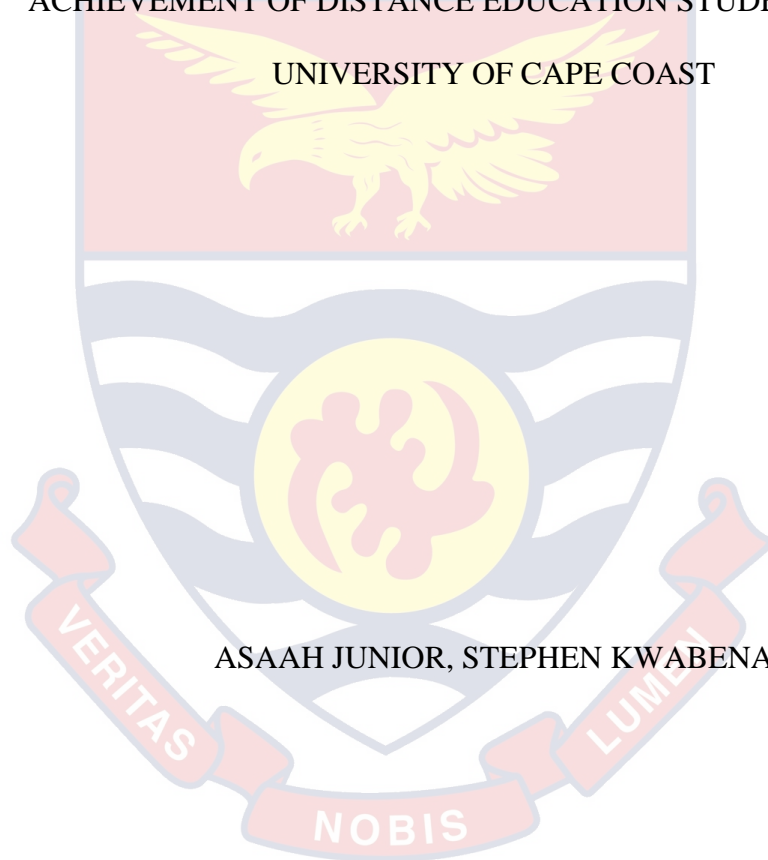


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EFFECTS OF STUDENT SUPPORT SERVICES ON ACADEMIC  
ACHIEVEMENT OF DISTANCE EDUCATION STUDENTS OF THE  
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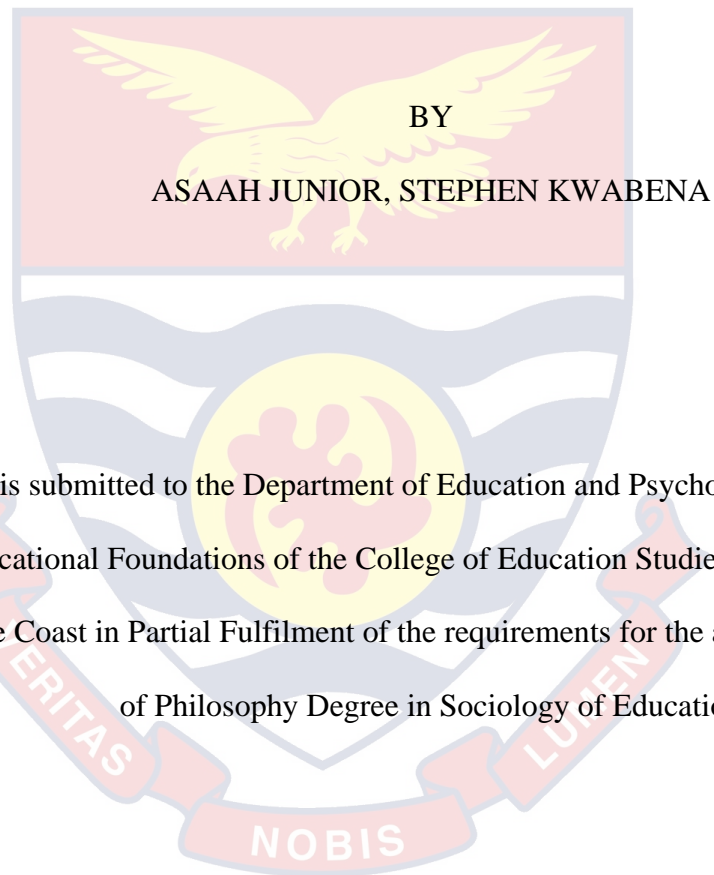


ASAAH JUNIOR, STEPHEN KWABENA

2019

UNIVERSITY OF CAPE COAST

EFFECTS OF STUDENT SUPPORT SERVICES ON ACADEMIC  
ACHIEVEMENT OF DISTANCE EDUCATION STUDENTS OF THE  
UNIVERSITY OF CAPE COAST



Thesis submitted to the Department of Education and Psychology, Faculty of Educational Foundations of the College of Education Studies, University of Cape Coast in Partial Fulfilment of the requirements for the award of Master of Philosophy Degree in Sociology of Education

AUGUST 2019

## DECLARATION

### Candidate's Declaration

I hereby declare 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 Signature..... Date:.....

Candidate's Name: Asaah Junior, Stephen Kwabena

### Supervisors' Declaration

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

Principal Supervisor's Signature..... Date:.....

Principal Supervisor's Name: .....

Co-Supervisor's Signature: .....Date:.....

Co-Supervisor's Name: .....

## ABSTRACT

The study sought to examine the effects of student support services on academic achievement of distance education students. The correlation and descriptive survey designs were employed to conduct the study. A total sample of 342 was selected using purposive, stratified as well as simple random sampling procedures. Questionnaire and test scores (quiz items) were used as data collection instruments. Pearson Product Moment Correlation as well as multiple regression analysis procedures were used to analyze the data for the study. The results of the study show that face-to-face element adds an opportunity for colleagues to bond, develop social linkages and an added value being able to gain insight from other students. Findings of the study also show that the use of instructional materials (course modules) help in the attainment of teaching and learning objectives as well as the development of learners' intellectual abilities. Based on the findings of the study, it is recommended that the College of Distance Education, University of Cape Coast, should continue to see to it that face-to-face contact sessions are conducted in a manner that satisfies the needs of distance education learners and ensuring the process of continuous improvement of the distance education programme. Secondly, the College of Distance Education should provide suitable learning environment at the various study centres so that students attend lectures regularly for effective tutoring and learning.

## ACKNOWLEDGEMENTS

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While I thank institutions and individuals who have contributed to the completion of my studies and this thesis, I wish to point out that I am solely responsible for my shortcoming that may be in this piece of work.

DEDICATION

To my wife, Madam Ophelia Andoh and my son, Nana Asaah Oppong.



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## CHAPTER ONE

### INTRODUCTION

This chapter includes the background to the study, statement of the problem, purpose of the study, research questions and hypotheses. It also contains the significance of the study, limitations and delimitations, definition of terms and the organisation of the study.

The provision of educational opportunities has become a major challenge of many developing countries, which is noted for its highest population growth rate in the world. High population growth rates in developing countries is as a result of a numerous of factors, most notably, the incidence of high birth rates (Haub & Gribble, 2011). The efforts of various governments to expand access to education for its people have proved unsuccessful over the years. Problems that governments face in response to the rapid surge in education include the cost of putting up classrooms, providing modern scientific laboratories, providing residential facilities for teachers as well as salary for lecturers (Ahmed, 2011). Though most students prefer conventional education, a substantial number of students also prefer distance education. Distance Education is not a new concept. It started in the late 1800s, at the University of Chicago (McIsaac & Gunawardena, 1996). This institution was the first to establish a correspondence programme between the teacher and learner at different locations.

Policies pursued by colonial and post-colonial regimes on the educational front have been enormous. University education started in Ghana during the colonial era. The first public university in the country was established in 1948 as the University College of the Gold Coast, now called University of Ghana, Legon (University of Ghana, 2009). Since then there has been eight additional public funded traditional universities. Nonetheless, for the past two decades, public universities in Ghana had rejected many applicants who otherwise are qualified by virtue of the National Accreditation Board's entry requirements to pursue university education in the country. Averagely, about 49% of qualified applicants gain admission to the public universities, creating demand-supply gap of about 51% (Oduro, 2008). For example, in the 2005/2006 academic year only 55% of qualified applicants were admitted into all the Public Universities in Ghana (Oduro, 2004). In the past, the following distance education programmes were run by national and international bodies in Ghana. These included the following; The Correspondence Programme by the Institute of Adult Education (IAE) University of Ghana; Kumasi Institute of Tropical Agriculture (KITA) Home Study Centre, the Rapid Results College of the Trades Union Congress, the Pupil Teacher Modular Course and the Rural Radio Forum (COL. 1992).

### **Background to the Study**

The term 'Distance Education' was coined in 1972 by the International Council for Correspondence Education (Moore, 1990). Moore (1990) defined Distance education as institution-based, formal education where the learning group is separated, and where interactive

telecommunications systems are used to connect learners, resources, and instructors. Peratton and Creed (2000) define distance education as an educational process in which a significant proportion of teaching is conducted by someone far removed in space and, or in time from the learners.

Peratton and Creed (2000) maintained that it is the instructional delivery that does not compel the student to be physically present at the place of instruction. Girdwood (1999) asserts that it is a planned and systematic activity which comprises the choice, didactic preparation and presentation of teaching materials vis-à-vis the supervision and support of student learning and which is achieved by bridging the physical distance between students and teachers by means of at least one appropriate technical medium. It involves the provision of a support system by the institution to fulfill the possible range of needs presented by distance education learners and ensures the ready access to adequate learning resources and services that can stimulate the mind as well as encourage the total growth and development of the students (Sewart, 1993; Simpson, 2000; Tait, 2000). Girdwood (1999) identified Distance Education models used worldwide. These are; the Insitu model, University Based autonomous model, National Distance Education Enterprise Model and the Global Enterprise Model.

As part of effort by the Ghana government to meet the ever increasing demand for university education, the distance education strategies were adopted (Ossei- Anto, 2002). Some of the factors contributing to the development of Distance Education were identified in a survey conducted by Aggor, Kinyanjui, Pecku and Yerbury (1992) for Ministry of Education on



the challenges of accessing tertiary education as; high unit cost, inadequate infrastructure (staffing, equipment and accommodation for both tutors and students), lack of access because of insufficient space. It is as a result of these research findings that the University of Cape Coast devised ways of admitting qualified applicants who hitherto would be denied access. Distance education in Ghana is being used by the University of Cape Coast as a crucial tool for providing Basic School teachers with in-service education in the subjects they teach and for expanding tertiary education more cheaply than by the conventional means. This challenge was taken up by the University of Cape Coast to institute the distance education programme to provide university education to qualified applicants. Akuamoah- Boateng, Sam- Tagoe and Brown (2012) noted that, University of Cape Coast Distance Education programme serves as a tool in upgrading the productive potentials of the country through distance learning.

The inception of the Distance Education Programme in the University of Cape Coast dates back to 1997, when the Centre for Continuing Education (CCE), now College of Distance Education, provided higher learning opportunities for applicants who even though qualified for admission, but failed to enter universities due to constraints in physical facilities. The vision of the College of Distance Education, University of Cape Coast is to position the College as the leading provider of quality distance and continuing education in Ghana and beyond. (Students' Handbook, CoDE, 2014-2015). The College of Distance Education has identified its mission statement to be 'an institution of excellence for planning, delivery of innovative demand driven customer oriented and cost

effective continuing and distance education programme, aimed at assisting individuals in overcoming geographical, economic, social and cultural barriers to learning, and for national development. In order for the vision and the mission of College of Distance Education to be realised, it will have to consider the issues of policy, technology, quality assurance and student support services, among others. Galusha (1997) for instance, stresses that, student support services should be given the necessary attention when planning distance education because it resolves issues arising out of the isolation of the student from the teacher. Student support services are the provision of assistance to meet students' needs. It provides advice on study skills, career choice, accommodation, and part time employment, personal development, medical matters, scholarship as well as financial difficulties (Gujjar & Haffez, 2008).

Moreover, learning support can be provided in face-to-face mode and mediated mode such as through printed materials, telephone and radio. These support services exist to address needs or problems which students may have in order to allow them to concentrate more on their studies (Lynch, 2002). Student support services focus on providing learners with the assistance they need to achieve their desired outcomes in a distance education environment (Ukpo, 2006). According to Tait (2000), students support services have three broad categories according. Firstly, Cognitive support which involves supporting and developing learning through mediation of the standard and uniform elements of course materials. Secondly, Affective Support, that encompasses providing an environment which supports students, creates commitment, and enhances self-esteem.

The last support service, systemic, establishes administrative processes and information management system which are effective, transparent and overall student achievement. Many studies have been conducted to investigate how these support services benefit the students academically. Studies on the effects of tutorial services (Amundsen & Bernard, 1989; Naylor, Stevenson & Cowie., 1990; Morgan & Morris, 1994; Stevenson & Sander, 1998), video conferencing sessions (Robson, 1996; Konx, 1997; Daud, Hashim & Saleh, 2000) and the use of ICT (Zhang 1998; Navarro & Shoemaker, 2000) as well as the students' achievements have shown that such services result in positive learning outcomes.

#### **Statement of the Problem**

Distance education is gaining popularity at a faster rate now than ever before. It is seen to be more flexible or open to a larger number of learners. It has the potential to contribute to the enhancement of people's learning by overcoming temporal and spatial barriers thereby ensuring familial commitments (Sewart, 1993). Some of these barriers include high residential costs, regular classes and student isolation (Galusha, 1997).

Distance learning brings education to the home of learners and allows learners to study at their own pace, acquire skills necessary for their personal development as well as fulfilling family obligations (Brunner, 1991). An important element of distance education is the provision of student support services that would facilitate the array of educational activities (Phelps, 1999). A similar view is held by Sweet (1986) that without student support services, distance students are likely to drop out due

to difficulties such as financial costs of study, disruption of family life, perceived irrelevance of their studies and lack of support from employers.

There are common service needs for all distance education learners but the basic types of student support services are tutorial and counselling, therefore distance learning systems need a network of tutorials. Carefully prepared course materials are self-contained and can provide the utmost guidance to learners to pursue their education. The University of Cape Coast is one of the institutions in Ghana which has pioneered the provision of distance education and it has over the years recorded some experiences which will be beneficial for the future of distance education in Ghana. The distance education programme holds immense potential in terms of its ability to reach larger numbers of students, to reach groups that have previously been excluded from educational opportunities, and to do so with a curriculum which is consistent in content and quality. Tesfaye (2002) indicated that the major problems which have significant impact on the success of distance learner at the tertiary level are the disparity between the needs of distance learners and the provision of tutorial services; the style of the presentation and delays in the distribution of the self-learning materials (modules); inefficient organisation and administration, absence of standard criteria to recruit tutors and course developers, shortage of trained tutors in distance education and inadequate facilities.

Researchers in the field of distance education have explored student support services as influencing students' academic achievement (Owusu-Mensah, 2006; Panagiotis, 2010; Petrie, 2014). These researchers centred their findings on these key variables; guidance and counselling, tutor

qualification, tutoring programme structure and administrative assistance, but left out other important variables such as; face-to-face contact sessions, provision of course materials, conducive learning environment, students' preparedness and tutorial attendance. Other researchers focused their studies on urban centres (Accra, Kumasi and Cape Coast) and left out the semi-urban centres. The current study touched on the semi-urban centres such as; Assin Fosu, Dunkwa-On-Offin and Twifo Praso study centres. From the review of the literature, it has been observed that effects of student support services on academic achievement have not been fully explored. Therefore this current study is an attempt to fill the research gap in the literature.

### **Purpose of the Study**

The purpose of this study was to examine the effects of students support services on academic achievements of distance education students. The study specifically sought to examine:

1. The relationship between development of course materials and academic achievement of distance education students
2. The relationship between face-to-face tutorial session and academic achievement of distance education students
3. The relationship between tutorial attendance and academic achievement of distance education students
4. The relationship between conducive learning environment and academic achievement of distance education students
5. The relationship between students' preparedness and academic achievement of distance education students

### Research Questions

The study sought to answer the following research questions.

1. How does the development of course materials relate to the academic achievement of distance education students?
2. How does face-to-face tutorial session relate to the academic achievement of distance education students?
3. How does tutorial attendance relate to the academic achievement of distance education students?
4. How does conducive learning environment relate to the academic achievement of distance education students?
5. How does students' preparedness relate to the academic achievement of distance education students?

### Hypothesis

The following hypothesis was formulated and tested:

- H<sup>0</sup>: Student support services (course materials, face-to-face, conducive learning environment) will not directly predict academic achievement of distance education students.
- H<sup>1</sup>: Student support service (course materials, face-to-face, conducive learning environment) will directly predict academic achievement of distance education students.

### Significance of the study

The findings of the study will enable programme developers and implementers, critical issues to reflect on as they make preparations towards the extension of the distance education programme in Ghana.

The findings of the study will be informative for both local and international colleges and policy makers engaged in the work of distance education, if it is published in research journals and other media.

The findings of this study will provide useful information and highlight the contribution of each support service to institutions offering distance education and it is envisaged that these institutions would accordingly be able to take the appropriate steps to ensure that such support services are given priority during the process of planning and development.

If the findings from this study are published in the media, the institutions providing distance education could also ensure the necessary improvement of learner support services to appropriately meet the important needs of students.

The findings will also inform distance education providers that if these support services are improved and enhanced, it would not only help to improve the student's academic achievement, but at the same time, would also help to increase their knowledge stock and retention, reduce the rate of isolation as well as improving students institutional-connectedness.

### **Delimitations of the Study**

The study was conducted in three study centres in the College of Distance Education, University of Cape Coast. The three study centres were all selected from the Central Region due to proximity. The second (level 200) year students were used for this study. The choice of the second year students was that these students have been in their various study centres for more than a year and can provide useful information. Apart from that, the

Third year students were then writing their final paper hence mobilizing them to complete the questionnaire was problematic.

The study used the second semester quiz (1) results in Educational Psychology, Mathematics for Basic School Teacher (II) and English for Basic School Teacher (II) of Diploma in Basic Education (DBE) and Diploma in Psychological Foundation (DPF) students as a measure of their academic achievement. The study is also delimited to the following variables; face-to-face tutorial sessions, development of course materials, tutorial attendance, gender, conducive learning environment, students' preparedness and achievement of distance education students.

#### **Limitations of the Study**

Limitations of the study cannot be ignored since participation in this study is not compulsory. Some respondents were not forthcoming with answers to most of the questions while others provided scanty information. Time factor was also another constraint that faced this study. In fact, because this study was purely for academic purpose and, therefore, was time bound, it did not afford the researcher the opportunity to explore much into the support services that affect academic achievement.

#### **Organisation of the Rest of the Study**

The rest of the study is organised into four chapters. Chapter Two is structured in four 'thematic areas'. These are concept definition, review of empirical studies, theoretical review as well as the conceptual framework.

The empirical review seeks to review relevant related literature on the role of student support services in the academic achievements of distance students.



The theoretical review looks at the theoretical foundation behind the study and in this instance, the transactional distance theory and the theory of autonomy and independent study are examined. The conceptual framework examines the effects of student support services in detail. Chapter Three centres on the methodology aspect of the study and it comprises the research design, the population, the sample and sampling procedure, research instrument, data collection procedure and data analysis. Chapter Four involves the result and discussion of the findings.

Lastly, Chapter Five gives the summary of findings, conclusions and recommendations of the study.

### **Summary**

This chapter centred on the background to the study, statement of the problem, purpose of the study, research questions and hypotheses. The chapter also presented the significance of the study, limitations and delimitations, definition of terms as well as the organization of the study.

## CHAPTER TWO

### LITERATURE REVIEW

In this chapter, the conceptual review, review of empirical studies the theoretical review, and the conceptual framework for the study are all presented.

#### Conceptual Review

This section explores the concept of academic achievement and student support services as used in the literature.

#### Academic Achievement

Student Academic achievement is one of the most pressing educational issues revolving around our educational system. It is arguably the primary business of education. Literature on student academic achievement is very vast. Many scholars and researchers, particularly in education have attempted to shed light on what constitutes student academic achievement (Cope & Kalantzis, 2000; Cummins, 2000; Nieto, 2004). The constructs, “academic performance”, “academic achievement”, and “learning outcomes are used interchangeably and refer to the different levels of measurable and observable behaviour of learners. Students’ academic achievement is a term that appears frequently in higher education discourse (Hijazi & Naqvi, 2006). The term has often led to scholars and researchers posing relevant questions such as what constitute academic achievement and how can student academic achievement be assessed and also be measured? (Burns & Darling, 2002).

The first important step towards gaining a full understanding of students' academic achievement is to define it, as well as to identify positive student outcomes that represent concrete indicators of student academic achievement. Many achievement literature point out that, there does not appear to be one universally accepted definition of academic achievement (Tinto, 1993). It is a multidimensional construct composed of the skills, attitudes, and behaviour of a learner (Hijazi&Naqvi, 2006). Student academic achievement refers to the acquired knowledge, skills and attitudes that will prepare them to lead happy and successful lives. It is the improvement in what students know and are able to do relative to where they started and to achieve their full potential, not relative to a fixed, grade-based benchmark. This suggests that students should be supported and nurtured in areas where they struggle, and be pushed to reach mastery in areas where they are strong.

In terms of measuring academic achievement, researchers have used a variety of ways and steps. Grade point averages, report card grades, standardised test scores, achievement test scores, teacher ratings, grade retention, cognitive test scores and dropout rates are among the commonly used criteria for measuring students' academic achievement (Burns & Darling, 2002; Hijazi & Naqvi, 2006). For the purpose of this study, student academic achievement is seen as that which is accomplished by the actual execution of class work in the school setting. It is usually assessed by the use of teacher ratings, test scores, exams, assignments and presentations. It is typically assessed by the use of teacher ratings, tests, and exams.

Simpson and Weiner (1989) are of the view that achievement test intends to measure systematic education and training in school occupation towards a conventionally accepted pattern of knowledge and skills. Students' academic achievement is clearly evidenced when students feel personally validated and believe that their effort matters and can influence or control the prospects of their learning outcomes. These inspire them to become actively engaged in the learning process, think reflectively about what they are learning and able to connect it to their previous experiences and future encounters.

The measurement of students' academic achievement continues to be a controversial topic among policymakers, measurement experts, and educators (Johnson, 2003; Fryer & Elliot, 2007). Measuring academic achievement can occur at multiple levels and serves multiple purposes (Hijazi&Naqvi, 2006). According to Simpson and Weiner (1999), it constitutes assessing learners observable behaviour in a standardised series of tests. It is usually constructed and standardized to measure proficiency in school subjects. A typical example is when teachers conduct formative and summative tests to evaluate student mastery of course content and supply grades for students, parents and sometimes the education department. Such tests are conducted to determine the progress of students at the school level.

According to Bruce and Neville (2009), educational achievement is measured by standardised achievement test developed for the subjects under study. They opine that academic achievement is measured in relation to what is attained at the end of the course. They concluded that for a test to be standardised, it must be valid over a period of time. Test scores and grade

point averages communicate to students about their mastery of content and contributing to accumulated credit for graduation. They also provide information for consideration in college admission (Alexander, Entwisle & Horsey, 1997; Adekola, 2008). Grades are composite measures that account not only for students' mastery of content, but for other factors such as classroom participation, attitudes, progress over time and attendance. Grades constitute an important indicator within the academic achievement outcome domain because they spell out achievement by a teacher's standardized and achievement relative to other students in a given classroom setting.

It is imperative to note that, it is not just one point observation of measurable behaviour of a person that constitutes his or her academic achievement. In order to arrive at a comprehensive description of students' academic achievement, there should be an assessment of how well the student accomplishes the programme's goal thus, a detailed summary of the cumulative academic programme performance up to the point of graduation. The fact that modern education has different levels of aims suggests that we must endeavour to measure the extent of its success in a variety of ways (Wainer & Steinberg, 1992).

### **Student Support Services**

Student support services are the provision of assistance to meet students' needs. It provides advice on study skills, career choice, accommodation, and part time employment, personal development, medical matters, scholarship as well as financial difficulties (Gujjar & Hafeez, 2008). These services are often able to help students overcome a number of obstacles that stand in the way of pursuing and completing stated

educational goals. In the view of Simpson (2000) learning support services in distance education are activities beyond the delivery of course materials that assist in the progress of students in their studies. These support services can be in the form of facilities, administrative assistance, supplementary reading materials and reference, human interaction advice and moral support. Simpson (2000) maintained that the support services are not limited only to the cognitive, intellectual and knowledge aspects of their learning, also the affective and organisation aspects of their studies are given much recognition. Therefore, students support services in distance education generally connote actions taken by the distance education providers to facilitate learning by the students and to reduce the disadvantages associated with learning at a distance.

Moreover, learning support can be provided in face-to-face mode and mediated mode such as through printed materials, telephone, radio. These support services exist to address needs or problems which students may have in order to allow them to concentrate more on their studies (Lynch, 2002). Student support services focus on providing learners with the assistance they need to achieve their desired outcomes in a distance education environment (Ukpo, 2006). It provides students free comprehensive services through classroom interaction, academic skill development, academic assistance and career development. Students support services can be put into three broad (Tait, 2000). First and foremost, Cognitive Support, thus, supporting and developing learning through mediation of the standard and uniform elements of course materials. In addition, Affective Support, thus, providing an environment which supports students, creates commitment, and enhances

self-esteem. The last support service, systemic, establishes administrative processes and information management system which are effective, transparent and overall student achievement. In conclusion, effective distance education depends upon effective student support services and good learning materials. Study materials must be distributed in a timely fashion as well as providing feedback to students on performance levels without delay in order to sustain student motivation and good learning.

### **Review of Empirical Studies**

The empirical studies have been reviewed in line with the objectives of the study such as development of course material and students' academic achievement in distance education, face-to-face and students' academic achievement, tutorial attendance and students' academic achievement, conducive learning environment and students' academic achievement and lastly students' preparedness and their academic achievement.

### **Course or Learning Materials and Academic Achievement**

The role course or instructional materials play in any teaching and learning process cannot be overemphasised. The reason is that such materials facilitate, enhance and make instructional sessions easy, lively and practical. Thus, printed course materials constitute the mainstay of teaching through the distance education system. In distance education, learning materials or modules serve as the primary source of knowledge to learners. They are usually designed and printed in such a way that learners can understand them easily. Even in advanced countries of the world where open universities are highly developed and mass communication media and information technologies have brought about revolutionary changes in their

education systems, printed course materials and modules are still the most important means of imparting instructions to thousands of learners at a distance. According to **Nwachukwu (2006)**, course modules or materials are devices acquired or developed to help tutors in transmitting an organized knowledge, skills and attitudes to learners within an instructional situation. He stressed further that they are educational resources used for illustrating the content to be delivered, thereby making learning more practical and less abstract.

In the view of **Plooy (2007)**, they are materials carefully and systematically designed to help students learn as if a tutor or lecturer was present. **Adekola (2008)** sees instructional materials as materials used to facilitate learning for better results. **Gbamanja (2001)** described instructional materials as devices with instructional content used for teaching purposes including books, supplementary reading materials and other sensory materials. They are resource materials which help to facilitate teaching and learning (**Onyeozu, 2007**). One of the fundamental principles of distance education is the provision of opportunity or students to learn according to their own study pace (**Keegan, 1990**). For this reason, a distance education system proposes that every student receives all the course materials or modules at the beginning of the overall schedule of the programme. According to **Salandanan (2013)**, course material development for distance education implies the preparation of print and non-print materials as well as the production of a total learning experience for distance learners so that learners appreciate discussions during lessons.



The development of these course materials, according to Zenebe (2005), follows a system of approach, starting with identification of needs, setting of objectives of the curriculum as well as preparing the materials and evaluating the usability or effectiveness of the material. At the University of Cape Coast, lecturers are contracted to write and design course modules for distance students. They explain the modules to the tutors of the various study centres and provide them with standard assessment. The collaboration of the campus-based lecturers and the Distance Education tutors enhance the learning process and distance education students feel they are receiving just as much as the campus-based students (Akuamaoh-Boateng, Sam-Tagoe and Brown, 2012). If learning materials are not carefully designed and produced, they will be difficult to comprehend and students might end up not appreciating it. Plooy (2007) outlined the characteristics of effective course materials which includes; interactivity of text, skills building activities and tasks as well as questions that permit a critical review.

Learning is a complex activity that involves the interplay of students' motivation, teaching resources and skills of the teacher. Availability of learning materials enhance the effectiveness of schools as they are the basic resources that bring about good academic achievement (Lyons, 2012). This assertion is supported by Momoh (2010) who investigated the relationship between learning resources and performance in the West Africa School Certificate Examination (WASCE). The achievements of students as reported by the study were related to the resources available for teaching. He concluded that material resources have a significant effect on students' achievement since they facilitate the learning of abstract concepts and

discourage rote-learning. Learning is strengthened when there are enough reference materials (Mutai, 2006). Research evidence maintains that the most consistent characteristics in improving students' performance are the availability of teaching and learning materials (Department for International Development, 2007).

It is worthwhile to note that instructional materials do not only encourage tutors and learners to work collaboratively, but also results in more cooperative learning activities among students (Azikiwe, 2007). Olumorin, Yusuf, Ajidagba and Jekayinfa (2010) observed that instructional materials help teachers to teach conveniently and the learners learn easily without any problem. Therefore, course modules or materials should aim at enhancing the student's ability to be self-motivated and self-directed (Sukati, Esampaly & Vilakati, 2007). Availability of learning materials enhance the effectiveness of the distance education programme and ensures higher academic achievement amongst students. According to Ikerionwu (2000) it assists the teacher to present a lesson to the learners in a logical and systematic manner. Osokoya (2007) conducted a study to determine the effects of video-taped instruction on students' achievement in History. He concluded that there was significant differences between the mean scores of students taught history with video-taped instructional packages and those taught by the conventional lecture method. He maintained that effective course materials are a strong predictor of students' achievement. Padmanabhan (2001) stressed that for effective teaching and learning, textbooks and resource materials are basic tools, their absence or inadequacy

creates a vacuum and makes teachers handle subjects in an abstract manner, portraying it dry and not exciting.

Johan (2004) states that educational outcomes in schools are closely linked to the utilisation and adequacy of teaching and learning materials. According to Oyedun (2007), the teacher alone cannot provide all the needed condition for an effective teaching and learning process, hence, other supporting materials should be provided. This is supported by Uyagu (2009) who carried out a research to find out the effects of instructional materials used and teachers' quality on students' academic performance in science. The findings revealed that students performed better when appropriate and improvised materials were made available. Design of instruction to be delivered to distant learners is probably the most significant determinants of learning outcomes.

Lots of studies continue to report on the importance of learning materials on the academic achievement of students (Oyedun, 2000; Johan, 2004; Osokoya, 2007; Ogbondan, 2008; Abolade, 2009; Akinleye, 2010; Kochhar, 2012; Abdu-Raheem, 2014). Most of these studies show a significant effect of learning materials and academic achievement of students. For example, Oshadumi (2003) conducted a study to find out the impact of learning materials on students' academic achievement in agricultural science. The study revealed that about 70% of the respondents made use of the instructional materials effectively, which had a positive impact on the students' academic achievement. Abdo and Semela (2010) also pointed out that most institutions faced with challenges such as lack of adequate facilities and inadequate instructional materials tend to have a

negative effect on the quality of graduates produced. In the same vein, **Omosho, Lateef, Amusa and Bello (2015)** found that there was a significant difference between students taught with filmstrips and those taught without filmstrip.

Again, **Isola (2010)** correlated material resources with academic achievements of students. He concluded that material resources have a significant effect on students' achievement. **Abass, Bimbo and Ojo (2012)** opined that instructional packages, such as, printed materials, specimen and models significantly influenced the academic achievement of students. **Likoko, Mutsoto and Nasongo (2013)** in their study of the impact of learning materials on academic achievement maintained that learning materials have a positive relationship with academic achievements. **Abdu-Raheem (2014)** has encouraged teachers to improvise teaching aids because they are great measures of learners' full participation in the lesson, gives room for inquiry, problem-solving, discussion and clarification of issues and ideas among students and the teacher. Well prepared and designed instructional materials are required in order for distance education to be successful.

### **Face – to – Face tutorial session and Academic Achievement**

One of the key elements of the learning process is the dynamic relationship shared between the tutors and students, as well as the interaction between students. Distance education has become an integral part of tertiary education, as a result of the increasing demand for higher education (**Krishnan, 2012**). According to **Carriere and Harvey (2001)**, it is the educational environment where the tutor and the learner are separated in

space and time. It presents learners with varied forms of learning opportunities and at the same time maintaining its standards as evidenced in the conventional classroom system. The most important student support service provided to distance education learners are face – to – face contact sessions (Fung & Carr, 2000). Face – to – face sessions can be the most effective way that a tutor can impart information to a class. It is through face – to – face that a tutor can synthesize all ideas and knowledge to potential learners (Major, 2011). Face – to – face in distance education are usually instituted to enable students to have interaction with their facilitators who respond to their questions as well as offering wider explanations and clarification of course materials provided to students (COL, 2003).

According to Garrison and Baynton (1997), tutorial sessions are learner support systems in which the learner engages with the learning materials and facilitator. However, it is sometimes scheduled mainly on the basis of learners' needs and meetings are usually conducted on the basis of the complexities of course materials (Okopi, 2010). Fung and Carr (2000) explored the factors that determine academic achievement and contribute to successful tutorials in distance education. The study revealed that students expect tutors to lecture them initially and help them understand the course better. They concluded that tutorial sessions are the most significant predictor of students' academic achievement in distance learning. This implies that tutors are expected to establish a cordial relationship with students in order to help students learn and overcome and break all academic barriers. In a nut-shell, the role of tutors in contact sessions is to provide effective tuition and counselling to learners (Panagiotis, 2010).

In face – to – face tutorial contacts, the tutor gives information about the objectives of the study programme, assesses progress of learners regularly, provides the platform for learners to ask questions, respond adequately to questions posed by students and controls all discussions (COL, 2003). In the view of Thorpe (2002), tutorial sessions are moderated by an assigned tutor who offers further relevant explanation of relevant course materials based on questions learners are likely to ask. Such face – to – face interaction between learners and lecturers otherwise known as contact sessions has the ultimate aim of assisting distance education learners to achieve higher academic success (Ushadevi, 1994; Unisa, 2008; Ogina & Mampane, 2013; Van Zyl & Spammer, 2013). These contact sessions have been shown to upgrade critical thinking and practical reasoning skills (Shapley, 2000), provide better cognitive and exploratory learning (Haggerty, Schneberger & Carr, 2000). They also increase student – to – student discussion and cooperation (Kassop, 2003). According to Kassop (2003), it increases superior learner empowerment and places students in a comfortable atmosphere to achieve higher academic credentials.

During face – to – face, many activities are involved in the learning process which include; encouraging students to participate actively in class, clarifying students understanding, offering explanations, modelling of desired behaviour and generating questions and comments (Roehler & Cantlon, 1997). These support systems can be achieved by establishing contact with the learners in tutorial sessions. Most distance education students enrolled in universities live in remote and rural areas where there is no electricity and when there is, it is in erratic supply. Apart from that, other

resources to facilitate the use of technological innovation are not readily available. Therefore, these students rely on traditional face – to – face instructions which takes place through contact lecturing and tutorial sessions in their respective study centres (Alonso & Blazquez, 2009). The mutual support and discussions during face – to – face reduce the isolation and loneliness experienced by some distance education students (Dzakiria, 2008). Grieve (2013) found that face – to – face contact sessions positively predicted students’ participation and overall achievements. Most students feel that face – to – contact session is essential for building a sense of community (Coniole, 2008).

Currently, distance learning institutions have included some form of online discussion forums. These forums form part of the student support services provided to students (Rajamanthri & Bulumulle, 2006). These forums are also instituted to provide students with opportunities to interact easily with colleague students and their facilitators as well as exchanging discussions (Balaji & Chakrabarti, 2010). For instance, Song and McNary (2011) found a strong correlation between the number of discussion forums and students’ course grades. Similarly, Olivier (2016) investigated the impact of contact sessions and discussion forums on the academic performance of open distance learning students. The study concluded that there was a statistically significant difference in the means of final examination scores of students who had contact sessions with lecturers than students who did not. Similarly, Davies and Graff (2005) found that students who interacted and participated more in online discussion did not

show significantly better academic performance than students who were involved in face – to – face session discussions.

In a similar assertion, **Otter, Seipel, Graeff, Alexander, Borako and Gray (2013)** found that students in online-only classes rather than face – to – face sessions felt more disconnected from their lecturers and peers, more obliged to be self-directed in their studies and less aided by their lecturers. It has been argued that students who study independently, but have periodic and frequent contact with staff support and instructions from their mentors are more likely to experience more tutor-warmth and attachment to their institutions (Beaudion, 1990). It is imperative to note that the success of distance education largely depends on the ability of course tutors to guide distance learners to achieve their objectives for which they enrolled in the programme (**Thompson & Strodel, 2003**). Consequently, the course tutor should be knowledgeable about the subject, prepare for the session and be able to refer students to other sources of support (Lawton, 1997; Sherry, 1997). **Brigley and Kell (2007)** argue that the course tutor must help students to make sense of the course material, integrate the acquired knowledge with educational practice and to become independent learners. Beaudoin (1990) sees the tutor as a facilitator rather than a lecturer, because self-directed learning empowers learners and reduces their dependency on the tutor's role of lecturing.

**Sherry (1996)** also indicated that the most important factor for successful distance learning is the tutors' ability to be caring, experienced, confident, creative and interactive with the learners. All these elements are all envisaged during face – to – face tutorial sessions. They incorporate more



innovative ways of improving students' engagement and improving their learning outcomes (Holley & Oliver, 2010; Ituma, 2011). A survey of Jelfs, Richardson and Price (2009) revealed that tutors and learners view effective tutoring in different ways. Tutors perceive good tutoring as the ability to facilitate the transmission of knowledge and support effective learning. In the case of learners, effective tutoring centres on course-content expertise, development of critical thinking and interaction with other students. Carnwell (2002) is of the opinion that students have different learning styles and this should be integrated during the contact sessions. Though, these support services may be available proportionally, however, the learning styles of students may further determine their academic achievement (Beaudion, 1990). Therefore, the need for contact session as a support system is largely dependent on the learning style of the student. For Brigley and Kell (2007), students may need more tutor support in the early stages of their learning by later in their studies, they may need more peer support and networking.

It is without doubt that face – to – face tutorial sessions are related to students' academic achievement. It is also important to establish that other studies have also shown otherwise. A study by Fritsch and Strohlein (1998) investigated the effect of contact sessions on students' academic achievement at the University of Fein in West Germany, which involved face – to – face contact sessions and advice. They concluded that students who participated in study centre groups obtained better results in their second assignment than those students without contact sessions. They found no significant difference in examination results between the groups with

mentor contact and those without any contact sessions. Similarly, **Bowa (2013)** established that cognitive, affective and systematic learner support services, including contact sessions did not contribute significantly to academic achievement so did **Van Zyl and Spammer (2013)**. In their study at the North West University in South Africa involving teachers in an Advanced Certificate in Education, contact class session was statistically not significant to students' academic success.

Conversely, **Cheung and Kan (2002)** investigated the academic achievement of students in a distance learning business communication course at the Open University of Hong Kong and found that tutorial class sessions had a significant effect on student achievement. In the case of **Galway, Corbett, Takaro, Tairyan and Frank (2014)**, they found that face – to – face class session positively associated with students' academic achievement. Though tutors or facilitators may use different approaches to facilitate individual and group learning as a means of educational delivery, cognisance should be paid to the ultimate goal of ensuring that learners use resources in a flexible manner to arrive at their goals (**Miller & King, 2003**). This will allow students to continue to learn while fulfilling their commitments to work, family and the community.

### **Tutorial Attendance and Academic Achievement**

Lecture or tutorial session attendance plays a fundamental role in higher education. In higher education, students' attendance in the classroom under either the lecture, or discussion matters a lot for students' progress in education. Literary, attendance means the amount of time that students participate in class activities. A prerequisite to success in any educational

endeavour is turning up for classes and lectures. Attendance in school is important because students are more likely to succeed in academics when they attend school regularly (Pascopella, 2007). The reason being that relationship between the tutor and students becomes short-lived when they are frequently absent from lectures or tutorials. If students do not show up for classes, they are likely to forfeit every opportunity provided to them at lectures. Factors that may influence the level of students' attendance are; university culture, workload, teaching methods, and teacher competence (Marburger, 2001).

In a similar assertion, Dolnicar (2009) posits that factors that may influence whether or not students attend lectures are; the compulsory nature of the subjects they are pursuing, the amount of support materials provided outside the lecture that may give the perception that attending the lecture is not necessary, assessment of the quality of the lecturer, the quality of the students, perceived difficulty of the subject, logistics of subject delivery and other commitments. Silvestri (2003) continues that the academic freedom in tertiary educational institutions sometimes provides students with opportunities to absent themselves from lectures. Some students are of the view that instead of wasting time being bored and distracted in classes, they can sit down on their own, focus and learn the material. They are of the notion that they can even learn more from not going to class (Schoenbrun, 2007). Others also believe that they pay for classes, so they are the ones to decide whether or not to attend lectures (Maizel, 1996).

Research indicates that students who miss class on a given date are significantly more likely to respond incorrectly to questions relating to

materials covered that day by students who were present (Marburger, 2001). Similarly, the research conducted by the National Centre for Children in Poverty at Columbia University as cited by Nauer, White and Yerneni (2008) shows that children who have poor attendance in kindergarten tend to do poorly in first grade; and that children with a history of poor attendance in the early elementary grades have lower levels of academic achievement throughout their school years. The study also reveals that, chronic absenteeism in the early elementary years hurts not only the students who miss school, but also affects the achievement of an entire school. University students specifically in distance education benefit from attending lectures, because the students get the opportunity to interact with tutors and colleague students. In view of this, attendance does matter for academic achievement (Kirby & McElroy, 2003). When students miss class, they also miss the opportunity to access new curriculum content, ask questions, or generally participate in class activities, and those missed opportunities adversely affect learning.

Despite the emphasis on quality and flexibility and the introduction of new technologies, lecture and tutorial attendance remain the centre of most universities approaches to learning. Students who frequently miss lectures will decrease the chance of receiving a high grade in a given course (Massingham & Herrington, 2006). According to Purcell (2007), class attendance facilitates learning in a variety of ways; Firstly, lectures and class supplement reading assignments. This implies that attending tutorial sessions gives another perspective on the material besides the student. It does not matter whether one understands the material well, lectures and tutorial

attendance add something new to the existing material. Tutors or facilitators go over examples or applications students have yet not seen. Also concepts, theories and methodologies are presented in different ways than in the text. Secondly, attending lectures according to Purcell (2007) gives the opportunity to engage in materials with the guidance of the tutors or facilitators. Thus, tutors may pose a question or lead a discussion that directs students and helps the students think about the course materials in different ways.

Attending and participating in class shows that students are serious and are taking responsibility for their education. The act of attending class and writing down your own notes will enable the student to learn the material and solidify the students understanding in a way that is much more effective than when one misses classes and reads someone's notes. Dolnicar (2004) has categorised students into six groups with different motivations to attend lectures. Dolnicar (2004) described the first group as enthusiastic and called them the "Idealistic". According to him, these students feel enthused by lectures and feel that lectures make knowledge acquisition meaningful. This group of students tends to enjoy lectures and is likely to be older students. Other scholars refer to this group as intrinsically motivated (Howorth, 2001; Dolnicar, 2005). The second group of students according to Dolnicar (2004) is described as "Pragmatic". Pragmatic students want to know what they need to learn, they pay particular attention to information about assessment task and do not miss any relevant information. These students adopt an instrumental approach to education, meaning they are

likely to engage in the study not to enjoy that activity for its own sake but to achieve a target (Ditcher & Hunter, 2004).

The third group of students referred to as “averagely motivated students” exhibit similar characteristics as the pragmatic students. These students feel that attending lectures are easier than learning alone and perceive lectures as a source of meaningful learning (Dolnicar, 2004). The fourth group, according to Dolnicar (2004) is the “fundamental oriented students” who report that lecture attendance would mean that they would be able to learn the fundamental principles of the topic. The fifth group that reported that attending lectures was not to miss significant information according to Dolnicar (2004) is termed “the minimalists”. Finally, the “everything but pleasure” students reported that most of the listed reasons apply, except for enjoying the lectures and feeling enthused by them (Dolnicar, 2005).

It has been argued that lecture attendance is one of the important factors that influence student learning and academic performance, especially in higher education (Stanca, 2006; Latif & Miles, 2013). Students must therefore take responsibility for their learning because class attendance does not guarantee success, but can enhance the probability of academic success (Cohen & Johnson, 2006). Studies have shown that students who fail to attend lectures regularly are more likely to be victims of poor performance (Hocking, 2008). For example, Rose, Bolen and Webster (2007) opined that the more class students missed, the poorer they did on assignments and exams. Thatcher, Fridjhon and Cockroft (2007) found that students who always attend lectures had a better total mark than those who never or

seldom attended lectures. They concluded that physically attending lectures may be directly associated with better academic performance.

There is a wealth of empirical evidence to support the notion that increased attendance results in positive outcomes (Dobkin, Gil & Marion, 2010; Adair & Swinton, 2012; Cohall & Skete, 2012; Arulampalam, Naylor & Smith, 2012). For example, Plant, Ericsson, Hill and Asberg (2005) investigated the relationship between students' attendance and the academic performance of Somali higher education students. They found that the more students attend lectures, the better grades they received. This implies that the number of hours students attends lectures was positively related to their performance (Kirby & McElroy, 2003). Cohen and Johnson (2006) in their study also found a positive and significant impact of class attendance on student performance in principles of economics courses at a university in the United States. Dean and Murphy (2013) also opined that after controlling for demographic factors such as age and gender, there was a positive association between attendance and academic performance. So did the study of Alexander and Hicks (2015). They researched to find out if class attendance predicts academic performance in first year psychology tutorials. They found that there was a significant, positive correlation between attendance and assessment results. Some studies have also shown that better attendance is related to higher academic achievement for students of all backgrounds, but particularly for children with lower socio-economic status, (Epstein & Sheldon, 2002; Ready, 2010). Additionally, students who attend school regularly score higher tests than their peers, who are frequently absent.

It is therefore important to note that for class attendance to have the most academic value, both students and tutors or facilitators must be actively so that students accomplish their academic goals successfully.

### **Conducive Learning Environment and Academic Achievement**

The school climate construct is complex and multi-dimensional. It has been described as the unwritten personality and atmosphere of a school, including its norms, values, and expectations. (Petrie, 2014). Provision of adequate learning facilities including equipment and human resources at all levels enhance the quality and relevance of knowledge and skills imparted in learners (Lumuli, 2009). School learning environment encompasses the factors within the school that may or may not provide suitable conditions for the promotion of effective teaching and learning. The Learning environment is a place where the child functions. They include the home, school, church, the peer group, the classroom and the totality of the child's upbringing and development (Akem, 2008). They also include buildings, furniture, equipment and instructional materials. Conducive learning environment in distance education depends on the adequate preparation and readiness of tutors or facilitators on one side and the learners on the other side. This places enormous responsibilities on tutors and learners as well. While tutors prepare in advance towards the intellectual development and the approaches and skills to employ, learners on the other hand must be prepared and ready to partake in the learning process. This is achieved if the environment is conducive and made to support learning (Khalid, 2008).

Conducive learning environment is crucial to the success of the distance education programme because it involves adult learners as its target



group. According to Jegede (2003), conducive learning environment for the adult learner can be viewed from two perspectives. That is, the learning environment and the learning interaction. The learning environment is where learning undergoes whilst the learning interaction is the relationship between the adult learner and the facilitator. Jegede (2003) concludes that the course facilitator needs to bear in mind the characteristics of adult learners and allow that to inform what takes place in the learning process. That is, the facilitator should endeavour to create an avenue for friendliness in the classroom for effective learning to take place during class interaction. The quality of distance education does not only depend on the tutors' performing their duties, but also in the effective coordination of the school's learning environment (Ajao, 2001).

According to Akande (1995), conducive learning environment refers to facilities that are available to facilitate students' outcome. It includes books, audio-visuals, software and hardware of educational technology, size of classroom, sitting position and arrangement, availability of tables, chalkboard among others. Aliade (2008) maintained that learning environment is a place where teachers' impart knowledge to the students. It is the immediate surroundings of the school, which also include examination halls, library resources, football fields and other important instructional materials. Tsavga (2011) maintains that the learning environment plays a vital role in determining how students perform or respond to circumstances and situations around them. The learning environment determines the extent to which a student interacts and behaves. Nwangwu (1990) gave the characteristics of school environment to include school buildings, classroom

furniture, playgrounds, and sporting facilities. It also includes the aesthetic surroundings and the psychological climate and culture of the school (Maine, 2002).

The teaching and learning environment ought to inform, communicate, collaborate, produce and manage all activities in the school setting (Bosque & Dore, 1998). For a learning environment to be ideal, components such as furniture, ventilation and thermal comfort must be provided. The learning environment becoming comfortable implies that there should be a combination of several factors such as temperature, lighting and noise control (Murugan & Rajoo, 2013). Hence the school environment should be devoid of poor lighting, noise, inconsistent temperatures to enhance high academic performance. The learning environment should also be carefully considered in facilitating the adult learner. Some of the learners may have hearing problems; the environment should therefore not be noisy. Jegede (2003) asserted that, the majority of adult learners have many things occupying their minds because of many social roles they perform. Therefore the learning environment should be free from noise. This is because noise will certainly reduce their concentration and make learning tedious. Apart from that, the room should also be airy in order to permit ventilation. The room should be spacious and well lit to avoid straining of the eyes of the adult learners. For tutorial sessions to be effective for the learners it is important to make sure all tables and chairs are in good condition. Seating should be arranged so that facilitators can move easily among learners to monitor their work and behaviour.

Intelligence is not the sole determinants of academic achievement of a student. Academic achievement of a student is always associated with the many components of the learning environment. For example, West (2005) found that proper learning environments were important in predicting student achievement. McEvoy and Welker (2005) confirmed in their study that raising expectations towards students and improving the learning environment, one can increase the effectiveness of low-achieving schools. This means the school climate is positively connected to students' achievement (Brown, 2004; Lehr, 2010). Persaud and Turner, (2008) conclude that poor maintenance and ineffective ventilation systems lead to poor health amongst students as well as teachers, which ultimately lead to poor performance and higher rates of absenteeism. The sense of school cohesion is the strongest predictor of students' achievement (Stewart, 2008). Consequently, when students have the sense of commitment and feel a sense of attachment, their achievements are high. Similarly, when students attend schools with a more positive climate, they tend to have more positive attitudes towards school and school subject which lead to higher achievement (Lehr, 2010). Other scholars (Ajayi & Ogunyemi, 1990; Martin, Mullis, Gonzalez & Chrostowski, 2004; Mullis, Martin & Foy, 2008) all agree that conducive learning environment has a strong impact on students' achievement.

Numerous researches have also confirmed the importance of learning environment and school climate on academic achievement. For instance, Hoy and Hannum (1997) investigated the relationship between school learning environment and academic achievement involving New Jersey

middle schools. They concluded that school learning environment otherwise termed as school climate was related to students' achievement above and beyond socio-economic status. Megan's (2002) research on school climate in high-risk urban environments indicates that a positive, supportive and culturally conscious school climate and learning environment significantly shaped the degree of academic success. He concluded that a positive school and conducive climate result in positive school outcomes. Also, Stevens and Lowing (2008) found a significant positive relationship between school climate and students' achievement. The study revealed that for those with high socio-economic status, the effect of school climate was stronger on academic achievement than those schools with low socio-economic status communities. Whether in a face-to-face traditional classroom or in a virtual online classroom, there is the need to establish and maintain an environment that is conducive to teaching and learning particularly in distance education.

### **Students' Preparedness and Academic Achievement**

Out of the many factors influencing academic performance, the student's personal inputs to learning are recognised as among the most essential. An individual student inputs and preparedness are very significant in the teaching and learning process. It is important to note that whatever effort that teachers and parents exert to enhance students' learning, much work lie with the learners. Every student who comes to lectures or class unprepared delays the learning path momentum. Learners play significant roles in improving their own learning (Nicholas & Sutton, 2013). The implication is that, the time that students spend engaged in focused learning activities is considered the most valuable in terms of their academic

achievement. Researchers therefore advocate for increased attention to strategies that enhance the quality of this time rather than simply adding more student days (Erling, 2007). If students are to succeed in higher education they need to develop good time management skills and to make better use of their study time by engaging in appropriate learning activities (McKenzie et al., 2004; Taylor & Bedford, 2004).

In general terms, preparedness includes the academic and life skills which students need in order to succeed at the university. There are numerous ways in which students can influence their own achievement and one of them is their study habits. Study habit in this context is when students attend to their school work, read other materials to search for relevant information, schedule time for doing assignments, attend tutorials. Another important dimension of student preparedness is when students work in groups when they are given topics for discussion. The most important role of this dimension of students' preparedness is that the more intelligent students will help the low achievers to enhance their confidence and achievement (Boaler, 2008). Preparedness for higher education in general is also of crucial importance; being prepared to cope socially, emotionally and intellectually in other subjects will impact on a student's chance of success (Archer, 2011).

Academic achievement is one of the major factors considered by employers in hiring workers especially for fresh graduates. This means that students have to put the greatest effort in their study to obtain good grades and to prepare themselves for future opportunities in their professional life at the same time fulfilling the employer's demand (Zarei, 2008). Learning in

the classroom implies acquiring and modifying existing knowledge, skills, attitudes and competencies. Liu (2001) opines that if learning is defined as a quest for knowledge then learners need to be active in that pursuit. Students must therefore be active and adequately prepared to seek the knowledge by searching for information in and outside the classroom. Students' preparedness centre on processes by which individuals take the sole initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, choosing and implementing practical strategies and evaluating learning outcomes (Boekaerts, 1999; Winne & Perry, 2000).

Distance education environments offer opportunities for flexibility and individualisation which creates an increased demand for self-directed learning (Grabinger & Dunlap, 1995). Wolfe (2000) is of the opinion that distance education programmes assign more demands on learners compared to the traditional mode of learning environments. In distance education, learners are required to be responsible for their own learning unlike the traditional system where learners are required to follow a progression sequence with the help of instructional materials. Learners are given control over their own learning process in terms of amount of content, the sequence and the pace of learning (Reeves, 1993). This means that learners are by themselves with course materials and much credence is paid to the amount of preparedness students' invest. Similarly, distance education students require a repertoire of learning skills and strategies, which includes goal-setting, action planning, learning-strategy selection, resource selection and

evaluation, time management and reflective learning (Grabiner & Duntap, 2000).

According to Bas (2010), the way students receive information are usually manifested in their behaviours in the classroom. The behaviours of students in the classroom range from active and passive participation. Such behaviours may include; sitting quietly, taking notes, contributions in lessons, posing and answering questions (Bas, 2010; Mohal Yusof, 2011). Liu (2001) grouped students' behaviour in the classroom into four, thus; full integration, participation in the circumstances, marginal interaction and silence observation. Firstly, in the full integration group, students engage actively in classroom discussion. These students know exactly what they want to say and what they are not supposed to say. According to Abidin (2007), their full participation in class occurs naturally and often spontaneously. The second group, participation in circumstances occurs when students are influenced by factors such as, cognitive, affective, linguistic differences.

These factors often lead to student participation and interaction with colleagues and tutor's involvement become less and speak only at appropriate intervals. In the marginal interaction, thus the third group, students act more as listeners and speak less in classes or at lectures. These students prefer to listen and take notes than being involved in class discussion. The silent observation students tend to avoid oral participation in the classroom. They prefer taking notes and reading from other relevant materials. Based on the various types of classroom behaviours, to be active learners, whenever in the classroom, students must engage actively by

playing the roles of information seekers. The acts of asking questions, giving opinions or simply answering questions posed by the instructor or fellow students are examples of being active in classroom participation. This constitutes students enthusiasm and willingness to participate in class which ultimately result in higher achievement levels (Davis, 2009).

Studies have shown that the more time and effort students employ in their course work, the greater their academic achievement. Astin (1993) found that time spent on studying was positively related to many students' outcomes. Assouline, Colangelo, Ihrig, and Forstadt (2006) postulated that brilliant students tend to attribute quality work to the effort they exert in their studies. They tend to engage in positive self-monitoring and instruction to work through their challenges (Carbonaro, 2005).

Adekeyi (2002) observed that it is mainly through students' efforts and abilities that they are socialised to become productive citizens. Marquez (2009) also pointed out that a student who is successful in his desired career has good study habits. In line with this, she stated that students should apply these habits to all of their classes to achieve higher Grade Point Averages (GPA).

In a study conducted in America, Stewart (2014) was interested in studying how both individual factors (like effort) and structural factors (like school environment) could affect students' academic performance. It was found that the amount of effort that students used in their studies was positively associated with their academic achievement. Kuh, Cruce, Shoup, Kinzie, and Gonyea (2008) found that engagement in educationally purposeful activities was positively related to academic outcomes.



Handelsman, Briggs, Sullivan, and Towler (2005) focused on student engagement in college courses. Through responses to the Student Course Engagement Questionnaire, they found that engagement affected external measures such as grades and also affected intrinsic motivation toward learning. Kayatin (2005) opines that if students involvement is indeed essential to educational life, then it's worth should have a positive impact on students' academic achievement. Umbach and Wawrynski (2005) found that students reported higher levels of engagement and learning when faculty members used active and collaborative learning techniques and engaged students in higher-order cognitive activities. Akinlana (2012) found that academic optimism and emphasis were good predictors of a student's academic performance.

Studies that used motivational perspectives, such as achievement motivation, achievement goal, and academic intrinsic motivation, have also found that intrinsically motivated students tend to have higher academic achievement (Gottfried, Marcoulides, Gottfried, Oliver, & Guerin, 2007), higher intellectual performance (Gottfried & Gottfried, 2004), less academic anxiety (Gottfried, 1990). The learning process is never complete without the active involvement of students (Hussein, 2010). This means that students must be proactive to seek in depth knowledge from instructional sessions. For students to achieve high academic successes, they need to believe that they can learn and that what they are learning is useful, relevant, and meaningful for them and for the society at large (Gregory & Chapman, 2007).

## **Theoretical Framework**

This subsection addresses the basic theories that underpin this study. The assumptions underlying this study are derived within the framework of Transactional Distance Theory, Theory of Autonomy and Independent Study and Self-Determination Theory.

### **Transactional Distance Theory**

Transactional Distance Theory assumes that the most profound impact on distance education is pedagogy and not the physical or temporal distance that separates the instructor and learner. It defines the nature and degree of separation of teacher and learner in educational process. Michael G. Moore, in his theory posits that in distance learning scenarios, separation between the teacher and students can “lead to communication gaps, a psychological space of potential misunderstandings between the behaviours of instructors and those of the learners” (Moore & Kearsley, 1996, p. 200). Moore (1990) defined “Transactional Distance” as ‘a psychological and communications space to be crossed, a space of potential misunderstanding between the inputs of the instructor and those of the learner’. In other words, it is a psychological and communication space between the instructor and the learners.

According to Moore (1990), learning does not necessarily take place when people are gathered in the same place. The theory suggests that it is not necessarily true that learning cannot take place when people are physically apart. It is the psychological distance (as opposed to the physical distance) in learner’s learning situation that determines the learning outcome. Moore (1990) maintained that the nature of the transaction

developed between teachers and students in distance learning needs to take into account three factors namely dialogue, structure, and learner autonomy. Dialogue describes the extent to which, in any educational program, the learner and educator are able to respond to each other. It clearly defines educational targets, cooperation and understanding on the part of the teacher, and, ultimately, it culminates in solving the learners' problems" (Giossos, Koutsouba, Lionarakis & Skavantzios; 2009, p.2). This is determined by the content or subject matter which is studied, by the educational philosophy of the educator, by the personalities of the educator and learner, and by environmental factors, the most important of which is the medium of communication. For instance, an educational programme in which communication between educator and the independent learner is by radio or television permits no dialogue.

Moore (1990) indicates the important consideration in this respect relates not to the frequency of dialogue, but to its quality and the extent to which it is effective in enabling the resolution of learning problems the distance learner may be experiencing. The second factor Moore (1990) refers to is the nature of the course structure, which is described as the level of the course's rigidity or flexibility. Structure is a measure of an educational programme's responsiveness to learners' individual needs. It expresses the extent to which educational objectives, teaching strategies, and evaluation methods are prepared for, or can be adapted to, the objectives, strategies, and evaluation methods of the learner. This factor includes aspects such as the extent to which course goals and objectives are pre-prescribed, the pedagogical model used in teaching the course (for example, teacher- vs.

student-centred), the nature of course assessment, and the ability of the course to accommodate individual student needs (Zhang, 2003). Moore (1990) maintained that in a highly structured educational programme, the objectives and the methods to be used are determined for the learner, and are inflexible.

The third factor, learner autonomy, is dependent upon the previous two, in that it refers to the sense of both independence and interdependence perceived by learners as they engage in the course. Learner autonomy is intimately tied in with a learner's sense of self-direction or self-determination, and this can be significantly affected by the dialogue, the level of rigidity or flexibility inherent in the course design and delivery, and the "extent to which the learner exerts control over learning procedures" (Giossos et al., 2009, p. 2). Moore's theory asserts that an inverse relationship exists between these three factors, in that increase in one can lead to corresponding decrease in others (McIsaac & Gunawardena, 1996). For example, a course with an inflexible structure can lead to a decrease in the quality of dialogue and sense of learner autonomy, thereby increasing the students' perception of transactional distance. However, Moore (1990) notes that when course structure drops below a particular threshold, the sense of transactional distance can actually increase, due to the potential for learner confusion or dissatisfaction.

### **Theory of Autonomy and Independent Study**

According to Moore (1990), independent study is an effort to organise instruction so that greater freedom in learning is possible for learners. It enables learners to carry out learning tasks and responsibilities at

their own pacing and patterns, provide learners with opportunities to continue learning in their own environments, and develop learners the capacity to carry on self-directed learning. Independent learning and teaching can be considered as an educational system in which the learner is autonomous and separated from the teacher by space and time, so that communication is mediated (Moore, 1973). Distance education comprises the elements of learner independence, interaction between learner and instructor, and certain characteristics of course design (Holmberg,1967). Moore (in Rosenblatt, 1999) classified distance education programmes as autonomous (learner-centered) or non-autonomous (teacher-determined) according to the following criteria: autonomy in setting the objectives; autonomy in methods of study; autonomy in evaluation. Some suggest that distance education does not perhaps need teachers at all. Moore (1990) asserts that there is a close balance between interaction and independence in distance learning. He believed that learning involves interaction, that is, activities where the student is in two-way contact with another person involving reactions and responses.

According to Moore (1990), interaction includes activities such as counselling, tutoring and contacting students; teaching over interactive telecommunication; bringing students together into discussion groups; and engaging in residential gatherings. He defined independence to include activities such as studying written material; watching or listening to broadcasts; writing essays and assignments; working alone on a computer; writing essays and assignments; and conducting experiments, surveys and project work at home. Moore (1994) suggests that many people have a

tendency to think learning is about discovering the answer: teaching is about the transmission of ‘facts’ from the teacher to the student, who only needs a good memory to store all this information. He maintained that university education is about developing ‘higher order’ understanding of your subject, recognising the complexity of ideas and the range of conflicting opinions that exist in any discipline. This takes time, and requires a readiness to explore new ideas and approaches on your own.

### **The Self-Determination Theory (SDT)**

Self-determination theory (SDT) is a theory of motivation that uses traditional empirical methods to build its theory and to inform its classroom applications. The theory focuses especially on volitional or self-determined behaviour and the social and cultural conditions that promote it. SDT postulates a set of basic and universal psychological needs, namely those for autonomy, competence and relatedness, the fulfillment of which is considered necessary and essential for healthy human functioning regardless of culture or stage of development. Self-determination theory is an ‘organismic psychology’ (Deci, 1980), which assumes that people are active organisms with inherent and deeply evolved tendencies toward psychological growth and development. This active human nature is clearly evident in the phenomenon of intrinsic motivation, thus this natural tendency manifests from birth and seeks out challenges, novelty and opportunities to learn.

This theory holds that all students, no matter their age, gender, socio-economic status, nationality, or cultural background, possess inherent growth tendencies (for example intrinsic motivation, curiosity, psychological

needs) that provide a motivational foundation for their high-quality classroom engagement and positive school functioning (Reeve, Deci, & Ryan, 2004; Ryan & Deci, 2000). While other theories of motivation explain how students' expectations, beliefs, and goals contribute to their classroom engagement, self-determination theory is unique, in that, it emphasizes the instructional task of *vitalizing* students' inner motivational resources as the key step in facilitating high-quality achievement (Reeve & Halusic, 2009). The SDT identifies the inner motivational resources that all students possess, and it offers recommendations as to how parents and teachers can involve, nurture, and vitalize these resources to facilitate high-quality student achievement (Niemi & Ryan, 2009).

Although the growth tendencies underlying intrinsic motivation and internalization are evolved and therefore 'natural', this does not imply that they operate robustly under all conditions. Thus, the theory acknowledges that students sometimes lack self-motivation, display disaffection, and act irresponsibly. Instead, these inherent tendencies require specific supports and nutrients from one's social environment. These nutrients are conceptualised within SDT as basic psychological needs, which are defined as those supports and satisfactions that are essential and necessary for psychological growth, integrity, and wellness. According to SDT, there are three basic psychological needs, namely those for autonomy, relatedness and competence. When these three needs are supported and satisfied within a social context, students experience more vitality, self-motivation, and well-being. However, the thwarting or frustration of these basic needs leads to diminished self-motivation and greater ill-being (Deci, 1980).

According to Ryan and Deci, (2000), SDT has been developed through a set of five mini-theories, which together comprise the theory's formal framework. Each of these theories was initially introduced to explain phenomena that emerged from experimental research on factors affecting human motivation and optimal functioning. For instance, *Cognitive Evaluation Theory* (CET) concerns how social contexts and interpersonal interaction either facilitate or undermine intrinsic motivation. CET stresses the importance of autonomy and competence to intrinsic motion, and argues that events that are perceived to detract from these will diminish intrinsic motivation. Thus, CET specifically addresses how factors such as rewards, deadlines, feedback and pressure affect feelings of autonomy and competence and thus enhance or undermine intrinsic motivation (Reeve, Deci, & Ryan, 2004).

The *Organismic Integration Theory* (OIT) addresses the process of internalisation of various extrinsic motives. Here, the focus is on the continuum of internalisation, extending from external regulation, to introjection. For example, engaging in behaviours to avoid guilt or feel approval, to identification, to integration. That is, individuals are more likely to internalise and integrate a practice or value if they experience choice with respect to it, efficacy in engaging in it, and connection with those who convey it (Ryan & Deci, 2000). On the other hand, *Causality Orientations Theory* (COT) describes individual differences in how people orient to different aspects of the environment in regulating behaviour. For instance, autonomy-oriented person gets oriented to what interests him or her and acts with congruence. When control-oriented, a person primarily regulates



behaviour by orienting to social controls and reward contingencies while when impersonally-oriented, a person focuses on the lack of personal control or competence. Thus, COT explains how primes or prior stimuli activate certain orientations in people, affecting subsequent motivation.

The fourth theory, *Basic Psychological Needs Theory* (BPNT) elaborates on the concept of basic needs by connecting them directly with wellness. BPNT posits that each need exerts independent effects on wellness, and eventually the impact of any behaviour on well-being is largely a function of its relations with need satisfaction. Finally, the *Goal Contents Theory* (GCT) suggests that intimate relationships, personal growth, or contributing to one's community are conducive to need satisfaction, and therefore facilitate health and wellness. Research has shown that materialism and other extrinsic goals such as fame do not always tend to enhance need satisfaction, thus, do not foster well-being, even when one is successful at attaining them (Niemic & Ryan, 2009). Together, these five mini-theories constitute SDT and provide specific propositions in multiple domains open to test and refinement. One issue has been the impact of performance and reward, which SDT argues can powerfully exert control over behaviour, but often at the cost of subsequent intrinsic motivation or internalization.

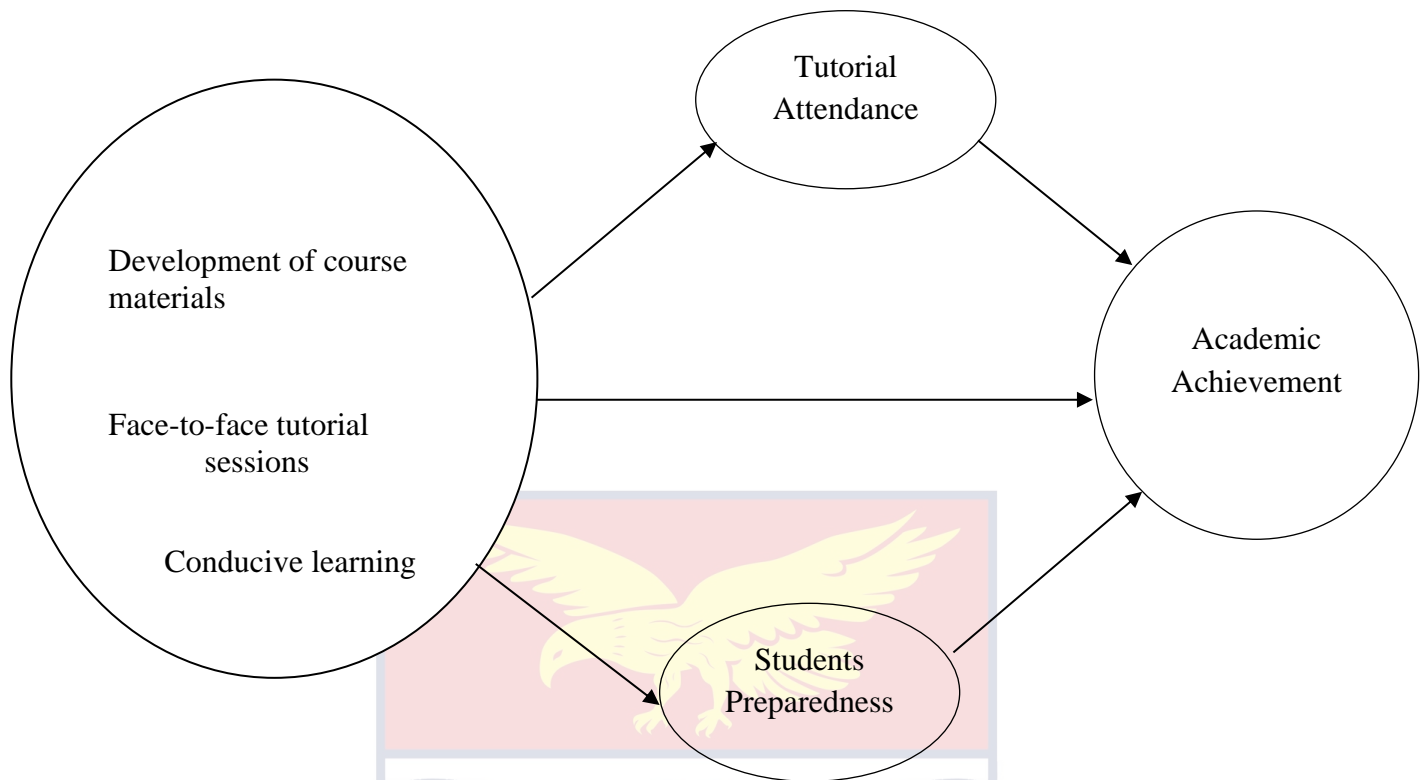
Indeed, looking at these theories in perspective, thus the social cognitive, the goal and the self-determination theories, one will be quick to notice a discernible pattern permeating through them. While Bandura (2005) argued that many cues that influence behaviour none so powerful than actions of others, Locke and Latham (1990) asserted that as long as a person

is committed to his or her goals, there is a positive and linear relationship between goal difficulty and task performance. Deci (1980) on the other hand, emphasized the instructional task of vitalizing one's inner motivational resource as the key step in facilitating high quality performance. Indeed, together, these theories draw on environmental cues and the inner self to ensure quality of task performance. For instance, a child who finds himself or herself in the mist of people who study very often will be tempted to adapt to their style which will eventually alert him or her to set high achievable goal which also go a long way to enhance the inner self and the zeal to succeed. Likewise, an individual who is exposed to individuals who are not motivated in today's life struggles, will also be engrained in such behaviour.

This part of the relevant literature for the study looked at the theoretical review. This is focused on Transactional Distance Theory by Moore and Kearsley (1996), Theory of Autonomy and Independent Study by Moore (1990) and The Self-Determination Theory by Deci (1980).

### **Conceptual Framework**

This subsection examines the variables that determine the role student support services play in their academic achievements. Figure 1 shows



*Figure 1:* Conceptual framework showing relationship between independent, intervening and dependent variables explaining effects of student support services on academic achievement of distance education students of the University of Cape Coast.

From the conceptual framework, the predictor variables are development of course materials, face-to-face tutorial sessions and conducive learning environment. The mediating variables are tutorial attendance and students' preparedness. The criterion variable from the conceptual framework is the academic achievement of distance education students. The model explains that when face-to-face sessions, development of course materials, conducive learning environment are all present and provided for the students, tutorial attendance will be made to rise. In view of this, students will increase their preparedness in order to achieve high grades.

## Conclusion

This chapter discussed the concepts as used in the study. The review of empirical studies centered on the relationships between face to face and academic achievement, course modules and academic achievement, tutorial attendance and academic achievement, conducive learning environment as well as students' preparedness and academic achievement. Transactional Distance Theory, Theory of Autonomy and Independent Study and Self-Determination Theory grounded this study. The conceptual framework depicted the relationships between the independent, mediating and dependent variables.

## Summary

This chapter defined the concepts as used in the literature and dealt with the review of empirical studies. Transaction distance theory, theory of autonomy and independent study and self-determination theory constituted the theoretical framework. The conceptual framework showing relationship between the independent, mediating and dependent variables were clearly presented.

## **CHAPTER THREE**

### **RESEARCH METHODS**

#### **Overview**

This chapter presents the methodology that was used to conduct the study. The chapter presents the research design, population, sample and sampling procedures, as well as instruments used to collect the data. The validity and reliability of the instrument were also established. The data collection procedures and data analysis techniques used in analysing the results of the study are also discussed as well as ethical considerations.

#### **Research Design**

The research designs for this study were descriptive and correlational survey designs with quantitative approach. A descriptive design is a process of collecting data in order to answer questions concerning the current status of the subjects in the study. Kumar (2005) argues that the goal of descriptive research is to describe the characteristics of a selected phenomenon and involves the collection of data without manipulation of variables. The sole purpose of descriptive research is to provide an accurate and valid representation of the factors or variables that pertain are relevant to the research question. Descriptive studies portray the variables by answering who, what, and how questions (Patall, Cooper & Robinson, 2008). Descriptive survey research is helpful in indicating trends in attitudes and behaviors, and enables generalization of the findings of the research study to

be done (Creswell, 2012). This design was appropriate for this study because it will enhance the amount of quality information yielded.

Nonetheless, there are many difficulties associated with descriptive survey design and one of them is that it is not in itself comprehensive enough to provide answers to questions and cannot establish any cause and effect relationship (Babbie, 2010).

Despite its disadvantage identified, the descriptive survey was used because it has the advantage of producing good responses from wide range of people. It also provides a meaningful picture of events and seeks to explain peoples' opinion and behaviour on the basis of data at a particular time. Again, it can be used with greater confidence with regard to particular time. Also, the researcher studied the relationship between the predictor variables in the study and academic achievement of distance education students of the University of Cape Coast.

### **Population**

The population for the study was distance education students of the University of Cape Coast, which is 38,922. The target population for the study included the 8 study centres in the Central Region (CoDE Students Handbook, 2016-2017).

The Accessible population was second year students of Twifo Praso, Dunkwa-On-Offin and Assin Fosu study centres with a population of about 1500 (CoDE Students Handbook, 2016-2017). The choice of second year students pursuing Diploma in Basic Education (DBE) as the accessible population was based on the fact that they have been admitted to the programme and have experienced life in the university's study centres for

more than a year and it was also assumed that they can provide useful information as well as ensuring maximum commitment and cooperation.

### **Sample and Sampling Procedures**

The sample for the study was 342 second year distance education students from the selected study centres. According to Saunders, Lewis and Thornhill (2012), it is appropriate to sample 5 - 30% of the accessible population for a study.

The purposive sampling technique was used in selecting three study centres in the central region (Assin Fosu, Dunkwa-On-Offin and Twifo Praso). In purposive sampling, the cases to be used in the sample are handpicked on the basis of their judgment of their typicality or particularly knowledgeable about the issues under study (Leedy & Ormrod, 2005). The power of purposive sampling lies in selecting information rich-cases for in-depth analysis related to the central issues being studied.

The stratified sampling technique was used to group students into strata, thus male and female. Robson (1996) described stratified sampling as the optimum choice as the means are likely to be close proximity to the mean of the overall population. Stratified sampling achieves greater precision provided that the strata have been chosen so that members of the same stratum are as similar as possible in respect of the characteristics of interest.

Simple random sampling technique was finally used in selecting students from each stratum. The lottery method was specifically used. The researcher wrote all the names of students listed in the sample frame on a sheet of paper and mixed them in a container and removed one paper at a

time without looking into it. The researcher recorded the names of students on the paper and threw it back into the container. The researcher ignored already drawn names. The process continued until the required number of respondents was selected. The same process was used in selecting the three courses for the study, thus, Educational Psychology, Mathematics for Basic School Teachers (II) and English for Basic School Teachers (II). The distribution is presented in Table 1.

Table 1–*Sample Distribution of Respondents from the Three Study Centres in the Central Region*

Name of Centre	Males		Females	
	Freq.	Percent	Freq.	Percent
Assin Fosu	50	27.02	50	31.85
Dunkwa-On-Offin	55	29.73	50	31.85
Twifo Praso	80	43.24	57	36.31
Total	185		157	

Source: Author’s construct, 2017

### **Instrument**

The instruments for data collection that guided the study were structured questionnaire as well as quiz items used as proxy for academic achievement. The questionnaire was developed based on the research questions derived from related literature. Likert scale questions were therefore used containing a list of fixed statements which the students were asked to respond. The questionnaire was simple, short and clear to prevent ambiguity and technical jargons. The questionnaire was divided into six sections. Section ‘A’ contained two (2) items and was used to collect background information of respondents. Section ‘B’ contained eight (8) items designed on a 4 point Likert scale to source for information on the



face-to-face tutorial sessions. Section ‘C’ contained ten (10) items and was used to collect information on course modules or learning materials. Section ‘D’ which contained seven (7) items were used to collect information on tutorial attendance. Section ‘E’ contained five (5) items and was used to elicit information on conducive learning environment. Section ‘F’ contained six (6) items and was used to collect information on students’ preparedness.

The quiz items contained twenty (20) multiple-choice items in Educational Psychology, Mathematics for Basic School Teachers (II) and English for Basic School Teachers (II). These courses were selected because they are the same courses pursued in all the selected study centres. Thirty (30) minutes was given to respondents to complete the test items, which is also the recognized duration for quizzes in the University of Cape Coast. The quiz was scored over hundred (100). The scores gave a fair idea to the researcher on how well the respondents performed in these three courses. The maximum scores for Educational Psychology, Mathematics for Basic School Teachers (II) and English for Basic School Teachers (II) were 90%, 86% and 80% respectively.

### **Validity**

The instruments for data collection were vetted by the researcher’s supervisors and experts in the field research methodology. This was to determine the face and content validity of the instruments. However, all corrections and modifications made by the experts and supervisors were effected and research statements or items reconstructed based on the satisfactory comments of the supervisors. This enabled the researcher to develop instruments that yielded valid information.

### **Reliability**

To measure the reliability of the research instrument, an assessment of the consistency of the responses on the pilot questionnaire was made using the Cronbach alpha. The Cronbach alpha is most commonly used when there are multiple Likert questions in a survey questionnaire that form a scale and you wish to determine if the scale is reliable. A reliability test was made on the test items and the result shows a Cronbach's alpha of 0.87 considered high enough for the instrument to be used for the study. However, the Cronbach alpha for the subsections (A, B, C, D, E and F) was 0.556, 0.741, 0.779, 0.674, .637 and 0.602. These indicated that the items were reliable within the acceptable limits.

### **Pilot Testing**

Before the actual data collection, a pilot testing was carried out in the main campus of the College of Distance Education, University of Cape Coast which was not part of the study centres sampled for this current study.

A total of 20 second year distance education students from the main campus of the University of Cape Coast were given questionnaires to complete. The purpose of the pilot study was to determine the reliability of the instrument, its difficulty level and also to determine whether the questions are free from ambiguity and whether it has power to discriminate over results. The instrument was personally administered by the researcher and scored accordingly. This was to make it possible for final corrections of the questionnaire for possible commencement of fieldwork.

### **Data Collection Procedure**

The researcher obtained a letter of introduction from the Department of Education and Psychology, UCC, and gave it to Course Coordinators at the selected study centres in the Central Region. The introductory letter was also sent to the Division of Academic Affairs of the College of Distance Education, University of Cape Coast to seek permission to adopt the quiz questions in the selected courses. A verbal permission was obtained from the course coordinators at the various study centres before the administration of the questionnaire. The administration and collection of instruments were done by the help of six study centre tutors and coordinators. They were taken through training on the procedures involved in the administration and collection of the questionnaires.

The quiz items adopted from the College of Distance Education, University of Cape Coast were administered first, the reason being that the date and time for taking these quizzes as specified by the institution are the same at the various study centres. The quiz papers of the selected students were given special codes and upon arrival of the quiz papers, those students were identified to answer the questionnaire. The identification was easy because reference was made to students registration numbers. Four (4) weeks later, the questionnaires were also administered. The researcher was given fifteen (15) minutes to administer the questionnaire. All the study centres agreed on this time which made data collection effective.

## Data Processing and Analysis

Analysis of the data was done with the help of the Statistical Product and Service Solutions (SPSS) version 22. This software is selected because of its reliability, accuracy, user friendliness interface and the most employed package for analyzing data. Data collected from the respondents were subjected to descriptive statistical analysis by computing the mean standard deviation of each item, as well as inferential statistics. The researcher had 96% return rate.

Research questions were answered using the Pearson Product Moment Correlation Coefficient. The Pearson Product Moment Correlation is used when you want to investigate the strength of the relationship between two continuous variables. This gives an indication of the direction whether positive or negative as well as the strength of the relationship (weak, moderate or strong).

Again, the hypothesis of the study was tested by means of multiple regression procedures. The choice of this statistical tool is that all the variables were measured on a Likert scale. Multiple regression method is a multivariate technique used to test the predictive power of a set of predictor variables and to assess the relative contribution of each individual variable on the criterion variable. In the multiple regressions, the dependent variable was regressed on the independent and the intervening variables. The researcher therefore employed this technique over the others because the predictor variables in the study were more than two. In addition, the contribution of individual predictor variables is also needed.

### **Ethical Considerations**

An approval was granted from University of Cape Coast Institutional Review Board for the protection of Human Subjects in research to conduct the current study. This implies that the researcher has an obligation to respect the rights, needs, values and desires of the respondents (Creswell, 2007). Permission was sought from study centre coordinators before any contact was made with the students. Each respondent received an informed consent before they filled out the questionnaire, and the researcher also explained how anonymity would be maintained throughout the study. No names were asked for at any point in the research and the researcher collected the answered questionnaires immediately after they were completed.

### **Summary**

This chapter discussed the research methods. They included research design, population, sample and sampling procedures, instruments, validity and reliability, data collection procedure, data analysis as well as ethical considerations.

## CHAPTER FOUR

### RESULTS AND DISCUSSION

#### Overview

This chapter presents the results from the analysis of the data collected from the respondents. This chapter is divided into three sections; the demographic data, the results of the main data and discussion. It contains information on the respondents' background, the independent variables, the mediating variables and the dependent variable. Tables showing frequencies, percentages, means and standard deviations have also been used to facilitate the interpretation and discussion of the results.

#### Demographic Data

Gender of the respondents was the first demographic variable on the questionnaire intended to ascertain the total number of respondents for the study. The distribution of respondents by gender is presented in Table 2.

Table 2–*Distribution of Respondents by Gender*

Gender	Frequency	Percent
Male	185	54.1
Female	157	45.9
Total	342	100

Source: Field Survey, 2017

Table 2 shows that out of the total of 342 respondents, the male respondents were 185 representing 54.1% whilst the female respondents

were 45.9% representing 157. This implies that the majority of students were males.

Another demographic variable of interest was the respondents' age – range. Table 3 presents the distribution of respondents by age – range.

Table 3–*Distribution of Respondents by Age – range*

Age	Frequency	Percent
20 – 24 years	144	42.1
25 – 29 years	161	47.1
30 – 34 years	31	9.1
Above 40 years	6	1.8
Total	342	100.1

Source: Field Survey, 2017

Table 3 clearly indicates that the majority of the respondents were below 30 years. Out of the total of 342 respondents, 144(42.1%) and 161(47.1%) were between the ages of 20 and 29 years. This means that majority of students were between the ages of 20 – 34 years.

## **Section 2: Analysis of the Research Questions**

The contribution of modules or course materials to students' studies particularly in distance education was also of interest to this study. Ten different items were used to elicit the respondents' views on this subject matter. This was also measured on a 4 point Likert scale. Table 4 gives the distribution of the respondents regarding the extent to which course modules relate to their academic achievement.

Table 4–course modules and Students’ Academic Achievement

Statement	Freq.	Mean	Std. Dt.
The modules clearly stated the objectives	342	3.72	.474
Objectives stated in the modules match information covered	342	3.67	.541
The modules contained relevant information for my studies	342	3.55	.629
Stimulates learners to think critically	342	3.44	.829
Summaries were provided to aid learning	342	3.68	.508
Information was presented in a simple way	342	3.75	.470
The modules were distributed on time	342	3.65	.579
Diagrams in the modules were sufficient	342	3.65	.535
Using course modules is a waste of time and slows learning	342	2.96	1.034
Modules enhance students’ understanding and acquisition of factual information	342	3.37	.802
Total	342		

Source: Field Survey, 2017

Table 4 indicates that the means of the various items suggest that the role course modules play in students’ achievement was quite high in comparison with the 4 point scale. Majority of the respondents strongly agree that objectives stated in the modules match the information covered. They also agree that the modules contained relevant information as well as stimulating them to think critically. This is further supported by the standard deviation figures which do not show much variation in the students’



observations. This confirms that the respondents use of course modules and their achievement was significant.

Another area of equal importance was the role face-to-face contact sessions play in students' achievement in distance education. This variable was measured in terms of the amount of time tutors devote to students in their study. In all, eight individual items were used to gather information using a 4 point Likert scale. Table 5 provides a summary on how the students' responded to those items.

Table 5- *Face-to-face contact sessions and Students' Academic Achievement*

Statement	Freq.	Mean	Std. Dt.
Tutor praises students for good ideas or useful contribution	342	3.72	.474
Tutor welcomes imagination, creativity and new ideas	342	3.67	.541
Tutor stimulates students to think independently	342	3.55	.629
Tutor does not present ideas in an interesting manner	342	3.44	.829
Tutor manages classroom discussions so that they serve as a useful part of the learning process	342	3.68	.508
Tutor shows enthusiasm to teach and treats students with utmost respect and encouragement	342	3.75	.470
Tutor acts as a member of the group rather than an autocratic leader	342	3.65	.579
tutor communicates to learners the need to pay more attention	342	3.65	.535
Total	342		

Source: Field Survey, 2017

The means of the various items as presented in Table 5 imply that tutors matter a lot in the education of students in distance education. The magnitude of the standard deviations further confirms this. Majority of the respondents agree that tutors show enthusiasm to teach and treats students with utmost respect and encouragement. The respondents also agree that tutors stimulate students to think independently. Apart from that they strongly agree that their tutors praise students for good ideas or useful contributions.

The extent to which tutorial attendance relate to students achievement was also examined in the study. A set of items were therefore designed to collect data on the subject matter. All the seven items were measured on a 4 point Likert scale. The result is presented in Table 6.

Table 6–*Tutorial Attendance and Students’ Academic Achievement*

Statement	Freq.	Mean	Std. Dt.
I get better results when I attend lectures	342	3.51	.738
Marks are awarded for lecture attendance	342	3.33	.937
Useful tips about quizzes and exams are given class	342	3.25	.857
Tutorial attendance is an important predictor of success	342	3.44	.703
I can get through the subject without going to tutorials	342	2.65	1.007
Attending tutorials strengthened my network of friends	342	3.30	.749
Tutors help me to understand course materials better when I attend lectures	342	3.41	.782
Total	342		

Source: Field Survey, 2017

The means of the various items in Table 6 indicate that the role of tutorial attendance was relatively high. This is confirmed by the various standard deviation figures which show little variations in the respondents' observations. Students strongly agree that tutorial attendance is an important predictor of academic success hence having a higher mean. They however agree that useful tips about quizzes and semester examinations are given in class. This implies that attending lectures is very crucial in students learning.

Conducive learning environment is crucial to the success of the distance education programme because it involves adult learners; hence it was also of particular interest. As a result, five items were designed for the respondents to come out with their views on their immediate environment where they attend lectures. This variable was measured on a 4 point Likert scale. Table 7 gives a detailed summary of respondents' analysis of their learning environment.

Table 7– *Conducive Learning Environment and Students' Academic Achievement*

Statement	Freq.	Mean	Std. Dt.
Seats in my lecture room are arranged in the traditional lecture format	342	3.26	.785
my classroom environment encourages cultural diversity	342	3.05	.812
Attractive school buildings and classroom facilitate better performance	342	3.14	.818
Adequate air ventilation during lesson might improve performance	342	3.28	.756
Poor ventilation makes lesson less interesting and boring	342	3.18	.904
Total	342		

Source: Field Survey, 2017

Table 7 shows that majority of the students' indicate that their learning environment and facilities were adequate and convenient. This is supported by the various standard deviation figures which show little variations in students' observations. The respondents strongly agree that their classroom environment encourages cultural diversity. They also agree that attractive school buildings and classrooms facilitate better performance. On the contrary, students' strongly agree that poor ventilation makes less interesting and boring.

Students' preparedness was also of interest to the researcher. A set of items was carefully designed to gather information on this variable. The six items designed were measured on a 4 point Likert scale. The result is presented in Table 8.

Table 8–*Students' Preparedness and Academic Achievement*

Statement	Freq.	Mean	Std. Dt.
I work hard to do my best in school	342	3.26	.785
I study when I like	342	3.05	.812
I copy the assignments of friends	342	3.14	.818
I want good grades so I work hard	342	3.28	.756
When I run into difficult content I keep trying because I know I will eventually get it	342	3.18	.904
I have high expectations for my learning	342	3.56	.731
Total	342		

Source: Field Survey, 2017

The means of the various items in Table 8 indicate that the preparations students put in their academic pursuit was relatively high. This

is confirmed by the various standard deviation figures which show little variations in students' observations. Majority of the respondents work hard to do their best in school very often. Apart from that, they often have high expectations for their learning. On the contrary, some of the respondents sometimes copy the assignments of their friends.

Measuring students' academic achievement was also paramount to the study. However, the students' achievement was measured by the scores on Education Psychology, Mathematics for Basic school Teachers (II) and English for Basic school Teachers (II) quiz (1) conducted by the College of Distance Education, University of Cape Coast. The items of the quiz were carefully selected to meet the objectives of the selected courses and met all the requirements for test construction. The test instruments covered the topics they were already taught. Each quiz contained 2 multiple choice items. The scores from the quiz items were measured on a 4 point Likert scale. All the results are presented in Table 9.

Table 9–*Academic Achievement*

Statement	Freq.	Mean	Std. Dt.
Educational Psychology	342	3.27	.817
Mathematics for Basic school Teachers (II)	342	3.27	.814
English for Basic school Teachers (II)	342	3.20	.831
Total	342		

Source: Field Survey, 2017

Table 9 provides a summary on students' achievement in Educational, Mathematics for Basic school Teachers (II) and English for Basic school Teachers (II). The results indicate that majority of the

respondents scored high marks in all the three courses. This suggests that most of the respondents performed very well in Educational Psychology, Mathematics for Basic school Teachers (II) and English for Basic school Teachers (II).

### **Section 3: Discussion of Findings**

In this subsection, attempts have been made to seek answers to the various research questions guiding the study. The findings were discussed and linked to the relevant literature reviewed.

#### **Research Question One**

**How does the development of course modules relate to the academic achievement of students in distance education?**

In advanced countries of the world where open universities are highly developed and mass communication media and information technologies have brought about revolutionary changes in their education systems, printed materials and modules are still the most important means of imparting instructions to thousands of learners at a distance. The purpose of this research question was to explore how the development of course modules relate to the academic achievement of students in educational psychology, mathematics for basic school teachers (II) and English for basic school teachers (II). Ten separate items were designed to measure this variable. The Pearson Product Moment Correlation test was ran to find out to how course materials relate to students' academic achievement.

Table 10– *Course modules and students’ achievement in educational psychology, Mathematics (II) and English (II)*

		Perf. (Psy.)	Perf. (Maths.II)	Perf. (Eng.II)
Course modules	Pearson Correlation	.527**	.514**	.576**
	Sig. (2-tailed)	.000	.000	.000
	N	342	342	342

\*\* .Significant,  $p < 0.05$

The relationship between course materials and students’ achievement in educational psychology, mathematics for basic school teachers (II) and English for basic school teachers (II) are presented in Table 14. The Pearson bivariate correlation coefficients obtained for educational psychology, mathematics for basic school teachers (II) and English for basic school teachers (II) are  $r = 0.527^{**}$ ,  $r = 0.514^{**}$  and  $r = 0.576^{**}$  respectively. The coefficients are positive with significance or p-value = 0.000 which is less than alpha value of 0.05. The implication from the findings remains that course modules was significantly related to students’ academic achievement in educational psychology, mathematics for basic school teachers (II) and English for basic school teachers (II).

The findings of the study are consistent with those of (Oyedun, 2000; Padmanabhan, 2002; Oshadumi, 2003; Johan, 2004; Uyagu, 2009 and Momoh, 2010) who in their separate studies indicated that students performed better when appropriate and improvised materials were made available. The findings of this study are in line views expressed by Abdo and Semela (2010). The study pointed out that institutions faced with the challenges such as lack of adequate facilities and inadequate instructional

materials tend to have a negative effect on the quality of graduates produced. In the same vein, Omotosho et.al. (2015) found that there was a significant difference between students taught with filmstrips and those taught without filmstrips. Isola (2010) in a similar study asserted that material resources have a significant effect on students' achievement. It helps students with comprehension without missing critical information. This is because instructional materials are used to get and keep the attention of learners.

Abass et. al. (2012) opined that instructional packages, such as printed materials, specimen and models significantly influenced the academic achievement of students. In a similar study, Likoko et. al. (2013) investigated the impact of learning materials on academic achievement and maintained that learning materials have a positive relationship with academic achievement. The findings of the current study corroborate the view shared by Abdu-Raheem (2014). In the study, a positive relationship between course materials and students' academic achievement was established. This presupposes that materials produced with enhanced-formats promote better understanding and internalization of concepts. For some students, it places them in a more comfortable posture to grasp basic facts and concepts. This is supported by the assertion that encouraging teachers to improvise teaching aids because they are great measures of learner's full participation in the lesson, gives room for inquiry, problem-solving, discussion and clarification of issues and ideas among students and the teacher. Differently put, developing course materials can further help develop expertise among staffs, giving them a greater understanding of the characteristics. For higher institutions of learning, providing a course



module is an added advantage to sustain the distance learning programme. Thus institutionally prepared materials may enhance the reputation of the institution by demonstrating its commitment to providing materials specifically for its students. Its significance is that materials produced within the institution can be revised or adapted as needed, giving them greater flexibility to students to make learning more exciting.

### **Research Question Two**

**How does face-to-face tutorial session relate to the academic achievement of students in distance education?**

This research question was to ascertain whether face-to-face tutorial session had a relationship with the achievement of students in distance education. To determine whether there is any significant relationship between face-to-face and the students' achievement in educational psychology, mathematics for basic school teachers (II) and English for basic school teachers (II), the eight items that made up face-to-face were summed upon a 4 point Likert scale. The Pearson bivariate correlation coefficient between face-to-face and students' achievement in educational psychology, mathematics for basic school teachers (II) and English for basic school teachers (II) were generated to show the direction and strength of the relationship. The results of the bivariate correlation are presented in Table 11.

Table 11– *Face-to-face and students’ achievement in educational psychology, Mathematics (II) and English (II)*

		Perf. (Psy.)	Perf. (Maths.II)	Perf. (Eng.II)
Face-to-face	Pearson Correlation	.602**	.614**	.600**
	Sig. (2-tailed)	.000	.000	.000
	N	342	342	342

\*\*Significant,  $p < 0.05$

From the results in Table 11 we found that the Pearson bivariate correlation coefficients obtained on Educational Psychology, Mathematics for Basic School Teachers (II) and English for Basic School Teachers (II) were  $r = 0.602^{**}$ ,  $r = 0.614^{**}$  and  $r = 0.600^{**}$  respectively. They are all positive with significance or p-value = 0.000 which is less than the alpha value = 0.05, implying that face-to-face was significantly related to students’ achievement in Educational Psychology, Mathematics for Basic School Teachers (II) and English for Basic School Teachers (II). The implication from the findings remains that face-to-face was significantly related to the students’ achievement in Educational Psychology, Mathematics for Basic School Teachers (II) and English for Basic School Teachers (II).

These findings are in line with studies done by a number of researchers (Fung & Carr, 2000; Unisa, 2008; Ogina & Mampane, 2013; Van Zyl & Spammer, 2013). In their separate studies, it was concluded that face-to-face interaction between learners and lectures otherwise known as contact sessions has the ultimate aim of assisting distance learners to achieve higher academic success. Thus face-to-face makes it possible for two or

more people to be sending and delivering messages simultaneously. It allows for utilizing several means of communication for the transfer of complex knowledge between two or more people. The findings of the present study also corroborate the views shared by Kassop (2003), Davis and Graff (2005), Holley and Oliver (2010) and Ituma (2011). In their separate studies, students who interacted and participated more in online discussion did not show significantly better performance than students who were involved in face-to-face session discussions. It can be noticed that face to face communication helps people to negotiate at that moment and get a proper feedback. Particularly, they state that, face-to-face increases superior learner environment and places students in a comfortable atmosphere to achieve higher academic credentials.

The findings of this present study confirm the findings of Carnwell (2002). The study pointed out that when students attend contact sessions, it facilitates the transmission of knowledge leading to higher performance level. This suggests that students have different learning styles and thus should be integrated during the contact sessions. The study maintained that though, these support services may be available proportionally, however, the learning styles of students may further determine their academic achievement. The findings of the study again are in agreement with the findings of Song and McNary (2011). The study opined that there is a strong correlation between the number of discussion forums and students' course grades. Similarly, Grieve (2013) found that face-to-face contact sessions positively predicted students' participation and overall achievements. The finding of this study is also in agreement with the findings of Olivier (2016).

Olivier (2016) investigated the impact of contact sessions and discussion forums on the academic performance of open distance learning students. The study concluded that there was a statistically significant difference in the means of final examination scores of students who had contact sessions with instructors than students who did not.

The present study seems not to agree with views shared by Fritsch and Strohleim (1998). They investigated the effect of contact sessions on students' academic achievement at the University of Fein in West Germany which involved face-to-face contact sessions and advice. The study found no significant difference in examination results between the groups with mentor contact and those without any contact sessions. Similarly, Van Zyl and Spammer (2013) study confirm the that. In their study at the North West University in South Africa involving teachers in an Advanced Certificate in education, contact class session was statistically not significant to students' academic success. This implies that institutions charged with providing distance learning programmes should endeavour to build collaborative environments that inspire students to participate in contact sessions. These environments foster greater engagement and innovation, which is an essential element in academic culture. Thus the importance of real conversation in real times and in real settings should not be underscored. We can therefore conclude that to a very large extent, face-to-face contact session has a strong positive relationship with students' achievement in Educational Psychology, Mathematics for Basic School Teachers (II) and English for Basic School Teachers (II).

### Research Question Three

#### How does Tutorial Attendance relate to the academic achievement of students in distance education?

Despite the emphasis on quality and the introduction of new technologies, lecture and tutorial attendance remains the centre of most universities approaches to learning (Massingham & Herrington, 2006).

Students who frequently miss lectures will decrease the chance of receiving a high grade in a given course. The purpose of this research question is to examine the relationship between tutorial attendance and students' academic achievement. The seven separate items were measured on a 4 point Likert Scale. The items were assessed by means of Pearson bivariate correlation coefficient. The results are presented in Table 12.

Table 12 – *Tutorial Attendance and students' achievement in educational psychology, Mathematics (II) and English (II)*

		Perf. (Psy.)	Perf. (Maths.II)	Perf. (Eng.II)
Tut. Attendance	Pearson Correlation	.543**	.514**	.533**
	Sig. (2-tailed)	.000	.000	.000
	N	342	342	342

\*\* .Significant,  $p < 0.05$

With reference to the results in Table 12, the Pearson bivariate correlation coefficients for educational psychology, mathematics for basic school teachers (II) and English for basic school teachers (II) are  $r = 0.543^{**}$ ,  $r = 0.514^{**}$  and  $r = 0.533^{**}$  correspondingly. The coefficients are all positive with significance or p-value = 0.000 which is less than alpha = 0.05 denoting that tutorial attendance was significantly related to students'

achievement in educational psychology, mathematics for basic school teachers (II) and English for basic school teachers (II).

The findings are consistent with findings of a number of studies. These studies have established a positive correlation between tutorial attendance and students' academic achievement (Marburger, 2001; Kirby & McElroy, 2003; Epstein & Sheldon, 2002; Rose et.al, 2007 and Hocking, 2008). Thatcher et.al. (2007) found that students who always attend lectures had a better total mark than those who never or seldom attended lectures. They concluded that physically attending lectures may be directly associated with better academic performance. Plant et. al. (2005) investigated the relationship between students' attendance and the academic performance in sociology of Somali higher education students. It was found that the more students attend lectures, the better grades they received. This implies that the number of hours students attend lectures was positively related to their performance. In a nutshell, tutorial attendance plays a pivotal role in reinforcing and extending the knowledge disseminated to students through lectures. Similarly, students attend tutorials for exposure to the course material. Cohen and Johnson (2006) also found a positive and significant impact of class attendance on students' performance in principles of economics courses at a university in the United States. Ready (2010) also opined that students who attend school regularly score higher tests than their peers who are frequently absent.

The findings of this study further agree with that of Dean and Murphy (2013). They argued that after controlling for demographic factors such as age and gender, there was a positive association between attendance

and academic performance. Findings from the present study and that of others (Epstein & Sheldon, 2002; Rose et.al, 2007 and Hocking, 2008) show that attendance in school is important because students are more likely to succeed in academics when they attend school regularly (Pascopella, 2007). The reason being that relationship between the tutor and students becomes short-lived when they are frequently absent from lectures or tutorials. If students do not show up for classes, they are likely to forfeit every opportunity provided to them at lectures. In a similar study by Alexander and Hicks (2015), the study explored if class attendance predicts academic performance in first year psychology tutorials. The study indicated that there was a significant positive correlation between attendance and assessment results.

The findings of this study are however contrary to views, shared by Stanca (2006) and Latif and Miles (2013). In their separate studies, it was maintained that students must take responsibility for their learning because class attendance does not guarantee success. If students attend tutorial sessions, one of the overriding reasons would be to facilitate students learning and thereby enhance their performance in the course.

#### **Research Question Four**

#### **How does conducive learning environment relate to academic achievement of students in distance education?**

The quality of distance education does not only depend on the tutors performing their duties, but also in the effective coordination of the school's learning environment. This implies that the teaching and learning environment ought to inform, communicate, collaborate, produce and

manage all activities in the school setting. The researcher’s intention was to assess the extent to which students’ learning environment relates to their academic achievement in educational psychology, mathematics for basic school teachers (II) and English for basic school teachers (II). The Pearson bivariate coefficient was used. The results are shown in Table 13.

Table 13 – *Conducive Learning Environment and students’ achievement in educational psychology, Mathematics (II) and English (II)*

		Perf. (Psy.)	Perf. (Maths.II)	Perf. (Eng.II)
Con.Learn.Envnt.	Pearson Correlation	.441**	.349**	.284**
	Sig. (2-tailed)	.000	.000	.000
	N	342	342	342

\*\*Significant,  $p < 0.05$

From Table 13 we find that the Pearson correlation coefficients obtained in educational psychology, mathematics for basic school teachers (II) and English for basic school teachers (II) are  $r = 0.441^{**}$ ,  $r = 0.349^{**}$  and  $r = 0.284^{**}$  respectively. The coefficients are all positive with significance or p-value = 0.000 which is less than  $\alpha = 0.05$  denoting that conducive learning environment was significantly related to students’ achievement in educational psychology, mathematics for basic school teachers (II) and English for basic school teachers (II). Though the coefficients tend to be low, it still remains that students’ learning environment was related to their achievement.

These findings are consistent with findings of a number of studies. These studies have established a positive relationship between students’ learning environment and students’ academic achievement (Ajayi &



Oguyemi, 1990; Kos, 1990; Brown, 2004 and West, 2005 and Lehr, 2010). McEvoy and Welker (2005) confirmed in their study raising expectations towards students and improving the learning environment, one can increase the effectiveness of low-achieving students. Hoy and Hannum (1997) in their study also found that school learning environment otherwise termed as school climate was related to students' achievement above and beyond socio-economic status. The results of this study again are in line with views expressed by Megan (2002). In a study, Megan (2002) found that school climate in high-risk urban environment has a strong impact on students' achievement.

The findings of this study further agree with that of Stewart (2014). Stewart (2014) argued that the sense of school cohesion is the strongest predictor of students' achievement. Findings from the present study and that of others show that poor maintenance and ineffective ventilation systems which constitute an important component of the school environment lead to poor performance and high rates of students' absenteeism. The findings of the study are also consistent with views shared by Stevens and Lowing (2008). The study established significant positive relationship between school climate and students' achievement. The study revealed that for those with high socio-economic status, the effect of school climate was stronger on academic achievement than those schools with low socio-economic status communities.

The findings of this study are however contrary to views shared by Huesmann (1994), McEvoy and Welker (2000) and Schwartz et.al. (2006). In their separate studies, they maintained school climate or conducive

learning environment did not have significant influence on academic achievement of students.

### Research Question Five

#### How does Students' Preparedness relate to the academic achievement of students in distance education?

Of the many factors influencing academic achievement, the student's personal inputs to learning are recognized as among the most essential. An individual student's inputs and preparedness are very significant in the teaching and learning process. This implies that whatever effort that teachers and parents make to enhance students learning, greater work lie with the learners. The researcher's intention was to examine how students' preparedness relate to their achievement in the distance education programme. The Pearson bivariate correlation coefficient was used. The results are shown in Table 14.

Table 14 – *Students' Preparedness and students' achievement in educational psychology, Mathematics (II) and English (II)*

		Perf. (Psy.)	Perf. (Maths.II)	Perf. (Eng.II)
Stdnt.Preparedness	Pearson Correlation	.567**	.524**	.566**
	Sig. (2-tailed)	.000	.000	.000
	N	342	342	342

\*\*Significant,  $p < 0.05$

Table 14 shows the The Pearson bivariate correlation coefficient obtained between students' preparedness and academic achievement which are  $r = 0.567^{**}$ ,  $r = 0.524^{**}$  and  $r = 0.566^{**}$  with significance of p-value = 0.000 which is less than  $\alpha = 0.05$ . This implies that students'

preparedness is significantly related to their academic achievement. This finding gives a clear signal that the time students devote to focused learning activities is considered the most valuable in terms of their academic achievement. Most students are of the view that if they want to succeed in higher education they need to develop good time management skills and to make better use of their study time by engaging in appropriate learning activities (Taylor & Bedford, 2004).

Findings of the study are consistent with a number of studies (Astin, 1993; Handelsman et.al., 2005; Kayatin, 2005; Gottfried &Gottfried, 2004; Gottfried et.al., 2007). In their separate studies, they in one way or the other opined that engagement in educationally purposeful activities was positively related to their academic outcomes. The findings of the present study is also consistent with the findings of Adekeyi (2002), Assouline et.al.(2006) and Marquez (2009). In their separate studies, they all maintained that it is mainly through students' efforts and abilities that result in higher academic achievement. They conclude that students should apply productive learning habits to all their classes to achieve higher Grade Point Average (GPA).

The findings of this present study further confirm the findings of Wawrynski (2005). In this particular research, students reported higher levels of outcomes when they engaged more in classroom-related activities. The findings of the study again are in agreement with the conclusion of Akimlana (2012). The researcher found that academic optimism and emphasis were good predictors of a student's academic performance. The finding of this study is again consistent with the view expressed by Davis

(2009). He found that student enthusiasm and willingness to participate in class which ultimately result in higher achievement levels.

### Testing the Hypothesis

In this subsection, attempts are made to test the hypothesis that guided the study. In view of this, multiple regression procedures were used to test the hypothesis. The null and alternative hypothesis therefore state that;

H<sub>0</sub>: Student support services (course materials, face-to-face, conducive learning environment) will not directly predict academic achievement of distance education students.

H<sub>1</sub>: Student support service (course materials, face-to-face, conducive learning environment) will directly predict academic achievement of distance education students.

The results of the regression of the dependent variable on the predictor and mediating variables are shown in Tables 15, 16 and 17.

Table 15–A model summary of multiple regression analysis of effects of student support services on academic achievement in educ. psych.

Predictors	Educational Psychology Quiz Score		
	Model 1 β	Model 2 β	Model 3 β
Face-to-Face	.429(.000)*	.362(.000)*	.283(.000)*
Course Modules	.287(.000)*	.230(.000)*	.183(.000)*
Conducive Environment	.246(.000) *	.211(.000) *	.180(.000) *
Tutorial Attendance		.225(.000)*	.205(.003)*
Students Preparedness			.294(.000)*
Constant	-3.385	-3.513	-3.404
R	.720	.744	.775
R <sup>2</sup>	.518	.554	.600
AR <sup>2</sup>	.514	.549	.594

Source: Field Survey, 2017

\*\*.Significant, p<0.05

Table 15 shows the results of the multiple regression analysis. The analysis was in three models. Model 1 gives the coefficients of the predictor variables, the standard error, the level of significance, the correlation (R), the R-square ( $R^2$ ) and the adjusted  $R^2$  ( $AR^2$ ). Model 2 also contains the coefficients of the predictor variables and one mediating variable, the standard error, the level of significance, the correlation (R), the R-square ( $R^2$ ), and the adjusted  $R^2$  ( $AR^2$ ). Lastly, in the analysis, Model 3 also shows the coefficients of the predictor variables and two mediating variables, the standard error, the level of significance, the correlation (R), the R-square ( $R^2$ ) and the adjusted  $R^2$  ( $AR^2$ ).

In model 1, when the Educational Psychology quiz score was regressed on the independent variables, all the independent variables were found to be significant predictors of achievement in distance education.

In models 2 and 3, when the intervening variables were introduced, thus tutorial attendance and students' preparedness, the independent variables were still found to be significant predictors of achievement in educational psychology though they shrank. In a nutshell, the shrinkage constitutes the contribution of the mediating variables.

Though face-to-face, conducive learning environment and course modules consistently remained significant predictors, their coefficients reduced when the intervening variables were in Models 2 and 3. For example, when tutorial attendance was introduced into Model 2, all the constantly significant independent variables shrank. That is to say, face-to-face, course modules and conducive learning environment shrank by 16%, 20% and 14%. This implies that the values lost by the shrinkages constitute

the contribution of the intervening variables to the independent variables. Lastly, when students' preparedness was injected into Model 3, face-to-face, course materials and conducive learning environment still shrank by 22%, 20% and 15%. The findings reveal that tutorial attendance stimulates students to prepare very well for academic work which will eventually raise their achievement in Educational Psychology.

The findings of this study therefore establish face-to-face, course modules and conducive environment as the major independent predictors of academic achievement in Educational Psychology. In view of this, the researcher argues that the most important student support service provided to distance education learners are face-to-face contact sessions (Fung & Carr, 2000). Major (2011) hold the view point that face-to-face session can be the most effective way that a tutor can impart information to a class. The above study advanced that it is through face-to-face that a tutor can synthesis all ideas and knowledge to potential learners. It is worthwhile to note that face-to-face in distance education are usually instituted to enable students to have interaction with their facilitators who respond to their questions as well as offering wider explanations and clarification of course materials provided to students.

Table 16–A model summary of multiple regression analysis of effects of student support services on academic achievement in maths (II)

Predictors	Maths (II) Quiz Score		
	Model 1	Model 2	Model 3
	$\beta$	$\beta$	$\beta$
Face-to-Face	.466(.000)*	.405(.000)*	.339(.000)*
Course Modules	.290(.000)*	.238(.000)*	.199(.000)*
Conducive Environment	.143(.001) *	.112(.007)*	.085(.033) *
Tutorial Attendance		.204(.000)*	.186(.003)*
Students Preparedness			.210(.000)*
Constant	-3.191	-3.319	-3.206
R	.696	.718	.740
R <sup>2</sup>	.485	.515	.547
AR <sup>2</sup>	.481	.509	.540

Source: Field Survey, 2017 \* $p < 0.05$ .

Table 16 illustrates the results of the multiple regression analysis. The analysis was in three models. Model 1 gives the coefficients of the predictor variables, the standard error, the level of significance, the correlation (R), the R-square (R<sup>2</sup>) and the adjusted R<sup>2</sup> (AR<sup>2</sup>). Model 2 also contains the coefficients of the predictor variables and one mediating variable, the standard error, the level of significance, the correlation (R), the R-square (R<sup>2</sup>), and the adjusted R<sup>2</sup> (AR<sup>2</sup>). Lastly, in the analysis, Model 3 also shows the coefficients of the predictor variables and two mediating variables, the standard error, the level of significance, the correlation (R), the R-square (R<sup>2</sup>) and the adjusted R<sup>2</sup> (AR<sup>2</sup>).

In model 1, mathematics for basic school teachers (II) quiz score was regressed on the predictor variables, thus face-to-face, course modules, and conducive learning environment. All the independent variables (though

shrunk) were found to be significant predictors of students' academic achievement in mathematics for basic school teachers (II).

In model 2, when the mathematics for basic school teachers (II) was regressed on the same independent variables and one intervening variable, the independent variables still remained significant predictors of students' academic achievement; however these independent variables shrunk significantly. This suggests that the independent variables share their predictive powers with the intervening variable. The implication is that the independent variables did not determine students' academic achievement unless the intervening variable was there. That is to say, the independent variables made an effect when it passed through the mediating variable. Lastly, when students' preparedness was introduced in Model 3, the same variable was still not a significant predictor. This confirms that the independent variable did not directly determine achievement in mathematics for basic school teachers (II). They did so through the mediating variables.

Moreover, in Table 16, when the intervening variables, thus tutorial attendance and students' preparedness were introduced in Models 2 and 3, the coefficients of majority of the independent variables shrunk. For example, when tutorial attendance was introduced into model 2, face-to-face, course modules and conducive environment shrunk by 13%, 18% and 22% respectively but maintained their significance levels. Again, with the introduction of students' preparedness in model 3, face-to-face, course modules and conducive environment shrunk by 17%, 16% and 24% respectively yet they were still significant. This suggests that the values lost



by the shrinkages constitute the contribution of the intervening variables themselves.

These imply that most of the predictor variables for example face-to-face and course modules, though significant predictors in Model 1, when the mediating variables were introduced, they depreciated. This suggests that they shared their predictive power with the intervening variables, hence they cannot be major predictors of students' achievement in mathematics for basic school teachers (II). This implies that the introduction of the intervening variable indicates the inadequacy of the predictor variables to determine their achievement. This also suggests that without the intervening variables, the independent variables alone cannot predict students' academic achievement significantly.

The results in Table 16 reveal that face-to-face, course modules and conducive learning environment were consistent predictors of achievement in mathematics for basic school teachers (II) even though they all shrank in Model 3. In this regard, face-to-face, course modules and conducive learning environment were the major predictors of students' achievement in mathematics for basic school teachers (II). The researcher therefore, theorizes that when support services are provided to students in the form of human interaction, facilities as well as reading materials, these support services facilitate students learning and reduce the disadvantages associated with learning at a distance (Simpson, 2000).

Table 17–*Multiple Regression of the English for Basic School Teachers (II) Quiz Score on the Independent and Intervening Variables*

Predictors	English (II) Quiz Score		
	Model 1	Model 2	Model 3
	$\beta$	$\beta$	$\beta$
Face-to-Face	.421(.000)*	.357(.000)*	.278(.000)*
Course Modules	.369(.000)*	.315(.000)*	.269(.000)*
Conducive Environment	.148(.000) *	.116(.004) *	.084(.027) *
Tutorial Attendance		.211(.000)*	.191(.000)*
Students Preparedness			.253(.000)*
Constant	-3.484	-3.606	-3.494
R	.720	.742	.773
R <sup>2</sup>	.519	.551	.597
AR <sup>2</sup>	.515	.546	.591

Source: Field Survey, 2017 \*\*Significant,  $p < 0.05$

Table 17 illustrates the results of the multiple regression analysis. The analysis was in models. In all, three models were involved. Model 1 gives the coefficients of the predictor variables, the standard error, the level of significance, the correlation (R), the R-square (R<sup>2</sup>) and the adjusted R<sup>2</sup> (AR<sup>2</sup>). Model 2 also contains the coefficients of the predictor variables and one mediating variable, the standard error, the level of significance, the correlation (R), the R-square (R<sup>2</sup>), and the adjusted R<sup>2</sup> (AR<sup>2</sup>). Lastly, in the analysis, Model 3 also shows the coefficients of the predictor variables and two mediating variables, the standard error, the level of significance, the correlation (R), the R-square (R<sup>2</sup>) and the adjusted R<sup>2</sup> (AR<sup>2</sup>).

In Model 1, when the English for basic school teachers (II) quiz score was regressed on the independent variables, thus face-to-face, course modules and conducive learning environment, thus all the independent

variables were found to be significant predictors of achievement in English for basic school teachers (II).

In Models 2 and 3, when tutorial attendance and students' preparedness were respectively introduced, gender was still found not to be a significant predictor of achievement in English for basic school teachers (II). This suggests that the independent variables share their predictive powers with the mediating variables. This implies that the independent variables do not determine achievement in English for basic school teachers (II) unless the intervening variables are present. In the nutshell, the independent variable makes an effect only when it passes through the intervening variables. For instance, when tutorial attendance was introduced in Model 2, face-to-face and course modules shrank by 15% and 14% respectively. Conducive learning environment on the other hand shrank by 22% yet it was still significant. Again with the introduction of students' preparedness in Model 3, face-to-face, course modules as well as conducive learning environment shrank by 22%, 15% and 10% respectively. The findings indicate that the values lost by the shrinkages constitute the contribution of the mediating variables to the independent variables.

The results from Table 17 reveal that face-to-face and course modules were consistent predictors of students' achievement in English for basic school teachers (II). Though they both shrank in Models 2 and 3. In view of this, the researcher is of the view that it is through face-to-face that a tutor can synthesize all ideas and knowledge to potential learners (Major, 2011). The view point of the researcher is consistent with similar views shared by Kassop (2003). Kassop (2003) argues that face-to-face increases

superior learner empowerment and places students in a comfortable atmosphere to achieve higher academic credentials. Dzakira (2008) concludes that the mutual support and discussions during face-to-face reduce the isolation and loneliness experienced by some distance education students.

The evidence from the analysis of the data in Tables 15, 16 and 17 shows that the independent variables cannot directly predict achievement in education psychology, mathematics for basic school teachers (II) and English for basic school teachers (II). In reality, the intervening variables, thus tutorial attendance and students' preparedness share their predictive power with the independent variables.

The findings from this study are consistent with a number of researchers (Purcell, 2007; Adair & Smith, 2012; Dean & Murphy, 2013). For example, Alexander and Hicks (2015) submitted that the most significant predictor of students achievement especially in distance education is students attendance and their preparedness. In a nut shell, learners play significant roles in improving their own learning (Nicholas & Sutton, 2013). Zarei (2008) in a similar studies submitted that academic achievement is on the major factors considered by employers in hiring workers especially for fresh graduates. This means that students have to put great effort in their studies to obtain good grades and to prepare themselves for future opportunities in their professional life and at the same time fulfilling the employers demand.

## Summary

This chapter was divided into three, the results of the demographic data, the results of the main data and discussion. The Pearson Moment Correlation Coefficient was employed in establishing the relationship and direction of the independent and mediating variables. The hypothesis of the study was tested using the Regression analysis.



## CHAPTER FIVE

### SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

#### Overview of the Study

The study sought to examine the effects of student support services on academic achievement of distance education students of the University of Cape Coast. In this chapter, the summary of key findings, conclusions drawn from the findings and recommendations made, are presented.

#### Summary

The study was designed to find out whether factors such as face-to-face tutorial session, development of course materials, tutorial attendance, conducive learning environment and students' preparedness relate to students' achievement in Educational Psychology, Mathematics for Basic School Teachers (II) and English for Basic School Teachers (II). The study was grounded on the transactional distance theory, theory of autonomy and independent study and self-determination theory (SDT). The descriptive and correlational research designs were employed to determine how these factors relate to students' academic achievement in Educational Psychology, Mathematics for Basic School Teachers (II) and English for Basic School Teachers (II).

The target population was all students in the central region study centres of the University of Cape Coast. The Accessible population was second year students of Twifo Praso, Dunkwa-On-Offin and Assin Fosu study centres. Multi-stage sampling procedures were used to select study

centres, programme and number of students for this study respectively. A close-ended questionnaire which served as a structured interview guide was used to collect data from 342 respondents. Frequencies, percentages, means and standard deviations were used for the preliminary analysis, while inferential statistics using Pearson moment correlation coefficient was used to seek answers the research questions. This statistical tool was used to establish the strength and direction of the associations between the independent, intervening and dependent variables. Multiple regression method was employed to test the hypothesis. The results of the data analysis are presented in the section that follows.

### **Key Findings**

In this section, answers to the various research questions and conclusions drawn from the research questions and hypothesis tested are presented.

1. The study established that there is a strong and positive relationship between development of course modules and students' achievement in Educational Psychology, Mathematics for Basic School Teachers (II) and English for Basic School Teachers (II) ( $r= 0.527$ ,  $r= 0.514$  and  $r= 0.576$ ,  $p<. 05$ ).
2. The study further revealed that there is a strong and positive relationship between face-to-face tutorial session and students' achievement in Educational Psychology, Mathematics for Basic School Teachers (II) and English for Basic School Teachers (II) ( $r= 0.602$ ,  $r= 0.614$  and  $r= 0.600$ ,  $p<. 05$ ). The implication from the findings remains that face-to-face was significantly related to the students' achievement in Educational Psychology, Mathematics for

Basic School Teachers (II) and English for Basic School Teachers (II).

3. The study showed that there is a positive relationship between Tutorial Attendance and students' achievement in Educational Psychology, Mathematics for Basic School Teachers (II) and English for Basic School Teachers ( $r= 0.543$ ,  $r= 0.514$  and  $r= 0.533$ ,  $p<. 05$ )
4. The findings from the study showed that there is a positive relationship between Conducive Learning Environment and students' achievement in Educational Psychology, Mathematics for Basic School Teachers (II) and English for Basic School ( $r= 0.441$ ,  $r= 0.349$  and  $r= 0.284$ ,  $p<. 05$ ).
5. The study found that there is a positive relationship between Students' Preparedness students' achievement in Educational Psychology, Mathematics for Basic School Teachers (II) and English for Basic School ( $r= 0.567$ ,  $r= 0.524$  and  $r= 0.566$ ,  $p<. 05$ ).
6. The null hypothesis was not rejected because it was found that the independent variables by themselves did not predict students' achievement in Educational Psychology, Mathematics for Basic School Teachers (II) and English for Basic School Teachers (II).

## Conclusions

From the study it was observed that:

One of the key elements in distance learning is the dynamic process shared between a tutor and a student and a student and fellow students. Face-to-face contact sessions foster these relationships. Richness of information and memorable experiences are deduced from contact sessions. Face-to-face



communication allows the entire experience to not only be heard but also seen and felt.

There is no doubt that face-to-face is valuable and remains incredibly vital. By actively seeing a tutor or expert convey passion about a content area, it ignites the same passion, better interest due to lack of distractions and an increase in the likelihood of retention.

Not only will these contact sessions ensure a better understanding and recall of the lessons and its content, but also the face-to-face element adds an opportunity for colleagues to bond, interact with fellow students, and increase their camaraderie. This includes the added value of being able to gain insight from other people and develop social linkages.

The importance of instructional materials (course modules) in the development of learners' intellectual abilities and attainment of teaching and learning objectives cannot be overemphasized. Students provided and taught with course modules have outstanding achievement scores compared with students without course materials.

### **Recommendations / Suggestions for further Research**

In line with the findings and conclusions drawn from the study, the following recommendations are made.

1. The College of Distance Education, University of Cape Coast, should continue to see to it that face-to-face contact sessions are conducted in a manner that satisfies the needs of distance education learners as well as improving pass rates. Again, this study established that the success of contact sessions depends on the effective link between facilitation and learning support services. The College of Distance

Education should therefore address students' concerns with regards to these administrative challenges so as to ensure the process of continuous improvement of the distance education programme.

2. The College of Distance Education, University of Cape Coast should engage more experienced and competent tutors to act as role models and mentors to new and less competent tutors. That is, the role of the tutor should be reconsidered and redefined.
3. Tutors will need to be retrained so that there is common understanding of what is expected of them and how they should conduct face-to-face tutorial sessions. The training should focus on strategies that develop tutor competency on course content knowledge.
4. The course tutors need to be well prepared before the contact sessions as a lack of thorough preparation results in students questioning the integrity of the facilitators. Tutors should try their best to make use of available instruction materials where necessary to make their lesson lively, thought-provoking and more interesting.
5. Learning support services should be effectively organised by institutions charged with providing distance education, in such a way that student learning is not hampered. It is worthwhile for programme coordinators to conduct quality control, identify the strengths and pitfalls of tutors, and work towards excellence.
6. For distance education to be effective, the environment needs to be conducive for learning. Creating and maintain stimulating environment for learners can be achieved through effective

classroom organization and a climate of innovation. The College should provide suitable learning environment at the various study centres for effective tutoring and learning. Such environment should be safe, students treated fairly by tutors and the university administration so that students attend lectures regularly and has the feeling that they are a part of the university.

7. The College of Distance Education, University of Cape Coast should allocate enough funds to equip the physical facilities of the study centres which are either inadequate or completely lacking. The institutions should also equip study centres with internet facilities and recreational facilities as seen in the main campus.

### **Recommendations for Future Research**

Although the study has achieved its purpose, there are a number of related aspects that warrant additional research. They include the following:

1. The role of student administrative support on student motivation and academic performance.
2. The integration of Information and Communication Technology and e-learning in distance education.

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**APPENDIX A**

**RESPONDENTS' QUESTIONNAIRE**

Dear Student,

I am conducting a research which aims at finding out the role of student support services in the academic achievement of Distance Education Students in the University of Cape Coast. You are hereby invited to participate in this important study. The information provided by you will be treated with the strictest confidentiality and used purely for academic purposes. Please, your participation in this study is voluntary. Thank you.

**SECTION A: BACKGROUND INFORMATION OF RESPONDENTS**

**Please tick [√] as appropriate**

1. Gender                      1. Male    [   ]                                      2. Female    [   ]

2. Age

1. 20 – 24 years    [   ]

2. 25 – 29 years    [   ]

3. 30 – 34 years    [   ]

4. Above 40 years    [   ]

**FACE – TO – FACE TUTORIAL SESSION**

3. Indicate by ticking (√) the extent to which you agree or disagree to the extent to which the tutor exhibits the following. (Strongly Agree (SA) Agree (A), Disagree (D), Strongly Disagree (SD))

S/N	Statements	SA	A	D	SD
3a	Teacher praises students for good ideas or useful contributions				
3b	Teacher welcomes imagination, creativity and				

	new ideas				
3c	Stimulates students to think independently				
3d	Does not present ideas in an interesting manner				
3e	Manage classroom discussions so that they serve as a useful part of the learning process				
3f	Shows enthusiasm to teach and treats students				
3g	Acts as a member of the group rather than an autocratic leader				
3h	Communicates to learners the need to pay more				

### COURSE MODULES OR LEARNING MATERIALS

4. Indicate with a tick (✓) the extent to which you agree or disagree to the following statements. Strongly Agree (SA) Agree (A), Disagree (D), and Strongly Disagree (SD)

S/N	Statements	SA	A	D	SD
4a	The modules clearly stated the objectives in each unit				
4b	Objectives stated in the modules match the information covered				
4c	Course modules or materials contained relevant information for my studies				
4d	Stimulates students to think independently				
4e	Summaries were provided to aid learning				
4f	Information was presented in a simple way				
4g	The modules were distributed on time				
4h	Diagrams in the modules were sufficient				

4i	Using course modules is a waste of time and slows learning				
4j	Modules enhance students' understanding and				

### TUTORIAL ATTENDANCE

5. Indicate with a tick (√) the extent to which you agree or disagree to the following statements. Strongly Agree (SA) Agree (A), Disagree (D), and Strongly Disagree (SD)

S/N	Statements	SA	A	D	SD
5a	I get better results when I attend lectures				
5b	Marks are awarded for lecture attendance				
5c	Useful tips about quizzes and semester exams are given in class				
5d	Lecture/tutorial attendance is an important predictor of academic success				
5e	I can get through the subject without going to lectures or tutorials				
5f	Attending lectures/tutorials strengthened my network of friends				
5g	The Tutors help me to understand course materials better when I attend lectures				

### CONDUCTIVE LEARNING ENVIRONMENT

6. Indicate with a tick (√) the extent to which you agree or disagree to the following statements. Strongly Agree (SA) Agree (A), Disagree (D), and Strongly Disagree (SD),

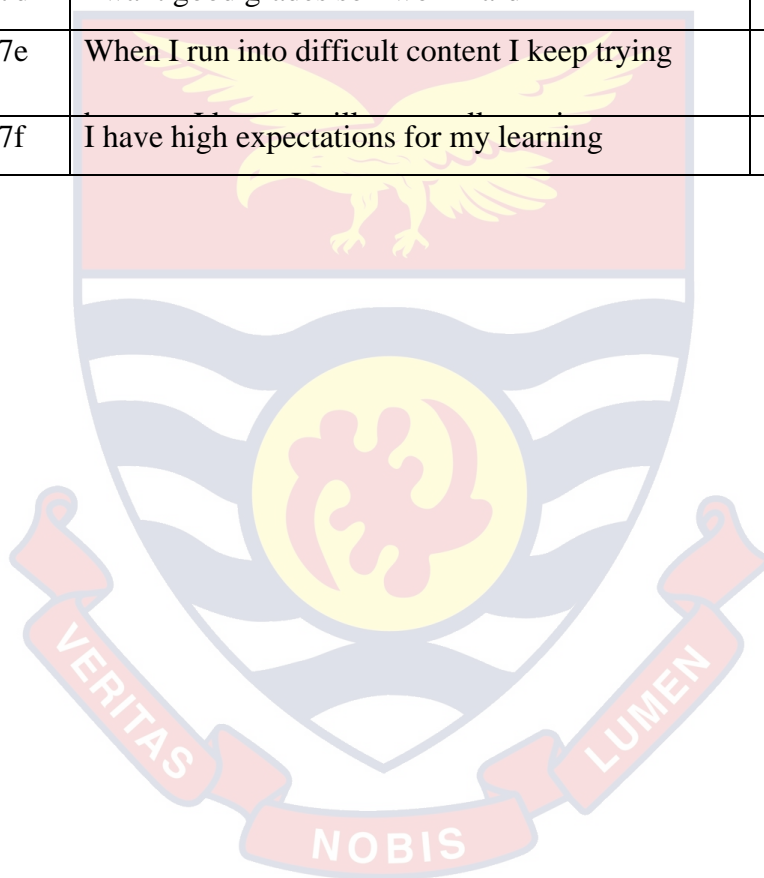
S/N	Statements	SA	A	D	SD
6a	Seats in my lecture room are arranged in traditional lecture format (desks are in rows)				
6b	My classroom environment encourages cultural diversity				
6c	Attractive school buildings and classrooms facilitate academic performance				
6d	Adequate air ventilation during lesson might improve performance				
6e	Poor ventilation makes lesson less interesting and boring				

### STUDENTS' PREPAREDNESS

7. Indicate with a tick (✓) the rate of occurrence to the following statements.

Very often (VO), Often (O), Sometimes (S) and Never (N)

S/N	Statements	VO		S	N
7a	I work hard to do my best in school.				
7b	I study only when I like				
7c	I copy the assignments of friends				
7d	I want good grades so I work hard				
7e	When I run into difficult content I keep trying				
7f	I have high expectations for my learning				



**APPENDIX B**

**Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics		
	B	Std. Error	Beta			Tolerance	VIF	
1 (Constant)	-			-	.00			
	3.392	.356		9.533	.000			
	TFacetoface	.127	.012	.429	10.369	.000	.831	1.203
	Totalcoursemodules	.053	.008	.287	6.806	.000	.805	1.243
Totalconducivelearnenvironment	.077	.013	.246	6.128	.000	.886	1.128	
2 (Constant)	-			-	.00			
	3.534	.344		10.279	.000			
	TFacetoface	.107	.012	.362	8.637	.000	.753	1.328
	Totalcoursemodules	.042	.008	.229	5.466	.000	.750	1.332
	Totalconducivelearnenvironment	.066	.012	.211	5.382	.000	.861	1.162
Totalstutorialattendance	.054	.010	.225	5.232	.000	.716	1.397	
3 (Constant)	-			-	.00			
	3.397	.327		10.394	.000			
	TFacetoface	.084	.012	.284	6.797	.000	.684	1.463
	Totalcoursemodules	.034	.007	.183	4.518	.000	.725	1.379
	Totalconducivelearnenvironment	.056	.012	.180	4.784	.000	.845	1.183
	Totalstutorialattendance	.049	.010	.205	5.012	.000	.712	1.405
	Totalstudentpreparedness	.060	.010	.251	6.200	.000	.728	1.374

a. Dependent Variable: educational psychology

ANOVA<sup>a</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	117.939	3	39.313	121.049	.000 <sup>b</sup>
	Residual	109.772	338	.325		
	Total	227.711	341			
2	Regression	126.187	4	31.547	104.717	.000 <sup>c</sup>
	Residual	101.524	337	.301		
	Total	227.711	341			
3	Regression	136.610	5	27.322	100.770	.000 <sup>d</sup>
	Residual	91.100	336	.271		
	Total	227.711	341			

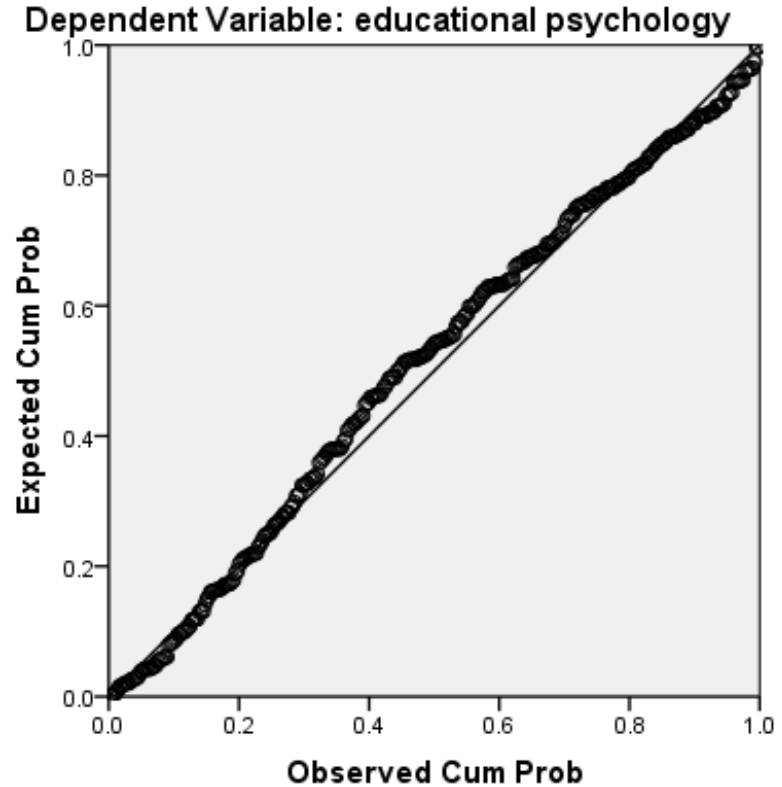
a. Dependent Variable: educational psychology

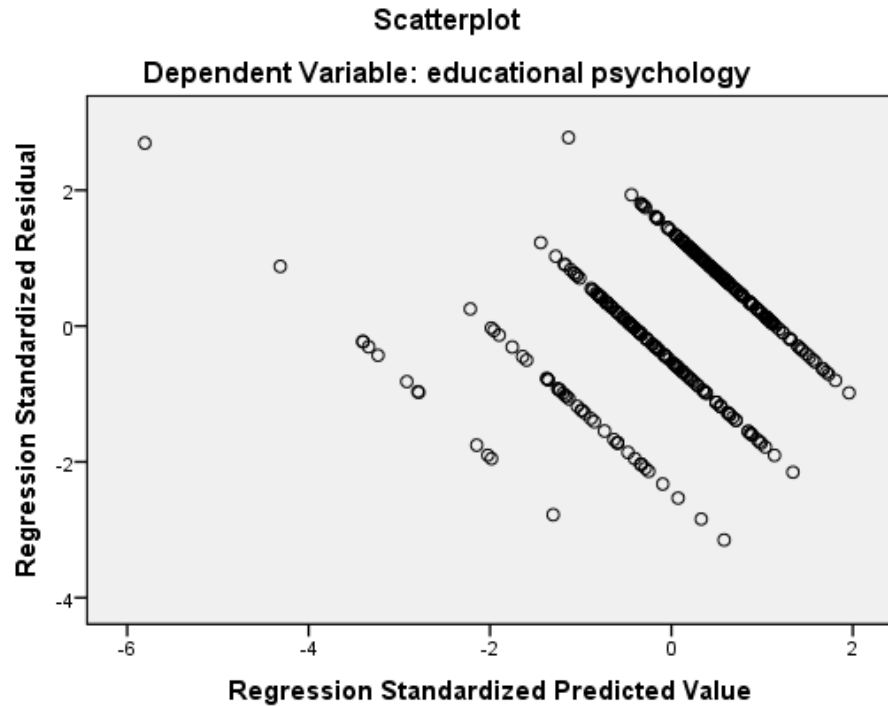
b. Predictors: (Constant), Totalconducivelearnenvironment, TFacetoface, Totalcoursemodules

c. Predictors: (Constant), Totalconducivelearnenvironment, TFacetoface, Totalcoursemodules, Totaltutorialattendance

d. Predictors: (Constant), Totalconducivelearnenvironment, TFacetoface, Totalcoursemodules, Totaltutorialattendance, Totalstudentpreparedness

Normal P-P Plot of Regression Standardized Residual





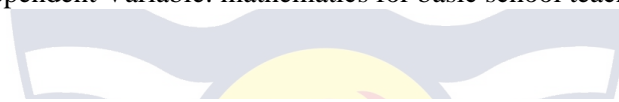
**Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	-3.191	.366		-8.707	.000		
TFacetoface	.137	.013	.466	10.891	.000	.831	1.203
Totalcoursemodules	.053	.008	.290	6.661	.000	.805	1.243
Totalconducivelearnenvironment	.045	.013	.143	3.457	.001	.886	1.128
2 (Constant)	-3.319	.357		-9.289	.000		
TFacetoface	.119	.013	.405	9.263	.000	.753	1.328
Totalcoursemodules	.044	.008	.238	5.435	.000	.750	1.332



Totalconducivelearnenvi ronment	.035	.013	.112	2.73 2	.00 7	.861	1.1 62
Totaltutorialattendance	.049	.011	.204	4.55 6	.00 0	.716	1.3 97
3 (Constant)	- 3.20 6	.347		- 9.24 8	.00 0		
TFacetoface	.100	.013	.339	7.64 3	.00 0	.684	1.4 63
Totalcoursemodules	.037	.008	.199	4.61 9	.00 0	.725	1.3 79
Totalconducivelearnenvi ronment	.027	.012	.085	2.13 9	.03 3	.845	1.1 83
Totaltutorialattendance	.045	.010	.188	4.31 1	.00 0	.712	1.4 05
Totalstudentpreparedness	.050	.010	.210	4.87 5	.00 0	.728	1.3 74

a. Dependent Variable: mathematics for basic school teachers II



**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	109.710	3	36.570	106.143	.000 <sup>b</sup>
	Residual	116.453	338	.345		
	Total	226.164	341			
2	Regression	116.468	4	29.117	89.452	.000 <sup>c</sup>
	Residual	109.695	337	.326		
	Total	226.164	341			
3	Regression	123.714	5	24.743	81.148	.000 <sup>d</sup>
	Residual	102.450	336	.305		
	Total	226.164	341			

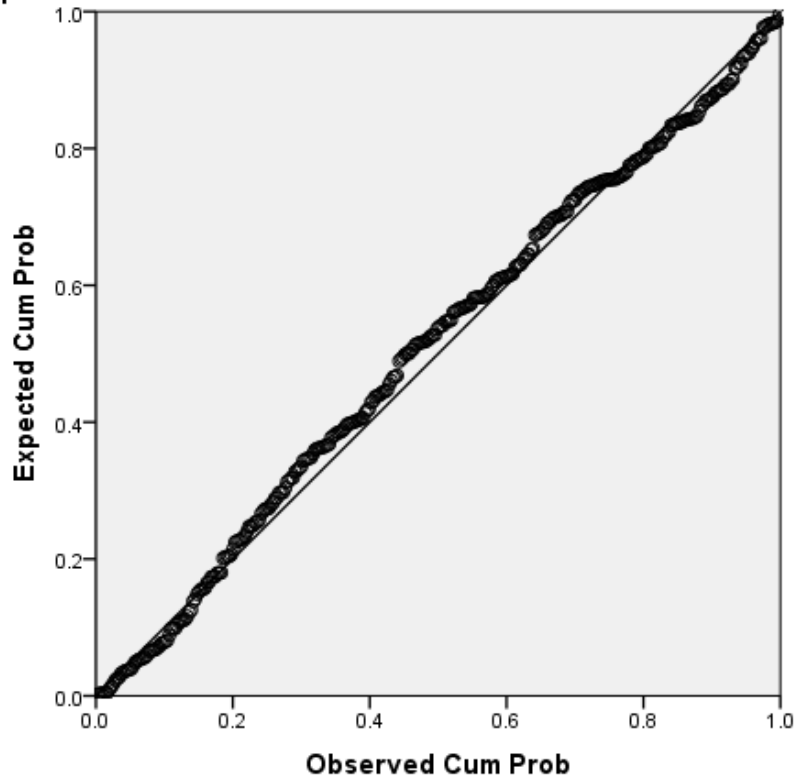
a. Dependent Variable: mathematics for basic school teachers II

b. Predictors: (Constant), Totalconducivelearnenvironment, TFacetoface, Totalcoursemodules

c. Predictors: (Constant), Totalconducivelearnenvironment, TFacetoface, Totalcoursemodules, Totaltutorialattendance

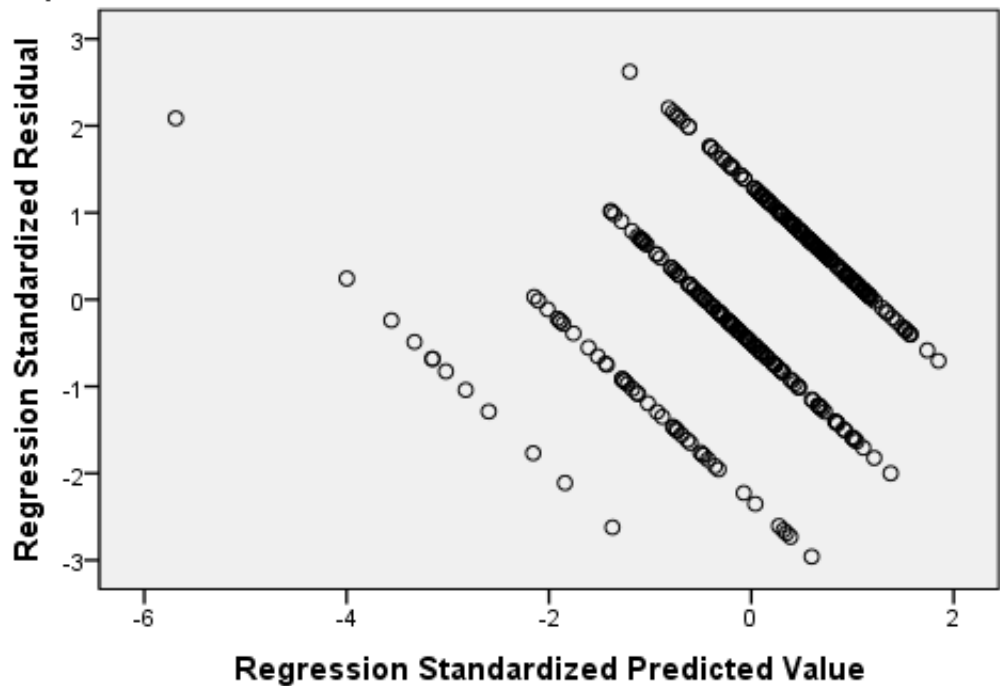
d. Predictors: (Constant), Totalconducivelearnenvironment, TFacetoface, Totalcoursemodules, Totaltutorialattendance, Totalstudentpreparedness

Normal P-P Plot of Regression Standardized Residual  
Dependent Variable: mathematics for basic school teachers II



Scatterplot

Dependent Variable: mathematics for basic school teachers II



**Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-3.512	.362		-9.714	.000	
	TFacetoface	.126	.012	.421	10.167	.000	.831
	Totalcoursemodules	.069	.008	.369	8.768	.000	.805
	Totalconducivelearn environment	.047	.013	.148	3.697	.000	.886
2	(Constant)	-3.647	.351		-10.390	.000	
	TFacetoface	.107	.013	.357	8.496	.000	.753
	Totalcoursemodules	.059	.008	.315	7.481	.000	.750
	Totalconducivelearn environment	.037	.013	.116	2.936	.004	.861
	Totalstutorialattendance	.052	.011	.211	4.882	.000	.716
3	(Constant)	-3.507	.334		-10.513	.000	
	TFacetoface	.084	.013	.278	6.651	.000	.684
	Totalcoursemodules	.050	.008	.269	6.604	.000	.725
	Totalconducivelearn environment	.027	.012	.084	2.227	.027	.845
	Totalstutorialattendance	.047	.010	.191	4.644	.000	.712
	Totalstudentpreparedness	.061	.010	.253	6.228	.000	.728

a. Dependent Variable: English II



ANOVA<sup>a</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	122.337	3	40.779	121.615	.000 <sup>b</sup>
	Residual	113.336	338	.335		
	Total	235.673	341			
2	Regression	129.823	4	32.456	103.332	.000 <sup>c</sup>
	Residual	105.849	337	.314		
	Total	235.673	341			
3	Regression	140.779	5	28.156	99.694	.000 <sup>d</sup>
	Residual	94.894	336	.282		
	Total	235.673	341			

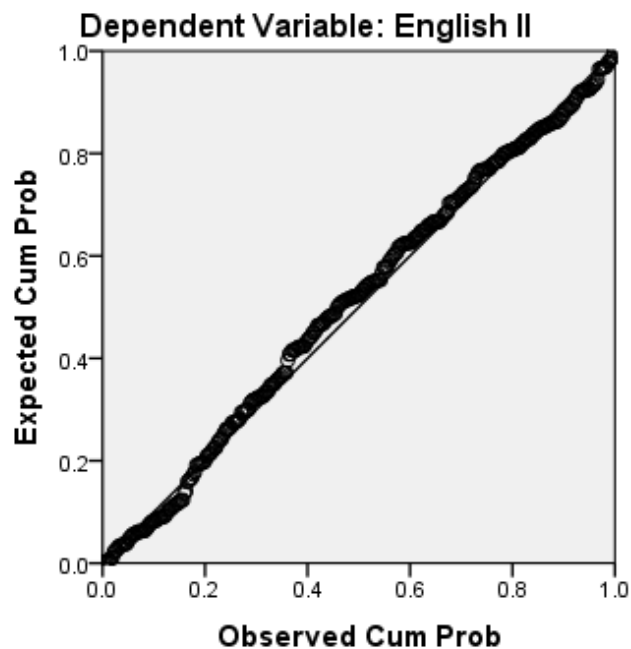
a. Dependent Variable: English II

b. Predictors: (Constant), Totalconducivelearnenvironment, TFacetoface, Totalcoursemodules

c. Predictors: (Constant), Totalconducivelearnenvironment, TFacetoface, Totalcoursemodules, Totaltutorialattendance

d. Predictors: (Constant), Totalconducivelearnenvironment, TFacetoface, Totalcoursemodules, Totaltutorialattendance, Totalstudentpreparedness

Normal P-P Plot of Regression Standardized Residual



### Scatterplot

