UNIVERSITY OF CAPE COAST

CHALLENGES FACING TEACHERS PURSUING TERTIARY

DISTANCE EDUCATION: A CASE STUDY OF THE

UNIVERSITY OF CAPE COAST

BY

WILLIAM OWUSU-BOATENG

A THESIS SUBMITTED

TO THE INSTITUTE FOR EDUCATIONAL PLANNING AND

ADMINISTRATION, FACULTY OF EDUCATION, UNIVERSITY OF

CAPE COAST, IN PARTIAL FULFILMENT OF THE REQUIREMENTS

FOR THE AWARD OF A MASTER OF PHILOSOPHY (M.PHIL) DEGREE

IN EDUCATIONAL PLANNING

DECEMBER 2005

CANDIDATE'S DECLARATION
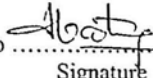
I hereby declare that this thesis is the result of my own original research and that no part of it has been presented for another degree in this University or elsewhere.

Candidate's Name: William Owusu-Boateng Date.09/01/2006
                                                    Signature

SUPERVISORS' DECLARATION

We hereby declare that the preparation of the thesis was supervised and presented in accordance with guidelines on supervision of thesis laid down by the University of Cape Coast.

Principal Supervisor's Name: Mr. S.K.Atakpa .....Atakpa Date.09–01–2006
                                              Signature

Supervisor's Name: Ms. Dora Baaba Aidoo ....Date 09/01/2006
                                              Signature

ii

ABSTRACT

The conceptual frameworks that underpinned the study were Maslow's hierarchy of motivational needs and McLuhan's theory of technological determinism.

The study examined the problems faced by teachers pursuing tertiary programmes through Distance Education in Ghana, with particular reference to those of University of Cape Coast. The purpose was to find out how the teachers had accepted the distance education programme, as well as the usefulness of course materials to the students, how the students financed their education and whether the fees charged were affordable to the students. Additionally, the study sought to find out the students' support services and students' feedback systems put in place and how students perceived the performance of course tutors. Also investigated were how students combined their normal teaching with their studies and how the teaching practice of students was supervised.

The survey, a descriptive type of research was adopted with a sample size of 354, comprising 324 students, 4 centre coordinators and 26 course tutors. The questionnaire was the main instrument employed to collect data from the respondents. A return rate of 95% was achieved. The instruments used for the analysis of the data were t-test and ANOVA in the SPSS package.

The major findings indicated that teachers had accepted the distance education programme. The majority of them (students) financed their education from their salaries. Some of them, however, took loans from their bankers to

finance their education. The students found the fees to be affordable. They were of the view that the Ghana Education Service should pay part of the cost they bear on their education to serve as an incentive to motivate more teachers to enrol in the distance education programme as this will go a long way to solve the problem of shortage of teachers in the classrooms. The students requested that they be given the opportunity to access the SSNIT loan scheme.

The students support services and feedback systems in place were unstructured and ineffective. The students considered course tutors to be knowledgeable, as they employed varied methods in their lessons. The tutors gave enough reinforcements, involved the students in the lessons and made lessons lively. Most of the students found it difficult to combine their normal teaching work with their studies and this was affecting their teaching, studies and social life. Supervision of students teaching practice was yet to start; the two methods that the organisers plan to use for the supervision of the teaching practice are peer/micro teaching and observation of the teaching of the students in their normal classroom setting.

The study concluded with recommendations for strengthening students support services and feedback systems. Other areas for further research were also recommended.

ACKNOWLEDGEMENTS

I express my deepest gratitude to the Almighty God for His guidance and inspiration, which have sustained me throughout life and brought me this far in my academic pursuits. I also wish to express my gratitude to all those known and unknown, who in diverse ways supported me in life and in the development of this thesis.

I am grateful to my supervisors Mr. S. K. Atakpa and Ms. Baaba Aidoo for their effective supervision, constructive criticisms and contributions, which helped greatly to shape the work.

I am also indebted to other lecturers of IEPA who took me through this course. I want to express my gratitude to Dr. Daniel Okae-Anti, a lecturer at the School of Agriculture and Dr. J.V. Mensah, a Research Fellow at the Centre for Development Studies and a former roommate for their technical expertise and various contributions they made towards the completion of the study.

I also acknowledge the help I received from Mr. Opong- Mensa of the Centre for Continuing Education and the centre coordinators of Takoradi, Koforidua, Kumasi and Sunyani study centres for their cooperation in the administering of the questionnaires.

I am also indebted to my roommate Mr. Rogers Asempasah for his tolerance and the peaceful and joyous moments we had together for the two years under the same roof. I also thank him for reading through my work and offering constructive suggestions. My acknowledgements will not be complete if I do not mention Mr. D. F. Amoah, an M.Phil. Agricultural Extension student who helped me to have a

thorough insight in the use of statistical instruments. Finally, my thanks go to all authors and personalities from whom I got information in the development of this thesis. To all, I say thank you and God richly bless you. I would like to state that all omissions or mistakes in this thesis however are entirely my own.

DEDICATION

This work is dedicated to my dear wife, Florence Owusu- Boateng and children, Ama Tiwaa- Boateng, Baffour Owusu- Boateng, Afua Durowaa- Boateng, and Barima Adoma- Boateng for their sacrifices, encouragement, understanding and support which enabled me to pursue this course. It is also dedicated to my parents Alfred Boateng - Mensah; and Margaret Dwomoh (alias Yaa Adusah) for making my education their prime concern.

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER ONE

INTRODUCTION

Background to the Study

Distance Education is essentially an educational delivery system, which allows a person to learn without necessarily coming into direct contact with the teacher or the providing agency. Distance Education as a concept started in the African continent in South Africa in 1916. As at now, countries such as Kenya, Tanzania and Zimbabwe have embraced the concept of distance education.

Distance Education is playing an increasingly important role in both formal and non-formal education. Industrialised and developing countries alike require educational systems which are flexible, accessible and cost effective. It also gives access to life long education. Distance education provides extensive coverage, individual\s choice and quality assurance, an outlay often well below that required by the traditional alternative.

Distance education is not new in Ghana. It was introduced in this country over 40 years ago. It was then known as Correspondence Course. Many people in this country have used distance education to earn their Ordinary and Advanced Level General Certificates of Education (GCE) and External degrees in Law, Economics, Commerce, etc. The most popular was the one run by the Rapid Results College of Great Britain.

Distance Education, as a mode of delivery of formal education, is suitable for educational training. However, using it to train teachers always encounters a host of

problems an example being logistics for supervision of the teaching practice of students.

Lack of qualified teachers accounts for seemingly low standards of education in developing countries. The demand for teachers has always outstripped the supply in most of these countries. The desired quality of education has suffered drastically due to admission of untrained and under trained teachers into Education Service in Africa.

In his classical analysis of educational quality in developing countries, Beeby (1966) remarked that the educational quality background of especially primary school teachers is a major constraint on the quality of education they offer. At the time of launching her Education Reform Programme of 1987, Ghana had a crisis, as a substantial number of the teachers at the pre-tertiary level were unqualified. The Reform started at the Middle/Junior Secondary School level and at the time 10,419 out of 32,615 teachers were not adequately trained (Ghana, 1989, p 2)

The acute shortage of qualified teachers at that time caused the Education Commission to recommend in its Report of 1986 that the new scheme should start in 1990 instead of 1987. This recommendation was made having taken cognisance of the centrality of teachers' quality and quantity to the success of the education reform package. The number of trained and untrained teachers at pre-university level for 1991/1992 is depicted in Table 1.

Table 1

Number of Teachers in Pre-University Institution; 1991/92

Level	No. Trained	No. Untrained Trained (%)		Untrained (%)
Primary	30,826	24,901	60	40
Junior	23,895	9,358	72	28
Senior Secondary School	6,869	3,152	69	31

Source: Ministry of Education, PBME Division (1993; p 2)

Providing teachers with adequate training requires huge financial outlay, which the economies of the developing countries find difficult to support. This calls for the adoption of a strategy of training teachers which does not only address the qualitative aspects of teacher education but also achieves this goal with the least strain on the already poor state of economies of developing countries.

Dodd (1991, p.1-12) offers reasons for the phenomenal growth in distance education over the last 20 years worldwide. The reasons are:

1. It offers an economic use of scarce educational resources to provide large numbers of students with the chance to continue their education;

2. It reaches students wherever they are, however remote that they may be, and therefore allows students work to continue while learning;

3. It is potentially a great equalizer of educational opportunity.

Agyemang (1997a) in a paper presented at a West African Examination Council forum on distance education revealed that for about a decade and a half, well over 60% of applicants who have the full entry requirement failed to gain admission to the country's universities due to lack of physical space and other resources. Lack of

resources has prevented the government from expanding facilities of existing universities. He was of the view that distance education is cost effective and if advanced countries are turning to distance education how much more a less endowed country like Ghana.

At the opening of a three-day Pan African Distance Education Conference held at the Accra International Conference Centre, Agyemang (1997b) asserted that distance education is the only way forward to opening additional frontiers to higher education in Ghana and many African countries. Sutherland-Addy (1997) at the 48th New Year school held at Winneba remarked that there is greater quest for tertiary tuition and called on the universities to help find solutions to it.

It is in the bid to help raise the standard of teaching and therefore the quality of teachers at pre-university level, and to ease the demand on full time tuition at the universities that led the University of Cape Coast to start a 3-year Diploma in Basic Education programme by distance learning. The programme took off on October 27th, 2001 in almost all the regions in Ghana. The Centre for Continuing Education of the University is handling the distance education programme.

The primary focus of this programme is three fold namely:

1. Train more professional teachers for the basic level in the Ghana Education Service.

2. End the incidence of double payment where the Government pays the salary of teachers on study leave as well as those who replace them.

3. Increase the professional commitment of teachers as they would be expected as part of the programme requirement to go to school every day, prepare daily

notes, use audio-visual aids to support teaching, give enough exercise and mark them and compile continuous assessment records.

The Institute of Education, University of Ghana was the first University to use distance education to train teachers but it was not at the tertiary level. The University College of Education of Winneba was the first University to start the training of teachers at tertiary level. The University of Cape Coast joined in, in 2001. Although the programme has not run for a long time it is needful to find out the progress and the problems the University of Cape Coast is encountering. The findings will serve as an input into the programme to make it effective.

Due to more demand for tertiary level education and the inability of the Universities to admit more than 40% of qualified applicants there is the need to find a way to solve the problem of access to tertiary education. As at now, the University of Education, Winneba and the University of Cape Coast have embarked on distance education for teachers. The question is how these institutions are faring in their programmes and the challenges the teachers who have opted for the programme are facing. This thesis was concerned with the distance education run by the University of Cape Coast.

Statement of the Problem

Distance Education, as a viable alternative mode of teacher education has witnessed a phenomenal growth over the last five years in Ghana. Its operations allow limited educational resources to be used by a large number of students. In the University of Cape Coast, Distance Education has been in operation for the past two years. A question that arises is 'what are the problems and prospects of the

programme and how effective has it been?' Many teachers have embraced the distance education programme but no research has been conducted to find out the challenges the teachers who opt for distance education face or encounter.

The research sought to find out the challenges facing the students using distance education for tertiary in service teacher training. The study concerned itself with acceptability of distance education to teachers, affordability of the course to the students, the usefulness of course materials, students' support services and students' feedback systems. The other areas the study looked at were performance of course tutors, supervision of students' teaching practice and how the students combined their normal work of teaching with studies.

If serious attention is given to the challenges identified and the recommendations given it will go a long way to minimize if not eliminate the challenges facing the students. This will finally contribute to the course acceptability and success, as it will achieve the purpose for which the programme was instituted.

Purpose of the Study

The researcher was interested in looking at the viability of Distance Education as an alternative to conventional mode of formal education delivery. Also of interest was the challenges the student teachers encounter in their studies.

Research Questions

This thesis sought to find answers to the following questions:

1. How acceptable is distance education to teachers?

2. How affordable is distance education to teachers?

3. To what extent do the students find the course materials useful?

4. To what extent do feedback systems impact on students' studies?

5. How effective are student support services?

6. How are students/ teachers able to combine teaching with studies?

7. To what extent do students perceive the performance of course tutors?

8. How are student/teachers supervised during the period of the course?

Hypotheses

1. Ho: There is no significant difference between the male and the female students in their perceptions on acceptability of distance education.

2. Ho: There is no significant difference between the male and the female students in their perceptions on the effectiveness of course materials.

3. Ho: There is no significant difference between the male and the female students in their perceptions on the programme affordability.

4. Ho: There is no significant difference between the male and the female Students in their perceptions on students' support services.

5. Ho: There is no significant difference between the male and the female students in their perceptions on students' feedback systems.

6. Ho: There are no significant differences among the students of the four course centres in their perceptions on acceptability of distance education by teachers.

7. Ho: There are no significant differences among the students of the four course centres in their perceptions on the effectiveness of course materials.

8. Ho: There are no significant differences among the students of the four

course centres on how they finance their education.

9.   Ho: There are no significant differences among the students of the four

course centres in their perceptions on students' support services.

10.   Ho: There are no significant differences among the students of the four

course centres in the perceptions on the students' feedback systems.

Significance

The research is significant in the following ways:

1.   It would be a guide for policy makers and administrators of Distance

Education in the formulation of policies concerning in service distance

education for teachers.

2.   It will also be useful for Curriculum Planners in structuring curriculum or

course outline for in service teacher training.

3.   The study would help personnel in charge of granting of study leave to

teachers in Ghana Education Service to know the type of courses they should

encourage teachers to pursue at the distance education and thereby reduce the

number of teachers granted study leave with pay to go for residential

university courses.

4.   Moreover it will serve as a guide to students who opt for distance education

on how to combine their teaching with their studies and the challenges they

are likely to face and finally

5.   It will serve as a point of reference for future research.

Delimitation

University of Cape Coast is sited in the ancient and historical coastal town, Cape Coast, which is the capital of the Central Region of Ghana. The university was opened in 1962 primarily to train teachers at the tertiary level for second cycle institutions in the country.

The university has five faculties/school: Arts, Education, Social Sciences, Science and School of Agriculture. There are two institutes, which are Institute of Education and Institute for Educational Planning and Administration both under the Faculty of Education. There are also two centres namely, the Centre for Development Studies under the Faculty of Social Sciences, and the Centre for Continuing Education, which is charged with the organization of Distance Education programmes of the university.

The Centre for Continuing Education has twelve centres, however only four were selected due to time and financial constraints. The centre operates courses in Basic Education and Business Studies but only the former was studied as it admits only teachers for which the research was concerned. Only the second and third year students were used for the study as the first year students had just started the course and had not experienced enough challenges.

Limitations

1.   The study would have had a wider variety of results if all the 12 centres were used instead of the four, as this is a quantitative study. The psychological make up and experiences of the students may vary from centre to centre.

2. Some of the respondents failed to answer some of the questions in the instrument. If they had answered all the questions it would have made the findings more interesting.

Definitions of Terms

Distance Education: a system of formal instruction in which learner and teacher are not face-to-face but are separated from each other by distance for most of the of time.

Single mode: A type of organisation of distance education where an institution is established purposely for running distance education programmes only. Single mode institutions may also be known as unimodal and are usually open universities.

Dual mode: types of organisation of distance where an established institution (usually a university) may, in addition to its own traditional courses, also operate distance education. Distance education is part of a traditional face-to-face institution and parallels residential study in this case.

Open University (OU): An open university is a university institution established for the sole purpose of carrying out distance education. It is autonomous and independent and students may write its own examinations and be awarded its own degrees. Open universities are often large-scale distance education systems.

Support services: Any necessary service or facility serving as backup to supplement the learning materials sent to the distant learner. They are provided, usually at a local level, to enable the student learn and overcome the distance between him/her and the teacher and most other problems arising out of the fact that he/she is neither in the classroom nor on campus. Support services normally include two-way

2. Some of the respondents failed to answer some of the questions in the instrument. If they had answered all the questions it would have made the findings more interesting.

Definitions of Terms

Distance Education: a system of formal instruction in which learner and teacher are not face-to-face but are separated from each other by distance for most of the of time.

Single mode: A type of organisation of distance education where an institution is established purposely for running distance education programmes only. Single mode institutions may also be known as unimodal and are usually open universities.

Dual mode: types of organisation of distance where an established institution (usually a university) may, in addition to its own traditional courses, also operate distance education. Distance education is part of a traditional face-to-face institution and parallels residential study in this case.

Open University (OU): An open university is a university institution established for the sole purpose of carrying out distance education. It is autonomous and independent and students may write its own examinations and be awarded its own degrees. Open universities are often large-scale distance education systems.

Support services: Any necessary service or facility serving as backup to supplement the learning materials sent to the distant learner. They are provided, usually at a local level, to enable the student learn and overcome the distance between him/her and the teacher and most other problems arising out of the fact that he/she is neither in the classroom nor on campus. Support services normally include two-way

communication backups. Some support services are study centres, libraries, audio, video, and computer conferencing, counselling and tutor marking at a distance or face-to-face tutorials.

Face-to-face sessions/meetings/contact: This constitutes an arrangement by which distant students, their teachers and colleagues who are separated by distance, can meet "person to person" to discuss work or for socialization.

Study centre: A multi-purpose local venue where face-to-face meetings and other useful activities may occur for the support of distant learners. Most support service facilities for students may be provided in student centres.

Tertiary education: Before the educational reform, which started in 1987, this term (and indeed higher education), was mainly restrained to the universities. As part of the tertiary level reforms, tertiary education is to be applied to all post-secondary institutions including universities

Feedback: The process by which information concerning the adequacy of the system, its operations and its output are introduced into the system.

Teleconferencing: Using inter-net facility to reach many students at the same time from different countries or locations. Each student is able to commutate with the other students in the different locations.

Video-based courses: - When the basic educational content of the course is broadcast on television or contained on videocassettes.

Experiential learning programmes: - are those which give credit for prior learning which did not take place in a lecture room setting and was not sponsored by educational institution but was acquired through work experience including volunteer work, co-operative education or self study.

Conceptual Framework

The conceptual frameworks that underpin the study were Maslow's hierarchy of motivational needs and McLuhan's theory of technological determinism. McLuhan's theory of technological determinism means that changes in modes of communication shape human existence.

If there is any thing that Maslow's hierarchy of needs has taught us it is that man's need is not static. There is always the inordinate desire to rise. The implication is that people whose desires for progress have been frustrated by conventional education and other factors will find means to rise. For such people any alternative that will make them realise their ambitions is welcome. This is where distance education becomes relevant.

Many people participating in distance education now had ambitions to attend school to higher levels but they were stuck as a result of many factors. Such factors include examination failures, financial constraints, sicknesses, and family problems. For such people distance education becomes an opportunity or avenue for achieving their deferred ambitions.

Many teachers are therefore using distance education for upgrading, updating and enhancing their career prospects. There is therefore, the need to make distance education attractive and all impediments that would not allow the students to achieve these objectives removed. This will depend on how the distance education programme is packaged and communicated. It is here that McLuhan's theory of technological determinism becomes very important. McLuhan is of the view that the way we live is largely a function of the way we process information .The implication is that

humanity can not benefit from any technological development if it is not communicated clearly for people to understand and make use of it. Bad packaging and communication of instructional delivery of the distance education programme can be a hindrance to the success of the programme.

The justifications for this conceptual framework are; it will help explain the acceptability of the distance education programme. It will also help the organisers in the planning, organising, packaging and the communicating of the distance education programme in such a way that it will eliminate all frustrations and reduce attrition rate.

Organisation of the Study

The study was organised into five chapters as follows: Chapter one dealt with the introduction of the study, the statement of the problem, research questions, hypotheses, purpose se of the study, significance, delimitation, limitation, definition of terms, conceptual framework ending in the organisation of the study. Chapter two was on the relevant literature review. Chapter three focused on the methodology, and covered the design, the target population, the sample, instrument for data collection, pre-testing, reliability of data collection instrument, procedures for data collection and data analysis. Chapter four dealt with analysis of data and discussion of the analysis. Then chapter five, which is the final chapter, focused on findings, summary, conclusion and recommendations.

CHAPTER TWO

LITERATURE REVIEW

Education is an absolute imperative in the emerging global knowledge society, so new ways of providing access to education for a much higher percentage of the population are now being devised. Distance education is a sure way to provide more access to education. While the potential is certainly present for all this, there is the need to research into this form of education. Distance education can serve certain niches quite well. However, the questions that come from this service are complex and many.

In this chapter, we look at literature in the following areas:

1. The definitions of distance education

2. The theory of distance education

3. Different forms of distance education

4. Programme acceptability

5. Usefulness of course materials

6. Programme affordability

7. Students support services

8. Feedback systems

9. Performance of course tutors and teaching strategies

10. How students combine teaching with studies

11. Supervision of student/teachers.

Distance education is not a new phenomenon; in the past fifty years it has proven its worth worldwide. It denotes the forms of study not led by teachers present in classrooms but supported by tutors and organization at a distance from the student. This description allows an interpretation, which equates distance education with correspondence education (Sewart, 1988). The reason why the term distance education has come into being is because the word correspondence is felt to be associated exclusively with the written word, whereas usually audio recordings and often radio, TV, telephone communication and other media nowadays supplement the written word in what is here called education. Sewart says in U. S. A. independent study is used as synonym to distance education.

Sewart quotes Ripley Sims, who has contributed extensively to a study of distance education processes to have drawn one clear borderline between distance education (which he calls correspondence) and conventional education. Ripley Sims says the basic difference is in the means of communication;

> In the contiguous learning environments, communication is personal and face-to-face; in the non-contiguous environments communication may be personal and face-to-face for limited periods of time, but it is largely written, mechanical, electronic or some other means of communication at a distance.... Learning is fundamentally an individual process and each person enters the process, with techniques and levels of achievement uniquely his own (Sewart, 1988, p.2).

The method of correspondence study provides simultaneously an educational device for individualization in three distinct criteria: student ability, variety of course offerings and flexibility for time and place of study. What constitutes the basic difference between distance education and conventional education is that distance education is an individualised form of teaching and learning (Peters, 1973).

Definition and Characteristics of Distance Education

The growing literature on distance education contains many complaints about the lack of unanimity on the terminology used in the field. In the English-speaking world each of the following terms is used extensively: correspondence study, independent study, external studies, distance teaching and distance education.

This section addresses the questions of terminology, definition and identification of distance education. We would here look at four definitions. Holmberg (1977:p 9) says the definition of distance education covers the various forms of study at all levels which are not under the continuous, immediate supervision of tutors present with their students in lecture rooms or on the same premises, but which nevertheless, benefit from the planning, guidance and tuition of a tutorial organization.

Basic to Holmberg's definition are two elements both of which can be considered essential:

a. The separation of teacher and learner

b. The planning of an educational organisation.

The separation of teacher and learner is fundamental to all forms of distance education whether print-based, audio/radio-based, video/television-based, computer-

based or satellite-based. This separation differentiates distance education from all forms of conventional, face-to-face, direct teaching and learning (Holmberg, 1974, 1978).

The second definition to be looked at is that of the French Law which was enacted on 12 July 1971 by the French Government. This law is a law regulating the conduct of distance education which either does not imply the physical presence of the teacher appointed to dispense it in the place where it is received. or in which the teacher is present only on occasion for a selected task. This definition has two basic elements, which are:

1.   The separation of teacher and learner; and

2.   The possibility of occasional seminars or meetings between student and
       teacher.

The problem with the wording of the law can be challenged in that it is so broad that it could encompass certain forms of conventional education.

The third definition to be considered is that of Moore (1973, p4). It states that:

> Distance teaching may be defined as the family of
> instructional methods in which the teaching behaviours
> are executed apart from the learning behaviours,
> including those that in a contiguous situation would be
> performed in the learner's presence, so that
> communication between the teacher and the learner
> must be facilitated by print, electronic, mechanical or
> other devices. (p. 664).

Moore's definition highlights three elements:

a. the separation of teaching behaviours and learning behaviours

b. the use of technical media ; and

c. the possibility of a two-way communication.

The analysis divides teaching into two areas, thus normal face-to-face teaching where teacher's preparation is done apart from his student and he teaches in the presence of students. In distance education, both the preparation and the teaching are done apart from students.

The emphasis on technical media and two-way communication (Baath and Flinck, 1973) are valuable additions to what has already been presented. It is important that the system should allow the learner to initiate this communication (Moore, 1977).

Flinck (1978, p.9) further elaborated on Moore's definition and presents it as follows:

> Distance education is a learning system where the teaching behaviours are separated from the learning behaviours. The learner works alone or in a group guided by a study material arranged by the instructor who together with the tutors is in a location apart from the student. The student however, has the opportunity to communicate with a tutor/tutors with the aid of one or more media such as correspondence, telephone, with various forms of face-to-face meetings.

Sewart is of the view that this development of Moore's thought is more comprehensive and introduces the notion that the teaching role may be shared and that different study situations are possible for the learner.

The fourth definition to be discussed is that of Peters (1973). Peters (1973: 206) defines distance education as:

> The family of instructional method in which the teaching behaviours are executed apart from the learning behaviours, including those that in a contiguous situation would be performed in the learner's presence so that communication between the teacher and the learner must be facilitated by print, electronic, mechanical or other devices.

Basic to this description are two of the elements already identified, separation between the teacher and the learner, and the use of technical media. Peter's analysis, however, proceeds much further than the others considered and leads him to the conclusion that didactical structure to distance education can best be understood from industrial principles especially those of productivity, division of labour and mass production. The mechanisation and automation of teaching methodology and the dependence of teaching effectiveness on prior planning and organisation (rather than on teaching ability) led him to posit a radically different role for the teacher in distance education from that exercised in the lecture hall or seminar room.

Peters' definition can be queried in the emphasis that it places on the course production process. Many would consider this as only the start of the learning process and expect some reference to tuition and teacher/learner exchanges.

Critical examination of the four representative definitions of distance education in this section brings out six characteristics. These six characteristics are essential for any comprehensive definition to distance education. These are:

(1)   Separation of teacher and student

(2)   Influence of an educational organisation especially the planning and

(3)   preparation of learning materials

(4)   Use of technical media

(5)   Provision of a two-way communication

(6)   Possibility of occasional seminars

(7)   Participation in the most industrialized form of education.

Theory For Distance Education

The theoretical underpinning of distance education is fragile. However, distance education has managed very well without any theory. It has been used to bring education, through print, radio or television, to thousands and thousands, who would never get to school or college. Despite the achievements of distance education without theory, theoretical questions arise about the circumstances in which it is relevant. These questions are important if distance teaching is to be taken seriously as a set of educational techniques. This can be answered by references to theories of education and of communication. The theory of distance education will have to depend on existing philosophies of education, and theories of communication or diffusion, it will not be constructed from brand new components. Within such limits it is possible to state a theory. In attempting to develop a theory of distance education, it must be in the form of statements or hypotheses. The statements depend on political

as well as philosophical views about education. Perraton (1981,p.35) cited Nyerere, former president of Tanzania to have said

> Man can only liberate himself or develop himself.
> He cannot be liberated or developed by another. For
> man makes himself. It is his ability to act deliberately
> for a self – determined purpose which distinguishes him
> from the other animals. The expansion of his own
> consciousness, and therefore of his power over himself,
> his environment, and his society, must therefore ultimately
> be what we mean by development. So development is for
> man, by man, and of man. The same is true of education.
> Its purpose is the liberation of man from the restraints and
> limitation of ignorance and dependency. Education has to
> increase men's physical and mental freedom—to increase
> their control over themselves, their own lives, and the
> environment in which they live. The ideas imparted by
> education, or released in the mind through education, should
> therefore be liberating ideas; the skills acquired by education
> should be liberating skills; Nothing else can be called education.

Education is to do with power. People without education are at the mercy of those with it, who can use what they know to their advantage and to the disadvantage of the ignorant around them. Education is a means of gaining power, and not simply

the right of the better-educated minority. On this, showing the case for expanding education is a simple equalitarian one (Perraton, 1980).

The need to expand distance education for many people to take advantage of it has made the need of distance education imperative. However, the success or failure of distance-teaching project will depend, at least as much, on its political context as on its methods. Our argument about method   inevitably rests on political assumptions.

Perraton (1980) has propounded fourteen statements or hypotheses for the expansion of education. The first statement or hypothesis is you can use any medium to teach anything. This statement has consequences for methodology in our desire to expand education. The underpinning factor of any media chosen for distance education is effectiveness. From the statement above it can be concluded that the face-to-face teacher is not unique in his / her ability to teach.

Statement 2 states that distance teaching can break the integument of fixed staffing ratios, which limited the expansion of education when teacher and student had to be in the same place at the same time. Traditionally, the expansion of education demands expansion of teachers. This calls for more funds, which is a burden to many economies. Distance education is a solution to expanding the number of teacher training facilities.

The third statement is that there are circumstances under which distance teaching can be cheaper than orthodox education, whether measured in terms of audience reached or of learning. Education has always been expensive; more especially at the tertiary level. Distance education is an alternative to conventional tertiary education at a cheaper cost.

The fourth statement is that the economies achievable by distance education are a function of the level of education, size of audience, choice of media and sophistication of production. Distance education can be effective and its costs can compare favourably with that of orthodox education.

The fifth statement is that 'distance teaching can reach audiences who would not be reached by orthodox means'. This makes distance teaching relevant to the expansion of education.

The need of dialogue is very important in learning; the question is how this dialogue is employed in distance education. There is empirical evidence that dialogue is an indispensable tool in learning including distance learning. The statement number six is 'it is possible to organise distance teaching in such a way that there is dialogue'. The dialogue may be on paper, or may be through occasional face-to–face sessions between tutor and student, or may be organised through group discussion of one kind or another. The function of a teacher working in distance education is different from that of a classroom teacher. The teacher in distance education during face-to-face session does not pass on information but rather helps student learn information brought to them from outside.

The seventh statement states that 'where a tutor meets distance students face-to-face, his/her role is changed from being a communicator of information to that of a facilitator of learning'. Dialogue between a student and tutor is only one kind of dialogue. There is extensive evidence that where distance teaching materials are available, students can help each other to solve problems which in an ordinary class they would have put to their teacher.

The eighth statement is 'group discussion is an effective method of learning when distance teaching is used to bring relevant information to the group'. Distance teaching, then, can be effective and can stimulate dialogue. Linked with group study, it can extend education far beyond the confines of schools or colleges and can be related to community needs and interests.

The statement number nine states that in most communities there are resources which can be used to support distance learning to its educational and economic advantage. Obviously, the resources available will vary immensely from place to place, from time to time, and in their relevance to any particular educational programme.

To continue with the hypothesis or statement that lays basis for the theory of distance education we will turn our discussion on methods. One method hinges on the decisions about the best way of organising distance teaching. Statement ten states that " a multi-media programme is likely to be more effective than one which relies on a single medium" This does not solve the problems of choice. Distance teaching remains for many educators and scholars an uncharted area.

Statement 11 states, "a systems approach is helpful in planning distance education." This calls for the combination of print, broadcasts and face-to-face learning in contrast with orthodox teachers, working with schools and books.

Statement 12 states that 'feedback is a necessary part of a distance –learning system. Feedback can be of various kinds; the term embraces both feedback to the students, showing where he has understood or misunderstood, and feedback to the tutor or course writer.

Statement 13 states that to be effective, distance – teaching materials should ensure that students undertake frequent and regular activities over and above reading, watching or listening. To help student learning, the materials he/she is to use must be designed so that he/she does more than read or listen to them or watch them.

Statement 14 states that in choosing between media, the key decision on which the rest depend concerns the use of face-to-face learning. A paradoxical criterion for choice is to concentrate on the non-distant element in order to design good distance teaching, and make wise use of all elements in multi-media education.

Any theory of distance teaching should be able to pass the following tests. The first is, does it help any one to see where and how distance teaching might be useful, or useless, for a particular educational job? The second test is does the formulation of the fourteen hypotheses suggest ways of testing them that would yield useful knowledge for the practical educator? Any theory should touch on expansion of education, dialogue and methods for it to be all embracing.

Forms of Distance Education

In this section, we treat the different forms and approaches to identify the forms of distance education. Sewart (1988, p.15-30) identifies three different approaches to describing the forms of distance education as the medium on which the learning materials are based, institutional type and didactic.

The different forms of distance education can be identified by the use of technical media as the basis for the learning materials. The first is print based, which is by far used by the great majority of distance education programmes. The teaching basis of the Open University of the United Kingdom, for example, is approximately

80% print based, 10% broadcasting (radio and television) and 10% face-to-face seminars and summer schools.

The next form is audio-based courses in which the educational content is carried by audio-cassettes or transmitted over radio and to which printed materials are peripheral, if used at all. They are frequently cost effective, can be used by people with literacy problems and may be a successful method of teaching languages. The University of Waterloo in Ontario is an extensive user of this method.

The third form is video-based. In the video-based, the basic educational content of the course is broadcast on television or contained on videocassettes. This is supplemented by some printed materials which give background to the course, further teaching and assessment procedures. The development of cable television and the possibility of home ownership or rental of VCRs makes this an area of interest in some cultures.

The fourth form of distance education is computer-based. A computer can be the medium through which educational programmes that fall within the definition of distance education are used. A number of institutions have developed computer-based distance education programmes and Course published by the Control Data Education Company lists over 300 computer–based courses already developed for the PLATO system.

The institutional type talks about the influence of an educational organisation especially in the planning and preparation of learning materials. Two major groupings of institutions can be distinguished. These are privately sponsored and those that are publicly supported.

Sewart says there are three forms of didactic structure that characterise distance education institutions and can be considered under the headings: provision for two-way communication and possibility of occasional seminars

The three forms of didactic structure are:

a) Correspondence school model

b) Indirect education

c) Audio visual aids

Correspondence school model: - The correspondence schools send learning materials by post to the students, the students study the materials and post assignments back to the institution which marks and comments upon them and posts them back to the students. The correspondence element in distant education is here reduced to a minimum and once the learning materials have been developed and distributed to the students the emphasis is placed on compulsory fortnightly two to three hour consultations. These groups of students meet their tutor for evaluation of their home study and for explanation and preparation of the next stage of learning materials. In the third and fourth year of study the frequency of the consultations is greatly diminished (Schwerz, 1978).

The second form in the didactic structure is indirect education. This is based on an idea of Peters (1973: 101) and merits attention because of the importance in definition of what is excluded. All the forms of indirect education lack one or more characteristics of distance education. We will at this juncture look at the forms of distance education that have been identified by Peters (1973).

The first form of indirect education is education by letter. People like Plato, Paul and Erasmus used letters for instructional purposes and the practices doubtless,

continue today. They lack the structuring of any educational institution that is characteristic of distance education.

The next form of indirect education is printed education. These comprise pamphlets, books and teach yourself manuals. This also lacks an educational organisation and distinguishes them from distance education. More over, it does not permit a two-way communication. It is clear that many people learn a great deal from these means, even though they may lack didactical structuring or even an education goal.

The last form of indirect education is using teaching kits. In face-to-face teaching the most increasingly used kits are the kinds containing samples, games and specimens on which students are invited to work without supervision.

The third form of didactic structure is Audio visual aids. When a lecturer communicates with a student by means of audio-visual aids slides, film audio and videotapes, he is teaching indirectly. Depending on the structure of the programme within which they are being used, these forms of indirect teaching can form part of either a face-to- face instruction or of a distance education programme.

Radio and television also come under indirect education. Many people learn a great deal from radio and television and sometimes those media are used in distance education programmes. Kenneth Clarke's 'Civilization' or Jacob Bronowskis's 'The Ascent of Man' were not conceived as part of distance education programme. Nevertheless they have become part of both on–campus and distance education programme when offered for credit with accompanying didactically structured assignments, reading and assessment materials. The other forms of indirect education

are programmed learning, computer – aided learning, Independent study and distance study.

Magagula (2003) asserts that the media is one of the most important links between the learner and the teacher in distance education. In the face-to-face teaching/learning process, the teacher mediates between the learning materials and the learner. In the distance education process, the mediator between learning materials and the learner is the media, which range from simple print text to electronic telecommunication.

Arguably, the central role of the media in distance education is to provide a two-way communication between the teacher and learners in the delivery of the subject matter (the content) as well as the return to the teacher of the learners' responses such as individual assignments and tests (spoken or written) tele-tutorials, group discussions, computer aided learning, email, and Internet (Smith, 1990). Currently, the most popular media of instruction used in distance education, especially in developed countries and, to some extent in transitional and developing countries, are electronic telecommunication such as audio cassette, telephone, radio, compact disc, television (i.e. broadcast television, cable television), tele-courses (combining video, text, and other sources), microwave broadcast (non-wired sites), aerial broadcasting, satellite broadcasting, computers, print, Internet, e-mail (Verduin, 1991; Smith, 1990).

Clearly, the Internet and email have proved to be critically important media in the provision of higher education through distance education. Some of the most obvious strengths of the Internet technology are its ability to offer up-to-date resources and information to a large number of learners, teachers and administrators

immediately, easily and relatively cheaply (Naidoo, 2001). It is capable of blending multimedia resources such as video, audio, graphics and text (Bester, 2001). It brings designers of online learning resources into contact with the huge resource base that resides in the World Wide Web, and can support a wide range of communication strategies between the learner and the teacher. Such communication is asynchronous or synchronous.

The new information and communication technologies such as the Internet and e-mail make it possible for many potential learners in many parts of developing countries, including those in remote areas, to have access to education (Naidoo, 2001). The new ICT is making it possible to deliver any course at any time and anywhere. It promotes a learner-centred approach. There is a direct interactivity between the teacher and the learners on the one hand, and among the learners on the other. The Internet and email enable learners anywhere (home or workplace) and anytime to access on-campus courses through the World Wide Web provided they have the necessary infrastructure, hardware and software. The course can also be accessed through CD-ROMs (Reddy and Manjulika, 2002).

Unesco Teacher Education Guidelines (2002) states that a variety of computer-based technologies have been used including the distribution of sample lesson plans on CD -roms, setting up exchanges by computer conference between teachers' colleges, encouraging the interactive use of computer-based learning materials, encouraging the use of web-based materials, and using computer conferencing to encourage discussion among learners. In making choices the planner is likely to be influenced above all by the convenience of the learner, the cost, and the need for a culture of maintenance. It will be necessary to maintain hardware and

software: physical equipment needs maintenance and access to specialist staff and supplies. Software will need updating and improving on a regular basis.

The third form in the didactic structure is programmed learning with some similarities to distance education but are not identical with it. Four of the most important are extension programmes, University without Walls, experiential learning and external degree. These can be called "non- traditional learning", off- campus students' and open learning.

In the United States, any educational programme that is not a four-year, residential, University degree programme can be regarded a non-traditional learning, though there is clearly more restricted usage. Non-traditional learning is to be regarded as a vague, generalized term of which distance education is one example. Off-campus studies are another general term for any programme, which does not take place on the central university or College campus.

Wedemeyer (1977a: p.217) gives an accurate analysis of open learning:
"It is difficult to find a common definition for the many experimental programmes that call themselves open. However, all open schools have one principle in common, they are to a greater or lesser extent efforts to expand the freedoms of learners. Some are open only in a spatial while others provide freedom in more significant dimensions – in admission, selection of courses, individual adaptation of the curriculum and time, goal and evaluation".

Open learning , therefore, is a term that is not to be used in an administrative context; rather its context is philosophical to describe, for instance, college with 'open' administrative policies (Debeauvis, 1976). Some of these are face-to-face institutions, others teach at a distance.

31

Extension programmes are ways of extending expertise of a university or College to new populations. The term can imply offering the same programmes as for full-time, daytime students by different means, at different locations or at different times. An extra mural department usually has a similar function of extending the expertise of the university to a broader community. Some of these programmes are for credit and others are not.

University without Walls implies the design of an individualized programme based on a learning contract for students with clear learning objectives who cannot realize their whole educational aspirations through existing programmes. A university without Walls programme can include experiential learning credits; ordinary lectures, distance education elements, learning from community sources or job-related activities, all of which can be evaluated towards a college or university degree.

Experiential learning programmes are those which give credit for prior learning which did not take place in a lecture room setting and was not sponsored by educational institution but was acquired through work experience including volunteer work, co-operative education or self study.

The U. S. Department of Health, Education and Welfare in 1978 defined external degree as; "A degree programme which can be completed in the following manner; a student entering the programme with the minimum entrance qualifications can complete it with less than 25 per cent of the required work taken the form of campus–based classroom instruction" (Sosdian and Sharp, 1978; p.1) .The question is, given conceptual order around the wide range of study programmes that are associated with non- traditional and distance education, can external degree be

included within the concept of distance education? This poses the most precise definitional and research problems (Hole, 1974; Sosdian, 1978; Sosdian and Sharp, 1978):

External degree serves to describe the programmes whose primary functions are to recognize education and attribute to it an appropriate qualification; it does not fall within the concept of distance education as presented in this study. If, on the other hand, it is used to describe programmes whose function is to provide education for students, then it may be identified with distance education providing it agrees with the descriptors given on distance education.

Acceptability of Distance Education by Teachers

Exponents of distance education are fond of painting utopian scenarios for the learning environment of the future (Rose, 1995). These involve utilising technology to aid in individualisation and provide instant feedback; to engage experts from around the world; to encourage the embrace of other cultures and alternative view points; to extend the curriculum and allow greater choice and flexibility and in short to improve all areas of education from elementary through higher education and beyond.

Distance learning is playing an increasingly important role in both formal and non-formal education. Industrialised and developing countries alike require education systems, which are flexible, accessible and cost effective and give lifelong access (Hall, 1996). In this distance learning provides extensive coverage, individual choice and quality assurance for an outlay often well below that required by traditional alternatives.

Dunn (2000) cites Management theorist Peter Drunker as having predicted that traditional universities as we know them will become a big wasteland in the next 25 years. The Association of Governing Boards predicts that one-third of the existing independent colleges and universities in the United States will close in the next 10 years.

There is tremendous growth and diversity in distance education – in the number and types of individuals learning outside traditional classrooms, in the variety of providers, and in the range and effectiveness of new technologies serving as delivery tools for learning (Potashnik and Copper, 1998). Distance education is becoming increasingly global, creating myriad new alliances as traditional educational institutions join with business, foreign governments and international organisations to offer an increase use of distance learning. Developing countries now have new opportunities to access knowledge and enhance their human capital.

Distance education is used in a variety of settings and for a broad range of purposes. Universities use it to increase the number of students who have access to higher education; companies use it for their own professional development and to enhance their career opportunities; governments use it to provide on-the-job training to teachers or other workers, to enhance the quality of traditional primary and secondary schooling, and to deliver instruction to remote rural areas that might not otherwise be served.

Teacher upgrading is a major application of distance education, particularly in developing countries where large numbers of teachers are either untrained or under trained. In such countries, teacher training using distance education is a top priority. Although most distance education for teachers is provided through print and aimed at

34

practising teachers, some countries or school systems are making use of technology based distance training (Potashnik and Copper, 1998).

Magagula (2003) asserts that distance education caters for all types of people regardless of their age, gender, citizenship, social standing, commitment, social responsibilities, and geographical location. It has the potential to meet the needs of (i) a large pool of people from different levels and types of education: basic, secondary, and tertiary; (ii) disadvantaged people who are unable to enter conventional education for a variety of reasons; and (iii) training or retraining professional, technical and vocational workers with a view to upgrade and update their skills, knowledge and attitudes (Rumble, 1992). Distance education enables learners to study at their own time, any place convenient to them, and at their own pace (Verduin, 1992). For example, people who may have left school early for whatever reason and wish to continue with their education can do so under distance education.

Magagula (2003) contends that evidently, distance education is suitable for workers who wish to upgrade and update their professional qualifications and cannot afford to give up their jobs to attend face-to-face learning in conventional institutions. They have families to cater for, mortgages to service, and many other commitments. Certainly, for employees who work shifts, face-to-face training in conventional institutions is out of the question. But, distance education would suit them perfectly. Logically, the cost of learning through distance education is relatively lower than the cost of face-to-face learning.

Today, the landscape of distance education in Africa is changing rapidly. Experimentation with various distance-learning methods is underway in a number of countries. Namibia and Ghana have formally declared dual-mode instruction to be

their national policy. Botswana, Cameroon and Zambia are using a university-based internet system to support interactive regional study centres for distance education. Tanzania, Botswana and Zimbabwe have established new training institutions wholly dedicated to distance education. The Zimbabwe Open University already enrols nearly 10,000 students in nine programmes, and recently launched a Master's degree programme in education for in-service teachers. Uganda enrols 1,400 students in Bachelor of Commerce course given at a distance, and is planning to expand into the areas of Law, Technology and Sciences. Nigeria Centre for Distance Learning (Abuja) offers B. A. and B. Sc. degrees in 14 subject areas (Saint, 1999).

Distance education (DE) is the largest sector of formal teacher development in South Africa, with more than a third of existing teachers involved in some form of DE in 1995 (SAIDE, 1995, p. iv). The majority of these teachers are in-service teachers studying to upgrade themselves, and the most rapid expansion in enrolments is teachers' upgrading 'above the line' to Certificate in Education.

All the above indicate that Distance Education is acceptable to teachers whenever and wherever it is introduced. Distance education has great potential, but it is not the panacea that those enamoured of the new technologies believe. "In various forms, distance education has proven that it has the capability for educating groups of people who would not probably attend higher education otherwise" (Rose, 1995). When learning is configured in terms of cognitive gain, distance learning appears to be as efficacious as more traditional forms of educational provision.

Several countries including Nigeria, Kenya, UK, Canada and Norway now train the bulk of their professional in distance programme (Dodd, 1991, p. 6 – 12). Institutions that run such programmes are known to have made huge financial gains.

Studies have shown that no differences in professional competencies exist between teachers trained by distance and those trained by conventional system (Koomson, 1998, p 6). This means that if training of teachers at a distance is well–planned and adequate services provided, the prospects that could be derived form the programme would outweigh the problems. Due to the prospects of distance education, it would be politically expedient for governments of developing countries to invest substantially in distance education, in the short run, to cut down the increasing cost of education in the long run. Training teachers through distance education can be sustained if the government would invest substantially and the Ministry of Education and the Ghana Education Service would support it by encouraging teachers to embrace it. One way will be to cut down on the number of teachers who are given study leave with pay to pursue full time courses at the universities and elsewhere and offering scholarships and incentives to teachers who opt for Distance Education courses.

Development of Course Materials

Instructional materials are very relevant to the development of courses for distance study. The first criterion an instructional material should meet is readability. The material should understandable. The material should be written in simple grammar, short clauses, many finite verbs, many pronouns, short and well-known words are advantageous from the points of view of readability and understanding (Coleman 1965; Groeben 1972, p.18- 23).

The formula that underlines readability is the word length, word frequency, sentence length and similar measure. This formula has been the measure used to predict reading difficulty and has been used with success in various kinds of

instructional text. Macdonald- Ross (1979), who has thoroughly studied the case of language in texts, claims that a readability 'filter' is ... more reliable than the exercise of unaided human judgment and refers to a study by Klare & Smart (1973), in which a rank–order correlation of 0.87 was found between the readability level of correspondence material and the probability that students would send in all their lessons with length held constant at 4-5 page length.

Rowntree (1991) also says a course material should be written in a readable and plain language.   Effective readable writing should be in a friendly and conversational style thus the use of personal pronouns, contractions, rhetorical questions, the use of a light touch and exploration of the human angle. A plain written course material should cut out surplus words, use of short, familiar words, precise words, the use of strong and active words. The other qualities of plain writing is taking care with special vocabulary and writing of short and simple sentences. (p. 232).

Some scepticism has been expressed against making course texts too easily readable and too perfect from an educational point of view.   Rowntree (1973) regrets the most readable texts as patterns to be followed: 'do not accept the principle that you must be entirely intelligible to be a student "... The more explanatory and 'clear' the exposition, the less there is for the student to do. Some texts are so 'perfect' as to stifle all real thinking activity" (Rowntree 1973, p.2).

There are specific principles or criteria, which all distance-learning materials should meet. Among these the question of how best to divide the study material into course units. The generally accepted idea governing the division of the material into study units is that students should be offered a suitable quantity of learning matter at a

time so that they can regard the study of each unit as a separate task and can always survey the material to be learnt. This makes it possible to prevent the bulk of possibly difficult study material from being intimidating. The outcome is that students see the result of their work after every finished unit.

The size of study units varies considerably with the schools and universities that develop them. Units from eight small pages to more that 100 large size pages exist. Some attempts have been made to define criteria for the decision as to what is a suitable size, but so far nothing conclusive can be said (Rosberg, 1966, Baath, 1980).

The size of the study units is evidently related to the comprehensiveness of the total course presentation. Basically, there are two different approaches to course development, which are self-contained and study-guide courses. A self-contained course in principle provides all the learning matter that is necessary. It has proved particularly valuable when the course content is fairly elementary and does not call for a study of different courses. Such courses are complete in themselves and are particularly common in proficiency subjects like foreign languages and mathematics.

Study guide approach is used when the students are to see a complicated picture of a subject with conflicting theories and views, or they have to learn how to trace facts and arguments from different presentations and to study various sources critically. The study-guide approach is generally practical when the learning is to include part or the whole of the various books, papers and other sources of knowledge (Holmberg, 1977, Ljosa, 1975).

Most distance–education courses with their various components aim at leading their students straight to specific goals. The course developers then tend to regard each study unit as an integral part and as a compulsory course component. Distant–

education instructional material can be either teacher-centred or student-centred. Teacher-centred material tells students what they ought to do (Ljosa 1977, p.79). Learner-centred instructional materials offer and suggest choices of study material and approaches as well as of work to be done instead of prescribing what must be done (Lehner & Weringartz 1981, p.10).

Rowntree (1991, p. 36) is of the view that there are at least seven major questions that need to be asked in planning a self-instructional course or lesson. These are:

1.   Who will be the learners?

2.   What are the aims and objectives?

3.   What will be the subject-content?

4.   How will the content be sequenced?

5.   How will the learners be assessed?

6.   What teaching methods and media will be used?

7.   How will the course or lesson be evaluated with a view to improvement?

Effectiveness of a course material is strongly related to the design of the course and the method and approach used to develop the instructional material. Rose (1995) says there are three models of course developments. The first model is the Course Team model. This approach is used at British Open University where teams of subject area specialists join with instructional designers, media specialists, tutors, and others to write a course. One-person co-ordinates this work and it can take several days to produce a course. Smaller universities use less extensive version of this model. The second approach is the Author / Editor model. Here the course is contracted to one specialist who works with an editor to lay out the course and

provide technical assistance. This model is pervasive in the United States. The third is intuition model. In this model a faculty author works alone to create a course.

Research has proven that the success of the different models was influenced by a variety of factors. These factors included the level at which courses were approved; production deadlines; the variety of views of what were "respectable materials;" shortage of working time available; availability of instructional support services, faculty experience with distance education; adaptability of faculty to the course development; relationships between faculty and developers; and the organisation of course development. Based on these elements Rose (1995) cites researcher David Brigham to have identified factors associated with course success; course definition, faculty perception of students abilities, text book selection, level of conflict, faculty flexibility and working relationships. Rose further stated that faculty developer agreement about course definition was the most important element.

Affordability of Distance Education

The question is how affordable is distance education? Those who opt for distance education are those in the low-income bracket. In developing countries, the majority of those who opt for distance education are teachers. Teachers in developing countries are among the least-paid workers. Koomson (1998) says "in our present situation where teachers take home pay cannot take them home", how can they pay for the distance education materials?" Since the cost of education by distance is primarily borne by the students themselves, it stands to reason that the income level of the applicants would determine the number of students who register for the programme.

Jeeawody (1988) argues that academic tutorial support is important, as it may not be available from other students, family or friends. It is important to focus on this in the marketing of potential courses. There is the need to offer support for distance learning students (Lawton, 1996).

Koomson (1998) suggests that there should be a naturally designed financial support package for teachers who study by distance education. For example, if students on conventional programmes in the universities in Ghana are granted Social Security and National Insurance Trust (SSNIT) loans to meet the cost of textbooks and stationery, then the same package, if not better, should apply to the distance learner. Indeed, the teacher is a contributor to the SSNIT Fund, so there is nothing ethically wrong with his/her utilizing in the form of a loan to upgrade him/herself, part of the fund he/she had helped to build up. Again if the government wants to move away from the tendency of financing tertiary education exclusively to the cost-sharing system, then lending its full support to distance education is very important in so far as students on such programmes pay for the cost of their own education.

Government has conventionally funded much education, at primary, secondary and tertiary levels and government funding has been the norm for many programmes of initial teacher education and training. But pressure on government funds has led many countries to explore alternative sources of funding so that education is also funded from four other sources: from student fees, community support, the private and non government sector, and from donors and funding agencies. Programmes often receive funding from a combination of sources: teacher education at a distance in both China and Nigeria, for example, is funded partly by government, partly by student fees. In Brazil, a programme of teacher education has

been funded by a combination of private sector and non-government funding so that the heavy capital costs of television are met by the private sector. Many governments have been willing to fund not only initial teacher education but some programmes of continuing professional development, especially for curriculum reform or for some upgrading programmes in countries trying to raise the minimum standard of teacher qualification. Teachers are, however, often expected to pay fees where they enrol on a course of continuing professional development which will benefit them in terms of career advancement or salary increment.

Some parts of a programme may be funded by government but not through a ministry of education. If the Ministry of Education can get access to state broadcasting time and facilities, at a nominal charge or free of cost, then broadcasting transmission costs do not fall on the ministry of education budget.

There are trade-offs between each of the options. In some jurisdictions there may be an expectation that government should meet the full costs of teacher education because of its importance for the quality of the education service as a whole. Total funding from a ministry of education may hold down available funds and will give the ministry - and its finance section strong direct control over the programme. There may, therefore, be pressure on the part of the institutions concerned to seek funds outside the ministry or to pass on some of the costs to the learners. On the other hand, the imposition of student fees may hold down enrolment, discourage students, and is likely to be socially regressive. There is little reported experience of the use of community resources in teacher education of this kind. The nature of private sector and non-government involvement is culturally determined: this sector is involved in the projects in Brazil and at OLSET in South Africa but there are significant

differences between the two. The provision in Brazil is through funds generated within the country by an established consortium, while OLSET is dependent on external, donor funding and despite its successes, seems unable to attract government funding. The freedom of action and non-bureaucratic structure that marks effective non government organisations has to be balanced against difficulties they may face in integrating their work with regular state activity and ensuring its sustainability. External finance from funding agencies may also present problems of sustainability

Support Services

Very few of us can study effectively entirely on our own. We need the chance to discuss what we do not understand and often what we think we do understand with people who know more about the student. Such help, whether it is face-to-face contact or at a distance, is the basis of tutoring and counselling services. They relate not only to academic problems, but also personal study difficulties; they consist not only of advice and suggestions but also of encouragement and reassurance; they should begin before the student enrols, continue throughout the course, and include assistance in finding ways to follow up and apply what has been learned (Dodd, 1986, p. 62).

Basically, there are two different approaches to students' support, one relying exclusively or almost exclusively on non-contiguous communication, i.e. communication by media like written, recorded or tale-transmitted word, the other including face to face contracts as more or less self-evident elements of distance education. This difference, related to-face-to-face session, is a method of students' support service, which gives opportunity for students to have direct contact with

tutors and fellow students. In cases where course completion within a pre-determined period of time is a target, students using supplementary face-to-face sessions have often been found to be particularly successful (Holm berg, 1977).

Dodd (1986) is of the view that if distance students are to study effectively, it must meet these requirements, which are "regular, and delivery of teaching materials, contact with tutors and fellow students and support services and facilities" (p. 61 – 62). The face- to- face sessions take place at study centres. Pecku (1997) intimated that study centres serve as the places where all materials, be they courses or students' completed assignments, would be dispatched and received. In addition, students go there for tutorials and to meet other students. Study centres are headed by co-ordinators who are at the status of university lecturer and are responsible for the general administration of the centres.

Face-to-face sessions can take place in three places, which are study centres, residential courses and self-help study groups (Dodd, p.12). The study centres are usually located in other educational institutions; study centres are sited throughout the country in areas of high population or where transport links are good. They offer students a range of facilities, which can supplement some of those available at home, but above all they enable students to meet each other and to learn from each other in discussion groups. The study centre is also the focal point for the undergraduate students' meeting with tutor-counsellors. These meetings are an important element of the programme at foundation level where numbers normally allow provision for local contact. Clennell, Peters and Sewart (1977) say that the main purpose of this contact is to remedy in tutorial sessions any academic weakness or deficiencies of

understanding and to support counselling sessions and the individual student's over all progress.

The residential courses allow the students to come together to study intensively in residential accommodation. The duration ranges from a week for course to a month or more of summer school. They may be opted or compulsory. They are usually taught by course writers and tutors, but it is also important for student advisors or counsellors to be on hand to develop the personal relationship without which counselling is extremely difficult. Such courses help to build morale, self-confidence and motivation. Students begin to recognise that they are part of a larger group, and that their problems are neither unique nor peculiar. Academically, this helps their understanding and their study habits.

Chennel, Peters and Sewart (1988) assert that when distant students begin their studies, they are assigned to a tutor-counsellor at their local study centre. The tutor-counsellor will normally be responsible for all tuition and counselling in the foundation year, although in some instances, e.g. for science foundation course, specialists may be brought in for particular tuition and assessment. The tutor-counsellor is available on a fairly regular basis at the study centre and may discuss strictly academic matters associated with the course or may deal with study skills on a much wider basis as well as reviewing and assisting with his students' progress in the university's unique and complex teaching system.

In addition to study centres and residential courses are study groups. Study groups without a teacher are somewhat more academic distance teaching projects. Students can usually help each other by sharing other study problems and their knowledge. Study groups are usually groups of students who are together at their

convenience to support each other. Some of the factors that students consider when forming study groups are location, personality and interest. Study groups are usually very small and range from two to sometimes five to six members. Students usually use their study groups to help them get through assignments (Wright, 1992).

Feedback and Attrition Rate

The main purpose of support services is to serve as feedback. Feedback may be defined as information a learner receives about his or her learning processes and achievement outcomes (Butler and Winnie, 1995). It is an essential part of instruction (Mory, 1996; Smith and Ragan, 1992). Learners may find frequent feedback useful (Gagne, 1985) and feedback to the learners may be essential to effective learning (Reiser and Dick, 1996). Feedback influences cognition, attitudes and metacognition. Learner feedback can facilitate metacognition in interactive instructional systems (schweir, 1995) and contributes to self-regulated learning (Butler and Winne, 1995). Feedback can reflect upon how the student feels – his response – during the instructional experience (Wolcolt, 1995). Feedback interacts with and contributes to support processes.

Ley (1999, p. 63) says feedback system for distant students involves the tools and documents that provide feedback on frequent fixed response assignments and on projects or essay response assignments. Feedback within an educational system is the "process by which information concerning the adequacy of the system, its operations, and its output are introduced in the system" (Banathy, 1992, p. 186).

Feedback in any institutional system can be either to the learner or to the instructor/designer. Each of these learner feedback and instructor/designer feedback

serves a different immediate function within the instructional system. It is either to improve student performance or to improve instruction, respectively. Feedback to the instructor/designer, including student performance and student attitudes, reveals instructional strengths and weaknesses; student perceptions are valid distance education feedback information about instructional quality (McHenry and Bozik, 1997). Feedback to the designer is used to correct instructional materials and processes (Branson and Grow, 1987; Tessner, 1993).

On the other hand, feedback from the instructor to the learner informs the learner how well he is learning and where he should direct his learning efforts. Learner feedback, which usually requires an external check, essentially closes the gap in the learning process (Gagne, 1985). Practice with feedback is one of the most powerful components in the learning process (Dick and Carey, 1990, p. 165).

The four levels of which feedback information serves are cognition, knowledge of results, why an answer is correct/incorrect, how to produce a correct response, and what a correct response looks like (Dempsey et al, 1993). The simplest cognitive feedback is knowledge of results, which tells the learner if a response or answer was correct or incorrect. A student's examination with his answers marked wrong exemplifies the simplest feedback. Performance assessment that the student receives is limited to answers which are correct are common examples of the simplest feedback. Feedback that includes the correct response and feedback that explains why a response may be correct or incorrect provides even more information. Thus, feedback complexity level can progress from correct/incorrect to informative about how to produce a correct response.

For a feedback help to improve learning processes, it should convey diagnostic and prescriptive information about the learning processes (Butler and Winne, 1995). Diagnostic feedback helps to expand upon knowledge of results feedback, and this addresses why the response may be correct or incorrect. Knowledge of results and diagnostic feedback should begin with the first assignment and be issued prior to the second assignment especially if the student can use the feedback information to prepare and improve upon a second assignment. An instructor may consider prescriptive feedback that suggests how the student may construct a correct response. Students who repeat mistakes across assignments may perform better after receiving prescriptive feedback since they can use prescriptive feedback to guide their work.

The highest level of feedback produces a correct response for the learner. Correct examples may be offered as part of a complete instructional strategy (Dick and Carey, 1990). The learner who compares his assignment response to the correct assignment response engages in comprehension monitoring. Stimulated by external feedback, comprehension-monitoring activities, internal feedback processes are critical to self regulated learning and metacognition (Butler and Winnie, 1995). Feedback may function to improve learner affective responses and to increase cognitive skills and knowledge. The third feedback function, activating metacognition, enables the learner to monitor her learning processes and learning progress. Ideally, feedback synergistically activities all the functions, thereby advancing learning. The same feedback can potentially activitate all three functions simultaneously.

Unlike traditional class, impromptu, more complex feedback cannot happen in many distance environments. Most distance instructors lack the logistical support or

the technology to return papers and answer questions during the same sessions; others have far too many students to systematically respond to all questions during a distance learning session even if they have two-way audio and video. If a distance class does not have interactive technology that allows all students and the instructor to see and hear all other students and the instructor in real time, then the questions and answers cannot be couched as effortless as typically occurs in a traditional class. Distance learning supported by less advance technology may not afford each student an equal chance to ask questions and hear responses (Ley, 1999). Furthermore, the shy traditional class student who might visit the instructor on campus and ask questions privately cannot do so in many, if not most distance classes. Although the distance student may be more willing to send an e-mail query to get personal and private response, feedback to only one student almost always limits the usefulness of the instructional exchange to one student. The sheer number of questions may overwhelm distance instructors who attempt to respond to individual student questions. Instructors may solve the problem more effectively by establishing a feedback system that proactively anticipates questions and responds to many questions simultaneously.

A distance feedback system depends upon carefully planned, written assignments: specified evaluation criteria; and technology (Ley, 1999). It includes documentation; progress tracking standardized responses based upon the specified evaluation criteria, and multiple assignments during the course. Establishing the system requires the instructor or designer to complete several steps. The first step is to identify every assignment that will be required for three purposes; practice, assessment and fomenting positive learners attitude.

Practice is inextricably linked to feedback. "Feedback is so important that we couldn't even talk about [practice] without monitoring feedback" (Smith and Regan, 1992, p. 146).   The distance educator sometimes can only evaluate student performance through assessments completed outside of the class and submitted in print. Assessing student participation as measured by questions asked or answered during class, or the student's presence is often not feasible or possible through class delivery media.   Therefore, many distance instructors will have to rely upon assignments to elicit student performance that the instructor can only compare to a standard, which should be set by, written, instructor-developed criteria, issued to students prior to or with an assignment. Besides adhering to the guidelines of quality instruction, the distance educator will have to conform to the audio and video capabilities of her delivery media when selecting practice assignments and fitting the interaction requirements to the media capabilities (Chen, 1997).

Ley (1999) has suggested four feedback guidelines for large classes. She considers a large class to be a relative term, but suggests that for individualised feedback, an instructor with more than 20 students can use the four guidelines. The first to consider is assignments that require only fixed responses. The fixed response assignments include multiple choice, true/false, short answer, fill-in-the-blank, or matching responses. Fixed response assignments are the easiest to evaluate quickly and for which to generate correct/incorrect feedback and to provide correct response feedback.

The second is to include evaluative feedback which the student will have an opportunity to apply to the next or another assignment. Evaluate feedback diagnoses the student's deficiency and advises the student on how he or she may remedy the

deficiency. Third, decrease the number of items to evaluate as the number of students increases so that the number of items decreases less rapidly when the number of students increases. An instructor will expend less time evaluating single response items than mailing feedback to a student, therefore, giving feedback to 18 students who answered 10 multiple choice questions is a roughly equivalent effort to giving feedback to ten students who answered 20 questions since each assignment feedback communication for a student requires a separate e-mail message or a small mail missive.

Fourthly, a distance instructor should issue feedback to students at least three times during a semester. The feedback should be during the semester and allow the student time to use the information during the course; a final grade or feedback that the student receives too late to act upon would be in addition to the three suggested feedback messages. More frequent, corrective feedback yields better learning outcomes than less frequent and knowledge of results only feedback.

Feedback advances students learning but can be problematic for the distance instructor implementing a feedback system. While it is somewhat labour intensive to establish, it allows the instructor to overcome the barriers to providing feedback to the distance students (Ley, 1999). Potential feedback benefits include clearer communication between the instructor and the students and increases instructor student connectedness. Furthermore, students should learn more and feel better about the distance education experience. With a little time and planning an instructor can sustain inter-activity, reduce the psychological distance between himself and students, and realize substantial learning improvements among distance students.

If feedback system is not effective it can lead to high dropout rate (Rose, 1995). The reasons for dropping out vary enormously. While countries differ in their rate of dropouts, it is almost always over fifty percent. One concern repeatedly expressed in literature is the isolation of the learner. The high drop out rate is exacerbated by the lack of quick and appropriate feedback and encouragement, and inadequate preparation, which add to the sense of isolation (Rose, 1995).

One such study at the Fermuniversitat in Germany found that many of the reasons given by students for dropping out were common to all adult students and were not directly a factor of distance education. These include job stress, lack of time, restriction on private life, the course taking too long, and stress on family. Other factors that were related to distance education focused on the preference for students on campus; the desire for social contact with students; the inability of students to have a suitable working style and the perception that the university did not fully support external or distance students. Finally, not all dropouts could be viewed as failure since some students noted that they used distance education as preparation for another study.

Distance education provides women with multiple roles the opportunity to study in their off or crevice time, that is ,their spare movements between the tasks of paid employment and household and children responsibilities. (Rose, 1995). Research has found that women are much more likely to stop studying once they have started than men and this is largely due to the many demands placed upon them. Women's participation in and performance in distance education programmes are very much related to the local cultural conditions and the availability of higher education to those who have not been traditionally prepared. Thus, for example,

research at the University of Papua has shown that only one in five of the students in the distance education programme is a woman. On the other hand, in a part of Australia, over 42 per cent of the external students are women. Despite the appeal of distance education for women, there have been some feminist critiques of the approach. The arguments are that this kind of education only adds to women's isolation. It also encourages the perception of education as an individualistic social process while limiting the possibility for transformation. Others have pointed out that the very act of gaining an education can empower women, but the educational programme must be constructed in such a way that it is not simply a consumer item but rather allows for growth and development.

Koomson (1998) acceded to the fact that distance learners are lonely learners and this implies that their probability of dropping out of the programme is higher than that of the conventional students. They require regular services such as counselling on the choice of programme and subject combinations, managing their time well to meet the demands of the programme. "Without a well-defined, detailed and effective support system in place, training professional teachers by distance would be characterised by high attribution rate" (Koomson, 1998).

<u>Performance of Course Tutors/ Strategies for Teaching at a Distance</u>

Effective teaching at a distance is more the results of preparation than innovation. The distance educator can employ a number of strategies focusing on planning, student understanding, interaction and teaching to ensure a successfully delivered course. Classroom teachers rely on a number of visual and unobtrusive cues from their students to enhance the delivery of instructional content. A quick glance,

for example, reveals who is attentively taking notes, pondering a difficult concept, or preparing to make a comment. The student who is frustrated, confused, tired, or bored is equally evident. The attentive teacher consciously and subconsciously receives and analyses visual cues and adjusts the course delivery to meet the needs of the class during any particular lesson (Willis, 1992).

In contrast, the distance teacher has few, if any, visual cues. Those cues that do exist are filtered through technological devices such as video monitors. It is difficult to carry on a stimulating teacher-class discussion when spontaneity is altered by technical requirements and distance.

To function effectively, students must quickly become comfortable with the nature of teaching and learning at a distance. Efforts should be made to adapt the delivery system to best motivate and meet the needs of the students, in terms of both content and preferred learning (Coldway, Spencer, and Stringer, 1980).

To meet students needs the following strategies can be followed:

i   Make students aware and comfortable with new patterns of communication to be used in the course (Holinberg, 1985).

ii.   Learn about students' backgrounds and experiences. Discussing the instructor's background and interests are equally important.

iii.   Be sensitive to different communication styles and varied backgrounds.

iv.   Remember that students must take on active roles in the distance delivered course by independently taking responsibility for their learning.

v.   Beware of students' needs in meeting standard university deadlines,

despite the long time often involved in rural mail delivery. For the most part, effective distance teaching requires enhancing existing skills, rather than developing new abilities (Willis, 1992). Pay special attention to the following:

i   Develop strategies for student reinforcement, review, repetition and remediation.

Towards this end, one-on-one phone discussions and telephone and electronic mail communication can be especially effective.

ii   Realistically assess the amount of content that can be effectively delivered in the course. Because of the logistic involved, presenting content at a distance is usually   more time consuming than presenting the same content in the traditional classroom
setting.

iii   Diversify and pace course activities and avoid long lectures, intersperse content presentations with discussions and student-centred exercises.

iv.   Humanize the course by focusing on the students, not the delivery system.

v.   Consider providing a strong print component to supplement non-print materials (Graham and Wedman, 1987).

vi.   Use locally relevant case studies and examples as often as possible to assist students in understanding and applying course content. Typically, the earlier in the course this is done, the better.

vii.   Be concise, use short, cohesive statements and ask direct questions, realizing that technical linkages might increase the time it takes for students to respond.

viii   Personalise instructor involvement, realizing that distance teaching does not replace the value of face-to-face contact and small group interaction. If budget and time permit, teach at least one session from each site. Typically, the earlier in the course this is done, the better.

ix   Participants will quickly grow comfortable with the process of distance education and the national rhythm of effective teaching will return.

<u>How to Combine Teaching with Studies</u>

The primary role of the student is to learn. Under the best of circumstances, this challenging task requires motivation, planning, and the ability to analyse and apply the information being taught. In a distance education setting, the process of student learning is more complex for several reasons (Schuemer, 1993):Many distance-education students are older, have jobs, and families. They must coordinate the different areas of their lives, which influence each other — their families, jobs, spare time, and studies. Distant students have a variety of reasons for taking courses. Some students are interested in obtaining a degree to qualify for a better job. Many take courses to broaden their education and are not really interested in completing a degree. In distance education, the learner is usually isolated. The motivational factors arising from the contact or competition with other students is absent. The student also lacks the immediate support of a teacher who is present and able to motivate and, if necessary, give attention to actual needs and difficulties that crop up during study.

Distant students and their teachers often have little in common in terms of background and day-to-day experiences and therefore, it takes longer for student-teacher rapport to develop. Without face-to-face contact distant students may feel ill at ease with their teacher as an "individual" and uncomfortable with their learning situation.

In distance education settings, technology is typically the conduit through which information and communication flow. Until the teacher and students become comfortable with the technical delivery system, communication will be inhibited. Beginning students may have some difficulty determining what the demands of a course of academic study actually are because they do not have the support of an immediate peer group, ready access to the instructor, or familiarity with the technology being used for delivery of the distance-education course. They may be unsure of themselves and their learning. Morgan (1991) suggests that distant students who are not confident about their learning tend to concentrate on memorizing facts and details in order to complete assignments and write exams. As a result, they end up with a poor understanding of course material. He views memorization of facts and details as a "surface approach" to learning and summarizes it as follows:

(1)   Focus on the "signs" (e.g., the text or instruction itself).

(2)   Focus on discrete elements.

(3)   Memorize information and procedures for tests.

(4)   Unreflectively associate concepts and facts.

(5)   Fail to distinguish principles from evidence, new information from old.

(6)   Treat assignments as something imposed by the instructor.

(7)   External emphasis focusing on the demands of assignments and exams leading to knowledge that is cut-off from everyday reality.

Distant students need to become more selective and focused in their learning in order to master new information. The focus of their learning needs to shift them from a "surface approach" to a "deep approach". Morgan (1991) summarizes this approach as follows:

Focus on what is "signified" (e.g., the instructor's arguments).Relate and distinguish new ideas and previous knowledge.

1. Relate concepts to everyday experience
2. Relate and distinguish evidence and argument.

3. Organize and structure content.
4. Internal emphasis focusing on how instructional material relates to everyday reality.

The shift from "surface" to "deep" learning is not automatic. Brundage, Keane, and Mackneson (1993) suggest that adult students and their instructors must face and overcome a number of challenges before learning takes place. These   include: becoming and staying responsible for themselves; "owning" their strengths, desires, skills, and needs; maintaining and increasing self-esteem; relating to others; clarifying what is learned; redefining what legitimate knowledge is; and dealing with content. These challenges are considered in relation to distance education:"

"Becoming and staying responsible for themselves". High motivation is required to complete distant courses because the day-to-day contact with teachers and

other students is typically lacking. Instructors can help motivate distant students by providing consistent and timely feedback, encouraging discussion among students, being well prepared for class, and by encouraging and reinforcing effective student study habits.

"Owning one's strengths, desires, skills, needs". Students need to recognize their strengths and limitations. They also need to understand their learning goals and objectives. The instructor can help distant students to explore their strengths/limitations and their learning goals/objectives by assuming a facilitative role in the learning process. Providing opportunities for students to share their personal learning goals and objectives for a course helps to make learning more meaningful and increases motivation.

"Maintaining and increasing self-esteem". Distant students may be afraid of their ability to do well in a course. They are balancing many responsibilities including employment and raising children. Often, their involvement in distance education is unknown to those they work with and ignored by family members. Student performance is enhanced if learners set aside time for their instructional activities and if they receive family support in their academic endeavours. The instructor can maintain student self-esteem by providing timely feedback. It is critical for teachers to respond to students' questions, assignments, and concerns in a personalized and pleasant manner, using appropriate technology such as fax, phone, or computer. Informative comments that elaborate on the individual student's performance and suggest areas for improvement are especially helpful.

"Relating to others". Students often learn most effectively when they have the opportunity to interact with other students. Interaction among students typically leads

to group problem solving. When students are unable to meet together, appropriate interactive technology such as E-mail should be provided to encourage small group and individual communication. Assignments, in which students work together and then report back or present to the class as a whole, encourage student-to-student interaction. Ensure clear directions and realistic goals for group assignments (Burge, 1993).

"Clarifying what is learned". Distant students need to reflect on what they are learning. They need to examine the existing knowledge frameworks in their heads and how these are being added to or changed by incoming information. Examinations, papers, and class presentations provide opportunities for student and teacher to evaluate learning. However, less formal methods of evaluation will also help the students and teacher to understand learning. For example, periodically during the course the instructor can ask students to write a brief reflection on what they have learned and then provide an opportunity for them to share their insights with other class members.

"Redefining what legitimate knowledge is". Brundage, Keane, and Mackneson (1993) suggest that adult learners may find it difficult to accept that their own experience and reflections are legitimate knowledge. If the instructor takes a facilitative rather than authoritative role, students will see—their own experience as valuable and important to their further learning. Burge (1993) suggests having learners use first-person language to help them claim ownership of personal values, experiences, and insights.

"Dealing with content". Student learning is enhanced when content is related to examples. Instructors tend to teach using examples that were used when they received

their training. For distance learning to be effective, however, instructors must discover examples that are relevant to their distant students. Encourage students to find or develop examples that are relevant to them or their community.

Teaching and learning at a distance is demanding. However, learning will be more meaningful and "deeper" for distant students, if the students and their instructors share responsibility for developing learning goals and objectives; actively interacting with class members; promoting reflection on experience; relating new information to examples that make sense to learners; maintaining self-esteem; and evaluating what is being learned. This is the challenge and the opportunity provided by distance education.

Supervision of Distance Education Students

One of the main Supervision attractions to teacher education at a distance is that the mode has a potential to effectively update the skills of teachers without taking them out of the classroom. Despite this great advantage in teacher education at a distance, there are problems, one of the main ones being the assessment of teaching and classroom performance in schools (Makau, 1993; Oliveira & Orivel, 1993; Prescott & Robinson, 1993).

Several studies in distance teacher education reveal that the organisation of practice teaching for teacher trainees presents both logistical and educational difficulties. Despite this, practice teaching is regarded as a pillar of teacher education as it provides opportunities for evaluating in-service teachers in authentic environments (Department of Education, 1996, p. 127). In – service teachers enrolled in distance programmes are usually in their place of work when they attend the

teacher training programmes. However, finding the means to assess their teaching practice eludes most institutions using this mode of teacher education. Logistical problems arise out of a need to supervise in-service teachers' work in the schools that are at considerable distance from each other and from teacher educators (Perraton, 1993). Educational difficulties arise from the old problem of integrating theory and practice. Educational difficulties also arise from the fact that the task of supervising coupled with other duties makes it "...impossible for the (teacher educator) to witness as an in-classroom observer the wide range of instructional strategies that form the basis of an inquiry learning environment" (Duschl & Warman, 1991, p. 259).

When supervision of teaching practice has been abandoned because of organisational difficulties, various alternatives have been sought in attempts to meet the supervision need in distance education. For example, in Nepal, peer-teaching sessions would be arranged to introduce a practical element to teacher education (Holmes, Kermachrya and Mayo, 1993). In Brazil, where LOGOS II had no capacity to supervise teaching practice, microteaching was incorporated into face-to-face sessions with teachers (Oliveira and Orivel, 1993). The British Open University (OU), while not supervising teaching practice, has tried to link theory and practice through inviting teachers to report on their classroom experiences of ideas and practical activities covered in the course (Perraton, 1993). First World countries such as the Netherlands and USA have used and continue to research computer-mediated environments in teacher education and in-service teachers' practice (Admiral, Lockhorst, Wubbels, Korthagen & Veen, 1998).

Research on learning environment has provided a number of ideas and techniques that could potentially be valuable for inclusion in teacher education

programmes. Whilst funds for research at the University and teacher education have been limited, there have been some important studies that have contributed in this area. Duschland and Waxman's (1991) study examined the perceptions of different groups including students, in-service teachers, co-operating teachers and university supervisors. Student perception data was used in addition to university supervisors' perceptions in the formative evaluation and assessment of student teaching performance. Research on leaving environment has also been incorporated into teacher education (Fisher & Fraser, 1991; Yarrow, Millwter & Fraser, 1997). Fisher and Fraser (1991) reported case studies of how classroom and school learning environment assessments have been used with in-service teachers to provide valuable feedback about teaching performance to the formative and summative evaluation of teaching practice. Yarrow, Millwater & Fraser (1997) examined attempts by teachers to improve the learning environment. They stressed the need for sound and reliable feedbacks on teaching performance, which is critical to the success of a programme, committed to reflective inquiry.

Summary

In this section we looked at 11 sub-topics. The first was the definition of distance education. We discussed four definitions. The next sub topic discussed was theory of distance education. We noted that any theory for distance education should touch on expansion of education, dialogue and the methods for it to be all embracing. The third sub-topic discussed was the forms of distance education. The three forms of distance education identified were print based, audio based and computer based.

The fourth sub-topic looked at was how to make in service distance education acceptable to teachers. The next sub-topic discussed was how to make distance education affordable to teachers in terms of money. The sixth sub-topic discussed was the criteria course materials should satisfy to make them useful to the students and for it to meet their (the students') instructional need.

The other sub-topics treated in this section were students support services, students' feedback systems and how to assess performance of course tutors. The rest were how students could effectively combine teaching with their studies and the best ways students' teaching practice could be supervised.

CHAPTER THREE

METHODOLOGY

This section of the work shows the method that was followed to conduct the research. It deals with research design, selection of subjects for the study, sampling, target population, the sample, instrument for data collection and pre-testing. The rest are reliability of the instrument, procedure followed in the data collection and the data analysis.

Design

The study was directed towards the ideas, opinions and attitudes of students and people involved in the distance education programme run by the Centre for Continuing Education, University of Cape Coast. The descriptive Survey design was considered appropriate for use as it dealt with questions on the students' aspirations, problems and how they see the impact of the distant education. Moreover, the research involved collection of data in order to test hypotheses and to answer questions concerning the challenges facing students pursuing tertiary courses at the distance (Gay, 1987).

Subjects for the Study

The subjects for the study were individuals, who represented three out of the four categories of stakeholders of distance education of the University of Cape Coast, Centre for Continuing Education. The stakeholders were The Director of the centre, centre co-ordinators, tutor/counsellors and students. The interest groups were selected purposively because of the important roles they play in the distance education

programme.   The various categories of respondents' chosen were course co-ordinators, tutor/counsellors and students.

Sampling

Purposive sampling was used to select the centre coordinators/resident tutors and tutors/counsellors. The purposive sampling method was used deliberately to choose these people for their expertise, experience, and the role they played or the position they held. Purposive sampling was used to select these people because they had the desired information sought for and were willingly to give it.

The centre co-ordinators are the representatives of the Director for Centre of Continuing Education (CCE) University of Cape Coast. They are responsible for the smooth running of the programme at the regions. They made sure that the course materials got to the students and collected assignments and sent them to course tutors for marking. They (coordinators) saw to it that the tutors met the students periodically and saw to the marking of scripts and offerred the needed counselling to students. The Centre co-ordinators are also the frontline implementers and administrators of the success and failure of the programme as the regions depended on them. They hold a research masters degree and were of the same status as a University lecturer.

The tutors were the subject teachers and they took the students in tutorials once a mouth. They are experts in the areas they handle. They hold at least a first degree in their subject areas and have pedagogic experience. The tutors / counsellors were those who had direct contacts with the students. They counselled the students and offered the necessary guidance. They knew the students and identified students' problems.   They also marked the assignments students wrote and offered the

necessary comments. The success of the programme depended on them mostly. It was the way they go about the tutorials and counselling that could either encourage or discourage the students. They made the course either interesting or boring and encouraged or discouraged the students.

Random sampling was used to select the students in the second and the third years. The random sampling method was used to select the student respondents as it made it possible for any of the students to be selected. Due to the large number of the students there was the need to select some of them to represent the entire student population. The random sampling was used to select students who truly represented the student population and held similar if not the same views of the larger student population.

The students were the beneficiaries of the programme. They were practising teachers and should have requisite qualifications or wrote entrance examination to qualify for admission. The students paid their own school fees and had to combine normal teaching with their studies. They went to the centre once a month for tutorial, wrote and submitted assignments and met at the centres for counselling and write quizzes and examinations. The Students were those who could tell the difficulties, challenges and prospects of the programme. They had much input to make into the programme to shape it and make it have the necessary impact.

The Target Population

The target population was all stakeholders of Centre for Continuing Education, University of Cape Coast distance education programme. The categories

of stakeholders that formed the population and the selected sample are indicated below:

The Target Population	
Students of the programme	3234
Centre Coordinators	12
Course tutors	97
Total	3343

Since the programme started barely two years ago, there was the need to find out the challenges and prospects of the programme and how best to make the programme effective and efficient. As we interacted with the implementers and students, the views gathered can help shape the future of distance education as a strategy for training teachers at the tertiary level in Ghana.

The sample

The sample was the students, Centre coordinators and course tutors of the selected Study centres. The constraints of time and money did not allow the researcher to go to all the study centres. It was impossible to use all the population as a sample. A cross-section of the population was sampled from the total of 10 regions. Four out of the 10 regions / course centres were chosen purposively. The chosen course centres were Takoradi centre in the Western region, Koforidua centre in the Eastern region, Kumasi centre in the Ashanti region and Sunyani centre in the Brong-

Ahafo region. Since sampling is important in survey designs, the selected sample was good enough to be representative of the population and the results obtained used to generalize for the population (Nwana, 1992).

Two regions each were selected from the Southern and Northern Zones of the country. The regions that formed the southern zone were Western, Central, Greater Accra, Volta and Eastern. The northern zone consisted of Ashanti, Brong-Ahafo, Upper East, Upper West and Northern regions. The regions/ course centres that were chosen from the Northern zone were Brong- Ahafo and Ashanti. Eastern and Western regions were chosen from the southern zones. These centres were chosen because they had the greatest number of students' populations in the zones. The four course centres chosen all together had a population of 2133 constituting 65.96% of the total students population of 3234. The numerical strength of students by region, gender, for 2002/03-acdemic year is depicted in Table 2.

Proportions were used in the selection of the student respondents. As the females formed 40% (1325) of the student population and the male population constituted 60% (1909) of the student population the proportion used was 4 6. Giving quotas to the sexes made it possible for the views of both sexes to be equally represented. The sample size was 10% of the total population, thus 324 students comprising 128 females and 196 males.

Table 2

Numerical Strength of Students by Region and Year

Region	Sex	Second Year	First Year	Total
ASHANTI	M	119	279	398
	F	67	221	288
	T	186	500	686
BRONG –	M	137	287	424
AHAFO	F	47	165	212
	T	184	452	636
CENTRAL	M	32	153	185
	F	18	122	140
	T	50	275	325
EASTERN	M	43	215	258
	F	11	147	158
	T	54	362	416
GREATER	M	35	63	98
ACCRA	F	35	114	139
	T	60	177	237
Region	Sex	Second Year	First Year	T;tal
NORTHERN	F	7	14	21
	T	26	123	149
UPPER EAST	M	10	28	38
	F	6	37	93
	T	16	65	81
UPPER WEST	M	31	56	87
	F	11	75	86
	T	42	131	173

Table 2 Continued

Region	Sex	Second Year	First Year	Total
VOLTA	M	-	84	84
	F	-	52	52
	T	0	136	136
WESTERN	M	48	161	209
	F	46	140	186
	T	94	301	395
TOTAL	M	477	1435	1909
	F	238	1087	1325
	T	712	2522	3234

Source: U. C. C. 33rd Congregation Basic statistics (2003 Data Processing Unit)

This sample size conforms to Nwana (1992) rule of thumb. According to Nwana, if a population is a few thousands then a 10% sample would be a fair representation. Krejcie and Morgan (1970) also say if the population is 3500 then a sample size of 346 should be used.

All Centre Coordinators\ course tutors of the four centers were chosen. In all a sample size of 354 out of the total population of 3343 was used for the study. This comprised 324 out of 3234 students, four out of the 12 centre coordinators, and 26 out of 97 course tutors. In each centre, 81 students comprising 32 females and 49 males were chosen for the study.

<u>Instrument used for Data Collection</u>

Both primary and secondary sources of information were used in this study. The primary source of information was mainly people's ideas, opinions and attitudes on the topic, which were gathered through the administration of the questionnaire. What formed the secondary source of information was from theory and related literature as well as files and documents.

Combination of closed and opened ended questions were designed (the researcher designed questionnaires) for course coordinators and tutors on one hand and students on the other hand. The first part of the questionnaire required mainly biographical data of the respondents. The other parts sought the respondents' opinion about:

1. The programme acceptability

2. The effectiveness of course materials.

3. Affordability of programmes to teachers

4. The supervision and management of student support services.

5. Students feedback systems.

6. Performance of course tutors.

7. How the students combine teaching with studies.

8. Supervision of the teaching practice of students/ teachers.

The closed ended or structured questionnaire was used to make the analysis quite easy and the open-ended questionnaire helped to get unanticipated responses that enriched the research. The researcher personally met the respondents and gave them the questionnaire. This technique afforded the researcher the chance to explain

and respond to the questions of respondents adequately.   In this connection, the researcher obtained maximum co-operation from the respondents.

Pre- Testing

A pre- test involving 25 people comprising the centre coordinator, 4 course tutors and 20 students i.e.12 males and 8 females was carried out at the Cape Coast centre to test the reliability and validity of the questionnaire. The Cape Coast centre was chosen as it had similar characteristics of the sampled centres and moreover it hosts the Centre for Continuing Education and any information needed was readily available.

The responses of the pre-test was analysed to determine the face validity of the questionnaire and the necessary corrections made. Results of the test helped to improve upon the final questionnaire and this made it possible to elicit adequately the required information. The outcome of the pre-test gave the researcher what the final outcome of the research was to look like.

Reliability of the Instrument

In a study such as this it was necessary to come up with a reliable and valid instrument. The researcher constructed an instrument suitable for the study. The various sections of the instrument were built based on the research questions of the study. In order to make sure these pieces held together for the research purposes SPSSX programmes were run for RELIABILITY. Table 3 shows reliability estimates for eight of the nine composites or sections. Section A, which comprised demographic variables, was not measured for reliability.

74

Table 3

Reliability Estimates

Section	No. of Cases	Items	Alpha	Standard Item Alpha
CM	188	8	0.7365	0.7892
PA	193	3	0.8265	0.8652
FAF	195	5	0.7254	0.7215
PSS	161	18	0.7434	0.6942
PFS	193	3	0.6731	0.6732
PCT	196	6	0.7501	0.7835
CTS	174	4	0.7441	0.7940

Eight sections were tested for reliability estimates. These are: course materials (CM), programme acceptability (PA), programme affordability (PAF), students' support services (PSS), students' feedback systems (PFS), performance of course tutors (PCT), combination of teaching with studies (CTS) and teaching practice supervision (TPS) and each resulted in a coefficient alpha high enough to be considered suitable for forming a section (.6731 to 8265). Warren (1979) gives the rule of thumb that a coefficient alpha level less than .60 was not satisfactory for a set of items to form a composite. As each section had a coefficient alpha level above .60 the instrument was considered satisfactory for use in the main study.

Procedure used for Data Collection

A letter of introduction from the researcher's department explaining the purpose of the study was taken to the Centre for Continuing Education (CCE). The centre added a covering letter to the one issued by the researcher's department. The

researcher took the two letters to the selected course centres. These helped to establish and initiate a hospitable relationship with the respondents. The researcher visited the selected course centres and collected the students' list and arranged the names alphabetically. The lottery method was used to randomly select the required number of students for the study. The names of the students on the list were written and put in a hat and mixed up. The random sampling was used because it gave each student the chance to be selected (the names selected from the hat were not replaced).

The selected students were assembled in one room, briefed and given the chance to seek clarification on the questionnaire. The questionnaire was then given them to respond to and collected that very day. Seventeen out of the 324 questionnaires could not be retrieved. As the researcher could not get all the tutors at one place at a time the tutors were given the questionnaire on individual basis.   Out of the 30 questionnaires given out to the centre coordinators and course tutors five could not be retrieved.

Data Analysis Procedure

All computations were done using the Statistical Package for Social Scientist software (SPSS). Descriptive statistics was used to measure the central tendencies (mean and mode). The means and modes were used to summarise the data. Standard deviations were also used to find the variations in the students' responses.

ANOVA (Analysis of Variance) was used to compare the level of perceptions among the responses of the four-regions/course centres. An independent t-test was used to compare the responses between the males and the females on five out of the eight sections of the research.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSIONS OF FINDINGS

This research was aimed at determining the challenges facing teachers pursuing distance education in Diploma in Basic Education (DBE) at the Centre for Continuing Education (CCE), University of Cape Coast. In order to answer the research questions and hypotheses, the computed percentages and statistical values were used to interpret the results. Where necessary the views of the course tutors/centre co-ordinators were analysed to reinforce the general views of the students to find out whether there were similarities or differences between the two groups of respondents.

Tables were drawn to depict the responses more clearly and to offer quick assimilation of the results. All prioritised responses were rank ordered, the highest being 5 and 4 .The details of the results and the analyses are presented next, along with the discussions of the findings. In the discussion, more light was thrown on the implications of the findings and ideas behind certain responses were also highlighted.

This chapter is in two parts: the first part deals with the demographic characteristics of the respondents. The second part deals with the analysis of the main results of the study.

Demographic Characteristics of Respondents

The characteristics of the respondents are depicted in Tables 4 -8, which show the demographic distribution in relation to sex, age, grade, qualification and how they (students) gained admission to the programme.

Table 4

Distribution of Student Teachers by Sex

Sex	Frequency	Percentage (%)
Male	187	61
Female	120	39
Total	307	100

Sex of the Respondents

The majority of the students who participated in the study 187 (61%) were males and the female respondents were 120 (39.%). The admission pattern is not strange as this follows the trend of admission at tertiary institutions in the country. In all tertiary institutions in the country, the male population far exceeds that of the female.

Table 5

Distribution of Respondents by Age

Age	Frequency	Percentage (%)
20-30	34	11.1
31-35	59	19.2
36-40	65	21.2
41-45	83	27
Above 45	66	21.5
Total	307	100

<u>Age of Respondents</u>

The majority of the teachers (69.7%) were above the age of 35 (table 5). This shows that the teachers who could not leave home to pursue residential tertiary courses due to family or other commitments were taking advantage of the distance education programme to upgrade and update their knowledge. As older teachers make use of the distance education programme, their knowledge and competencies will improve, and this will reflect positively on their pupils/students' performance. This confirms Magagula's (2003) assertion that distance education caters for all types of people regardless of their age, gender, citizenship, social standing, commitment, and social responsibility and geographical location. Rumble (1992) also holds the view that distance education can be used for training or retraining of professionals, technical and vocational workers with a view to upgrade and update skills, knowledge and attitudes.

Magagula (2003) says "evidently, workers who wish to upgrade and update their professional qualifications and cannot often give up their jobs to attend face-to-face learning in conventional institutions make use of distance education" (p.9). Magagula goes on to say that such older people have families to cater for, mortgages to service and many other commitments. These reasons explain why many teachers have enrolled for the distance education programme.

<u>Grade of Respondents</u>

Greater numbers of the students of the programme   (68%) (Table 6) are experienced teachers from the grade of superintendent 1(one) upwards. As more experienced teachers take advantage of distance education programme and upgrade

themselves they would improve their teaching skills and this will eventually reflect in students/pupils performance. In this sense, distance education gives life long access to education as, no matter one's age and experience one can continue to study in order not to be over taken by technological development which can eventually put them out of employment. This confirms the observation made by Hall (1996) that, distance education is playing an increasingly important role in both formal and non-formal education. Hall is of the view that industrialized and developing countries alike require education systems, which are flexible, accessible and cost effective and give life long access, and this is what distance education is offering to most teachers. Verduim (1992) also says that distance education enables a lot of people to learn at their own time, any place convenient to them and at their own pace.

Table 6

Grade of Respondents

Grade	Frequency	Percentage (%)
Teacher	80	26.2
Superintendent 11	15	4.9
Superintendent 1	63	20.5
Senior Superintendent	108	35.2
Principal Superintendent	25	8.1
Assistant Director	13	4.2
Total	304	100

Qualifications of Respondents

Out of the number that participated in the study only 12.7 % (Table 7) of them (respondents) had General Education Certificate Advanced (GCE 'A') Level qualification to qualify them for admission to the conventional university courses. This meant that most of the teachers would not have gotten the opportunity to pursue tertiary level courses even if they wanted. This confirms Dodd's (1991,p.1) assertion that distance education:(I) offers an economic use of sparse educational resources to provide large members with the chance to continue their education; ii) reaches students wherever they are, however remote that they may be, and therefore allows students' work to continue while learning; and (iii) it is potentially a great equalizer of educational opportunity.

Table 7

Distribution of Students by Qualification

Qualification	Frequency	Percentage (%)
Four-Year Cert. A	65	21.7
Four- Year Cert. A with O'L	76	25.4
Post Sec.Cert. A	83	27.3
Post Sec. Cert. with A'L	29	9.7
Four- Year Cert. A with A'L	9	2.9
SCH. Cert./SSCE	37	12.4
TOTAL	299	100

Magagula (2003) also says that distance education is appropriate for people who for variety of reasons cannot attend conventional higher education institutions. These people include, secondary school graduates who failed to gain admission to universities, students with limited financial means, married people with responsibilities, geographically isolated or uprooted students (eg.refugees), economically and physically challenged people and nomads (Rumble, 1992).

Table 8

How Students Gained Admission.

Type of admission	Frequency	Percentage (%)
Direct	136	44.6
Access/Remedial	169	55.4
Total	305	100

How the Students Gained Admission

It was clear from the study that over half of the respondents (55.4%) gained admission through access/remedial courses. Such teachers lacked the requisite qualification to enable them access conventional university courses. For example, the Four-year Certificate 'A' holders and a few holders of GCE O'Level, who could not have had access to conventional universities courses, formed 59.5% of the respondents A greater number of students gained admission through access/remedial course and this collaborates Dodd's (1991) assertion that distance education is a great equalizer of educational opportunity and provides large numbers with the chance to continue their education. Rose (1995, p.3) has also observed that "in various forms,

distance education has proven that it has the capability of educating groups of people who would not probably attend higher education otherwise" and this was true of many of the teachers pursuing the Centre for Continuing Education distance programme.

Acceptability of Distance Education to Teachers

There were six questions asked under this research question and these were discussed with reference to Tables 9 and 10. The research question discussed in the section was 'How acceptable is distance education to teachers?'

Table 9

Choice between Conventional and Distance Education

Choice	Frequency	Percentage (%)
Conventional	218	71.6
Distance	86	28.4
Total	304	100

The majority of the respondents (71.6%) answered that given the option they would have opted for conventional education. On the question of whether many teachers preferred distance education to conventional education they varied in their answers. The respondents' option for conventional education does not mean they had not accepted distance education programme.

The students' choices were influenced by many factors. Most of the respondents (70%) had opinion that the students of conventional education are given many privileges which are unavailable to distance education students. For example,

teachers who are given study leave to pursue conventional residential courses are relieved of teaching and yet they are given the opportunity to access the Social Security and National Insurance Trust (SSNIT) loan. However, distance students were denied this loan facility despite the fact that they also make monthly contributions to the Trust.

Rose (1995) says the reasons many people prefer conventional education to distance education are job stress, lack of time, restriction on private life, the course taking too long and stress on the family. Rose gives the other reasons as the desire for social contact with other students, the inability of students to have a suitable working style and the perception that university did not fully support external or distance students.

The tables 10 to 17 formed the main basis for the discussions of the thesis. The key to the headings of tables 10-17 is found below.

N=Number of respondents   SD= Strongly Disagree   D = Disagree   U= Uncertain A= Agree   SA=Strongly Agree

*Note: all figures after the mean in the tables are in percentages (%).

Almost all the student respondents (95%) agreed to the fact that distance education gives the opportunity for one to upgrade oneself. If it had not been for distance education most of them would not have had the opportunity to upgrade themselves. As reported in SAIDE (1995,p.iv) "distance education (DE) is the largest sector of formal teacher development in South Africa, with more than a third of existing teachers involved in some form of distance education. The majority of these teachers are in-service teachers studying to upgrade themselves, and the most rapid

expansion in enrolments is teachers upgrading 'above the line' to Certificate in Education".

Table 10

Course Acceptability

Question	N	Mean	SD	D	U	A	SA	General Remarks
DE gives the opportunity to upgrade oneself.	303	4.3795	1.0	1.3	0.7	52.8	44.2	Agree
Many teachers prefer DE to traditional education.	299	2.7592	26.4	20.1	14.4	29.4	9.7	Vary
Distance education gives the comfort of the home to pursue a course.	299	3.021	19.4	21.7		35.8	13.4	Vary
DE enhances prospects for promotion. I am using DE as basis	296	4.1655	0.7	5.1	6.1	55.4	34.8	Agree
For further studies.	286	4.1294	4.2	4.21	2.1	53.5	36	Agree

On the issue that distance education gives one the comfort of the home for the one to pursue a course, the respondents varied in their responses. Whilst 50.8% either disagreed or were uncertain, 49.2% agreed to the fact that distance education gives the comfort of the home for one to pursue a course. One's response was influenced by the condition or the situation one found oneself in the home. According to Ravhudzuho

(2000), distance education enables one to study at ones pace, as there is no time limit for one to study and here lies the comfort.

Since the respondents varied in their responses it can be said that comfort is relative, for what one person may consider to be a comfort can be a discomfort to another person. On the other hand, if comfort means learning at one's own pace and avoiding the inconvenience of leaving the home then it is really true that distance education gives the comfort of the home for one to go about one's studies. It must be remarked that while some find the home a comfortable place to go about their studies, others find it a great discomfort due to family and other commitments, which adversely affect their performance and eventually force them to abandon their studies.

Most of the respondents (88.1%) agreed to the fact that distance education enhances prospects for promotion. In Ghana Education Service, without a first-degree qualification one cannot be promoted above the rank of Assistant Director of Education. Moreover it takes not less than 10 years for teachers without first-degree to be promoted to the rank of Principal Superintendent whereas a fresh teacher with Bachelor in Education degree (B.Ed.) enters the service at the rank of Principal Superintendent.   Due to the above reasons, most of them were using the distance education to gain a higher qualification to enhance their promotion prospects. Potashnik and Copper (1998,p.1) have observed that, "...Individuals use it (DE) for their own professional development and to enhance their career opportunities..." It can, therefore, be inferred that the majority of the teachers enrolled in the distance education programme were motivated by the desire for professional development and the enhancement of their career opportunities.   .

The majority of the respondents (89.5%) acceded to the fact that they were using distance education as the basis for further studies. This was not strange as many of them had the desire for further studies but were prevented for lack of requisite qualification. For such teachers, therefore, distance education was helping them to achieve the ambitions for attainment of higher qualification. Rose (1995) has observed that not all dropouts of distance education could be viewed as a failure since some of then used distance education as preparation for further studies.

From the discussion so far on acceptability of distance education to teachers, it could be said that teachers have really accepted the distance education programme. This assertion was based on enrolment trend. The programme started with 712 students in 2001 but in the second year 2522 enrolled. As at 2003/2004 academic year enrolment has risen to 6946 (UCC, 34th Congregation Basic Statistics, 2004) only three years of starting the programme. Looking at the enrolment trend of the programme it means more people are likely to enrol in the programme in the years to come. In so far as distance education gives opportunity to access tertiary education, most teachers who lack the requisite qualification to qualify them for entry into conventional university courses would take advantage of it. Moreover, as distance education allows teachers to upgrade themselves and enhance their promotion prospects many teachers see the programme as a golden opportunity and would not allow the opportunity to slip by.

It has been observed by Rose (1995) that teachers accept distance education whenever and wherever it is introduced as it has great potential. SAIDE (1995) reported that distance education is the largest sector of formal teacher development in South Africa, with more than a third of existing teachers involved in some form of

distance education in 1995.The report went on to say that the majority of these teachers were in-service teachers studying to upgrade themselves.

It can be concluded that distance education is very acceptable to teachers. The basis of the acceptance was on the enrolment trend. The acceptability of the programme may account for the rising enrolment.

Table 11

Usefulness of Course Materials

Questions for students	N	Mean	SD	D	U	A	SA	G/Remarks
				Response in %				
Course materials are readable.	299	4.0936	2.7	3.3	1.3	67.2	25.4	Agree
Course materials are comprehensive.	299	4.0836	1.7	8.0	4.3	63.2	22.7	Agree
The various units are manageable.	289	3.4256	7.3	18	5.9	62.6	6.2	Agree
Contents of course materials are very adequate.	289	3.6332	2.8	14.2	12.8	57.4	12.8	Agree
Course materials are study guides.	298	3.7550	8.1	14.4	4.7	39.6	33.2	Agree
Contents of course materials meet instructional need.	288	3.7396	4.5	11.5	8.0	57.6	18.4	Agree
The contents of course materials are based on the syllabi.	296	3.6047	4.1	7.1	27.0	48	13.9	Agree
Course materials give self-evaluative exercises.	299	4.0836	2.0	4.7	4.3	60.9	28.1	Agree

88

Usefulness of Course Materials

Nine questions were explored under the usefulness of course materials. They are discussed in relation to Table 11. The research question considered under this sub heading was 'To what extent are course materials useful to the students?'

The study revealed that the majority of the respondents (92.7%) either agreed or strongly agreed that the course materials were readable. If the course materials were readable then they conformed to the principles governing the development of distance education course materials. Coleman (1965) and Groeben (1977,p.18-23) set the principles of readability of course materials as written in simple grammar, short clauses, usage of many finite verbs, many pronouns, short and well-known words. Rowntree (1991) also says a readable material should be written in a plain language, which is friendly and conversational. Rowntree is of the view that a readable course material should be written using personal pronouns, contractions, rhetorical questions with a light touch and exploration of the human angle. Rowntree goes on to say that a plain and readable written course materials should cut surplus words and use short, familiar, precise, strong and active words. The other qualities of a plain writing are "taking care of special vocabulary and the use of short and simple sentences" (Rowntree, 1991,p.232).

The study revealed that 86% of the respondents considered the course materials to be comprehensive, 68.8% agreed that the various units of the course materials were manageable, whilst 70.2% found the contents of the course materials to be adequate. As the majority of the respondents (76%) considered the course

materials to meet their instructional needs then it could be inferred that the students did not find much problems in assimilating the contents of the course materials.

Again, from the responses it could then be said that the course materials meet the criteria set by Rosberg (1966) and Baath (1980) on division of course materials into study units. These two writers hold the view that the generally accepted idea governing the division of course materials into study units is that students should be offered a suitable quantity of learning matter at a time so that they can always survey the materials to be learnt. This makes it possible to prevent the bulk of possibly difficult materials from being intimidating. The outcome is that the students see the results of their work after every finished unit.

Rosberg and Baath are of the opinion that the size of the study units varies considerably with the school or the university that developed them. Units from eight small pages to 100 pages exist. These writers agree that the size of the units evidently is related to the comprehensiveness of the total course presentation.

Most of the respondents (72%) accepted the fact that the course materials were study guides. This view was corroborated by 91% of the course tutors who participated in the study. This means that the students needed other textbooks to supplement the course materials. Most of the student respondents (89%) indicated that the course materials give self-evaluative exercises at the end of each unit. This allowed the students to find out how much material they have been able to assimilate and assess their own progress at the end of every unit.

Rosberg (1966) and Baath (1980) maintain that basically there are two different approaches to course development, which are self-contained and study guides course materials. Self-contained course materials in principle provide all the

learning matter that is necessary. Self- contained course materials have proven to be particularly valuable when the course content is fairly elementary and does not call for the study of different courses. Such courses are complete in themselves and are particularly common in proficiency subjects like foreign languages and mathematics.

According to Holmberg (1977) and Ljosa (1975), the study guide approach is used where there is a complicated subject with conflicting theories and views. They are also used where students have to learn how to trace facts and arguments from different presentations and to study various sources critically. The study guide approach is useful when learning is to include part or the whole of the various books, papers and other sources of knowledge. Most distance education courses with their various components aim at leading their students straight to specific goals. The course developers then tend to regard each unit as an integral part of the course and as a compulsory course component. According to Ljosa (1977) Distance-education instructional material can be either teacher- centred or student -centred. Teacher-centred material tells the students what they ought to do (Ljosa, 1977,p.79). Learner-centred instructional materials offer and suggest choices of study material and approaches as well as work to be done instead of prescribing what must be done (Lehner & Weringartz 1981,p.10).

Looking at the discussion above, it could be said that the course materials used by students of Centre for Continuing Education (CCE) distance education programme were study guides, manageable, comprehensive, and student-centred. It can then be inferred from the discussion that the students of the programme found the course materials they used to be effective and that they met their instructional needs. The

conclusion from the discussion in this section was that the course materials were very useful to the students.

Course Financing and Course Affordability

This section looked at how students finance their education and whether the education was affordable to them. In this section we sought to answer the research question 'How affordable is distance education to teachers?' The discussion was done with reference to Table 12.

Table 12

Programme Financing and Affordability

Question	N	Mean	SD	D	U	A	SA	Remarks
Tuition is affordable.	289	2.4567	34	36.3	4.5	26.6	7.6	D/agree
Stationery is affordable to me.	294	2.9592	18.7	25.2	4.4	44.9	6.8	Vary
Transportation is affordable to me.	290	2.2103	36.6	34.1	6.2	17.9	5.2	D/agree
Books are affordable to me.	288	3.0035	18.1	23.3	9.4	38.9	10.4	Vary
Cost of accommodation during face-to-face sessions is reasonable and easy to get.	289	1.8824	55.7	22.5	4.8	11.8	5.2	D/agree
Option should be given for fees to be paid in instalments.	291	4.5430	1.4	.3	39.5	-	58.8	Agree
As an incentive for teachers who opt for DE courses GES, should part of the fees.	294	4.6088	3.1	1.7	21.8	-	73.5	Agree
Teachers who opt for DE should pay part of the fees.	291	3.4914	19.1	10.7	.3	38.5	30.6	Agree

On how the students finance their education, 63.1% responded that they pay their fees from their salaries and 32.4%of them indicated that they take loans from their bankers. Koomson (1998) has observed that teachers in developing countries are among the least paid workers and that "in our present situation where teachers' pay cannot take them home" how can they pay for distance education course materials? (p.64) Koomson argues that since the cost of distance Education is primarily borne by students themselves, it stands to reason that the income level of applicants would determine the number of students who register for the programme.

The majority of the students (78.5%) found the students fees charged to be within their means. Although the fee was paid once in a year what they were charged as fees exceeded the monthly salaries of some of the students. Lawton (1996) says there is the need to offer financial support for distance learning students. UNESCO Teacher Education Guidelines (2002) suggest sources of funding teacher education, which are from students' fees, community support, the private and nongovernmental sector. The UNESCO guideline cites China and Nigeria as countries that fund their teacher education partly by government and partly by students' fees.

Many of the respondents (69.1%) accepted the fact that they should contribute towards their education. However, they considered it as incentive for Ghana Education Service to contribute towards their education. They based their argument on the fact that the government pays allowances to initial teacher trainees and grants study leave to some teachers to pursue residential conventional university courses and employs other teachers to replace them. They argued further that as they continue to teach as they pursue further studies they save the government a huge sum of money. So therefore, they deserved to be motivated in the form of fee subsidy or rebate.

The UNESCO (2002) guidelines on funding of teacher education state, "In some instances the expectation is that the government should meet the full cost of teacher education because of its importance for quality of education service as a whole". The guidelines further states that "in some cases imposition of fees may hold down enrolment, discourage students, and is likely to be socially regressive" (p.50). Consequently, in order to encourage more teachers to opt for the distance education course and remain in the classroom, the government should pay part of the teachers' fee if not absorb all of the fees.

The direct cumulative costs the students incurred went beyond the payment for the course materials. The other direct cost the students bore included the cost of transportation to and from monthly weekend sessions, cost of textbooks and accommodation during face-to-face sessions as most of them lived outside the town where the study centre was sited.

The respondents varied in their views on the issue of affordability of books and stationary but over 70% of the respondents found the cost of accommodation during face-to-face sessions to be exorbitant. The respondents, apart from calling on the Ghana Education Service to pay part of their fees as incentives, also asked that they should be given the option to pay their fees in instalment by the Centre for Continuing Education. One of the requests the respondents made was that they be given the opportunity to access the SSNIT loan as their counterparts pursuing conventional residential courses at the universities.

Koomson (1998) suggests that there should be a naturally designed financial support package for teachers who study by distance education. He goes on to argue that, if students on conventional programmes in the universities in Ghana are granted

Social Security and National Insurance Trust loans to meet the cost of textbooks and stationery then the same package, if not better, should apply to the distance learners. Koomson goes on to argue that, the teacher is a contributor to the SSNIT funds, so there is nothing ethically wrong with him/her utilizing in the form of loan to upgrade him/herself, part of the fund he/she had helped to build up. Koomson holds the view that if the government wants to move away from the tendency of financing tertiary education exclusively on cost sharing system, then lending its full support to distance education is very important in so far as students on such programmes pay for the cost of their own education.

The leading problem faced by the students was accommodation. As many as 78.2% of respondents indicated that they faced serious accommodation problems during face-to-face sessions. An alternative arrangement could be for the face–to-face sessions to be planned to coincide with the vacation of the schools where they attend the face-to face sessions. This will mean that instead of attending face-to-face session in one weekend of every month they can attend four to six weeks' residential vacation lectures once a semester. In so doing it will solve the acute accommodation crises and exorbitant accommodation fees the students were forced to pay every month. Chennell, Peters and Sewart (1977) have observed that residential courses range in duration from a weekend to a month or more of summer school. The arrangement of four to six weeks vacation residential course would give the students some relieve to enable them go about their teaching and also solve their accommodation problem.

In the discussion so far, it could be concluded that distance education was affordable to the teachers and that they did not find it difficult to finance their education. They, however, called for fee subsidy from the Ghana Education Service to

Table 13

Students Support Services

Question	N	Mean	SD	S	U	A	SA	G/ Remark
I attend the monthly weekend residential face-to-face sessions regularly.	288	4.3646	2.8	3.8	1.4	38.2	53.8	Agree
Face-to-face sessions are helpful.	291	4.3643	1.7	2.1	2.1	46.4	47.8	Agree
At face-to-face sessions quizzes, exams etc are written.	284	4.3275	7.9	11.2	8.3	52.7	19.9	Agree
Tutorials are organised during face-to-face meetings.	281	3.6940	5.7	6.8	3.2	60.1	24.2	Agree
I am a member of a self-help study group.	281	3.6940	8.2	11.4	8.5	46.6	25.3	Agree
At self-help study group meetings we discuss personal, academic problems and assignments.	277	3.6534	7.9	11.2	8.3	52.7	19.9	Agree
Study group is centrally located.	280	3.3393	13.6	15	6.1	54	10.7	Agree

Table 13 Continued

Question	N	Mean	SD	S	U	A	SA	G/ Remark
Counselling sessions are organised for those who need them during face-to-face sessions.	286	2.8636	21.3	23.8	2.2	32.5	0.1	Vary
Getting means of transport to study centre is not difficult.	284	2.4225	34.9	28.5	3.2	26.4	7.0	Disagree
Study centre has internet facility.	287	1.6446	65.9	17.4	7.0	5.9	3.8	Disagree
I have access to internet facility with a fee.	285	1.6491	63.5	19.6	8.1	6.0	2.8	Disagree
The study centre has well stocked library.	287	1.5017	71.1	18.5	3.5	3.1	3.8	Disagree
I have access to the study centre's library.	291	1.6048	66	21.6	2.7	5.2	4.5	Disagree
I can borrow books from centre's library.	292	1.6199	64	22.6	4.1	5.8	3.4	Disagree

Almost all the respondents (94.1%) accepted the fact that face-to-face sessions were helpful. The majority of the respondents (84.3) indicated that at face-to-face sessions tutorials took place. The other activities that took place during the monthly weekend face-to-face meetings were writing of quizzes and examinations. Most of the

respondents (94.4%) attested to this fact. Chennel, Peters and Sewart (1977) had observed that face- to-face sessions are very important elements of the distance education programme. The writers explain that the main purpose of this contact is to remedy in tutorial sessions any academic weaknesses or deficiencies of understanding counselling sessions and individual student's overall progress.

Chennell, Peters and Sewart (1977) go on to state that face-to-face sessions may be either opted or compulsory and it helps to develop a personal relationship without which counselling is extremely difficult. They continue to assert that such sessions help to build morale, self-confidence and motivation. At face-to-face sessions students recognize that they are part of a larger group, and their problems are neither unique nor peculiar. Academically, these sessions help them in understanding themselves and their study habits.

Another important facet of student support services is self help study groups. The majority of the respondents (72.6%) indicated that they were members of study groups. Those who were not members of study groups stayed in places where there were no students residing within 5km radius. On the role the course tutors played in connection with the study groups, 66% of the course tutors respondents indicated that they facilitated the setting up of these study groups.

On whether it was obligatory to join a study group, 59% of the course tutors who participated in the study answered in the affirmative. Wright (1992) says in addition to study centres and residential courses are study groups. Such study groups without a teacher are somewhat more academic distance teaching projects. Students can usually help each other by sharing other study problems and their knowledge. Wright goes on to say that study groups are usually groups of students who are

together at their own convenience to support each other. Some of the factors that the students consider when forming study groups are location, personality and interest. Study groups are usually small and range from two to six members. Students usually use their study groups to help them get through assignments.

Most of the respondents (72.6%) corroborated the assertion of Wright and indicated that at self help study group meetings they discussed personal and academic problems as well as assignments. Although the respondents found the study groups helpful, 60.7% of the respondents disagreed with the suggestion that the study groups were more helpful to the monthly weekend face-to-face sessions. It could be concluded from the discussions so far that study groups complemented the face-to-face sessions and could never replace them.

To the question of whether study centres were centrally located, 64.7% of the respondents answered in the affirmative. Only 33.4% of the respondents indicated that they found it difficult to get transportation to the study centres. Such students lived in the remote areas of the country where the road networks were poor. Coincidentally, those who claimed to face transportation problems when attending face-to-face meeting were in the majority of those who did not belong to study groups, due to the remoteness of the schools in which they taught. According to Dodd (1986), study centres are usually sited throughout the country in areas of high population or where transportation links are good. It could be said that the sitting   of Centre for Continuing Education study centres met the criteria set by Dodd.

One of the most important aspects of student support services is counselling. On the issue of counselling, the respondents varied in their response. Those who indicated that they had access to counselling sessions were 42.6% and 45.2% of the

respondents indicated that they do not have access to counselling services. Strangely enough 12.4% of the respondents were not aware whether or not there was a counselling component in the face-to- face sessions.

It came out of the study that there was no policy on counselling by the Centre for Continuing Education for the study centres and the type of counselling that took place in the centres was not well structured. The way counselling sessions were organized in the study centres was contrary to the criteria proposed by Chennell, Peters and Sewart (1988). These writers assert that when distant students begin their studies, they are assigned to tutor-counsellors at their study centre. The tutor-counsellor will normally be responsible for all tuition and counselling. Chennel, Peters and Sewart say the tutor-counsellor is available on a fairly regular basis at the study centre and may discuss strictly academic matters associated with the course or may deal with study skills on a much wider basis as well as reviewing and assisting with his students' progress in the university's unique and complex system.

It came out clearly from the study that counselling services were available only to the students who resided in the towns where the study centres were sited. Such students had advantage over those living outside the towns hosting the study centres as they could always contact the course tutors whenever they had problems. On the question of whether the students could contact their tutors after face-to-face sessions only 32.3% of the respondents answered in the affirmative. This means most of the students were denied access to counselling and either relied on friends for counselling or kept their academic and personal problems to themselves.

The study revealed that the study centres did not have well stocked libraries, and that the students did not have access to the centre's library to borrow books. As many

as 89.6% of the student respondents attested to this fact. It was also clear from the study that most of the students did not even know where the centre's library was located and the type of books stocked there let alone had access to the library to borrow books.

To the question of whether the schools hosting the study centres had Internet facilities, as many as 83.4% of the respondents answered in the negative. The truth is that the schools hosting the study centres did not have Internet facilities. Even if the facility were to be available it would not have been beneficial to them as over 90% of the students lacked knowledge on how to access information from the Internet.

What pertained in the study centres run contrary to Dodd's (1986) assertion that the study centres offer students a range of facilities, which can supplement some of those available at home. Naidoo (2001) says, "Clearly, the Internet and email have proved to be critically important media in the provision of education through distance education. Some of the obvious strengths of the Internet are its ability to offer up-to-date resources and information to a larger number of teachers, learners and administrators immediately, easily and relatively cheaper" (p.14). Naidoo further asserts that through the new information and communication technologies such as Internet and email makes it possible for many potential learners in many parts of developing countries, including those in remote areas to have access to education. Reddy and Manjulika (2002) contend that the new ICT is making it possible to deliver any course at any time and anywhere. It promotes learner –centred approach. There is direct interactivity between the tutors and the learners on one hand and among the learners on the other hand. The Internet and the e-mail enable learners anywhere

(home or workplace) and anytime to access on-campus courses through the World Wide Web provided they have the necessary infrastructure hardware and software.

In the discussion so far on students support services, it could be inferred that some sort of support services were available to the students but the sort of counselling that took place during face-to-face sessions was not structured and effective. More over students did not have access to the library facility in the school hosting the study centre and this issue needs urgent and serious attention. Koomson (1998) contends that lack of effective counselling in distance programme can lead to high attrition rate. Koomson accedes to the fact that distance learners are lonely learners and this implies that the probability of dropping out of the programme is higher than that of conventional students. They require services such as counselling on the choice of programme and subjects combinations, managing their time as well as to meet the demands of the programme. According to Koomson (1998) "with out a well defined, detailed and effective support system in place, training professional teachers by distance would be characterised by high attrition rate" (p.66).

It could be concluded from the discussion that the student support services were not effective. The students did not have access to library, counselling, and Internet services and more over no modern technology was used in the programme for instructional delivery.

Students' Feedback Systems.

This section looked at students feedback systems that had been put in place by Centre for Continuing Education, University of Cape Coast, the organizers of the distance education programme. The research question this section tasked itself to answer was 'To what extent do students' feedback systems help to impact positively

on students' studies?' The discussion was done with reference to Table 14. The table comprises both the summarized frequencies and responses of students and course tutors/centre coordinators.

Table 14

Students Feedback Systems

Question - students	N	Mean	SD	D	U	A	SA	G/ remarks
Assignments are marked and returned promptly.	283	2.4558	25.1	37.8	8.5	23.7	4.9	D/agree
End of semester exams. results are released on good time.	283	2.3322	27.6	40.3	7.4	20.8	3.8	D/agree
I have the opportunity to discuss results and Remarks with course tutors.	283	2.2756	21.2	37.8	8.5	23.7	4.7	D/agree
Feedback serves as an incentive and helps to improve my learning process.	281	3.794	27.6	4.3	7.4	20.8	39.9	Agree
Course tutors - questions								
Adequate assignments are given in a semester.	25	4200	-	8	4	48	40	Agree
Assignments are marked and returned on time.	25	3.7200	8	8	8	56	20	Agree

Table 14 Continued

Course tutors –Questions	N	Mean	SD	D	U	A	SA	G/ remarks
Appropriate remarks are marks given on assignments.	24	3.7200	4.2	4.2	25	45.8	20.8	Agree
End of semester exams results are released on time.	24	3.0417	16.7	25	12.5	29.2	16.7	Vary
Students are given the opportunity to discuss results.	25	3.2400	4.0	28	16	44	8	Vary
Marks given are fair and reflect students' ability.	24	4.000	-	8.5	12.5	50	29.2	Agree
Remarks are both diagnostic and prescriptive.	25	3.600	4.0	4.0	32	48	12	Agree
Feedback serves as incentive for students to improve learning.	25	4.480	-	-	-	55	45	Agree

The first issue discussed in this section was the adequacy of assignments given out to students per semester. The majority of tutors' respondents (88%) indicated that adequate assignments were given out in a semester.

As has been pointed out by Ley (1999) feedback systems for distant students involve tools and documents that provide frequent fixed response assignments and on projects or essay response assignments. Feedback within an educational system is the "process by which information concerning the adequacy of the system, its operations,

and its output are introduced into the system" (Banathy, 1992, p.186). If the assignments given in all the subjects were adequate as the tutors claimed, then the assignments helped the tutors to identify the weaknesses of the students and suggested to the students how best they could remedy these weaknesses.

On the issue of whether assignments were marked and returned on time, 62.9% of the student respondents answered in the negative, however, 76% of the tutor respondents responded in the affirmative. From all indications enough assignments were given to the students, marked and returned to the students but the issue was whether they were returned on time. Ley (1999) has suggested some guidelines to determine adequacy of assignments. He (Ley) says there should be at least three assignments during a semester. According to Ley, the feedback should be during the semester and allow the student to use the information during the course; a final grade that the students receive too late to act upon would be in addition to the three suggested feedback messages. More frequent, corrective, feedback yields better learning outcomes than less frequent knowledge of results.

Feedback serves very important purposes, especially the return of marked assignment. Butler and Winnie (1995) say that feedback may be defined as information a learner receives about his/her learning processes and achievement outcomes. People like Mory (1996), Smith and Regan (1992) assert that feedback is an essential part of instructional learning. Reiser and Dick (1996) on their part say feedback to learners may be essential to effective learning and Gagne (1985) says learners may find frequent feedback useful. Learner's feedback can facilitate metacognition in interactive instructional systems (Schweir, 1995) and contributes to self-regulated learning (Butler and Winnie, 1995). Feedback can reflect upon how the

student feels –his response during the instructional experience (Wolcolt, 1995). Feedback interacts with and contributes to support processes.

Due to the important role returned marked assignment plays in the student's learning process there is the need for the Centre for Continuing Education to make a policy on when all course tutors must return all assignments submitted to them. It would be necessary for all submitted assignments to be returned in the next face-to-face session. If a policy is made, all course tutors and students should be made aware of it. In this way it will go a long way to solve the question of when any assignment would be marked and returned and this will reduce if not eliminate the anxieties students go through in waiting for the return of submitted assignments.

To the question of whether appropriate remarks were given on all returned marked assignments, 66.6% of tutors' respondents answered in the affirmative. Remarks play a very important role in students' learning process. The remarks can either motivate or discourage students and affect the way they go about their studies. This assertion corraborates that of Ley (1999) that instructor feedback serves a different immediate function within the instructional system and this can go a long way to improve student's performance. Ley goes on to argue that feedback from the instructor to the learner informs the learner how well he/she is learning and where he/she should direct his/her learning efforts. Learner feedback, which usually requires an external check, essentially closes the gap in the learning process (Gagne, 1995). Practice with feedback is one of the most powerful components in the learning process (Dick and Carey, 1990, p.165).

A greater number of the tutor respondents (79.2%) indicated that they gave fair marks that reflected students' ability. Fair assessment is important in students'

response. Students who repeat a mistake across assignments may perform better after receiving prescriptive feedback since they can use prescriptive feedback to guide their work.

To the question of whether the students had the opportunity to discuss results and remarks with course tutors the students and the tutors varied in their responses. Whilst 68.9% of the student respondents indicated that they did not have the opportunity to discuss the results and remarks on assignments with the course tutors, 52% of the tutor respondents indicated that students had the opportunity to discuss results and remarks with the tutors. It could be deduced that some sort of interaction between the students and the tutors in terms of discussion on remarks and results take place. However, this appears to be selective and available to only a few privileged students.

As was pointed out under the section of student support services, there is the need to allot the students to the tutors so that they can discuss their academic problems with them. This view falls in line with the assertion of Chennell, Peters and Sewart (1988) that distance students should at the beginning of their studies be assigned to tutor-counsellor at the local centre. The tutor-counsellor will normally be available on a fairly regular basis at the study centre and may discuss strictly academic matters associated with the course or may deal with study skills on a much wider basis as well as reviewing and assisting with the student's progress in the university's unique and complex system.

On the question of the timing of the release of end of semester examination results, both student and tutor respondents varied in their responses. Whereas 67.9%of

student respondents indicated that results were not released on time the responses of the course tutors varied greatly, 42.7% of the tutors indicated that end of semester results were not released on time, 12.5% was uncertain and 45.9% indicated that results were released on time. It could be inferred from the variation in the responses that there was a problem with the timing of the release of examinations results. Here too there is the need for a policy on when examination results should be released so that it eliminates the anxiety students go through as they wait for the release of results.

Both course tutors and the student respondents accepted the fact that feedback serves as an incentive for students to improve their learning. As the importance of feedback had been established in students' learning process, there was the need to take pragmatic efforts to strengthen feedback system in the Centre for Continuing Education distance education programme. It must be underscored that it is not easy to embark on an effective feedback programme. Ley (1999) has observed that a distance "feedback system depends upon carefully planned, written assignments: specified evaluation criteria and technology. It includes documentation: progress tracking standardised responses based upon the specified evaluation criteria, and multiple assignments during a course" (p.66)

Establishing feedback criteria system requires the instructor/designer to complete several steps. The first step is to identify every assignment and that will be required for three purposes, which are practice, assessment and fermenting positive learner's attitude. Ley (1999) asserts that feedback advances students learning but can be problematic for the distance instructor implementing a feedback system, while some- what labour intensive to establish. It allows the instructor to overcome the barriers in providing feedback to the students. Ley identifies potential feedback

benefits to include clearer communication between the instructor and the students and increased instructor students connectedness.

The tutors' views were sought on attrition rate of the students but none of them seemed to know the number of students, who had dropped out since the programme commenced over two years ago. Although all the tutor respondents indicated that there had been some dropout from the programme they were however, not sure of the approximate number, let alone say which sex had the high attrition rate. When the office of Centre for the Continuing Education was contacted they too did not have the attrition rate of the programme. They indicated that they were in the process of computerising the records of the students and that the information about the attrition rate would be available in the not too distant future. The organizers of the programme could be pardoned, as the programme is barely three years old.

From the discussion so far in this section, it could be concluded that feedback system is very necessary and important in every institution, which, deals with learning more especially, distance learning. As has been observed by Ley (1995) if feedback system is not effective it can lead to high dropout rate. As lack of feedback system has been identified to be a major cause of dropout in distance education programmes, there is the need for Centre for Continuing Education to draw up a clear guideline on feed back systems to reduce attrition rate of the programme and to keep proper record on the students of the programme.

The conclusion from the discussion is that to a large extent, feedback systems help to impact positively on students' studies. The effectiveness of student feedback systems will determine how best students improve their studies.

Performance of Course Tutors.

In this section the performance of course tutors is discussed. This section sought to answer the research question 'To what extent do students perceive the performance of course tutors?' The discussion was done with reference to Table 15. The table contains the summarized frequencies and responses of both students and course tutors. A comparison was made between the responses of the two categories of respondents to find out where they either agreed or disagreed.

Table 15

Performance of Course Tutors

Questions	N	Mean	SD	D	Ú	A	SA	G/ Remarks
Tutors have in-depth knowledge in the subjects they handle	278	4.0971	2.2	6.8	85.8	49.6	36.5	Agree
Tutors use appropriate and varied methods in teaching.	281	4.0178	1.4	5	6	65.5	22.1	Agree
Tutors illustrate their lessons.	279	4.0179	0.7	7.5	6.8	59.1	285.8	Agree
Tutors give enough reinforcements during lessons.	272	3.8934	1.8	11.4	8.8	51.5	23.5	Agree
Tutors involve students in lesson.	280	4.2571	1.1	.7	3.2	61.4	33.6	Agree

Table 15 Continued

Questions	N	Mean	SD	D	U	A	SA	G/ Remarks
As a tutor you have in-depth knowledge in the subjects you handle.	25	4.4800	-	-	-	52	48	Agree
I use varied and appropriate methods in instructional delivery.	25	4.2800	-	-	4	64	32	Agree
I illustrate my lessons.	25	4.2800	-	-	4	64	32	Agree
I involve students in lessons.	25	4.4800	-	-	-	56	44	Agree
Students find my lessons lively.	25	4.4000	-	-	-	56	44	Agree
I give enough reinforcements during lessons.	25	4.4000	-	-	4	52	44	Agree

The first issue discussed in this section was the knowledge of course tutors in the subjects they handle. Both the tutors and the students' respondents agreed that the course tutors had in-depth knowledge in the subjects they handled.

It must be stated, however, that it was one thing for a tutor to have in-depth knowledge in his/her subject and another thing to be able to teach it effectively for others to understand and assimilate it. Coldway and Spenger (1980) have pointed out

that a distance teacher must teach his subject in such a way that students must quickly become comfortable. An effective and knowledgeable teacher should be able to teach his/her subject effectively for others to understand and assimilate it. An effective and knowledgeable teacher must be able to use a teaching process, which will quickly make students comfortable and elicit students' participation in the lectures (Graham and Wedman, 1987).

When the tutors can effectively communicate their knowledge then students would not have any difficulty in assimilating the contents of the lecture. Knowledgeable distant teachers who can effectively convey their thoughts and are confident can easily win the confidence of their students. Such a teacher has respect of his/her students and conveniently handles and controls any class no matter the class size as he can confidently and conveniently answer any question students put to him. Such a teacher must however, make students aware and comfortable with the patterns of communication he/she uses (Holmberg, 1985).

On whether tutors used appropriate and varied methods in teaching, both the tutors and the students' respondents answered in the affirmative. The response was 88% and 100% for students and tutors respectively. The methods a tutor uses will determine whether a lecture will be either interesting or boring. It must be stressed that the methods used by a lecturer can both make students comfortable and participate fully in the lecture. As has been pointed out by Willis (1992), effective teaching is more of results of preparation than motivation. This calls for the employment of strategies focusing on planning, students' understanding, interaction and teaching to a successfully delivered course. According to Willis (1992) a distant teacher does not only plan his teaching methods but must be attentive. An attentive

teacher consciously and unconsciously receives and analyses cues and adjusts the course delivery to meet the needs of the class during any particular lesson.

A teacher who is attentive and varies his methods is able at a glance to look for visual and unobtrusive cues from his students to inform him of what methods to use at a particular time. He should know who is attentively taking notes, pondering a difficult concept, or preparing to make a contribution or comment. He must be able to identify a student who is frustrated, confused, tired or bored. Spender (1990) asserts that to enable a teacher to use appropriate and varied methods to communicate his lesson, the teacher should learn about students' background and experiences. He goes on to say that such a teacher should be sensitive to different communication styles and varied backgrounds. The distant teacher should remember, for example, that the students may have different language skills, and that humour is culturally specific and would not be perceived the same by all.

To the question of whether tutors illustrated their lessons, 85% of student respondents and 96% of tutor respondents answered in the affirmative. When tutors illustrate their lessons it makes a difficult subject look very interesting and understanding and this boils up to planning. It has been indicated by Willis (1992) that for any teacher to be effective he needs preparation. It is at the planning and preparatory stage that the teacher would know which examples to use to illustrate his lessons to make the meaning come out more clearly and more understandably. Graham and Wedman (1987) have indicated that there is the need for distant teachers to use locally relevant case studies and examples as often as possible to assist the students in understanding and applying the course content.

If the students of the Centre for Continuing Education distance programme followed and assimilated their lessons as they had indicated then lessons were well demonstrated and not taught in the abstract. As course tutors illustrated their lessons they consciously and unconsciously imparted these skills to the students who were practising teachers. It must be noted that as the students were practising teachers they could easily detect when the teacher had not prepared when he came to the classroom and this could put the teacher in a very awkward situation, as he would not receive the maximum attention of the students.

Most of the student respondents (73.2%) indicated that their lessons were overloaded but most of the tutors' respondents (76%) indicated that their lessons were not overloaded. Here the students and course tutors differed in their answers. If students found the contents to be overloaded but the course tutors thought otherwise then there was something definitely wrong somewhere. It could be that either the tutors were not looking for cues to vary their presentations or the students did not know what constituted over loaded lesson. As the students were also practising teachers they knew what constituted a loaded lesson. Willis (1992) has indicated that effective distance teaching requires enhancing existing skills, rather than developing new abilities. He goes on to indicate that distance teachers should "realistically assess the amount of content that can be effectively delivered in the course"(p.89). Willis contends that because of logistics involved in distance teaching, presenting content at the distance is usually more time consuming than presenting the same content at the traditional classroom setting. According to Willis (1992), there is the need for distant teachers to diversify and pace course activities and avoid long lectures, intersperse content presentations with discussions and student-centred exercises.

The majority of the student respondents (88%) and all the tutor respondents indicated that tutors gave enough reinforcement during lessons. Reinforcement plays a very important role in the teaching and learning processes. This calls for the need to humanize the course by focusing on the students, and not the delivery system. Willis (1992) has pointed out that there is the need to develop strategies for students' reinforcement, review, repetition and remediation. When enough reinforcement is given in a lesson delivery, the students get to know which part of the materials they should give much attention to and this will increase their assimilation and application.

On the issue of whether tutors involved students in the lesson, almost all the students (96%) and the entire course tutors answered in the affirmative. If this was true then the teachers used concise, short, cohesive statements and questions and this conforms to what has been asserted by Graham and Wedman (1987). When students are actively involved in lessons, it kills boredom, and makes the lessons lively as every body takes active part in the class and willingly contributes to the lesson.

In response to the question of whether students found lessons lively, almost all the student respondents (96%) and all tutor respondents answered in the affirmative. If tutors indeed were knowledgeable in the subjects they handled, varied and used appropriate methods, gave enough reinforcement and involved students in the lesson, then this would naturally make lessons lively and students would enjoy the lessons. In this sense students would be participants rather than spectators in class and this would eventually promote effective learning.

To the question on the type of the media used in addition to face-to-face and print in instructional delivery in the programme, all the course tutor and student respondents indicated that no other medium was used apart from the aforementioned.

In this computer age it is impossible to run distance education programme without the use of modern technologies. Smith (1990) asserts that "arguably, the role of the media in distance education is to provide two-way communication between the teacher and learners in the delivery of the subject matter (the content) as well as the return to the teacher of the learners' responses such as individual assignments and tests (spoken or written) tele-tutorials, group discussions, computer aided learning, e-mail and Internet" (p.8).

Currently, the most popular media of instruction used in distance education, especially in developed countries and to some extent in transitional and developing countries, are telecommunication such as audio cassette, telephone, radio, compact disc, television (i.e. broadcast television, cable television), telecourses (combining video, text, and other sources), microwave broadcast (non-wired sites), aerial broadcasting, satellite broadcasting, computers, print, Internet and e-mail (Verduin, 1991; Smith, 1990).

It was reported in the Vice Chancellor's Annual Report (2004, p.88) that the Centre for Continuing Education centres are being equipped with the necessary information and computer technologies (ICT) and linked to the main centre. Thus, apart from the print material, students are going to benefit from computer technology, teleconferencing, etc. In addition, radio broadcast is going to form part of the Centre's medium of delivery. As the Centre has recognised the need to use modern technologies in instructional delivery the earlier they do it the better for this will go a long way to help in the instructional delivery system.

The conclusion was that the students perceived their course tutors to be effective as the tutors were knowledgeable, varied their methods, gave enough reinforcement and involved the students in the lessons.

How Students Combine Teaching with Studies.

In this section how students combined teaching with their studies is discussed. The discussion is done with reference to Table 16. The research question this section tasked itself to answer was 'How are students able to combine teaching with studies?' The table contains the summarized frequencies and responses of both the students and course tutor respondents. In the discussion the responses of the students were contrasted with that of the course tutors.

Table 16

How Students Combine Teaching with Studies

Students-Questions	N	Mean	SD	D	U	A	SA	G/ Remarks
Combining teaching with DE has adversely affected my mode of teaching.	270	3.2148	20	20.2	1.1	28.7	37	Agree
I find it difficult to combine teaching with distance education.	272	2.0882	37.5	40.8	6.3	13.6	3.7	D/agree
It needs discipline and planning to combine teaching with distance learning.	272	4.3603	0.7	7	2.6	53.7	42.3	Agree
Table 16 continued								

Table 16 continued

Students-Questions	N	Mean	SD	D	U	A	SA	G/ Remarks
Distance learning has affected my social life.	271	3.6750	6.6	14	5.9	51.7	21.8	Agree
Course tutors – Questions								
Course has affected the teaching of students adversely.	25	2.7200	24	36.4	4	16	20	Vary
Students do not get time to do deep studies.	24	3.8750	-	8.3	16.7	54.2	20.8	Agree
Proper planning and discipline is needed to effectively combine teaching with distance learning.	24	4.3333	-	-	-	66.7	33.3	Agree .
Students involve their pupils in their lessons.	21	3.5714	-	4.8	47.6	33.3	14.3	Vary
Pupils of students find their lessons lively.	21	3.7143	-	-	42.9	42.9	14.2	Agree

The first issue discussed under this section was whether the teaching of the students had been affected adversely by embarking on the course. Although the student respondents varied in their responses, 56.7% indicated that the course had adversely affected their mode of teaching. On the part of course tutor respondents only 36% indicated that some of the students had complained to them that the course was having a great toll on their mode of teaching. It is not easy to combine normal

teaching because they had embarked on a course. They did the same amount of work they were doing before embarking on the course and this was putting a lot of pressure on them. They were expected to prepare lesson notes, do the required number of teaching load, give the required number of exercises and mark them and participate fully in all extra curricula activities as their counterparts not enrolled in the course do.

As has been observed by Schuemer (1993), the primary role of the student is to learn. Under the best circumstances, this challenging task requires motivation, planning, and ability to analyse and apply the information being taught. In a distance education setting, the process of the student learning is more complex for several reasons.

According to Schuemer, many distance education students are older, have jobs and families. They must coordinate the different areas of their lives, which influence each other-their families, spare time, and their studies.

Teachers who embark on distance learning require knowledge in the best way to effectively manage their time and how to draw a balance in their job (teaching) and their studies. If the students do not do proper planning and utilise time well, either their teaching or their studies suffers. It was clear from the responses of the students that the course was having a great toll on them as they lacked time management skills and this was affecting their teaching. There is the need for the Centre for Continuing Education to incorporate a course in time management in the programme to enable the students to know how best to balance their teaching, studies and their private and social life.

In response to the question on whether the students found it difficult to combine teaching with studies, the majority of the student respondents (76.5%) indicated that it

was not difficult. If the students claimed that the programme was having an adverse effect on their mode of teaching and turned round to say that it was not difficult to combine teaching with studies then they were not being truthful to themselves. If they did not find it difficult to combine teaching with studies then they were not doing any serious studies. If this assertion that they were not doing serious studies was true then it confirms the assertion of Morgan that distant students who are not confident about their learning tend to concentrate on memorizing of facts and details in order to complete assignments and write exams. As a result, they end up with a poor understanding of the course materials. Morgan (1991) calls this type of learning 'surface' approach to learning. Morgan suggests that the distant students need to become more selective and focused in their learning in order to master new information. As a matter of fact, teaching and learning at the same time at a distance is demanding and to be able to do both effectively needs proper planning, discipline and good time management.

To the question of whether students got time to do deep studies and whether this reflected in their submitted assignments, 75% of course tutors' respondents indicated that students did not get time to do deep studies and this indeed reflected in their submitted assignments. Schuemer (1993) gives the reason why most distant learners do not do well in their studies. He says in distance education, the learner is usually isolated. The motivational factors arising from contact or competition with other students are absent. The student lacks the immediate support of a teacher who is present to motivate, and if necessary, give attention to actual needs and difficulties that crop up during study.

Brundage, Keane, and Mackneson (1993) assert that the shift from 'surface' to 'deep' learning is not automatic. They suggest that adult students and their instructors must face and overcome a number of challenges before effective learning takes place including " being and staying responsible for themselves, "owing" their strengths, desires, skills, and needs, maintaining and increasing self esteem; relating to others; clarifying what is learned; redefining what is legitimate; and dealing with the content".

Distant students can enhance their performance if they can set aside time for their instructional activities and must do all they can to receive family support .The course tutors also can enhance students learning by relating content to examples and receiving timely feedback from his instructors and being counselled when necessary. One other factor that can enhance distant students' learning is group studies so therefore; it behoves every distant student to join a study group.

On the need for discipline and planning in the life of distant students, both the course tutors and students' respondents agreed that these are very important. As teaching and learning at the same time is very demanding, the distant student needs not only to plan his/her activities but needs discipline to follow the personal time table he/she draws for him/herself. To re-echo Schuemer (1993), 'the primary role of the student is to learn, under the best of circumstances, this requires motivation, planning, and the ability to analyse and apply the information being taught". It must be pointed out that without planning and discipline the distant student cannot coordinate the different areas of his life, and this will go a long way to affect his family, job, spare time and studies.

The majority of student respondents (73.5%) indicated that distant learning had affected their social lives. Due to pressure on their time, and the need to share their time among families, job, learning, and many other things their social life had been affected adversely. They used at least one weekend every month to attend face-to-face sessions and this prevented them from attending funerals and other social gathering that normally took place in the weekends. Pressure on their time also prevented most of them from visiting friends and they did not get enough time for their immediate families. This confirms Morgan's (1991) assertion that distant students are often ignored by their families, as they did not get enough time to relate to them. Morgan says the performance of distance students can improve if only they will set aside time for their instructional activities and receive the support of their families in their academic endeavours. There is the need for the distant student to explain his new situation to friends and family members and solicit their support as soon as he embarks on the programme.

On the question of whether the students involved their pupils in their lessons and whether the pupils of the students found their lessons lively, most of the tutors indicated that they were uncertain. This answer was understandable, as the course tutors had not observed the students in the classroom setting. However, it was likely that the students had learned new skills and increased their knowledge and this was likely to make them effective teachers. However, it is one thing to acquire new knowledge and another thing to be able to effectively teach it for others to understand it. It is hoped that the course would impact positively on the skills of the students and this will be evident in the way the students go about their teaching. As the students go through the programme, it will in the long run improve their teaching skills and their

pupils will find their lessons lively and will get more involved in the lessons because of the improved knowledge of their teachers.

The conclusion drawn from the discussion was that the students of the programme found it difficult to combine their teaching and studies effectively. This was having adverse effects on their teaching as they were finding it difficult to balance the time for teaching and their studies.

Supervision of Teaching Practice of Students

In this section students and course tutors' views on how students teaching practice was supervised are discussed. The discussion is based on the research question 'How are students teachers supervised during the period of the course?' The summarised opinions of both course tutors and students are combined in the Table 17.

The first question discussed under this section was whether microteaching was incorporated in the programme. Both the students and course tutors' varied in their responses. It was evident from the responses that there was no clear-cut policy on the incorporation of microteaching in the course. It could also be inferred from the responses that whereas some tutors incorporated microteaching in their teaching others did not.

In fact supervision of teaching practice has been a problem in most in-service teacher training programmes. In such cases, peer teaching or microteaching was incorporated in the course. Holmes, Kermachrya and Mayo (1993) report that when supervision of teaching practice has been abandoned because of organisational difficulties' various alternatives have been sought in the attempt to meet supervision need.

Table 17

Supervision of Teaching Practice

Students-Question	N	Mean	SD	D	U	A	SA	G/ Remarks
Microteaching is incorporated in face-to-face sessions.	244	2.7705	13.1	3.2	22.5	25.6	5.3	Vary
My head teacher is tasked to supervise my teaching at school.	265	3.2038	11.7	20.8	12.1	46.4	9.1	Agree
Course Tutors Questions								
Microteaching is incorporated in face-to-face sessions.	22	3.0909	4.5	36.4	9.1	45.5	4.5	Vary
Head teachers of students are made to observe their practical teaching and report.	21	3.905	4.8	23.8	28.3	33.3	9.5	Vary
Tutors supervise practical teaching of students at least once a semester.	21	3.2387	9.5	14.3	33.3	28.8	14.3	Vary
Tutors give marks for practical teaching of students.	21	3.2857	14.3	9.5	28.6	28.6	19	Vary
When tutors supervise practical teaching of students they discuss observation with them (students).	20	3.1500	10	15	40	20	15	Vary

For example in Nepal, peer-teaching sessions were arranged to cater for the practical element in teacher education. Perraton (1993) has written that The British Open University (OU), while not supervising teaching practice, has tried to link theory and practice through inviting teachers to report on classroom experiences of ideas and practical activities covered in the course. Oliveira and Orivel (1993) say in Brazil, where Logos 11 had no capacity to supervise teaching practice; microteaching was incorporated into face-to-face sessions with teachers.

The Centre for Continuing Education has devised means on how to assess the practical teaching of students. The Centre has agreed to assess the practical teaching of students through peer teaching and going to the schools to observe the students in the classroom setting. Supervision of practical teaching of students will start in the second semester in May 2004.

On the issue of whether head teachers of students were tasked to supervise the practical teaching of students and report to the centre, varied responses were given. Whereas 55.5% of the student respondents answered in the affirmative, 50% of the course tutor respondents also answered in the affirmative. They understood the question to be the normal responsibility of the head teacher as pertained in the Ghana Education Service. In connection with the programme there was no such arrangement between the Centre and the head teachers to this effect. It must be stated that head teachers supervising the teaching of students and reporting the outcome to the organisers of in-service teacher training is one of the strategies used in supervising the teaching practices of the distant students.

The question is how effective is this method of assessing the practical teaching of in- service teachers pursuing distance education programmes? If this method is to

be used to assess practical teaching of distant students then it will call for the need to train all the head teachers who would be involved in the programme. On the other hand, circuit supervisors of the various District Education Offices can be tasked to do the supervision. Even in such a situation a common instrument of assessment should be developed and all the circuit supervisors involved trained in how to go about the assessment so that the assessment can be uniform and fair.

In response to the question of whether external supervisors came to supervise their teaching at school both course tutors and students respondents varied in their responses. The situation on the ground was that supervision of practical teaching of students had not started. It is still on the drawing board and yet to start hopefully in May 2004. The reality is that the third year students have only a semester to complete with the course, and it is likely the supervision of the practical teaching will begin with them. Several writers including Makau (1993), Olivera and Orivel (1993), and Prescolt &Robbison (1993) have observed that one of the main attributes of teacher education at the distance is that the mode has a potential to effectively update the skills of teachers without taking them away from the classroom. Despite this great advantage in teacher education at the distance, there are many problems associated with it; one of them is the assessment of practical teaching of the students in the classroom sitting in the schools in which they teach.

The South Africa Department of Education (1996) has reported that several studies in distance education reveal that the organisation of practice teaching for teacher trainees presents both logistical and educational difficulties. Despite this, teaching practice is regarded as a pillar of teacher education as it provides opportunities for evaluating in service teachers in authentic environments. Perraton

(1993) has observed that in service teachers enrolled in distance programmes are usually in their place of work when they attend the teacher-training programme. However, finding the means to assess their teaching practice eludes most of these institutions using this mode of teacher education. Logistical problems arise out of the need to supervise in-service teachers' work in the schools, as the schools are considerable distance from each other and teacher educators.

Duschl and Warman (1991) have also observed that educational difficulties arise from the old problem of integrating theory and practice. Educational difficulties also arise from the fact that the task of supervising coupled with other duties makes it "…impossible for the (teacher educator) to witness as an in-classroom observer the wide range of instructional strategies that form the basis of an inquiry learning environment" (p.259).

On the question of whether external supervisors of students discussed their observations with the students when they were observed, both the course tutors and student respondents varied in their responses. As has been already pointed out, there is no supervision-taking place at the moment so the question could not be answered to reflect the condition on the ground. It is obvious that the clinical type of supervision would be used when it starts, as that is what is now being practised. In the clinical type of supervision, the supervisor meets with the person to be supervised and discusss and agrees with him the things he (supervisor) will look for during the observation. After the observation the supervisor meets the teacher/student supervised and discusses the observations made during the observation period.

The teaching practice component of the Centre for Continuing Education programme is about to start and the course tutors who are teachers of teacher training

colleges would be used for the supervision. It is hoped that these tutors who are already involved in the supervision of teacher trainees know what to look for during observation sessions and would discuss what they observe with the students.

On whether students' practical teaching was observed at least once a semester, both the course tutors and student respondents could not give any definite answers, they either disagreed or were uncertain. This was so because the supervision of students teaching practice had not started at the time of the study. The question then is how many observations would be made on each student? This is difficult to determine. It has been observed by Perration (1993) that logistical problems and widespread of the schools in which the students of distance education teach make observation of practical teaching difficult. It would be economically viable if each student is observed at most twice in their normal classroom setting, thus one each in the second and third years and same done for the peer teaching. It is hoped that if this is done a fair assessment of a student's practical teaching can be done.

It was concluded from the discussion that supervision of students' practical teaching had not started. Moreover when it gets started it is going to be a difficult task due to logistical problems and widespread of the schools in which the students teach. The two methods that the Centre for Continuing Education plans to use to assess teaching practice of the students are peer teaching/ microteaching and the supervision of the students in their normal classroom teaching.

Hypotheses Testing

In this section, we discussed the statistical output of the study in relation to the hypotheses set in the beginning of the study. The discussion was done with

reference to Table 18 and appendice C and D. The first hypothesis looked at was related to t-test, which compared the differences between the perceptions of the sexes on Five sections of the research. This discussion was done in relation to Table 18.

Table 18

t-test Groups Statistics

Section	Gender	N	Mean	Standard Deviation	t	SIG. (two tailed)
	Male	133	3.5113			
TOTCM	Female	92	3.3967	.8973	.999	.319
	Male	132	3.0038			
TOTPAF	Female	92	2.9348	1.1655	.428	.669
	Male	125	3.0480			
TOTPSS	Female	88	3.0455	.9727	.020	.984
	Male	125	3.0480			
TOTPFS	Female	88	3.0455	.9727	.020	.984

Level of significance is .05 (two tailed)

t-test

On the issue of course materials (TOTCM) used in the distance education programme both the male and female respondents had a significant level of .319. The values obtained for the mean and the t are 3.3967 and .999 respectively. The significant value obtained is above the significance level of .05. The implication was that both sexes held the same perception on the course materials. We, therefore, fail to

reject the null hypothesis that, there is no significance difference in the perception of both sexes on the course materials.

On the issue of programme acceptability (TOTPA) the male and the female respondents had a significance level of 0.060. The figures obtained for the mean and the t are 3.4963 and 1.888 respectively. In this case also the significance level is above the acceptable level of significance of .05. The implication of the outcome is that there is no significant difference between the perceptions of both sexes on the issue of programme acceptability. We, therefore, fail to reject the null hypothesis that there is no significant difference between the perceptions of the sexes on the programme.

The next issue looked at was programme affordability (TOTPAF). The male and the female respondents had significance level of 0.669. The mean for this section is 2.9348 with a t value of 0.669. This level is above the significance level of 0.05. What this means is that both sexes held the same perceptions on the programme affordability. We therefore fail to reject the null hypothesis that there was no significant difference between the male and female respondents in their perception on the programme affordability.

On the issue of students' support services (TOTPSS), the significance level for both the males and females is 0.984. The mean and the t values obtained for this section are 3.0455 and 0.20 respectively. This level of significant is above the significant level of 0.05. The conclusion therefore, is that there is no significant difference between both sexes in their perception on student support services. In this case we fail to reject the null hypothesis that there is no significant difference in the perception of both sexes on the students support services.

The last issue looked at was performance of course tutors (TOTPCT). The significant level for the male and the female respondents' was 0.072. The mean obtained for this section is 2.9826 with a t value of 1.811.

The implication is that there is no significance difference between the sexes in their perception on the performance of course tutors. The conclusion is based on the fact that the significant level exceeded the significant level of .05. We, therefore, fail to reject the null hypothesis that there is no significant difference between the sexes in their perception on performance of the course tutors.

One-Way Anova

The hypotheses discussed were on the differences among responses of the students of the four course centres involved in the study on five sections of the research. The discussions were done with reference to table 19 and appendice C and D.

The first hypothesis discussed was programme affordability (TOTPAF). The level of significance obtained for this section was .061 and it was above the level of significance of .05. It meant that there were no significant differences among the responses of the four course centres on the section of programme affordability. We therefore fail to reject the null hypothesis that there are no significant differences among the students of the four course centres on the section of the programme affordability.

The next hypothesis discussed in this session was the usefulness of course materials (TOTCUM). The level of significance obtained for this section was .565 (table 19) and this exceeded the significance level of .05. The implication is that there

were no differences among the responses of the students of the four course centres in their perception on the section of course materials. We therefore, fail to reject the null hypothesis that there are no significant differences among the responses of the students of the four course centres on the section of course materials.

Table 19

One-Way Anova

	Sum of Squares	df	Mean Square	F	Sig.
TOTPF					
Between Group	4.724	3	1.575	2.488	0.061
Within Groups	184.836	292	0.633		
Total	189.560	295			
TOTCM					
Between Groups	1.429	3	0.476	.680	0.565
Within Groups	210.984	301	0.701		
Total	212.413	304			
TOTPSS					
Between Groups	6.558	3	2.186	2.803	0.040
Within Groups	219.121	281	0.780		
Total	225.679	284			
TOTPSF					
Between Groups	6.558	3	2.186	2.803	0.040
Within Groups	219.121	281	0.780		
Total	225.679	284			
TOTPCT					
Between Groups	3.030	3	1.010	1.432	0.234
Within Groups	196.126	278	0.705		
Total	199.156	281			

Level of significance is .05

were no differences among the responses of the students of the four course centres in their perception on the section of course materials. We therefore, fail to reject the null hypothesis that there are no significant differences among the responses of the students of the four course centres on the section of course materials.

Table 19

One-Way Anova

	Sum of Squares	df	Mean Square	F	Sig.
TOTPF					
Between Group	4.724	3	1.575	2.488	0.061
Within Groups	184.836	292	0.633		
Total	189.560	295			
TOTCM					
Between Groups	1.429	3	0.476	.680	0.565
Within Groups	210.984	301	0.701		
Total	212.413	304			
TOTPSS					
Between Groups	6.558	3	2.186	2.803	0.040
Within Groups	219.121	281	0.780		
Total	225.679	284			
TOTPSF					
Between Groups	6.558	3	2.186	2.803	0.040
Within Groups	219.121	281	0.780		
Total	225.679	284			
TOTPCT					
Between Groups	3.030	3	1.010	1.432	0.234
Within Groups	196.126	278	0.705		
Total	199.156	281			

Level of significance is .05

The next issue discussed was on Students' Support Services (TOTPSS). The differences among their means (Appendix C) did not show much difference among their perceptions but the significance level obtained by the ANOVA (table 19) for this section was .04, which was less than the level of significance of .05. In this case there were significant differences among the responses of the students of the four course centres on the issue of Students' Support Services. We therefore, reject the null hypothesis that there are no significant differences among the responses of the students' of the four course centres on the section of students' support services. The Tukey HSD (refer to Appendix D) showed the difference to exist between the respondents of Takoradi and Sunyani centres.

For the section on Students' Feedback Systems (TOTPTS), the means (Appendix C) did not show much difference among their perceptions. However, a level of significance of .04 was obtained for this section by the ANOVA (table 19). This level of significance was lower than .05, which is the level of significance. This meant that there were significant differences among the responses of the students in the four centres on the section of feedback systems. We therefore, reject the null hypothesis that there are no significant difference among the students of the four course centres in their perception on the section of feedback systems . The Tukey HSD (refer to Appendix D) revealed that the difference existed between the respondents of Takoradi and Sunyani centres.

The last issue looked at was the performance of course tutors (TOTPCT). A significant level of 0.234 was obtained. This was above the level of significance of 0.05. The interpretation is that there were no significant differences among the responses of the students of the four study centres on the issue of performance of

course tutors. We therefore, fail to reject the null hypothesis that there are no significant differences among the responses of the students of the four centres on the section of the performances of course tutors.

In conclusion, only two out of the five sections had significant levels and these were students' support services and students' feedback systems. Looking at the means for the various sections the respondents were not certain about their perceptions on the various sections of the study. Even where there were significant differences they were located between only respondents of Takoradi and Sunyani centres.

Summary

In this section the eight research questions and ten hypotheses set at the beginning of the study were answered and tested. The answers to the research questions and the results of the hypotheses are summarized below.

The first research question was 'How acceptable is distance education to teachers?' It came out from the discussion that distance education was very acceptable to teachers. The basis of the acceptance was based on enrolments trends. It is due to the acceptability of the programme that the enrolment figures continue to rise year after year.

The next research question was 'To what extent are course materials useful to students?' It was concluded from the discussion that the course materials were very useful to the students as the students found the content to be readable, comprehensive and give self-evaluative exercise at the end of every unit.

The third research question discussed was 'How affordable is distance education to teachers?' It came out that the cost of distance education was affordable to teachers as a greater majority of the students paid their fees from their salaries.

To the research question 'How effective are students' support services?' It was concluded that students' support services were not effective. This conclusion was drawn based on the fact that the students do not have access to library, counselling and Internet facilities. Moreover no modern technology was used in the programme for instructional delivery.

The fifth research question discussed was 'To what extent do feedback systems impact positively on students studies?' It came out clearly from the discussion that to a large extent feedback systems help to impact positively on students' studies. The effectiveness of students' feedback systems determines how best the students improve upon their studies.

The next research question discussed was 'To what extent do students perceive the performance of the course tutors?' The conclusion was that students perceived their course tutors to be effective as the tutors were knowledgeable, varied their teaching methods, give enough reinforcements and involved the students in the lessons.

The seventh research question discussed was 'How are students/teachers able to combine teaching with studies?' The conclusion drawn from the discussion was that the students of the programme found it difficult to combine their teaching and their studies effectively. This was having an adverse effect on their teaching as they found it difficult to balance the time for teaching and their studies.

The last research question discussed was 'How are students /teachers supervised during the period of the course?' It was gathered from the discussion that the supervision of students' practical teaching had not started. Moreover, when it gets started it is going to be a difficult task due to logistical problems and widespread of

the schools in which the students teach. The two methods the Centre for Continuing Education plans to use to assess the teaching practice of students are peer/micro teaching and the supervision of the students in their normal classroom setting.

T-test was used to test the hypotheses on the perceptions of the sexes on five sections of the study. We fail to reject all the five hypotheses, as there were no significance differences between the sexes on all the sections of the study.

ANOVA' was also used to test the hypotheses on the perceptions of the students of the four-course centres (Takoradi, Koforidua, Kumasi and Sunyani). Out of the five hypotheses tested only two had significant values. Those that had significant values were their perceptions on students' support services and feedback systems. The differences existed between only Takoradi and Sunyani centres.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

In this concluding chapter, the findings of the study are summarised, conclusions drawn and recommendations made. The primary objective of the research was to find out from the course tutors and students of Centre for Continuing Education distance programme the challenges facing the students. It looked particularly at the programme acceptability to teachers, the development and usefulness of course materials, how students finance their education and the programme affordability on the part of the students. The rest are students' support services, students' feedback systems, course tutors' performance, how the students combine teaching with studies and the supervision of students' teaching practice.

An attempt was made to find answers to the research questions and the hypotheses based on the eight sections of the study, which were programme acceptability, programme financing and affordability, usefulness of course materials, students' support services, students' feedback systems and performance of course tutors. The study also looked at how students combined teaching with their studies and the supervision of students teaching practice.

Summary

Programme Acceptability

From the responses, it came out that many teachers preferred conventional education to distance education. Their preference was based on the grounds that

course materials met the students' instructional need. The course materials met the criteria for course materials development. Finally the students found the course materials useful.

<u>Programme Financing and Affordability</u>

The majority of the students financed their education from their salaries. Some of them who formed about a third of the population financed their education by taking loans from banks. The fees charged for the course materials were manageable but exceeded the monthly salary of a few of them. The students found the cost of stationery and textbooks to be reasonable.

The students found it difficult to get accommodation during face-to-face sessions. Some of the students paid exorbitant rents during face-to-face sessions. The students requested Ghana Education Service, their employer, to pay part of their fees to serve as an incentive to teachers .The students also requested that they should be given the opportunity to access the SSNIT loan. Their other request was that the organizers of the distance education programme, that is, the Centre for Continuing Education should permit them to pay their fees in instalments.

The students accepted the fact that they should pay part of the fees. The cost the students bore goes beyond the payment of course materials. They spent money on stationery, textbooks, transportation and accommodation. The Distance Education was affordable but there was the need for GES to pay part of the students' fees to serve as incentives to the students and to encourage more teachers to enrol in the distance education programme. This will go a long way to reduce the number of study leave that the Ghana Education grants to teachers to go for further studies, thereby leaving the classroom

Students' Support Services

Monthly weekend face-to-face sessions were compulsory to all the students. A great number of students regularly attended face-to-face meetings. The students found the face-to-face sessions to be helpful. At face-to-face sessions, students wrote quizzes and examinations. The course tutors took the students through tutorials during the face-to-face meetings.

The majority of the students were members of study groups. The few of the students who were not members of study groups resided in places where they were the only students residing in that place. The course tutors facilitated the setting up of the study groups. At study group meetings, the students discussed personal and academic problems and they also discussed assignments. Although the students found the study groups to be helpful they considered the face-to-face sessions to be vital. Study groups complemented the face-to-face sessions but could not replace it.

The course centres were centrally located. Only a few students found it difficult to get means of transport and such people lived in remote areas where the road network was very bad.

The counselling component of the programme was not structured and only a few students had access to counselling services. The students had not been assigned to academic counsellors. The students also did not have access to library and Internet facilities.

Students' Feedback Systems

The course tutors gave enough assignments in a semester. The assignments were marked and are returned to the students. The problems however, were with the

time the marked assignments were returned to the students and end of semester examination results were released. Most of the students did not have the opportunity to discuss their marks and remarks on assignments with the course tutors. The course tutors gave diagnostic and prescriptive remarks on assignments and gave fair marks that reflected students' ability. The students saw feedback as an incentive to spur them on for studies. Irregular feedback can lead to high attrition rate.

Performance of Course Tutors

The students considered the course tutors to have in depth knowledge in the subjects they handle. The course tutors used appropriate and varied methods in their lessons. The tutors illustrated their lessons and gave enough reinforcement during lessons. The tutors also involved the students in their lessons. The content at each lesson was overloaded yet the students enjoyed and participated in the lessons. The students found the lessons to be lively and stimulating.

How the Students Combine Teaching with Studies

Most of the students found it difficult to combine teaching with studies. The course had adversely affected the teaching of the students. The students lacked planning and discipline and this made it difficult for them to effectively combine teaching with their studies. The programme had affected the social lives of the students as they had little time to spare for other activities and relationships. The students did not get enough time to do deep studies and this reflected in the submitted assignments.

Supervision of the Teaching Practice of Students

Teaching practice of students had not started; it is yet to start in one-month time (May 2004). The clinical type of supervision would be used and the students would be assessed in both peer/micro teaching and observing the students in their real classroom setting. The course tutors who are tutors of Teacher Training Colleges would be used for the supervision of the teaching practice.

Hypotheses

The male and the female respondents used for the study held the same perceptions on all the sections of the programme. The means obtained for the various sections show that the students of the various study centres held similar perceptions on all aspects of the programme. The ANOVA however revealed that levels of significance existed for the sections on students support services and students feedback systems. These differences existed between only the students of Takoradi and Sunyani centres.

Conclusions

The major challenges the students of Centre for Continuing Education, University of Cape Coast distance education programme were facing as identified by the study are acute residential accommodation during face-to-face sessions and inadequacy of students support services. The others are the ineffective and unstructured feedback systems and the inability of the students to effectively combine their teaching with studies. The last of the challenges faced by the students was the inability of the Centre for Continuing Education; the organisers of the distance

education programme, to a devise means for the supervision or assessment of the practical teaching of the students.

Recommendations

1. One finding of this study is that students have no direct access to libraries and Internet facilities. It is therefore recommended to the Centre for Continuing Education (CEE) to set up well-stocked libraries and internet facilities at the course centres and that the students be taught how to access the Internet. Moreover modern technological means such as teleconferencing, computer technology, radio and television broadcasting should be employed in instructional delivery.

2. The study revealed that there is no policy on when to release examination results and marked assignments. It is, therefore, recommended to the Centre for Continuing Education to have a policy on when marked assignments and end of semester examinations should be released.

3. It came out from the study that some of the course tutors do not give diagnostic and prescriptive remarks on marked assignments. The study also revealed that most of the students do not have the opportunity to discuss remarks on their assignments with course tutors. It is recommended to the Centre for Continuing Education to teach the course tutors how to give diagnostic and prescriptive remarks. Students should also be given the opportunity to discuss remarks and marks with their counsellors and course tutors.

4. One of the finding of the study is that the students are unhappy that they are not given the opportunity to access the SSNIT loan scheme as done to their counterparts who are granted study leave with pay. The study also revealed that the students are also not happy that despite the fact that they continue to remain in the classrooms to teach as they pursue their courses Ghana Education Service does not give them any incentive. It is therefore recommended to the Government to grant the students thé opportunity to access the SSNIT loan scheme and that Ghana Education Service (GES) should pay part of the students' fees to serve as incentive to motivate more teachers to opt for distance education.

5. It came out clearly from the study that supervision of students teaching practice had not started. It is recommended to the Centre for Continuing Education (CCE) that the supervision of students teaching practice should start as soon as possible and that each student should be supervised at least once a year.

6. One of the finding of the study is that the monthly face-to-face session is affecting the social lives of both course tutors and students. Moreover it came out from the study that the students face acute accommodation problems during the monthly face-to-face meetings. It is therefore recommended to CCE to replace the monthly face-to-face meetings with holiday's residential courses. The residential courses should take place for two to three weeks during the time the institutions they use as study centres go on holidays. This will solve the acute accommodation problems facing students during face-to-face sessions and lower the pressures on both course tutors and students as

they continue to combine teaching and face-to-face sessions once every month.

Area for Further Research

To find out if teachers trained by the distance compare favourably to teachers trained in the conventional tertiary institutions.

REFERENCES

Admiral, W. F., Lockhorst, D., Wubbels, T. Konhagen, F. A. J. & Veen, W. (1998). Computer-mediated communication environments in teacher education: Computer conferencing and supervision of in-service teachers. Learning Environment Research: An International Journal, 1. (1), 25.

Agyemang, D.K. (1997, March 22). WAEC holds forum on distance education. Ghanaian Times (No.12334), p.1

Agyemang, D. K. (1997, May7). Distance Education complements university education. Daily Graphic, (No.14434), p. 13.

Ahlm, M. (1997). Telephone instruction in correspondence education. Bonn Epistolodidakita.

Baath, J. & Flinck, R. (1973). The two - way Communication in correspondence education. Sweden: University of Lund.

Baath, J. A. (1980). Postal two – way communication in correspondence education. Lund: Glerup.

Banathy, B. H. (1992). Systems view of education: Concepts and principles for effective practice. Englewood Cliffs, N.J: An Educational Publication.

Beeby, C. E. (1966). The quality of education in developing countries. Mass: Harvard University Press.

Bester, G. (2001). Guidelines for structuring and managing multi-purpose community learning centres. Unpublished Master's Thesis. University of Pretoria South Africa.

Branson, R. K. & Grow, G. (1987). Instructional system development: In R. M. Gagne Instructional technology foundations, (pp. 57 – 81) Hillsdale, N. J.

Brundage, D., Keane, R., & Mackneson, R. (1993). Application of learning theory to the instruction of adults. In Thelma Barer-Stein and James A. Draper (Ed.). The Craft of Teaching Adults. (pp.131-144). Toronto, Ontario: Culture Concepts. (ED362644)

Burge, E. (1993). Adult distance learning: Challenges for contemporary practice. Thelma Barer-Stein and James A. Draper (Ed.). The Craft of Teaching Adults. (pp.215-230). Toronto, Ontario: Culture Concepts.

Butler, D. L. & Winne, P. H. (1995). Feedback and self regulated learning: a theoretical synthesis. Review of Educational Research, 65 (3) 245 –2 81.

Chen, L. (1997). Distance delivery system in terms of pedagogical considerations: A Re-evaluation, Educational Technology, 37, 4 34-437.

Clennell, S. Peters, J. & Sewart, D. (1977), Teaching for the open University. Molton Keynes: The Open University.

Coldway, D.E, Spencer, R., & Stringer, M. (1980). Factors affecting learner motivation in distance education.   The interaction between Learner Attributes and Course Performance. Project redeal research report evaluation of distance education for adult learners. Edmonton, Alberta Canada.

Coleman, W.F., (1965). The use of educational radio in developing countries. Journal of Nutrition Education, 11(2), 133-137

Debeauvis, M. (1976). Defining distance education: international perspectives. New York: Routledge.

Department of Education, (1996). Norms and Standards for teacher educators. Technical committee on the revision of norms and standards for educators   . In Dempsey. J. V. & Sales, C.C. (Ed.). Interactive instruction and feedback. (pp. 21-45). Englewood Cliffs, NJ: Educational Technology Publications.

Dick, W. & Carey, L. (1990). The Systematic Design of Instruction. (3rd Ed.). Harper New York, NY: Collins Publishers.

Dodd, T. (1991). The development of distance education a historical perspective. In Jenkins, J. &. Koul, B. N (Ed.). Distance Education: A Review. (pp. 6 – 12) India: National Open University.

Dodd, T. (1986).Administration of Distance – Teaching Institutions. England: International Extension College.

Dunn, S. L. (2000). Distance education. Educational technology. 34 (2), 34.

Duschl, R. A. & Waxman, H. C. (1991). Influencing the learning environment ideas into teacher education. An Australian Perspective. Paper presented at the Annual Meeting of the American Educational Research Association: Chicago.

Fisher, D. & Fraser, B. Y. (April, 1999). Incorporating learning environment ideas into teacher education: An Austrian Perspective. Paper Presented at the Annual Meeting of the American Educational Research Association: Chicago.

Flinck, R. (1978). Correspondence education combined with systematic telephone tutoring. Knstianstad: Hermods.

Gay, R. M. (1985). Education research competencies for analysis and Ohio: Merrill Publishing Company.

Gagne, R. M. (1985). Conditions of learning. (3rd ed.). New York, NY: CBS College Publishing,

Government of Ghana (1989). .Numbers of teachers in pre-university institutions. Accra: Ministry of Education, Planning, Budgeting, Ministry and Education (PBME) Division.

Graham, S. W., & Wedman, J. F. (1989). Enhancing the appeal of tele training. Journal of Instructional Psychology, 16 (4), 183 – 191.

Groeben, N. (1972).   Introduction to course development.   Routledge: Chapman and Hall Inc.

Groeben, N. (1977). Theory and practice of distance education. Routledge: London.

Hall, Y. (1996, July-Sept.). Distance learning strategies examined. IIEP News Letter   p. 20 – 30

Hole, C. O. (1974). The external degree. San Francisco: Jossey – Mass

Holmberg, B. (1974). Distance education: A short handbook. Malmo: Hermods

Holmberg, B. (1977). Distance education: a survey and bibliography.   London: Kogan Page.

Holmberg, B. (1978). Distance education a survey and bibliography. London: Kogan Page

Hollinberg, B. (1985). Communication in distance study. Lund, Sweden: Lector Publishing.

Holmes, D. R., Karmacharya, D. M. & Mayo, J. K. (1993). Radio Education in Nepal. In H. Perraton (Ed), Distance Education For Teacher Training. (pp.136-195) New York: Rutledge.

Jeeawody, B. (1988). Efficiency and effectiveness of distance education, Conference Proceedings of 2nd National Workshop of Distance Education in Nursing Education.

Klare, G. R. & Smart, K. (1973). Analysis of the readability level of selected USAFI instruction materials. Journal of Educational Research, 10, 88-96

Koomson, A. K. (1998). Distance Education as a strategy for Training Teachers in Ghana: Problem and prospects. Journal of the Institute of Education 4. (1).59-68.

Lawton, S. (1996). The Effectiveness of educating community nurses by distance learning. An Unpublished Ph. D Thesis, The Robert Gordon University, Aberdeen.

Lehner, H. & Weigartz, M. (1981, March). Ready-made and individualised distance study. I C C E News letter, pp. 120-135

Ley, K. (1999). Providing feedback to distant students. Campus-wide information systems, 16 (2). 63 – 69.

Ljosa, E. (1975). Why do we make commentary courses? In Ljosa, E. (Ed.) The system of distance education. 1 – IUE, 112 – 118 Malmo: Hermods

Ljosa E. (1977). Course design and media selection – some implications on co-operation between broadcasting and distance education organizations. Malma: Hermods

Macdonald – Ross, M. (1979). Language in texts: a review of research relevant to the design of curricular materials. In Shulman, L. S. (ed.) Review of Research in Education, 6. Itasca, III. : Peacock.

MacHenry, L. & Bozik, M. (1997). From a distance student voices from the interactive video classroom. Tech Trends, 42 (6) 20 – 24.

Magagula, C. M. (2003). Distance Education: Is it a solution for Higher Education in Sub-Sahara Africa? www.2.ncsu.edu.

Makau, B. (1993). The external degree programme at the University of Nairobi. In H. Perraton (Ed.). Distance Education for teacher training. (pp.316-348) New York: Routledge,

Moore, M. G. (1977). Toward a theory of independent learning and teaching. Journal of Higher Education,.4U, 661 – 679.

Moore, M. G. (1973). Toward a theory of independent learning and teaching. Journal of Higher Education, 8(1), 44, 66-69

Morgan, A. (1991). Research Into Student Learning In Distance Education. Victoria, Australia: University of South Australia, Underdale. (ED 342 371).

Mory, E. H. (1996). Feedback research. In Jonassen D. H. (Ed.). Handbook of Research for educational communications and technology. (pp. 919 – 56.) New York, NY: Macmillan.

Naidoo, W.E. (2001). Distance education in Africa. In Magagula, C. M. (2003). Distance Education: Is it a solution for Higher Education in Sub-Sahara? www.2.ncsu.edu

Nwana, O. C. (1992). Introduction to educational research. Ibadan: Heinemann Educational Books (PLC) Nigeria.

Oliveira, J. & Orivel, F. (1993). Logos 11 in Brazil. In Perraton, H. (Ed.). <u>Distance education for teacher training.</u> (pp. 391-401). New York: Rutledge.

Perraton, H. (1981). A theory for distance education. <u>Articles from Prospects.</u> 11, (1).

Perraton, H. (1980). (Ed.). <u>Alternative routes to formal Education,</u> Washington: Bohns Hopkins Press.

Perraton, H. (1993). The effects. In H. Perraton (Ed.). <u>Distance education for teacher training,</u> (pp. 391-401) New York: Routledge,

Peters, O. (1971). Theoretical aspects of correspondence instruction. In Intension, E. L. and Mackenzie, O. (Ed.). <u>The changing world of correspondence study.</u> University Park: Pennsylvania State University Press, pp1-4

Pecku, N. K. (1997, April 14). Winneba Varsity sets up distance education centres. <u>Ghanaian Times.</u> (No.12351), p.1

Potastinik, M., Cooper, J. (1998). Using distance education in teacher training. <u>www. World.org.</u>

Prescott, W. & Robinson, B. (1993). Teacher education at the open university. In H. Perraton (Ed), <u>Distance Education for teacher training,</u> (pp. 287-315) New York: Routledge.

Ravhudzulo, M.A. (2000). NADEOSA Conference papers, <u>www.2.ncsu.edu.</u>

Reddy, V. V. & Manjulika S. (2002). Digital divide: developed vs. developing weak communications. (Ed.). <u>Towards virtualization: open and distance learning.</u> London: Kogan Page.

Reiser, R. & Dick W. (1996). <u>Instructional planning: A guide for teachers.</u> Boston, M A: Allyn and Bacon.

Rekkedal, T. (1973). The written assignments in correspondence education effects on reducing turn round time. Oslo: NKI.

Rowntree, D. (1973). Students exercises in correspondence texts. Milton Keynes: The Open University.

Rowntree, D. (1991). Teaching through self-instruction. London: Kogan Page Ltd.

Rosberg, U. (1966). How should the most efficient correspondence course be designed? (pp7, 14, 17-19) The home study review.

Rose. A (1995, September). Expanding the Potential of distance Education, Adults Learning, 7 (1)

Rumble, G. (1992). The management of distance learning systems: Fundamentals of educational planning. Paris: IIEP/UNESCO

SAIDE (1995 April-November). Teacher education offered at a distance in South Africa: Report for national Audit. Marazim, Boleswa: SAIDE/Macmillan.

Saint, W. (1999). Tertiary distance education and technology in Sub-Saharan Africa. Washington D.C: The World Bank.

Schuemer, R. (1993). Some psychological aspects of distance education. Hagen, Germany: Institute for research into distance education. (ED 357 266).

Schweir, R. (1995). Issues in emerging interactive technologies. In Anglin, G. J. (Ed.).Instructional technology: Past, present, and future. (2nd Ed.). 119-

Sehwar Z. R. (1978). Distance education International Perspectives, (Ed.). Routledge, Chapman and Hall Inc.

Sewart, D. (1978). Continuity of concern for students in a system of learning at a system of learning at a distance. Papiere 22 Hagan: Institute for Fernstudien Furs hung.

Sewart, D. (1988). Distance Teaching: A contradiction in Terms. In Holmberg, B., & Keegan D. (Ed.). (1988). Distance Education International Perspectives. (pp. 46 – 61). Rutledge: Chapman and Hall Inc.

Sosdian C. P. (1977). Degree programmes in the U. S. (pp 15-28.) Washington: National Institute of Education.

Sosdian C. P. & Sharp, L. M. (977). The external degree as a credential graduates experience in employment and further study. Washington: National Institute of Education.

Sosdian C. P. (1978). External degrees: Programme and student characters. Washington: National Institute of Education.

Smith, K. (1990). Distance education: Teaching with technology. In Timmers, S. (Ed.). Training needs in the use of media for distance education. Singapore: Asian Mass Communication Research and Information Centre.

Smith, P. & Regan, T. (1992). Instructional Design. Merrill: New York

Spender, B. (1990). Distance education in rural Alaska: An overview of teaching and learning practices in audio conference courses. University of Alaska Monograph Series in Distance Education. No. 1 Fairbanks, AK: University of Alaska, Centre for Cross-Cultural Studies. (ED 325b).

Sutherland, A. (1997, January 1). Distance Education is vital for growth. Daily Graphic, (No.14330), p 1.

Tessner, K., (1993). The role of role of context in learning and instructional design. ETR&D 45(2).85-115

Unesco, Teacher education guidelines (2002). http\\Unesco doc.. unesco.org.

Verduin, J. R. (1991). Distance education: Foundations of effective practice. Oxford: Jossey-Bass Publishers.

Verduin, J. R. (1991). Educational interaction in distance learning. Psychology Journal, 1 (1) 28-35

Vice Chancellor's Annual Report to the 34TH Congregation, (2004). Statistics on students, Cape Coast: Publication Unit, UCC.

Warren, R. M. (1979). Perceptual restoration of missing speech sounds, Science (12) 392-393.

Wedemeyer, C. A. (1977). Independent study. In Knowles, A. S. (Ed.). The International Encyclopaedia Of Higher Education. Boston: CIHED.

Weingartz, M. (1981). Learning in text. Bochum: Kab

Willis, B. (1992). Distance education: A practical guide. Englewood Cliffs, NJ: Educational Technology Publications.

Wolcott, L. L. (1995). The Distance Teacher as reflective practioners. Educational Technology Publications.

Wright, S.J. (1992) .Teaching in distance education a faculty perspective. The America Journal of Distance Education. 6 (3) 2-4

Yallow, A., Millwater, J., & Fraser, B. J. (1997). .Improving university and primary classroom environments through pre-service teachers' action research. Instructional Journal of Practical Experiences in Professional Education.1, 68-93.

APPENDIX A

UNIVERSITY OF CAPE COAST

INSTITUTE FOR EDUCATIONAL PLANNING AND ADMINISTRATION

QUESIONNAIRE FOR STUDENTS OF UCC DISTANCE EDUCATION

PROGRAMME ON THE CHALLENGES FACING STUDENT TEACHERS

PURSUING TERTIARY DISTANCE LEARNING PROGRAMME

This questionnaire seeks students' knowledge and experiences on distance education (DE). Its aim is to find the challenges facing student teachers of U.C.C. Distance Education Programme and suggest how best to make the programme more efficient and effective.

The questionnaire comprises open-ended and closed-ended with five-lickert scale answers. Please tick (one of) the answers applicable to you when provided and supply answers when not provided.

SECTION A: DEMOGRAPHIC DATA

1. Gender or Sex of respondent.

    Male   [   ]

    Female   [   ]

2. Age of respondent.

    20 – 30 years   [   ]

    21 – 35 years   [   ]

    36 – 40 years   [   ]

    41 – 45 years   [   ]

    46 years+   [   ]

3. Present Grade

    Teacher   [   ]

    Asst. Superintendent   [   ]

    Supt. 1 or Supt. 11   [   ]

Snr. Supt.	[ ]
Pnr. Supt.	[ ]
Asst. Director	[ ]

4. What is your highest qualification?

Four-Year Cert. A.	[ ]
Four-Year Cert. A With O' Level	[ ]
Post Sec. Cert.	[ ]
Post Sec. With 'A' level	[ ]
Four- Year Cert. With 'A' level	[ ]
SSSCE	[ ]

5. How did you gain admission?

Direct entry	[ ]
Access / Remedial/ Course	[ ]

SECTION B

Choose your answer from the following

1 =Strongly Disagree (SD)

2. = Disagree   (D)

3. = Uncertain (U)

4. = Agree   (A)

5. = Strongly Agree (SA)

		SD	D	U	A	SA
6.	Course materials are readable.					
7.	Course materials are comprehensive.					
8.	The various units of course materials are manageable.					
9.	The content of course materials is very adequate.					
10.	Course materials are study guides – need additional books to support them.					
11.	Contents of study materials meet instructional need.					
12.	The contents of course materials are based on the syllabus.					
13.	Course materials give self-evaluation exercises.					
14.	Course materials are received on time.					

15. What subject(s) do you find difficult (If any)?

i..

....

ii...

......

iii..

....

16. Give reasons for your answer for question15.

....

17. Given the option to go for further study which of the following would you choose?

Residential University Course   [   ]

Distance Education   [   ]

18. Give reason(s) for your choice in Q.17.

i...

ii..

		SD	D	U	A	SA
19.	Many teachers prefer Distance Education to Residential university course.					
20.	Distance Education (DE) gives comfort of the home to pursue a course.					
21.	DE gives the opportunity to upgrade oneself.					
22.	DE enhances prospects for promotion.					
23.	I am using DE as a basis for further studies.					
24.	Tuition fee is affordable to me.					
25.	Stationery is affordable.					
26.	Transportation is affordable.					
27.	Books are affordable and readily available.					
28.	Cost of accommodation during residential or face-to-face sessions is reasonable and easy to get.					

29. How do you finance your education?

From salary   [   ]

   Help from partner/spouse   [   ]

Help from Relations   [   ]

Loan from Bank   [   ]

Other(specify) ....

		SD	D	U	A	SA
30.	Option should be given for fees to be paid in instalment.					
31.	As incentive for teachers who opt for Distance Education, GES should pay part of the fees.					
32.	Distance Education students should be given SSNIT loan.					
33.	Teachers who opt for Distance Education should pay part of the fees.					
34	Face-to-face sessions are helpful.					
35.	I attend the monthly weekend residential sessions regularly.					
36.	I am a member of self-help study group.					
37.	At self help study group we discuss personal, academic problems and assignments.					
38.	The course/study centre has a well-stocked library.					
39.	I have free access to study centre library.					
40.	I can borrow books from centre library.					
41.	Course/study centre has internet facility.					
42.	I have access to internet facility with a fee.					
43.	I find self help study group more useful to monthly weekend sessions.					
44.	Tutorials are organised during face-to-face meetings.					
45.	Counselling sessions take place during face-to-face meetings .					
46	At face-to-face sessions, quizzes, examinations etc are written.					

47.	Getting means of transport to study centre is not difficult.						
48.	Study centre is centrally located.						
49.	Assignments are marked and returned promptly.						
50.	End of semester examinations results are released on good time.						
51.	Have opportunity to discuss results and remarks with course tutors.						
52.	Feedback helps me to improve my learning process.						

53. Apart from the print (course materials) and face-to-face tutorials, which of the following medium/media is/are used for instructional delivery at your centre?

Audio cassettes   [ ]
Video tapes   [ ]
Film audio   [ ]
Computers   [ ]
Tele-conferencing   [ ]
None of the above   [ ]
Other(s) (specify)

....

....

163

	SD	D	U	A	SA
54. Tutors have in-depth knowledge of the subjects they handle.					
55. Tutors use appropriate and varied methods in teaching.					
56 Tutors illustrate their lessons very well.					
57. Tutors involve students in lessons.					
58. Tutors give enough reinforcement during lessons.					
59. Content at teaching sessions is not overloaded (not too much),					

60. Can you contact your tutor after face-to-face sessions?

    Yes   [ ]
    No   [ ]

61. If your answer to question 60 is yes through what means? Tick (√) those a pplicable.

    Telephone   [ ]

    E-Mail   [ ]

    Letter   [ ]

    Fax   [ ]

    Text Message   [ ]

    Personal visit   [ ]

		SD	D	U	A	SA
62.	Course has adversely affected my teaching (preparation of lesson notes, giving of assignments and marking them etc)					
63.	I get enough time to study.					
64.	Discipline and planning are needed in pursuing Distance Education programme.					
65.	Course has affected my social life.					
66.	Microteaching is incorporated in face-to-face sessions.					
67.	My head teacher is tasked to supervise my teaching at the school.					
68.	External supervisors come to observe my teaching at school.					
69.	External supervisors who come to observe my practical teachings discuss observation with me.					
70.	My teaching is supervised at least once a semester.					

71. What are the problems you encounter in your course which have not been asked?

i) ....

ii)...

72. What suggestions do you offer for reducing the problems faced by Distance Education

Teacher-trainees?

i)...

ii)...

Thank you for responding to the questionnaire. God richly bless you.

APPENDIX B

UNIVERSITY OF CAPE COAST
INSTITUTE FOR EDUCATIONAL PLANNING AND ADMINISTRATION
QUESTIONNAIRE FOR CENTRE CO-ORDINATORS/ RESIDENT TUTORS
AND TUTOR-COUNSELLORS OF UCC DISTANCE EDUCATION
PROGRAMME ON THE CHALLANGES/PROBLEMS FACING STUDENT
TEACHERS PURSUING TERTIARY.DISTANCE LEARNING PROGRAMMES

This questionnaire seeks Resident tutors and course tutors knowledge and opinion on challenges facing teachers pursuing in-service tertiary courses at U.C.C. Distance Education programme. The aim of this study is to suggest how best to find solutions to these challenges to make the programme more efficient and effective. The questionnaire comprises open-ended and closed-ended questions with five-likert scale answers. Please tick ($\sqrt{}$) one of the answers applicable to you when provided and supply the answers when not provided.

Respondent No................

SECTION A: DEMOGRAPHIC DATA

1. Gender or Sex

   Male   [ ]

   Female   [ ]

2. Age

   Below 30 years   [ ]

   30 – 35 years   [ ]

   35 – 45 years   [ ]

   40 – 45 years   [ ]

   Above 45 years   [ ]

3. Highest qualification

   BA/BSC,/BED   [ ]

   MA/MED/MSC/MPHIL   [ ]

   PHD   [ ]

4. Are you a professionally trained teacher?

   Yes   [ ]

   No   [ ]

   Receiving Training   [ ]

5. What is your status/position?

   Resident tutor   [ ]

   Acting Resident tutor   [ ]

   Tutor   [ ]

   Counsellor   [ ]

6. If a tutor, what is your subject area(s)?

i..

ii...

7. What is your teaching experience?

   Below 2 years   [ ]

   2 – 5 years   [ ]

   5 – 10 years   [ ]

   10 – 15 years   [ ]

   Above 15 years.   [ ]

8. What are your main functions?

i..

...

ii...

SECTION –B

Choose your answers for this section from the following options:

1= Strongly Disagree (SD)

2= Disagree   (D)

3= Uncertain   (U)

4= Agree   (A)

5= Strongly Agree   (SA)

		SD	D	U	A	SA
9.	Course materials are readable.					
10.	Course materials are comprehensive.					
11.	The various units of course materials are manageable.					
12.	The content of course materials are very adequate.					
13.	Course materials serve as study – guides.					
14.	Content of course materials meet student instructional need.					
15.	Course materials give self-evaluation exercises.					
16.	Course materials are given to students on time.					

17. What subject course materials do student find difficult?

i...

...

ii...

18. Why do students find this/these subjects difficult?

i...

ii...

iii...

19 In your opinion have teachers accepted the Distance Education programme?

Yes   [ ]

No   [ ]

No certain   [ ]

		SD	D	U	A	SA
20.	Many teachers prefer Distance Education to Traditional education.					
21.	Distance Education (DE) gives teachers the comfort of the home to study.					
22.	Distance Education gives teachers the opportunity to upgrade.					
23.	Distance education enhances the promotion prospects of teachers.					
24.	Teachers use Distance education as basis for further studies.					
25.	Tuition fees are affordable to students					
26.	Stationery cost is affordable to students.					
27.	Transportation is affordable to students.					
28.	Cost of books is affordable to students.					
29.	Accommodation during residential courses is readily available.					
30	Students should be given the option to pay fees in instalment.					
31.	Distance Education students should be given SSNIT loans.					
32.	G.E.S. should pay part of the fees of teachers who opt DE programmes.					
33.	Teachers who opt for Distance education should bear greater					

	portion of the tuition fee.					
34.	Students are obliged to attend monthly weekend residential sessions regularly.					
35.	Tutors help to set up self-help study groups.					
36.	Each student is obliged to join self-help study group.					
37.	Study centre has well stocked library.					
38.	Students have free access to centre library.					
39.	Students can borrow books from the library.					
40	Course centre has internet facility.					
41.	Students can access internet facility with a fee.					
42.	Students find study group more helpful to face-to-face sessions.					
43.	Tutors lead tutorials during face-to-face periods.					
44.	Students write quizzes/examinations etc during face-to-face sessions.					
45.	Students find it difficult to get transportation to study centre.					
46.	Study centre is centrally located.					
47.	Adequate assignments are given in a semester.					
48	Assignments are marked and returned to students on time.					

49.	Appropriate remarks are given on assignments.					
50	Marks given are fair and reflect student's ability.					
51.	Remarks are both diagnostic (identify student's problems) and prescriptive (offer suggestions on how to tackle the questions).					
52.	End of semester results are released on time.					
53.	Students are given the opportunity to discuss marks and comments (feedback) with course tutors.					
54.	Feedback serves as incentive for students to improve their learning.					

55. Have you witnessed dropout from the course for the past year?

    Yes   [   ]

    No   [   ]

    Haven't taken notice   [   ]

56. If your answer to 55 is Yes, how many?

      Below 5   [   ]

      6 – 10   [   ]

      11 – 15   [   ]

      16 – 20   [   ]

      Above 20   [   ]

57. Which sex has high dropout rate?

      Male   [   ]

      Female   [   ]

      Haven't taken notice   [   ]

58. What causes have you identified to contribute to dropout? Tick (√) as many as applicable.

Job Stress	[ ]
Lack of time	[ ]
Restriction on private life	[ ]
Cause taking too long	[ ]
Pregnancies	[ ]
Finances	[ ]
Stress on family	[ ]
Leaving for full time residential course	[ ]

Other(s) specifies...

59. Apart from print and classroom face-to-face interactions what other medium/media do you tutors employ for instructional delivery?

Audio Cassettes	[ ]
Video Cassettes	[ ]
Film audio	[ ]
Computers	[ ]
Radio broadcast	[ ]
Tele-conferencing	[ ]

Others(s) specify

i..

ii...

iii..

		SD	D	U	A	SA
60.	Tutors have in-depth knowledge of subject(s) they handle.					
61.	Tutors use varied and appropriate methods in instructional delivery.					
62.	Tutors illustrate their lessons?					
63.	Tutors involve students in lessons?					
64.	Students find your lessons lovely.					
65.	Tutors give enough reinforcement during lessons.					
66.	Content given at each lesson is not overloaded (too much).					
67.	Students complain that course has affected their normal teaching activities adversely.					
68.	Students don't get enough time to do deep studies and this reflects in assignments submitted.					
69.	Student who do proper planning and are disciplined can effectively combine teaching and studies.					
70.	Students involve their pupils in their lessons.					
71.	Pupils of student teachers find their lessons lovely.					
72.	Microteaching is incorporated in the face-to-face sessions.					
73.	Head teachers of student teachers are tasked to observe student practical teaching and submit report.					
74.	Tutors supervise practical teaching of students-teachers at least once a semester.					
75.	Tutors give marks for practical teaching of students.					
76	When tutors supervise practical teaching of students they discuss observation with them (students).					

77. What problems of student teachers have come to your notice, which have not been touched in this questionnaire?

i...

ii...

78. What suggestions do you offer for reducing the problems faced by Distance Education student teachers.

i...

ii...

iii...

iv...

Thank you for responding to the questionnaire. God richly bless you.

APPENDIX C

Descriptive

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
TOTPA	Takoradi	65	3.3692	.96127	.11923	3.1310	3.6074	1.00	5.00
	Koforidua	81	3.4012	1.04109	.11568	3.1710	3.6314	1.00	5.00
	Kumasi	80	3.4063	.88979	.09948	3.2082	3.6043	1.50	5.00
	Sunyani	77	3.4545	.93956	.10707	3.2413	3.6678	1.00	5.00
	Total	303	3.4092	.95556	.05490	3.3012	3.5173	1.00	5.00
TOTPF	Takoradi	63	3.9603	.88126	.11103	3.7384	4.1823	2.50	5.00
	Koforidua	80	3.8563	.81207	.09079	3.6755	4.0370	2.50	5.00
	Kumasi	77	4.1104	.78062	.08896	3.9332	4.2876	2.50	5.00
	Sunyani	76	4.1711	.71439	.08195	4.0078	4.3343	2.50	5.00
	Total	296	4.0253	.80161	.04659	3.9336	4.1170	2.50	5.00
TOTCM	Takoradi	64	3.4766	.73154	.09144	3.2938	3.6593	2.00	5.00
	Koforidua	80	3.4750	.75850	.08480	3.3062	3.6438	1.50	5.00
	Kumasi	80	3.4563	.94866	.10606	3.2451	3.6674	1.00	5.00
	Sunyani	81	3.3148	.87122	.09680	3.1222	3.5075	1.00	5.00
	Total	305	3.4279	.83590	.04786	3.3337	3.5221	1.00	5.00
TOTPSS	Takoradi	62	2.8790	.93074	.11820	2.6427	3.1154	1.00	5.00
	Koforidua	73	3.0685	.88316	.10337	2.8624	3.2745	1.00	5.00
	Kumasi	77	3.1688	.86073	.09809	2.9735	3.3642	1.00	5.00
	Sunyani	73	3.3082	.86454	.10119	3.1065	3.5099	1.00	5.00
	Total	285	3.1158	.89143	.05280	3.0119	3.2197	1.00	5.00
TOTPFS	Takoradi	62	2.8790	.93074	.11820	2.6427	3.1154	1.00	5.00
	Koforidua	73	3.0685	.88316	.10337	2.8624	3.2745	1.00	5.00
	Kumasi	77	3.1688	.86073	.09809	2.9735	3.3642	1.00	5.00
	Sunyani	73	3.3082	.86454	.10119	3.1065	3.5099	1.00	5.00
	Total	285	3.1158	.89143	.05280	3.0119	3.2197	1.00	5.00

APPENDIX D

Multiple Comparisons (Tukey HSD)

Dependent Variable	(I) Regional centres	(J) Regional centres	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
TOTPSS	Takoradi	Koforidua	-.1895	.1525	.600	-.5813	.2023
		Kumasi	.2898	.1507	.218	-.6769	9.730E-02
		Sunyani	-.4292*	.1525	.025	-.8210	-3.7384E-02
	Koforidua	Takoradi	.1895	.1525	.600	-.2023	.5813
		Kumasi	-.1003	.1443	.899	-.4709	.2703
		Sunyani	-.239	.1462	.356	-.6152	.1358
	Kumasi	Takoradi	.2898	.1507	.218	-9.7302E-02	.6769
		Koforidua	.1003	1.443	.899	-.2703	.4709
		Sunyani	-.1394	.1443	.769	-.5100	.2312
	Sunyani	Takoradi	.4292*	.1525	.025	3.738E-02	.8210
		Koforidua	.2397	.1462	.356	-.1358	.6152
		Kumasi	.1394·	1.443	.769	-.2312	.5100
TOTPFS	Takoradi	Koforidua	-.1895	.1525	.600	-.5813	.2023
		Kumasi	-.2898	.1507	.218	-.6769	9.730E-02
		Sunyani	-.4292*	.1525	.025	-.8210	-3.7384E-02
	Koforidua	Takoradi	.1895	.1525	.600	-.2023	.5813
		Kumasi	-.1003	.1443	.899	-.4709	.2703
		Sunyani	-.2397	.1462	.356	-.6152	.1358
	Kumasi	Takoradi	.2898	.1507	.218	-9.7302E-02	.6769
		Koforidua	.1003	.1443	.899	-.2703	.4709
		Sunyani	-.1394	.1443	.769	-.5100	.2312
	Sunyani	Takoradi	.4292*	.1525	.025	3.738E-02	.8210
		Koforidua	.2397	.1462	.356	-.1358	.6152
		Kumasi	.1394	.1443	.769	-.2312	.5100

*The mean difference is significant at the .05 level.

176