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Effects of Student Support Services on Academic Achievement of Distance Education Students of the University of Cape Coast, Ghana

Asaah Junior Stephen Kwabena

Lecturer, College of Distance Education, University of Cape Coast, Cape Coast, Ghana

Felix Oppusu Paapa Agyiri

Lecturer, College of Distance Education, University of Cape Coast, Cape Coast, Ghana

Abstract:

The study looked to analyze 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.

Keywords: Student, support service, distance education and academic achievement

1. Introduction

The availability of educational opportunities in developing countries has become a major challenge, which is noted for its highest population growth rate in the world (Carr & London, 2019). High populace growth rates in developing countries is because of a various of components, most remarkably, the occurrence of high birth rates (Haub & Gribble, 2011). The endeavours of different governments to expand access to education for its kin have demonstrated fruitless throughout 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). In spite of the fact that most students lean toward conventional education, a significant number of students likewise incline toward distance education. Distance Education is certifiably not a new concept. It began 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 candidates gain admission to the state funded universities, making demand-supply gap of about 51% (Oduro, 2008). For example, in the 2005/2006 academic year just 55% of qualified candidates were conceded 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).

The term 'Distance Education' was instituted in 1972 by the International Council for Correspondence Education (Moore, 1990). Moore (1990) characterized Distance education as institution-based, formal education where the learning bunch is isolated, and where interactive telecommunications systems are utilized to connect students, resources, and

teachers. Peratton and Creed (2000) characterize distance education as an educational procedure in which a huge extent of educating is led by somebody far evacuated in space and, or in time from the students. As a major aspect of exertion by the Ghana government to satisfy the consistently expanding need for university education, the distance education methodologies were embraced (Ossei-Anto, 2002).

A portion of the elements adding to the improvement of Distance Education were recognized in a review led by Aggor, Kinyanjui, Pecku and Yerbury (1992) for Ministry of Education on the difficulties of accessing tertiary education as; high unit cost, deficient infrastructure (staffing, equipment and settlement for the two mentors and students), absence of access on account of lacking space. It is because of these research discoveries that the University of Cape Coast conceived methods for conceding qualified candidates who until now would be denied get to. Distance education in Ghana is being used by the University of Cape Coast as an essential tool for furnishing Basic School instructors with in-service education in the subjects they instruct and for extending tertiary education more inexpensively 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 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 (Netanda, Mamabolo, & Themane, 2019) support services on academic achievement have not been fully explored (Accardo, Kuder, & Woodruff, 2019). Therefore this current study is an attempt to fill the research gap in the literature. The purpose of this study was to examine the effects of students support services on academic achievements (Eakman, Kinney, & Reinhardt, 2019) of distance education students.

The study specifically sought to examine; the relationship between development of course materials and academic achievement of distance education students, the relationship between face-to-face tutorial session and academic achievement of distance education students, the relationship between tutorial attendance and academic achievement of distance education students, the relationship between conducive learning environment and academic achievement of distance education students, the relationship between students' preparedness and academic achievement of distance education students.

2. Literature Review

Many scholars and researchers, particularly in education have attempted to shed light on what constitutes student academic achievement (Cope & Kalantzis, 2000). 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. 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. 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.

Transactional Distance Theory expect that the most significant effect on distance education is instructional method and not the physical or temporal distance that isolates the teacher and student. Michael G. Moore, in his theory sets that in distance education situations, separation between the educator and students can 'lead to communication gaps, a psychological space of potential mistaken assumptions between the practices of teachers and those of the students' (Moore and Kearsley, 1996, p. 200). Moore (1990) shows the significant thought right now not to the recurrence of exchange, yet to its quality and the degree to which it is successful in empowering the goals of learning issues the distance student might be encountering. The second factor Moore (1990) alludes to is the idea of the course structure, which is portrayed as the degree of the course's unbending nature or adaptability. This factor incorporates angles, for example, the degree to which course objectives and targets are pre-recommended, the educational model used in showing the course (for instance, educator versus student focused), the nature obviously evaluation, and the capacity of the course to oblige individual student needs (Zhang, 2003).

The third factor, student self-governance, is needy upon the past two, in that it alludes to the feeling of both freedom and relationship perceived by students as they take part in the course. Self-determination theory (SDT) is a theory of inspiration that uses customary exact techniques to manufacture its theory and to advise its classroom applications. The theory centers particularly around volitional or self-determined conduct and the social and cultural conditions that advance it. SDT hypothesizes a lot of fundamental and all-inclusive psychological needs, to be specific those for autonomy, capability and relatedness, the satisfaction of which is viewed as vital and basic for solid human working paying little heed to culture or phase of advancement.

This theory holds that all students, regardless of their age, gender, financial status, nationality, or social foundation, have natural development propensities (for instance characteristic inspiration, interest, psychological needs) that give a persuasive establishment to their great classroom commitment and positive school working (Reeve, Deci, and Ryan, 2004; Ryan & Deci, 2000). While different theories of motivation clarify how students' desires, convictions, and objectives add to their classroom commitment, self-determination theory is one of a kind, in that, it underlines the instructional undertaking of vitalizing students' inward persuasive assets as the key advance in encouraging top notch accomplishment (Reeve & Halusic, 2009). The SDT recognizes the internal persuasive resources that all students have, and it offers proposals with respect to how guardians and instructors can include, sustain, and vitalize these resources to encourage high-quality student achievement (Niemic and Ryan, 2009). The Organismic Integration Theory (OIT)

addresses the process of internalization of various extrinsic motives. Here, the emphasis is on the continuum of internalization, reaching out from outer guideline, to introjection.

For instance, taking part in practices to keep away from blame or feel endorsement, to identification, to integration (Ryan & Deci, 2000). Then again, Causality Orientations Theory (COT) depicts singular contrasts in how individuals arrange to various parts of the earth in directing conduct. For example, autonomy-oriented individual gets situated to what intrigues that person and acts with coinciding. When control-oriented, an individual principally manages conduct by arranging to social controls and prize possibilities while when impersonally-oriented, an individual spotlights on the absence of individual control or skill. In this way, COT clarifies how primes or earlier upgrades initiate certain directions in individuals, influencing ensuing inspiration. The fourth theory, Basic Psychological Needs Theory (BPNT) expounds on the idea of essential needs by associating them straightforwardly with wellbeing. BPNT places that each need applies autonomous consequences for wellbeing, and in the long run the effect of any conduct on well-being is generally an element of its relations with need fulfillment.

At last, the Goal Contents Theory (GCT) proposes that intimate relationships, self-improvement, or adding to one's locale are helpful for need fulfillment, and consequently encourage wellbeing and health. Research has indicated that materialism and other extrinsic goals, for example, acclaim don't constantly will in general improve need fulfillment, in this manner, don't encourage well-being, in any event, when one is fruitful at achieving them (Niemic & Ryan, 2009). Together, these five mini-theories establish SDT and give explicit recommendations in different areas open to test and refinement. One issue has been the effect of performance and reward, which SDT contends can effectively apply command over conduct, yet regularly at the expense of ensuing inherent inspiration or internalization.

3. Methodology

The research designs for this study were descriptive and correlational survey designs with quantitative approach. A descriptive design is a procedure of gathering information so as to respond to questions concerning the present status of the subjects in the study. Kumar (2005) argues that the goal of descriptive research is to portray the attributes of a chose marvel and includes the assortment of information without control of factors. Descriptive studies depict the factors by noting who, what, and how questions (Patall, Cooper & Robinson, 2008). Descriptive survey research is useful in showing patterns in perspectives and practices, and empowers speculation of the discoveries of the study concentrate to be done (Creswell, 2012). This design was proper for this study since it will upgrade the measure of value data yielded. The researcher considered the connection between the indicator factors in the study and academic achievement of distance education students of the University of Cape Coast.

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

3.2. Sample and Sampling Technique

The sample for the study was 342 second year distance education students from the selected study centers. 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 centers 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 stratified sampling technique was used to group students into strata, thus male and female. 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.

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	

Table 1: Sample Distribution of Respondents from the Three Study Centers in the Central Region

3.3. 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 quiz items contained twenty (20) multiple-choice items in Educational Psychology, Mathematics for Basic School Teachers (II) and English for Basic School Teachers (II).

3.4. 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.

3.5. Reliability

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 centers 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. 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) of the questionnaire was 0.556, 0.741, 0.779, 0.674, .637 and 0.602. These indicated that the items were reliable within the acceptable limits.

3.6. Data Analysis

Analysis of the data was done with the help of the Statistical Product and Service Solutions (SPSS) version 22. This software was 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 Zero-order correlation. 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.

4. Results and Discussion

4.1. 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 2 gives the distribution of the respondents regarding the extent to which course modules relate to their 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		

Table 2: Course modules and Students' Academic Achievement

Table 2 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 3 provides a summary on how the students' responded to those items.

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		

Table 3: Face-To-Face Contact Sessions and Students' Academic Achievement

The means of the various items as presented in Table 3 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 4.

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		

Table 4: Tutorial Attendance and Students' Academic Achievement

The means of the various items in Table 4 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 5 gives a detailed summary of respondents' analysis of their learning environment.

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		

Table 5: Conducive Learning Environment and Students' Academic Achievement

Table 5 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 6.

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		

Table 6: Students' Preparedness and Academic Achievement

The means of the various items in Table 6 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 7.

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		

Table7: Academic Achievement

Table 7 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).

5. 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.

The first purpose 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.

		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

** . Correlation is significant at the 0.05 level (2-tailed).

Table 8: Course Modules and Students' Achievement in Educational Psychology, Mathematics (II) and English (II)

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 12. 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 (Padmanabhan, 2001; 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.

The second purpose was 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.

		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

** . Correlation is significant at the 0.05 level (2-tailed).

Table 9: Face-To-Face and Students' Achievement in Educational Psychology, Mathematics (II) and English (II)

From the results in Table 9 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; 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).

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 third purpose 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 10.

		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

**** . Correlation is significant at the 0.05 level (2-tailed).**

Table 10: Tutorial Attendance and Students' Achievement in Educational Psychology, Mathematics (II) and English (II)

With reference to the results in Table 10, 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 fourth purpose was to assess the extent to which students' learning environment related 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 11.

		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

**** . Correlation is significant at the 0.05 level (2-tailed).**

Table 11: Conducive Learning Environment and Students' Achievement in Educational Psychology, Mathematics (II) and English (II)

From Table 11 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 & Ogunyemi, 1990). McEvoy and Welker (2000) confirmed in their study raising expectations towards students and improving the learning environment, one can increase the effectiveness of low-achieving students.

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 fifth purpose 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 12.

	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

** . Correlation is significant at the 0.05 level (2-tailed).

Table 12: Students' Preparedness and Students' Achievement in Educational Psychology, Mathematics (II) and English (II)

Table 12 shows 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. Findings of the study are consistent with a number of studies (Astin, 1993). 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.

5.1. 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;

H₀: Student support services (course materials, face-to-face, conducive learning environment) will not directly predict academic achievement of distance education students.

H₁: 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 13, 14 and 15.

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 ²	.518	.554	.600
AR ²	.514	.549	.594

* $p < 0.05$.

Table 13: A Model Summary of Multiple Regression Analysis of Effects of Student Support Services on Academic Achievement in Educ. Psych

Table 13 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 shrunk. 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 shrunk. 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 leaners. 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.

Predictors	Maths (II) Quiz Score		
	Model 1 β	Model 2 β	Model 3 β
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^2	.485	.515	.547
AR^2	.481	.509	.540

* $p < 0.05$.

Table 14: A Model Summary of Multiple Regression Analysis of Effects of Student Support Services on Academic Achievement in Maths (II)

Table 14 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^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, 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 14, 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 shrank. For example, when tutorial attendance was introduced into model 2, face-to-face, course modules and conducive environment shrank 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 shrank 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 14 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).

Predictors	English (II) Quiz Score		
	Model 1	Model 2	Model 3
	β	β	β
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 ²	.519	.551	.597
AR ²	.515	.546	.591

* $p < 0.05$.

Table 15: Multiple Regression of the English for Basic School Teachers (II) Quiz Score on the Independent and Intervening Variables

Table 15 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 (R²) and the adjusted R² (AR²). 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 (R²), and the adjusted R² (AR²). 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 (R²) and the adjusted R² (AR²).

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 shrunk 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 15 reveal that face-to-face and course modules were consistent predictors of students' achievement in English for basic school teachers (II). Though they both shrunk 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 (2003) 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 13, 14 and 15 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; Dean & Murphy, 2013).

6. Findings

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

- 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 $r = 0.576$, $p < .05$).
- 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 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).
- 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 $r = 0.533$, $p < .05$).
- 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 $r = 0.284$, $p < .05$).
- 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 $r = 0.566$, $p < .05$).
- 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).

7. 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.

8. Recommendations / Suggestions for Further Research

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

- 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.

- 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.
- 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.
- 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.
- Learning support services should be effectively organized 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.
- 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 centers 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.
- The College of Distance Education, University of Cape Coast should allocate enough funds to equip the physical facilities of the study centers which are either inadequate or completely lacking. The institutions should also equip study centers with internet facilities and recreational facilities as seen in the main campus.
- The role of student administrative support on student motivation and academic performance.
- The integration of Information and Communication Technology and e-learning in distance education.

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