cassette lectures to distance learning.

Opinions of students	No of Responses
Helps us to remember what we heard in face-to-face lectures.	22
Serves as reinforcement to face-to-face lectures.	16
Simplifies and clarifies confusing aspects of the content of face-to-face lectures.	14
Provides a good plan and skills for revision for examinations.	13
Total responses	65

Table 20:

Effectiveness of lecturer's presentation in emphasising important facts.

Opinions of students	No of Responses	%
Very effective	16	53,3
Most effective	12	40,0
Less effective	2	6.6
Total	30	100.0

Table 21:

**Preferred method of instruction and learning for adult
distance students**

Options	No of Responses	%
1. A combination of face-to-face lecturing, textbooks and audio cassette	30	100
2. Face-to-face lecturing only.	0	0
3. Face-to-face lecturing and textbooks only.	0	0
Total	30	100

Table 22:

Reasons for students' choice of an integrated study package

Reasons to choose from	No of Responses
1. The package offers various learning advantages.	25
2. It is the cheapest form of teaching and learning at a distance.	20
3. It is a modern method of instruction which can reach every student.	15
Total	60

Note: The audio cassette was seen as "the cheapest form of teaching" in the sense that it is much cheaper than using video or television and most students can afford the play back units.

Table 23:
Motivation of audio cassette as compared to other media

Opinion of respondents	No of Responses	%
Highly motivating	22	73,3
Moderately motivating	6	20
Not different from other media	1	3,3
Less motivating	1	3,3
Total	30	100.0

Table 24:

Previous experience of studying via audio cassette lectures

Response	No	%
Students responding : NO	22	73
Students responding : YES	8	27
Total	30	100

Table 25:

Most appropriate way of assisting students in independent study

Response	No	%
Audio cassette lectures in addition to face-to-face lectures	26	86,6
Providing study guides	2	6,6
Increasing weekend lectures	2	6,6
Total	30	100.0

Table 26:

Suggestions on the improvement of the I.E.M.S. part-time study programme

Suggestions	Responses
1. Introduction of audio cassettes in the programme.	86%
2. Well-equipped library which is accessible to students at all times.	78%
3. Subsidised study materials e.g. photocopies and textbooks.	65%
4. Employment of dedicated well-qualified lecturers.	60%
5. Effective and constant assessment of lecturers and students lecturers should be approachable.	58%
6. Recognition of Adult Education Diploma by Ministry of Education.	57%

education students and receiving accreditation for the qualification in adult education. The full details of the suggestions are given in Table 26 above.

5. SUGGESTIONS ON THE USE OF AUDIO CASSETTES IN ASSIGNMENTS AND EXAMINATIONS.

In addition to using audio cassettes in support of study material and face-to-face lecturing it could be used successfully in guiding both distance education students in writing assignments and in preparing for examinations. The cassette designer could explain how to write term essays by giving guidelines on planning, structuring, paraphrasing and reaching conclusions in the assignments. He could also guide students in writing better assignments by backing the audio comments and explanations with a model answer. Students could then listen to the cassettes before attempting their own assignments.

At the tertiary level assignment writing does not only require knowledge of the subject, but also a scholarly, academic approach and this could be demonstrated on the audio cassette as an example to follow.

From the experience of the researcher many pre-tertiary educational institutions do not teach or guide students in the skills of writing academic essays, probably because at that level recall seems to be more important than teaching well-balanced argumentation and discussion. It is for this reason that the use of audio cassettes is propagated to fill the vacuum left by the school system in these learning abilities of students.

Similarly many tertiary students seem to lack the ability to cope with writing examinations. At school students are usually "coached" and "spoonfed" to pass examinations without helping them to acquire the skills of preparing for the examination. Most distance teaching institutions therefore use the audio cassette to fill this gap.

In assisting students to prepare for examinations the lecturer could discuss on tape how to go about studying for examinations by suggesting suitable timetables, places, preparation and summarising techniques and the routines they could use when studying independently. The students could be advised to attempt past examination questions as trial questions and could be given guidelines on how to analyse the questions so as to know how to present answers to the questions. The cassette designer could give simple examination questions and indicate how they should be approached.

Providing quality feedback to students on

their assignments is an essential component of teaching. Black (1992:69) argues that: "an instructor provides feedback to improve a student's subsequent performance." In this area the audio cassette can also become an indispensable medium of communication with students. Oral comments on the audio cassette recorded by the lecturer could offer intimate and useful communication between the lecturer and his students. The lecturer's voice, verbal explanations and guidance through the study materials and assignments could encourage students more than mere written comments on the assignment. With limited numbers the lecturer could record comments for every individual student and for large numbers general comments could be recorded and specific feedback be given in the assignments. After seeing his marks the student could listen to the tape to hear what should be done to improve subsequent assignments. Providing oral feedback on cassette tapes can, in the opinion of Black (op cit): "be performed in a productive, organised manner which is less cumbersome than traditional methods of handling assignments."

The lecturer may first grade the student's assignment and assign a score in his grade book but not on the student's paper. He may indicate with numbers or letters the sections on which he would like to comment on tape. He can then start the tape recorder and greet the student listeners to establish good rapport.

He can then go on to record comments regarding format, structure, contents, arguments, conclusions and the appearance of the assignment. It is recommended that the lecturer start by mentioning something positive about the work presented and then sandwich in the weaknesses. In conclusion the tape should end on a positive note by talking about the student's strengths.

It is suggested that the score is given at the end of the taped comments. This will force them to listen to all the comments to the end. In this way the audio cassette can become a powerful tool in the hands of the lecturers in giving guidance on writing assignments and preparing for the examination.

CHAPTER FIVE

<u>Findings, Conclusions, Suggestions and Recommendations.</u>

1.   INTRODUCTION

From the cradle to the grave man always learns something new either intentionally or unintentionally, formally or informally, consciously or unconsciously. As a matter of truism no single individual, no matter how learned, could ever claim that he or she has finished learning. With the acceleration in technological advancement no previously acquired knowledge or skill can stand the test of time. Commenting on the amazing rapidity with which changes occur and impinge on mankind Toffler (1984:16) states that so revolutionary is the new civilisation of the "third wave" that "it challenges all the old assumptions. Old ways of thinking, old formulas, dogmas and ideologies, no matter how cherished or how useful in the past, no longer fit the facts. The world that is fast emerging from the clash of new values and technologies, new geopolitical relationships, new life styles and modes of communication, demand wholly new ideas and analogies, classifications and concepts."

Parmaji (1984:Preface) also observes that "the entire range of human knowledge exploded in our times at an ever accelerating rate rendering even the best educated increasingly outdated. To fight the

consequent obsolescence in his knowledge modern man needs to update his equipment continuously, irrespective of the quality of his previous exposure to formal education."

In view of the fact that man has to learn new skills all the time in order to become more versatile, knowledgeable and indispensable to the ever changing contemporary technocratic world, formal education is no longer the preserve and domain of the youth. Adults who are well placed in the world of work, still need further education or training in order to avoid retrenchment or to become more efficient, productive, confident and versatile. Bogaerde (1990:45) states: "...it is not just the new arrivals in the population for whom educational provision must be made; development and progress require that the levels of those who are already there are upgraded."

This demand by the "new generation" of students (made up of adult workers) for further education and training, coupled with requests for admission to tertiary institutions, by the mainstream of youths makes it difficult for these tertiary institutions, particularly universities and technikons, to admit all

prospective students for full-time residential study programmes. It is against this background - the inability to offer every prospective student full-time residential courses - that many modern tertiary institutions offer distance education courses, inter alia, through electronic media like audio cassettes or tape recordings. The findings of the present study and the influence of audio cassettes on learning performance of distance education students will be discussed below.

2. FINDINGS

The findings from the literature study and, secondly, from the empirical study will be discussed in that sequence.

2.1 <u>Findings in the literature study.</u>

The literature study and the empirical investigation were set up to test the suitability of audio cassettes - in an integrated study package - as a medium of instruction for part-time adult distance education students undertaking the aforementioned course at I.E.M.S. Relevant literature on the topic was reviewed and throughout the literature study an attempt was made to highlight the fact that technological media have become an indispensable aspect of and partner in modern distance education. Since the knowledge explosion and its concomitant advancement in technology render any

previously acquired knowledge or skills obsolete within a short time - as stated above - educators are increasingly turning to electronic media to educate and upgrade adult workers at their various places of domicile on a constant basis. A summary of the findings from the literature study are given below. The findings are put under five main categories. The researcher chose these five categories because a study of the findings could be conveniently put together logically under these headings. The five categories are:

- Community needs.
- Individual needs.
- Technological advancement.
- Auditory learning.
- Distance education.

2.1.1 Community needs

This category sums up the findings of community needs and involvement in adult education studies and provisions. The community as a whole has some needs to address regarding its members' advancement in skills and knowledge.

- With the explosion of populations and knowledge and the resultant technological advancement formal training and learning can take place in the homes or dwellings of those participating in educational programmes.

- Adult or continuing education is a sine qua non to individual and national development. As the individual continues to study formally during his working years that individual could become more skilled, more knowledgeable, more productive, more flexible and more useful to his employers and the community at large, thereby avoiding replacement, either by other people or machines with state of the art knowledge, skills and expertise.

- Popular demand for tertiary education nowadays - by working adults in particular - outstrips the available resources at institutions. Most tertiary institutions are moving into distance education where students can study at home and be reached through electronic means - those who have the inclination, the discipline and the aptitude to learn over distances.

- Most employers and employees favour a situation where workers can undertake part-time studies through distance education - where they can acquire up-to- date knowledge and skills without being taken away from their posts. While learning, employees have the advantage of earning a living and practising the new skills they have acquired - thereby increasing both production and efficiency.

- The existing instructional techniques employed at I.E.M.S. by the academic staff are insufficient to make both the Institute and the adult learners achieve their educational goals and objectives. Alternatives therefore have to be found.

2.1.2 Individual needs

This category sums up all the findings pertaining to the needs of the individual adult learner as discussed in the literature survey. Individual needs usually serve as a motivating factor for people to undertake further studies.

- Formal education and training is not the preserve of the youth and therefore educational opportunities should not be confined only to the individual's early years. It should be available over the whole life span of a person. The adult worker should be encouraged to upgrade himself in order to be productive and qualify himself to take over when the old go on retirement. Education must therefore be regarded as a journey and not a destination. As more and more technological changes take place in teaching and learning, adults should use the opportunity to enrich their knowledge and skills while

they earn a living.

- Remoteness of places due to difficult geographical and poor communication conditions result in denying many intelligent and ambitious adults access to further education and training. Face-to-face teaching cannot reach the many people who are eager and willing to upgrade their qualifications. If these highly motivated adults are to be reached for further education, alternative ways of teaching must be sought. Distance education through the media has provided the sought after alternative for those adults domiciled in the remote areas of the country.

- Distance education offers the flexibility and freedom most adult learners need in the process of coping with socio-economic commitments and responsibilities and the desire to study.

2.1.3 Technological advancement

Under this category a summary of the role of technology in distance education, as discussed in the literature study, has been listed by the researcher. Technology plays a meaningful role in modern education. The researcher chose technological advancement as a category in order to sum up the importance of technology in modern adult

distance education.

- Modern technology has made it possible for many developing countries to overcome obstacles such as the shortage of qualified teachers, facilities and outmoded curricula and instructional materials. Through the use of modern media like radio, television, video and audio cassettes, developing countries could maximise teaching and learning in a cost-effective way.

- The greatest contribution of media in distance education is that it has widened the frontiers of education available to the public. Modern technology is helping developing countries to address some of the imbalances - especially the legacy of illiteracy and poor skills - created by colonial rule. The gaps left in the education of many people can be filled by distance education supported by technology and electronic media.

- Technological advancement which renders knowledge and skills obsolete within a short space of time, compels many adult workers to undertake modern and advanced courses. Thus the saying that "new knowledge is the chief cause of progress" and "continuous change requires

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continuous learning" is seen as a reality.

- For adult education to be more effective modern educational media need to be integrated into existing and traditional techniques and modes of instruction. Relatively cheap and accessible equipment, like audio cassettes and radios, that can receive programmes that are broadcast, could be added to the limited and traditional face-to-face presentations.

- A combination of various media simultaneously in a single self-study unit could assist the distance student to absorb and comprehend the subject matter being studied.

- The essence of educational media (e.g. chalk board, radio, audio cassettes, textbook or television) is to assist the educator to put his message across clearly during teaching. The saying that the medium is the message (McLuhan 1974 : 16) is thus relevant.

- The audio cassette as instructional medium has numerous advantages over other media, hence it is used in conjunction with other media.

- The audio cassette lecture, however, is,

a stereotyped didactic technique which does not permit or facilitate two-way interaction.

2.1.4 Auditory learning

This category sums up all the sub-headings in the literature survey that pertain to all forms of auditory learning in a logical order. Much of distance education provisions are offered through the auditory medium, especially as audio cassette lectures.

- Sensory perception, either visual or auditory, is an intentional act where cognitive awareness needs to be focused on an object before an individual can come into contact and understand it. In fact one sees or hears what one selects and wants to see and hear. Learning from an audio cassette can therefore only be effective when the learner makes a conscious effort to listen by concentrating on what he hears.

- Hearing is a psychological and physiological experience, an activity where sound waves are turned into neural impulses by the human being's auditory system and which are carried to the brain.

- Hearing, listening, thinking, learning

and understanding seem to be related. Listening is, however, much more than just hearing.

- The choice of the audio medium of instruction should be based on the learning needs of distance students.

- Teaching techniques such as lecturing, discussion, tutorials and question-and-answer sessions are based on the ground form of conversation because learners and teachers make use of auditory senses during these techniques of instruction.

- Teaching through conversation is highly structured, more bound, clearly directed and more restricted than a mere conversation between adults.

- The spoken word is not an attempt to dislodge textbook, face-to-face lecturing and other traditional andragogical techniques, but is just another literary vehicle seeking to supplement them.

- The purpose of formal instruction is to give meaning and explanation to new concepts and to stimulate learners' interest and involvement in learning. This learning activity could utilise the sense of hearing.

- For effective utilisation of any audio material for teaching at a distance the educator should be familiar and conversant with the content in order to ascertain the value and suitability of the material as auditory medium of instruction.

- The key to success in teaching at a distance through audio material lies in the ability of the lecturer to arouse the interest and maintain the motivation of the students to listen to the audio cassette lectures.

- The cassette tape recorder is an indispensable auditory aid which has great potential for increasing effective learning.

- The success of an auditory learning medium such as the audio cassette depends very much on the course designer's ingenuity, level of training and competence. The designer of audio learning materials therefore requires in-depth training in sound production and recognition as well as direct listening activities.

- The audio cassette as medium has been tried and successfully utilised in many instances as a substitute for lecturers by some distance teaching institutions.(Le

Roux 1990:143). Indeed the success of many distance teaching institutions has been due to their use of audio cassettes as medium of instruction. It has become an accepted teaching tool and an important component of contemporary tertiary education.

■ Tapes used for instruction are more likely to receive attention when structured in a way that compels the listener to perform a task before proceeding further.

■ To promote independent and effective use of the audio cassette medium in teaching and learning, the cassette designer should encourage the skills of reading, listening, note taking and judicious use of information in many forms.

■ The best strategy for studying via audio cassette is to listen, pause, start, stop the cassette to make notes, read or attempt trial exercises before listening again.

■ Additional comments by the course author to facilitate and supplement understanding of cassette lectures could be better structured by using different voices for different didactic tasks like

summarising or stating the lecture objectives.

2.1.5 Distance education

This category was chosen by the researcher in order to sum up all the important items discussed in the literature survey under distance education in a logical order. Distance education has become an accepted norm in modern tertiary education.

■ Distance education using technology offers real democracy in education where people of all races and persuasions can study under the same lecturers and in the same institutions for the same qualifications, knowledge and skills. It thus eliminates discrimination in education and allows for individual differences, likes and dislikes, abilities and pacing.

■ The underlying factor in distance education is LEARNING and not teaching per se. The learner has to do much of his studying with little or no support or supervision from the educator.

■ Proper integration of a variety of media in distance education could not only ease frustration or increase motivation for independent study but could also

- help to utilise the advantages of each of the media combined.

- The integrated media approach to teaching and learning could involve students at all levels of cognitive, affective or psycho-motor learning.

- The various components forming an integrated package support each other and different perspectives and opinions. Thus the lonely student interacting with cassette lectures and textbooks could benefit from each medium.

- Distance education lectures on audio cassettes need to be didactically sound and well organised to ensure systematic and comprehensive learning and economic use of the learner's time and effort.

- Designing and producing audio material for distance students should include clearly stated objectives, assessment devices, student activities and feedback from and to students.

- An audio cassette lecture designed in a normal conversational manner initiates students in the didactic event and brings them closer to the lecturer, thereby breaking the psychological distance between the educator and the educand.

- A distance educator preparing audio material for distance students could apply any of the following techniques:
  - Copy radio or television broadcasts on selected and relevant content and duplicate them for students.
  - Prepare an original script, record, edit and duplicate the master cassette for students.
  - Record a live lecture of an experienced lecturer, edit and duplicate it for students.

- Thus the design and production of audio cassette packages for distance teaching and learning passes through a series of phases.

- The learning needs and conditions under which students learn are the bases upon which media selection for distance education rest.

- There is the possibility of transmitting and disseminating lectures on various subjects on the air (e.g. via radio) for distance students to record for study purposes.

- One of the greatest criticisms of distance education, however, is that it could lead to a higher percentage of

student attrition among adult learners who are inexperienced in distance education, are not persistent, lack discipline, self-control and the will power to do independent study. This drawback in distance education stems from the argument that it lacks interactive relationships that touch on feelings and the personalities of both the educator and the student.

■ Distance education may lead to boredom, loneliness and the lack of a competitive spirit, which can propel individual learners into action.

■ Distance education students may have a variety of study problems which a distance tutor preparing and designing audio cassette programmes, cannot anticipate.

■ Notwithstanding these limitations mentioned, distance education has become an indispensable feature of contemporary, tertiary education.

■ The design and production of audio cassette packages for distance teaching and learning passes through a series of phases.

2.2   Findings from the Empirical Study.
2.2.1 Data Collection.

The two main methods used in the study were:
-     The empirical investigation and
-     Questionnaires.
Data collected for the empirical investigation are the following:

2.2.1.1 *Empirical investigation.*

In the empirical investigation the students were divided into Experimental and Control groups, and a pre-test and post-test using the same test items were conducted. The empirical investigation tested the following main hypothesis:

" There is no significant difference between the academic performance of adult distance education students studying at I.E.M.S. via an integrated audio cassette package and those who study through conventional methods that do not include audio cassettes."

The results of the empirical study disproved the above hypothesis at the 95% level (i.e. ,05% level of significance - see Section 3.5 in Chapter 4.)

2.2.1.2 *Questionnaires.*

The questionnaires answered by the experimental group using the audio material unanimously support the results of the empirical investigation (Section 4, Chapter 4)

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2.2.2 Primary Findings

The primary findings from the main and subsidiary hypotheses are the following:

2.2.2.1 *Main Hypothesis.*

The main findings emerging from the empirical investigation indicate that:

- There is a significant difference between the academic performance of the adult distance education students who, in addition to their textbooks and face-to-face lectures, studied via integrated audio cassettes and those who used traditional methods without including audio cassette lectures.

- The introduction of audio cassettes into an integrated self-study package could solve some of the learning problems facing part-time adult students studying at I.E.M.S.

2.2.2.2 *Subsidiary hypotheses.*

The subsidiary hypotheses 3.2.1, 3.2.2 and 3.3.2 (see Chapter 1, Section 3) offer the following important answers and findings.

- Studying through an integrated audio cassette package involves the learner in a variety of activities such as listening, hearing, reading writing and practising, thereby increasing confidence and reducing the psychological fears associated with distance learning.

- It is practically feasible for I.E.M.S. lecturers, course organisers and administrators to introduce the audio cassette in an integrated study package for part-time students at the institute.

- The integration of audio cassettes in a well-designed study package could have a positive impact on the academic performance of adult distance education students.

2.2.3 Further Findings

- The questionnaire survey revealed that 86% of the respondents favoured the introduction of audio cassettes into an integrated study package to alleviate learning problems and supplement other learning material. This confirms the findings of the empirical investigation.

- The existing teaching technique - i.e. 2-4 days a month face-to-face presentation - alone does not seem to be enough to help the students achieve study goals and objectives i.e. the acquisition of new skills, knowledge

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and attitudes at the required levels.

- Adult distance education students have many responsibilities apart from their studies and therefore have less time to study at home.

- Adult distance education students do encounter financial, transportation and accommodation problems when they are required to attend face-to-face lectures in Maseru.

- Apart from the risks involved the frequent long trips (in excess of 400 kilometres) to and from Maseru to attend lectures inconvenience the students, their employers and families - a situation which could lead to student attrition or low performance.

- More females are enrolled in the course than men - 87%, and the single largest group patronising the programme comes from the teaching profession.

- A higher percentage of the students in the study have worked for more than 10 years and are between the ages of 25 and 49 years.

- The quest for higher education is the single most important motivating factor that draws the adult learners to the part-

time diploma courses at the I.E.M.S.

- Using the audio cassette for studying purposes seems to be convenient because it can be listened to at any time, anywhere, for any number of repetitions and while performing other tasks.

- The best method of study using audio cassettes is to scan through the notes and related pages in the textbook before listening to the cassette lecture.

- Adult distance education students regard the audio cassette as an indispensable "companion" that explains, simplifies, reinforces content and offers motivation and guidance in the study process.

3. CONCLUSIONS

The empirical study undertaken by the researcher on the Adult Distance Education programme at I.E.M.S. has led to many useful conclusions which can assist lecturers and students locally and at other institutions where groups or individuals are engaged in similar study activities.

3.1 Main Conclusions.

The main conclusions drawn from the study

could be summarised as follows:

3.1.1 The study has validated the use of audio cassette as part of an integrated study package in teaching and learning at a distance.

3.1.2 The audio cassette is an indispensable, accessible and cost-effective medium for instructing part-time adult distance education students also fully engaged in other socio-economic activities.

3.1.3 An integrated study package involving audio cassette lectures, face-to-face presentations, textbooks, and study guides seems to be an effective teaching strategy in distance education.

3.1.4 The audio cassette as medium of instruction has many advantages over media like radio and television. This is particularly so when the cassette is integrated with textbooks, study guides and face-to-face lectures.

3.1.5 Distance students who, in addition to textbooks and face-to-face lectures, study through audio cassette lectures achieved higher marks in post-tests than their counterparts who used only traditional and conventional methods of study.

3.1.6 The 'new generation' of students are more determined and highly motivated, have a higher level of media literacy and go to great efforts to upgrade both academically and professionally.

3.1.7 The use of electronic and print media in teaching at a distance has become an important aspect of modern life and therefore also of tertiary education.

3.1.8 Challenges regarding promotion and remuneration in the work place serve as motivation for adult workers to take further courses to improve themselves and in order to change their circumstances.

3.1.9 Responsible adults of between 25 and 49, like the group involved in the study, who for socio-economic reasons cannot attend full-time studies, select distance education programmes for self-improvement.

3.1.10 Making enough time available at home for study is difficult and a real challenge to distance education students engaged in socio-economic

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activities.

3.1.11 Frequent absence from duty while students are travelling to and fro to campus to attend face-to-face lectures and back home is usually at variance with employers' aims of increasing production. This problematic situation and accompanying stress can be obviated by utilising the advantages of using audio cassettes in a study package for these students.

4. RECOMMENDATIONS

This study was restricted to a small group of part-time adult students studying at the I.E.M.S. and aimed at:

* testing the suitability of audio cassettes in an integrated study package as a medium of instruction in a distance education course.

* evaluating the possible and foreseeable impact of the audio cassette in such an integrated study package on the academic performance of the said students.

4.1 Recommendations to I.E.M.S., lecturers, administrators and part-time study organisers.

4.1.1 Serious consideration should be given to the development of audio cassette lectures for inclusion in the teaching programme of the Institute's part-time courses.

4.1.2 There is an urgent need for the I.E.M.S. to constantly evaluate the effectiveness of its teaching and learning techniques with a view to improvement.

4.1.3 There is the need for the I.E.M.S to assist part-time distance students in the various districts to form study circles under which students could meet once a month to share ideas and redress their study problems. Lecturers from the Institute could visit the study circles from time to time to offer guidance, encouragement and tuition to solve students' academic problems. This measure could not only improve their academic performance but could also reduce the frequent travelling to Maseru and the risks involved in attending fortnightly lectures.

4.1.4 There is a need to extend the duration of the I.E.M.S. part-time study programme from two to three years. Study units will thus be spread evenly over the suggested period thereby enabling participants who are full-time workers and family members, to cope with academic and career obligations.

4.1.5 Since the single most important and largest number of participants on the study programme come from the teaching profession, this necessitates the I.E.M.S and the Education Authorities to meet and discuss the possibility of recognising the Adult Education Diploma for remuneration and promotion purposes.

4.1.6 There is a need to introduce a degree programme in Adult Education in order to offer opportunities for ambitious graduates from the Diploma courses to undertake further studies in the theory and practice of Adult Education.

4.1.7 There is a need to diversify the Adult Education Course to include courses in basic accounting, computer programming, small-scale farming and business management skills to enable participants to become more versatile, skilful and be able to undertake private enterprises to augment their meagre salaries.

4.1.8 I.E.M.S. course organisers should liaise with experts in distance education at tertiary institutions, such as the University of South Africa, Technikon South Africa, Vista University, CESA and the Lesotho Distance Teaching Centre, to study and adopt the techniques of developing distance education teaching and learning materials for the I.E.M.S. courses.

4.1.9 There is a need to diversify the instructional techniques employed by lecturers on I.E.M.S. part-time study programmes, not only to make learning more interesting and less strenuous but also to assist distance education students to achieve learning goals and objectives with little or minimum difficulty.

4.1.10 The audio cassette lecture that forms part of the study package; should refer to the relevant pages and portions of the textbook of the course concerned to make it more interactive.

4.1.11 There is a need for a well-structured study guide to accompany the study package as a means to guide and instruct students to make optimum use of all the component parts of the package.

4.1.12 There is a need for course designers and organisers at I.E.M.S. to consider the possibility of using radio broadcasts to disseminate lectures for distance education purposes, to copy and use as supplementary study material to face-to-face lectures.

4.2   Further Suggestions

Adult distance education students offered the following suggestions in their responses to the questionnaire used in the research. These suggestions are aimed at improving the academic performance of students.

4.2.1 The audio cassette lecture should be introduced in all I.E.M.S.programmes in an integrated package.

4.2.2 Study materials like photocopies and textbooks should be subsidised by the I.E.M.S. in order to meet the pockets of all adult students.

4.2.3 The Institute's library should be well equipped - also with audio cassettes -

and made accessible to students at all times.

4.2.4 Only well-qualified and dedicated academics in Adult Education should be engaged in lecturing on the part-time programmes at I.E.M.S.

4.2.5 Lecturers should be approachable; respect and understand the unique problems facing adult learners.

4.2.6 The I.E.M.S. authorities should initiate discussions with the Ministry of Education with a view to the latter recognising the Diploma in Adult Education for salary and promotion purposes.

4.2.7 Modern tertiary education should be flexible in order to suit or address the learning needs of most adult workers domiciled in the countryside. Providers of contemporary adult education courses should diversify their didactic techniques in order to effectively address the learning needs of their clientele. ·

4.3   Recommendation for Further Research

4.3.1 The researcher recommends to the I.E.M.S in particular and to other

interested groups or individuals to carry out further research into how best other modern technology, hardware and software could be utilised as effective teaching and communication media in distance education.

4.3.2   The I.E.M.S. should conduct research into the learning needs of the entire Basotho community in order to include adult education courses that could address such needs.

5. CONCLUSION

The problem stated in Chapter 1 reads as follows:

" Would the introduction of audio cassettes in an integrated study package solve learning problems facing part-time adult distance students?"

This study concludes that the audio cassette in an integrated study package could effectively solve most of the learning problems caused by the fact of the distance between student and lecturer and facing part-time students studying at the Institute of Extra - Mural Studies in Maseru, Lesotho.

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QUESTIONNAIRE FOR EVALUATING AUDIO-CASSETTE AS A MEDIUM OF INSTRUCTION BY I.E.M.S. ADULT STUDENTS

A REQUEST

PLEASE SUPPLY ALL INFORMATION REQUESTED AS ACCURATELY AS POSSIBLE. THIS QUESTIONNAIRE IS PART OF A SURVEY BY A UNISA STUDENT FOR YOUR OPINION ON AUDIO-CASSETTE AS A MEDIUM OF INSTRUCTION

INSTRUCTIONS

Please tick [   ] where applicable and give reasons when and where needed.

1.   In which course year are you?

Certificate I	
Certificate II	
Diploma I	
Diploma II	

2.   Sex?

Male	
Female	

3.   Which is your main occupation?

Teaching		Hotelier	
Co-opt officer		Army	
Police		Administrator	
Nursing		Nutritionist	
Family Planning Officer		Social Worker	
Librarian		Agric. Officer	
Self-employed Secretary		Other: Specify	

4.   What is your marital status?

Single		Widowed	
Married		Divorced	
Separated			

5. In which age group are you?

15 - 19		20 - 24		25 - 29	
30 - 34		35 - 39		40 - 44	
45 - 49		50 - 54		55 +	

6. What is your highest academic or professional qualification?

J.C.		Nursing Certificate	
COSC / G.C.E.		Diploma	
TR's Certificate		Other: Specify	

7. How many children do you have?

None		Four	
One		Five	
Two		Six	
Three		Seven	

8. For how long (in years) have you worked since leaving school/college?

_____

9. What motivated you to enrol for Diploma in Adult Education Course?

Self enrichment	
Higher qualification	
Status	
Skills	
Knowledge	
Company/to break boredom	
Other: Specify	

10. How far is your home or duty station from Maseru in kilometres?

Under 50	
60 - 80	
90 - 120	
130 - 150	
160 - 200	
Over 200	

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11. Do you experience any difficulties in attending the fortnightly (weekend) lectures in Maseru?

Yes	
No	

12. If YES (to 11 above) tick any <u>two most serious</u> difficulties you face.

Inconvenience to family		Finance	
Transportation		Disruption in work	
Permission from boss		Other: Specify	

13. Do you get enough time to study at home?

Yes	
No	

14. If YES to item 13 (above) for about how many hours do you study in a week?

2 - 3 hours	
3 - 4 hours	
4 - 5 hours	
5 - 6 hours	
6 - 7 hours	
7 - 8 hours	
8 - 9 hours	
9 - 10 hours	

15. If there is not enough time to study, which of the following (are) the important reason(s)? Tick all that apply.

Lack of motivation	
Lack of books	
Loneliness (no study mate/teacher)	
Return from duty late	
Social obligations	
Other: Specify	

16. How do you assess audio cassettes in your studies?

Less useful		Very useful	
Useful		Most useful	

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17. Mention specific benefits you derived from the audio cassette: (You may tick more than one).

Provided motivation and support	
Supplemented textbook/lectures	
Gave guidance on how to study	
Made studies simple and interesting	

18. How many times did you listen to the audio cassette during the holidays?

None	
Once	
2 - 3 times	
3 - 4 times	
5 - 6 times	
7 - 8 times	
8 - 9 times	
10 + times	

19. At what time did you usually listen to the cassette?

Early morning (4 - 6 am)	
During the afternoon	
Evening (5 -6 pm)	
Late in the night	

20. Why did you choose this time (in question 19) to listen to the cassette? (Pick all applicable answers).

Less busy at that time	
Less noisy at that time	
High concentration at that time	

21. How should audio cassette be used in order to derive maximum benefit from it?

Frequent listening only	
Frequent listening and making notes	
Scan through notes and textbook before listening	

22. As a distance adult student living far away from your lecturers and course mates, how do you regard audio cassette lectures? Tick all that apply.

As a companion of a lonely student	
As lecturer's substitute	
As similar to face-to-face lectures	
As supplement to notes/textbook	

23. What contribution does audio cassette lecture offer adult distance students? (You may tick more than one).

Simplifies and clarifies confusing aspects of content	
Provides good plan for revision for exams	
Serves as reinforcement for what we learn	
Helps us to remember what we heard at lectures	

24. How effective was the speaker's presentation in emphasising important points?

Less effective	
Very effective	
Most effective	

25. Which of the following methods of teaching and learning do you prefer?

Face-to-face lecturing only	
Face-to-face lecturing and textbook reading	
A combination of face-to-face lecturing, textbook and audio-cassette lectures	

26. What is (are) the appropriate reason(s) for your answer in question 25 (above)? (You may choose more than one).

It is the cheapest and simplest way of teaching/learning	
It offers a variety of advantages for the learner	
It is a modern method of teaching at a distance	

27. How motivating is audio cassette as compared to other methods of teaching and learning?

Not different from other methods of teaching/learning	
Very much motivating	
Moderately motivating	
Less motivating	

28. Have you ever used audio-cassette for learning (apart from this year)?

Yes		No	

29. If yes (to question 28 above) at which institution did you use audio cassette? (Mention it).

_____

30. Which of the following do you suggest to I.E.M.S./lectures as the most appropriate (possible, effective or feasible) way of assisting part-time distance adult students to study independently?

Providing lectures on cassettes for students	
Providing students with study guides	
Increasing the number of weekend lectures	

31. State (if any) other suggestion(s) you can offer to improve or solve problems of adult students studying at I.E.M.S.

a.	
b.	
c.	
d.	

APPENDIX B

COURSE OUTLINE FOR AED 130-3

THE NATIONAL UNIVERSITY OF LESOTHO INSTITUTE OF EXTRA-MURAL STUDIES DEPARTMENT OF ADULT EDUCATION AED 130-3: THE SOCIOLOGY OF ADULT EDUCATION

COURSE OUTLINE

Introduction

This is a 3-unit course (i.e. it is offered for one semester) in the part-time Diploma in Adult Education Programme. It is offered in the first of the two-year programme.

Course Objectives/Goals

1. To outline the social bases of Adult Education.

2. To introduce participants to basic sociological concepts that are relevant to the practice of Adult Education.

3. To expose participants to the social roles of the adult educator.

4. To explain the social functions of adult education.

5. To analyse the role of adult education in the social change process.

Content

August, 1993

Definition and Explanation of Terms;

(a)   Sociology, Adult and Adult Education.

(b)   Meanings and scope of Sociology of Adult Education.

(c)   Types of education: formal, informal and non-formal education.

(d)   Social bases of adult education:

    (i)   social needs basis

    (ii)   political beliefs

    (iii)   economic basis

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September, 1993

Social Institutions and Adult Education:

(a)   The family

(b)   The school

(c)   Apprenticeship institutions

(d)   The church

(e)   The community and state

October, 1993

The Society and Adult Education

(a)   Social beliefs, attitudes and values

(b)   Social class, wealth and power

(c)   Community education and socialisation

November, 1993

Social functions of Adult Education;

(a)   Economic

(b)   Social

(c)   Political

(d)   Personal vs social function

December, 1993

Adult Education and the Society;

(a)   Change, planned and unplanned

(b)   Transition and transformation of values

(c)   The Adult Education class as a social unit

(d)   Adult education and social change

Revision and Examination

Assessment

There will be at least one graded test <u>and</u> one graded assignment recorded for each student as continuous assessment grades. These two grades constitute 1/3 of total assessment grades. The examination grades make up 2/3 of total grade.

RECOMMENDED READINGS

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APPENDIX C - ABRIDGED LECTURE FOR PRE/POST-TEST ITEMS

1. SOCIAL INSTITUTIONS AND ADULT EDUCATION

1.1 The Society and Adult Education

Society is a group of people with a common culture, i.e. attitudes, values, beliefs, system of government, language etc.

1.2 Characteristics of a Society

- Active social interaction, i.e. purposeful human activity.
- It is enduring, i.e. society lasts longer than its members.
- Survival responsibilities, e.g. safety, economic, religious, etc.
- Shared ways of life, both concrete and abstract.

2. SOCIALISATION

Socialisation means all the processes, formal and informal, that are employed to induce new and younger members of a society to learn and practice the ways of life of a society.

21. Agents of Socialisation

- Family
- Place of work
- Media - print, electronic
- Religion
- Transition ceremonies
- The law
- The political structure
- Education (formal/informal)

2.2   Socialisation through Adult Education Processes in the Society

i   -   Adults provide standards of behaviour in beliefs, attitudes and values. Acceptance and informal practice of these mark attainment of adulthood.

ii   -   Social class and status are as perceived by the adult population. Adult members of a social class socialise younger members into their own adult class and status roles and responsibilities.

iii   -   Wealth, material possession, riches. Except by inheritance, wealth is attained in adulthood. In some societies inherited wealth can only be administered by adult heirs or administrators. Use of wealth is guided by adult perceptions and this socialises. The totality of educational experiences in society is therefore effected by the adult population.

iv   -   Power - degree of control exercised by one person or group over the lives of significant others. Power can be

-    social

-    political

-    vocational

Power brokerage is an adult's responsibility because it cannot be arbitrary or irrational. Traditional societies tend to be gerontocratic. Modern societies stipulate an adult age in which power can be socially exercised.

3.   COMMUNITY ADULT EDUCATION AND SOCIALISATION

Community education is the process of identification of community needs so that the community and its members can grow through social and educational programmes.

The participants in community education are usually adults. Community education is therefore a form of adult education. Adult education in the community can be effected along these modes:

(a)   Individual transactional mode - independent efforts at learning made by individuals, e.g. planned parenthood volunteers, apprenticeship participation.

(b)   Group transactional mode - a group of people in a community come together for

knowledge / skills that are of mutual benefit to them, e.g. nutrition participants group, craft-making group, i.e. weavers, landlords' association to get some benefit for members of the group.

(c)   Community transactional mode - citizens collaborate to solve a community problem, e.g. skill of dam construction to facilitate irrigation, forming producer/consumer co-operatives, organising for enlightenment on primary health care, etc.

3.1   Aspects of Community Education

i   Deliberate and purposeful, i.e. adults concerned are seeking to acquire knowledge and skills.

ii   Goals may not be clearly specified or easily attainable.

iii   It occurs outside classrooms and designated educational institutions.

iv   Receives no institutional accreditation.

v   Voluntary, self-motivated and self-generating.

vi   It is an active process of interaction; it is an on-going process.

3.2   Community Education as a Process of Socialisation

The process of community education involves social interaction at the 3 modes. In this process participants:

(a)   Appreciate better the needs of their community.

(b)   Know what processes are involved in meeting these needs.

(c)   Have a better knowledge of the people's attitudes, values and beliefs.

(d)   Are able to participate at various levels of community life, e.g.

-       social;

-       political;

-       economic;

-       religious; etc.

All these make them better integrated into the ways of life of their community.

3.3   Types of Adult Socialisation

i   Anticipatory socialisation.

ii   Resocialisation - adjustment up or down.

3.4   Indices of Adult Socialisation

-       New needs and demands.

-       New status/role, e.g. chief, parent.

-       New job.

-       Change in family.

-       Mobility up or down.

-       Mobility - horizontal.

4.   SOCIALISATION PROCESS IN ADULTHOOD

4.1   Socialisation processes in Adulthood

(a)   Adulthood as a determinant of behaviour

-       early adulthood   } dress   } hanging trousers;
-       middle adulthood }   habits   } smoking; dancing
-       old age   }   mode of speech } respect/polite

(b)   Adulthood as determinant of social responsibility.

-       Early adulthood people seek knowledge, career and work.

-       Middle adulthood: people engage in marriage, occupation, raising of family,

building of houses, acquisition of wealth or property.

- Old age : old people engage in counselling the youth and the traditional authorities.

There is no retirement in traditional Africa. The elder is always valued as a reservoir of wisdom.

(c) Adulthood as determinant of status.

- Early adulthood - independence from parental control/authority.
- Middle adulthood - symbols of success and achievement.
- Old age - dignity and respect.

It is regarded as a blessing to grow old. Blessings from the aged are always sought for in traditional Africa.

(d) Adulthood as symbol of special powers.

- old people are always identified with powers. The adult is a special link between the dead and the unborn. They are believed to be more powerful than the young spiritually.

(e) Adulthood and social roles.

- Worker, professional, warrior.
- Parent, uncle, aunt, etc.
- Grandparent, etc.

All these are attained with age.

NATIONAL UNIVERSITY OF LESOTHO
INSTITUTE OF EXTRA-MURAL STUDIES

AED 130:3 SOCIOLOGY OF ADULT EDUCATION

CONTINUOUS ASSESSMENT TEST
TOPIC COVERAGE: SOCIETY AND ADULT EDUCATION

INSTRUCTIONS TO STUDENTS: ANSWER ALL QUESTIONS;

CHOOSE THE CORRECT ANSWER FROM THE OPTIONS GIVEN.

1.   **A society can be defined as:**

a.   An assembly of adults

b.   A group of people interacting socially

c.   A group of people sharing a common culture

d.   People of cultural diversity in spite of identity.

2.   **In a society the following traits can be found except:**

a.   Active social interaction

b.   Shared ways of life

c.   Tendencies of dominance by any able member

d.   Social survival is ensured by sharing responsibilities.

3.   **In a society, culture can be shared at the:**

a.   Abstract level only

b.   Abstract and conscious levels

c.   Abstract and concrete levels

d.   Concrete level only.

4.   **In some traditional African societies the exercise of power is restricted to:**

a.   People of high intelligence

b.   People of age and experience

c.   People of exceptional wealth

d.   Young people with unusual courage.

5.   Socialisation can be explained as:

a.   All processes of bringing up young and new members to accept the ways of life of a society

b.   The abstract processes of learning to live in a society

c.   Similar concrete instances of learning to assimilate the culture of a society

d.   The physical manifestations of accepting the cultural life-styles of a society.

6.   In a society, the need for socialisation applies to the following members only:

a.   Infants and children

b.   Women and adults

c.   The weak and the disabled

d.   All members irrespective of age or position.

7.   Adult members of a society are socialised in the following ways:

a.   Neo-socialisation and post-socialisation

b.   Minimum socialisation and maximum socialisation

c.   Anticipatory socialisation and re-socialisation

d.   Preparatory socialisation and post partum socialisation.

8.   The following are agents of socialisation in the society except:

a.   Family

b.   Religion

c.   Education

d.   Material wealth.

9.   One way in which adult members of a society socialise others is by:

a.   Setting acceptable standards of behaviour

b.   Making young people accept whatever they say

c.   Demanding obedience without questioning

d.   Forbidden participation of young members in social activities.

10. In a society, social classification and status ascription are essentially as perceived by its:

a. Juvenile population

b. Middle-aged population

c. Adult population

d. Privileged population.

11. **In modern African societies:**

a. A person who lives in the family home never attains adult status

b. Countries proclaim a legal adult age when people can vote or be voted for

c. A person is compelled to live alone immediately on getting employment

d. Parents never accept that their children can be independent of them.

12. **We can define community education as:**

a. A formal process of skill and character training which the government provides for members of a community.

b. All the processes employed by community leaders to persuade donor agencies to sponsor their development efforts

c. The process of meaning integration of formal and informal education for community leaders

d. The process of identification of community needs so that community and its members can grow through social and educational programmes.

13. **Why do we say that community education is a form of adult education?**

a. Adults undertake community education

b. Adults usually participate in community education

c. "Community" is an adult expression

d. a and b.

14. **An example of the individual learning mode in community education excludes:**

a. Participation as a health care volunteer

b. Learning a skill for self-employment

c. Team up with friends to start a co-operative

d. a and c.

15. **The community transactional mode involves:**

a. Getting government help in meeting a need

b. Getting influential members of a community to start a project

c. Collaboration by community members to solve a common problem

d. Making allowance for individual fall-outs in project execution.

16. The following are aspects of community education except:

a. It is received in formalised community institutes

b. It is voluntary, self-motivated and self-generating

c. The goals may not be clearly specified or easily attainable

d. b and c.

17. Adulthood influences the following noticeable aspects of social behaviour:

a. Dress habits

b. Food and diet habits

c. Manner of speech

d. a, b and c.

18. Which of the following would be out of place for a seventy-year old?

a. Being a soccer star

b. Serving as a community counsellor

c. Getting married for the first time

d. a and c.

19. In traditional Africa, elderly people were greatly respected because people ascribed to them:

a. Possession of spiritual powers

b. Custody of wisdom got from experience

c. Ability to kill with witchcraft

d. a and b

20. The following are indices of adult socialisation except:

a. New needs and demands

b. New employment

c. Change in place of residence

d.   Change in sleeping position.

NATIONAL UNIVERSITY OF LESOTHO
INSTITUTE OF EXTRA-MURAL STUDIES

AED 130:3 SOCIOLOGY OF ADULT EDUCATION
MOCK TEST FOR MID-YEAR EXAMINATION

INSTRUCTIONS TO CANDIDATES: ANSWER ALL QUESTIONS;

CHOOSE THE CORRECT ANSWER IN EACH CASE

1.   **The following are agents of socialisation with the exception of:**
a.   education
b.   material wealth
c.   religion
d.   media.

2.   **In some traditional African Societies the exercise of power is restricted to:**
a.   people of exceptional wealth
b.   young people with unusual courage
c.   people of age and experience
d.   people of high intelligence.

3.   **The community transactional mode involves:**
a.   getting government help in meeting a need
b.   collaboration by community members to solve a common problem
c.   getting influential members of a community to start a project
d.   making allowance for individual fall-outs in project execution.

4.   **Community education can be described as:**
a.   a process of meaning integration of formal and informal education for community leaders.
b.   all the processes used by community leaders to persuade donor agencies to sponsor their development efforts

c. a formal process of skill and character training which the government provides for members of a community

d. the process of identification of community needs so that community and its members can grow through social educational programmes.

5. **In a society the following traits can be found except:**
a. shared ways of life
b. social survival is ensured by sharing responsibilities
c. active social interaction
d. tendencies of dominance by any able member.

6. **In a society, the need for socialisation applies to the following members only:**
a. all members irrespective of age or position
b. the weak and disabled
c. adults and women
d. infants and children

7. **Adulthood influences the following noticeable aspects of social behaviour:**
a. food and diet habits
b. manner of speech
c. dress habits
d. a, b and c.

8. **Which of the following would be out of place for an eighty-year old?**
a. serving as a community counsellor
b. being a soccer star
c. getting married for the first time
d. b and c.

9. **An example of the individual learning mode in community education excludes:**
a. participation as health care volunteer
b. learning a skill for self-employment
c. team up with friends to start a co-operative
d. a and c.

10. **One way in which adult members of a society socialise others is by:**

a. making young people accept whatever they say

b setting acceptable standards of behaviour

c. demanding obedience without questioning

d. forbidding participation of young members in social activities.

11. **The following are aspects of community education except:**

a. it is voluntary, self-motivated and self-generating

b. it is received in formalised community institutes

c. the goals may not be clearly specified or easily attainable

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12. **In tradition Africa elderly people are greatly respected because people ascribe to them:**

a. ability to kill with witchcraft

b. custody of wisdom got from experience

c. possession of spiritual powers

d. c and b.

13. **In modern African societies:**

a. a person is compelled to live alone immediately on getting employment

b. a person who lives in the family home never attains adult status

c. countries proclaim a legal adult age when people can vote or be voted for

d. parents never accept that their children can be independent.

14. **The following are indices of adult socialisation except:**

a. new employment

b. change in place of residence

c. change in sleeping position

d. new needs and demands.

15. **Why do we say that community education is a form of adult education?**

a. "community" is an adult expression

b. c and d

c. adults usually participate in community education

d.   adults undertake community education.

16.   A society can be defined as:

a.   a group of people sharing a common culture

b.   a group of people interacting socially

c.   an assembly of adults

d.   people of cultural diversity in spite of identity

17.   In a society culture can be shared at the:

a.   abstract and concrete levels

b.   abstract and conscious levels

c.   abstract level only

d.   concrete level only

18.   In a society, social classification and status ascription are essentially as perceived by its:

a.   adult population

b.   juvenile population

c.   middle-age population

d.   privileged population.

19.   Adult members of a society are socialised in the following ways:

a.   preparatory socialisation and post-partum socialisation

b.   minimum socialisation and maximum socialisation

c.   anticipatory socialisation and re-socialisation

d.   Neo-socialisation and post-socialisation.

20.   Socialisation can be explained as:

a.   similar concrete instances of learning to assimilate the culture of a society

b.   the abstract processes of learning to live in a society

c.   all processes of bringing up young and new members to accept the ways of life of a society

d.   the physical manifestations of accepting the cultural life-styles of a society.

BON CHANCE!!