



CHALLENGES ASSOCIATED WITH E-LEARNING AND MEASURES TO CURB THEM ON COLLEGES OF EDUCATION STUDENTS' IN THE UPPER WEST REGION

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ABSTRACT: *The aim of the study was to assess the challenges of e-learning on the Colleges of Education students in Ghana using the Nusrat Jahan Ahmadiyya and Mccooy College of Education. The research design was a descriptive survey; the study used a structured questionnaire guide as its main tools for data gathering. A total of 100 students were recruited for the study. The study found that there is a lack of computers, mobile phones, etc., and the necessary skills for e-learning programs among most of the students. Also, the study results showed that students sometimes get lost or confounded about course exercises and deadlines. Again, the study revealed that students sometimes feel distant or disengaged from the instructor. The study found that ensuring a friendly user interface will help solve the challenges in e-learning. The study also found that computer games can be used adequately as a learning resource by educators. It was also revealed that starting e-learning with a mix of both online and offline learning will help eliminate the e-learning challenges. The study finally recommended that, since students perceive e-learning as not being self-motivating, the tutors need to develop assignments that create effective feedback and have interactive elements included within them.*

KEYWORDS: E-Learning, Education, Student, Online



INTRODUCTION

The education system in Ghana is based on free compulsory basic education, encompassing kindergarten, primary school, and lower secondary school. It also includes secondary education with free secondary schooling, technical and vocational education, as well as tertiary education offered by universities, polytechnics, and colleges of education (Glavin, 2017). The primary educational approach employed in Ghana relies on face-to-face classroom teaching, utilised in most basic schools, second-cycle institutions, and some tertiary institutions like colleges of education. However, universities in Ghana incorporate a combination of both face-to-face and online learning. The emergence of the COVID-19 pandemic prompted the adoption of online learning across all educational levels in the country. Colleges of Education, formerly known as training colleges, have existed since the early 20th century. The colonial government pioneered teacher education by establishing Accra Teacher Training College on September 8th, 1909, which is a historic institution. Over time, these teacher training colleges progressed from Cert "A" level to offering diplomas and eventually degrees, aiming to enhance the quality of the educators they produce. Currently, Ghana boasts forty-six (46) training colleges of education, all of which are affiliated with public universities throughout the country for mentorship and support.

Education plays a pivotal role in fostering individual growth and enhancing the development of human capital, which in turn contributes to the socio-economic progress of each nation. The transformation of former Teacher Training Institutions (TTIs) into tertiary institutions marked a significant shift from being under the Ghana Education Service (GES). However, in the context of Ghana's education landscape, where the focus on quality education garners attention from international bodies and takes centre stage in national discussions, the calibre of teachers must receive equal emphasis. The primary objective of these colleges is to serve as hubs for cultivating humble, disciplined, and intellectually adept students, aligning with the educational framework of Ghana. The attainment of this goal necessitates a superior standard of education, aligning with the nation's educational aspirations.

The commendable step taken by the government to enforce the Colleges of Education Act, Act 847, in 2012 is noteworthy. This legislation solidified the elevated status of these colleges. As per this Act, all public Colleges of Education in Ghana have been supervised by the National Council for Tertiary Education (NTCE). This governmental agency is responsible for regulating and transforming tertiary educational institutions within the country. Over the past four decades, the landscape of teacher education in Ghana has undergone numerous enhancements. These upgrades have been prompted by policy adjustments aimed at producing well-prepared educators to cater to the evolving educational requirements of the nation. The effectiveness of these changes in yielding the desired outcomes remains a pertinent question that warrants exploration. These alterations have resulted in creating a distinct cohort of teachers possessing diverse certificates within the Ghanaian context.



Statement of the Problem

COVID-19 in Ghana were documented on March 15, 2020, as reported by the Ghana Health Service (GHS, 2020). To curtail the virus's spread, the President initiated measures for social distancing and ordered the closure of schools on March 16th, 2020. Initially, this closure did not apply to the final-year students of Junior High School (JHS) and Senior High School (SHS), who were given time to prepare for their concluding exams. However, due to the indefinite postponement of the West African Senior School Certificate Examination by the West African Examination Council (WAEC), these final-year students were later instructed to return home, as stated by the Ministry of Education (MoE, 2020). This decision has impacted approximately 9.2 million students at the basic level and around 500,000 students in higher education (MoE, 2020). To ensure the continuity of education, the President of Ghana directed the Ministry of Education and the Ministry of Communication to collaborate on strategies (Abdul-Salam, 2020). In compliance with the president's instructions, the Ministry of Education (MoE) and the Ghana Education Service (GES) have taken steps to ensure uninterrupted learning for one million senior high school (SHS) students. This has been achieved through the implementation of distance and online learning platforms and the broadcast of lessons on Ghana Learning Television (GLTV) (MoE, 2020). Moreover, educational materials in digital format have been created for television, radio, and online learning, catering to the needs of basic school and junior high school levels (MoE, 2020). At the tertiary level, educational institutions have initiated the use of online platforms to facilitate teaching and learning activities (Anaba, 2020; Ashesi University, 2020).

At the collegiate level, the NCTE has collaborated with Transforming Teacher Education and Learning (T-TEL) to establish a Virtual Learning Taskforce focused on Teacher Education. This task force, in conjunction with five mentoring universities, has developed a digital curriculum for B.Ed teachers and students. These seek to investigate the:

Main Objectives

The aim of the study was to assess the effects of e-learning on the Colleges of Education students in Ghana using the Nusrat Jahan Ahmadiyya and Mccoy College of Education. Specifically, the study sought to:

1. Assess the challenges faced by students during e-learning lessons.
2. Identify measures to mitigate the challenges faced by students in e-learning.

Research Questions

1. What are the challenges faced by students during e-learning lessons?
2. What measures can be adopted to help mitigate the challenges faced by students in e-learning?



LITERATURE

The global outbreak of the COVID-19 pandemic has led to the closure of educational institutions worldwide, including schools, universities, and colleges. As a result, more than 91% of students worldwide, totalling over 1.2 billion children, have been affected by classroom closures. This extensive impact spans across 186 countries, all of which had implemented school closures by April 29, 2020 (Li & Lalani, 2020). This situation has instigated a significant transformation in the field of education on a global scale. In response to these closures, educational institutions across the world have turned to online learning as a means to mitigate and prevent the spread of the COVID-19 virus (Toquero, 2020). Consequently, school curricula have rapidly been overhauled to accommodate online learning, accompanied by the adoption of various online learning software and platforms by schools, universities, and colleges worldwide (Crawford et al., 2020; Sahu, 2020). This shift has necessitated the quick adaptation of teaching methods and materials to suit the online environment.

The Concept of Learning

In accordance with the research by (Atkinson et al., 1993), learning can be defined as an enduring alteration in behaviour resulting from the process of education. Similarly, it can be argued that learning constitutes a personal journey involving the modification of individual behavioural patterns and the expansion or adaptation of mental frameworks and cognitive processes (Tusting, 2003). This intricate process encompasses the acquisition of information and skills, spanning across various dimensions, including the student's biological characteristics and sensory perceptions (physiological dimension), inherent character traits like attention, emotion, motivation, and curiosity (cognitive dimension), approaches to processing information such as logical analysis or intuition (cognitive dimension), as well as variations in individual psychology and cognition (psychological dimension) (Dunn et al., 1989). Mastery of the learning process necessitates not only the ability to adapt one's foundation in response to changing circumstances and requirements but also the design and cultivation of institutions that function as 'learning systems', systems capable of perpetuating their own ongoing evolution.

E-learning in Ghana

Despite the advancement of online education facilitated by technology in many nations, the situation in Ghana presents a notable contrast. Within the Ghanaian higher education sector, there's a considerable emphasis on incorporating and utilising ICT (Information and Communication Technology). While Ghanaian universities have made strides in establishing networking systems and acquiring computers, effectively integrating this technology into the teaching and learning process remains a challenge. Consequently, instructional delivery predominantly relies on traditional teacher-led methods, often lacking electronic interaction between students and educators. Prominent public universities across the country have individually formulated their ICT strategies, including provisions for student access to 24-hour computer labs equipped with broadband connectivity. However, there's a discrepancy in the availability of resources among tertiary institutions. In certain cases, private entities, such as local cybercafes, solely manage computer facilities. The resource-intensive nature of maintaining ICT infrastructure poses difficulties for Ghanaian colleges to sustain these facilities.



Efforts to harness Information and Communication Technologies for educational purposes in Ghana have been ongoing, particularly at the tertiary level, albeit in localised trials and pilot projects. Despite being recognised as a pivotal objective in various policy documents, a comprehensive public policy on ICTs in education only materialised in November 2008, followed by its publication in January. This policy outlines seven key thematic areas where technology should be applied throughout the education system. Nonetheless, a study conducted on behalf of InfoDev and the World Bank in 2007 highlighted the prevailing conditions. Several factors were identified as barriers to the widespread adoption of new learning technologies, including:

1. Uneven and inadequate access to ICTs in schools, with urban bias.
2. Insufficient teacher capacity in utilising available technology due to limited skills.
3. A need for enhanced collaboration between the Ministry of Education, the Ghana Education Service, and other relevant organisations.
4. The potential involvement of the private sector as a partner in providing essential infrastructure.

Furthermore, an International Telecommunication Union study in 2007 revealed that only a small fraction of Ghanaians had access to the Internet, especially those with lower incomes, who form a significant portion of public school students. As the costs of hardware and Internet connectivity decrease, more families are likely to gain access to online resources. In the meantime, it's crucial to empower Ghanaian public-school students with various alternative avenues for accessing and utilising educational content. Distance education is not a new concept in Ghana, with historical instances of professionals enhancing their qualifications through correspondence courses during the colonial era. This practice was revived in the 1980s to address public labour development needs, including programs like the Modular Teacher Education Program, which enabled over 7,500 unqualified teachers to obtain certificates.

Challenges faced by students during e-learning lessons

In the realm of e-learning, students face a range of difficulties that can impede their learning experience. According to Dearnley's observations in 2003, one notable drawback of e-learning is the requirement for students to engage with computers and the Internet. This necessitates proficiency in computer operations, such as using web browsers, email, and word-processing software. Lacking these skills or the necessary software can hinder a student's progress in e-learning. E-learners must be fully comfortable with computer usage. Obsolete hardware or sluggish internet connections can create obstacles when trying to access course materials, potentially leading to frustration and dropout. Another e-learning challenge involves managing computer files and educational software on the internet. For students with basic computer skills, organising digital records might appear complex. Insufficient computer skills for file organisation can result in lost documents and delayed task submissions. Some students may also encounter difficulties installing the required software for their courses.

E-learning demands a level of commitment equivalent to that of traditional in-person classes. This implies that students must be highly self-motivated and disciplined, as their learning largely relies on independent effort. Students with low motivation or ineffective study habits may struggle to keep up. Another drawback of e-learning is the absence of the traditional



classroom structure, potentially leading to confusion regarding course activities and deadlines, thereby contributing to failure or poor performance. Furthermore, students might feel isolated or disconnected from their instructors. Clear instructions might not always be readily available, necessitating self-reliance and independent work, as mentioned by Khan in 2005. Effective communication and writing skills are also crucial for e-learners. In scenarios where tutors and students do not meet face-to-face, misinterpretations are possible. Wong's insights in 2008 propose that e-learning challenges can be categorised into three primary domains: personal issues, technological limitations, and functional obstacles. Kathawala et al. in 2003, highlight that technological constraints encompass inadequate equipment, limited internet infrastructure, and low bandwidth. Personal issues, as explained by Dearnley in 2003, encompass a lack of technological skills necessary to facilitate effective learning. Wong advises that e-instructors should guide new e-students to enhance their confidence in proficiently utilising e-learning tools. Rivera and Rice, in 2002, suggest that the independent nature of e-learning can pose a hurdle, as e-learners need strong self-motivation and discipline to complete tasks on time. Smith and Rupp in 2004, emphasise that since e-learning relies heavily on text-based communication, students must excel in written communication to convey ideas effectively. Wong argues that ineffective communication can lead to misunderstandings during e-learning activities, like discussions and forums. Thus, e-students should acquire the necessary skills to navigate the e-learning environment effectively. Boondao et al., in 2008, stressed the importance of acknowledging the influence of cultural diversity within the e-learning environment. Khan's assertion in 2005 underscores that cultural impact cannot be disregarded, given that e-students from diverse backgrounds might exhibit different learning patterns. Boondao et al. elaborates that overlooking cultural considerations can significantly hinder the successful implementation of the e-learning system.

Technological Challenges

An Australian study revealed that Blackboard is widely adopted by educational institutions (Paulson, 2002). Nevertheless, Farmer (2004, p. 5) suggests that Blackboard is constrained within its own environment, implying that its features are limited to this context. Notably, it lacks the capability to facilitate conversations, notifications, updates, and other forms of communication across blogs and topics from different vendors. Moreover, it doesn't allow discussion forums to be sent to students' personal email, which weakens learner engagement. Consequently, both educators and students are confined to a specific environment, even if they are unfamiliar with or unsatisfied with it. When it comes to technical support for instructors, there's a gap between their aspirations for effective e-learning and the level of investment in infrastructure and technological assistance (Reeder et al., 2004, p. 91-92).

Educational institutions utilise various applications and computer operating systems for different purposes, such as student registration and research tools like SPSS. Integrating all these applications into a single e-learning environment for centralised access and support is essential, yet this process requires the complex linking of diverse applications. This integration leads to increased network traffic and demands a robust system with sufficient capacity to handle students' academic interactions. However, this intricate process, especially when combining old and new applications, poses a challenge that impacts tutors who must navigate the system (Nielsen et al., 2011). Technical glitches, sluggishness, and software bugs play a pivotal role in determining whether tutors can effectively utilise the system. Ensuring the e-learning technology's success hinges on the system's proper functioning. If technical issues render the system unreliable, it discourages the adoption of e-learning technology and fosters



negative sentiments toward its use. This is a substantial concern for institutions that have invested heavily in this technology and rely on its successful implementation for a return on investment.

Measures to alleviate the difficulties looked by mentors and students in e-learning

As technology has become an integral aspect of people's lives, it is imperative for educators to be comfortable integrating it into the educational system. Teachers should incorporate technological tools into instructional materials, catering to individual learning differences. According to Reeder (2004), educators can gradually adopt e-learning by collaborating with colleagues on specific subjects, sharing experiences, and tutoring one another. This collaborative approach helps alleviate any apprehensions they might have. Subsequently, they can expand the integration of technology into various aspects of teaching. Technology can foster critical thinking skills and be a valuable asset in preparing students for the professional world. Educators can leverage online resources to provide extra support through tutorials and connect devices like graphic calculators to screens. They need to cultivate a tech-friendly attitude and feel at ease using technology as they would a traditional teaching tool. For instance, short video clips can visually explain complex concepts, while accessing the internet can teach students about social awareness through blogs (Mayes et al., 2011). Even commonly perceived as distractions, computer games can be effectively harnessed as educational tools.

To ensure educators are proficient with technology, periodic refresher programs should be organized. The National Policy on ICT in School Education suggests that teachers should contribute to selecting and evaluating digital content. Encouraging them to develop their own digital resources and share them via repositories is vital. For this to succeed, teachers need proper guidance in using these resources and hands-on training sessions (Mayes et al., 2011). Teachers should adopt a positive attitude towards ICT and view it as an innovative teaching tool rather than a hindrance to their profession (Cornelius & Macdonald, 2008). Creating teacher discussion forums can facilitate dialogue on the effective utilisation of technology in classrooms. Coaching and mentoring can also play a pivotal role in enhancing teachers' digital skills. Experienced teachers or external experts proficient in technology can guide and support teachers in becoming ICT-proficient (Conrad, 2004).



METHODOLOGY

Research Design

In this research, a descriptive survey design proved to be the optimal design. This design was chosen due to its suitability for capturing the perspectives of a population regarding a specific field of study. The data collection process involved administering a questionnaire to a sample of students engaged in e-learning courses. The selection of the descriptive survey design was driven by the study's objectives and research question formulation. This choice facilitated the acquisition of comprehensive insights from a diverse range of respondents closely associated with the realm of e-learning.

Data collection tools

The research study utilised a structured questionnaire as primary instruments for collecting data. The questionnaire included a mix of open-ended and close-ended questions. The open-ended questions granted participants the freedom to elaborate on certain aspects, allowing the researcher to grasp their perspectives in depth. These questions also enabled respondents to provide more comprehensive insights and flexible, unstructured responses, thereby generating qualitative data. In contrast, to constrain responses to specific options and minimise the potential for misinterpretation, close-ended questions were employed. Respondents were tasked with rating lecturers based on their expectations of the e-learning environment. The rating scale ranged from 1 to 4, where 4 represented "Strongly Agree," 3 denoted "Agree," 2 indicated "Disagree," and 1 corresponded to "Strongly Disagree." The questionnaire was designed using Google Forms and then distributed across the students' WhatsApp groups.

Data Analysis

The collected data were checked for completeness. The Microsoft Excel and Statistical Package for Social Sciences were used to analyze the data.

Descriptive statistic focused on frequencies, mean, standard deviations and the presentation of data in a meaningful way.

Results and Discussions

Challenges Faced by Students During E-learning Lessons

This sub-section used descriptive statistics to assess the challenges faced by the students during e-learning lessons.

**Table 1 Descriptive Statistics on challenges faced by students during e-learning lessons**

Parameters	N	Minimum	Maximum	Mean	Std. Deviation
Lack of computers, mobile phones, etc, and necessary skills for e-learning programs among most of the students.	100	1.00	5.00	4.4600	.88100
I sometimes get lost or confounded about course exercises and deadlines.	100	2.00	5.00	4.5100	.74529
I sometimes feel distanced from the instructor.	100	1.00	5.00	4.4200	.80629
I lack data to access e-learning.	100	1.00	5.00	4.5800	.63850
The independent nature of E-learning sometimes becomes a challenge when there is no self-motivation.	100	1.00	5.00	4.5700	.74203
TLMs are usually absent during exercises in e-learning.	100	2.00	5.00	4.6600	.57243
Poor Mobile network internet quality to access the e-learning	100	1.00	5.00	4.5000	.82266
Valid N (listwise)	100				

Source: Field Survey, 2020

Majority of the respondents agreed that there is a lack of computers, mobile phones, etc, and necessary skills for e-learning programs among most of the students (mean = 4.46). Also, the majority of the respondents agreed that they sometimes get lost or confounded about course exercises and deadlines (mean = 4.51). Again, the majority of the respondents agreed that they sometimes feel distant or disengaged from the instructor (mean = 4.20). Furthermore, the majority of the respondents agreed that they usually lack data to access e-learning (mean = 4.58). Not least, the majority of the respondents agreed that the independent nature of E-learning sometimes becomes a challenge when there is no self-motivation (mean = 4.57). Again, the majority of the respondents agreed that there is usually an absence of teaching and learning materials (TLMs) during exercises in e-learning (mean = 4.66). Lastly, the majority of the respondents agreed that there is usually poor mobile network internet quality to access e-learning (mean = 4.50).

On other challenges that students face, these are what some students had to say:



Measures to mitigate the challenges faced by tutors and students in e-learning

This sub-section also assessed the measures that help mitigate the challenges faced by both tutors and students in e-learning.

Table 2: Descriptive Statistics on measures to mitigate challenges

Parameters	N	Min	Max	Mean	Std. Deviation
Ensuring a flexible, user-friendly interface.	100	2.00	5.00	4.1300	.66142
Computer games can be used adequately as a learning resource by educators.	100	2.00	5.00	4.1400	.87640
Refresher programs should be coordinated occasionally for tutors so they become familiar with using technology.	100	2.00	5.00	3.9800	1.12797
Starting e-learning with a mix of both online and offline learning.	100	1.00	5.00	3.7900	1.38020
Giving learning to the students in their own particular manner.	100	2.00	5.00	4.2200	.70467
Valid N (listwise)	100				

Source: *Field Survey, 2020*

Majority of the respondents agreed that ensuring a flexible, user-friendly interface (mean = 4.13). Also, most of the respondents agreed that tutors might start using e-learning with the assistance of their associates (mean = 3.82). Again, the majority of the respondents agreed that computer games can be used adequately as a learning resource by educators (mean = 4.14). Most of the respondents further agreed refresher programs should be coordinated occasionally for tutors so they become familiar with using technology (mean = 3.98). Not least, the majority of the respondents agreed that educator discussion forums could be made for discussing the use of ICT in their separate classes by tutors (mean = 4.22). Again, the majority of the respondents agreed that ICT courses should be made compulsory for tutors to undertake them (mean = 4.15). The respondents further agreed that Starting e-learning with a mix of both online and offline learning (mean = 3.79). Lastly, the majority of the respondents agreed that giving learning to the students in their own particular manner (mean = 4.22).

DISCUSSION

Challenges Faced by Students During E-learning Lessons

The study results show that there is a lack of computers, mobile phones, etc., and necessary skills for e-learning programs among most of the students (mean = 4.46). These personal issues include the absence of skills in technology to encourage or enable the learning process. The absence of technological abilities could bring about the loss of information or failure to spare or move information, which could be baffling to the E-student. This agrees with Khan (2005), who also concluded that one disadvantage of e-learning is that students must approach a computer just like the Internet. Also, the study results show that students sometimes get lost or confounded about course exercises and deadlines (mean = 4.51). In many cases, students are



not aware of online assignments given by their tutors. Assignment dates expire without the knowledge of students. This was also in line with the findings of Dearnley (2003), who also concluded that students may get lost or confounded about course exercises and deadlines, making the student fail or do badly.

Again, the study revealed that students sometimes feel distant or disengaged from the instructor (mean = 4.20). The lack of face-to-face contact with the tutor really makes it difficult for some students to concentrate on the e-lesson being delivered. This also agrees with Khan (2005), who concluded that another downside of e-learning is that students may feel distant or disengaged from the instructor.

Measures to mitigate the challenges faced by tutors and students in e-learning

The study found that ensuring a friendly user interface will help solve the challenges in e-learning (mean = 4.13). This agrees with Wong (2008), who clarifies that flexible, user-friendly interfaces have the ability to attract E-students while, then again, the poor user interface may distract, which could bring about E-students losing interest.

The study also found that computer games can be used adequately as a learning resource by educators (mean = 4.14). Computer games are regularly observed as interruptions to scholarly investigation but can be effectively made use of in e-learning lessons. Computer games in the study hall are an eager, intelligent way to deal with education. This also agrees with Mayes et al. (2011), who indicated that computers can be used adequately as a learning resource by educators. They give an approach to consolidate 21st-century aptitudes and permit students to be dynamic members of the learning process. It was also revealed that starting e-learning with a mix of both online and offline learning will help eliminate the e-learning challenges (mean = 3.79). This would help in eliminating their fears towards using the cutting-edge technology steadily and would make them agreeable simultaneously. This agrees with the proposal made by Tomei (2006) that educators first may start with presenting mixed learning in their classrooms, that is, a blend of both online and offline learning. The study also revealed that giving learning to the students in their own particular manner (mean = 4.22). Numerous famous scholars have declared that if students do not comprehend the manner in which you educate, it causes them to comprehend the manner in which they learn. This agrees with Gustafson and Gibbs (2010), who argued that when learning is given to educated students in their own particular manner, learning will turn into an intriguing, connecting and exciting experience for them.

CONCLUSION

The study concluded that, there is lack of computers, mobile phones, and other devices, and necessary skills required for e-learning programs among most of the students. The students are of different cultural backgrounds and some are accessing these technology devices for the first time. Also, students sometimes get lost or confounded about course exercises and deadlines because of the poor internet services in their various locations. They also lack data to access e-learning. Some of the students are residing in rural areas and have to go to nearby towns to get access to internet services for e-learning. The students sometimes feel distant or disengaged from the instructor and there is usually the absence of demonstrations with teaching and learning materials (TLMs) during exercises in e-learning.



Finally, the study concludes that in solving the challenges that comes with e-learning, there is the need to ensure a friendly user interface. Tutors may start using e-learning with the assistance of their associates, computer games can be used adequately as a learning resource by the educators, refresher programs should be coordinated occasionally for tutors so they become familiar with using technology, educator discussion forums can be made for discussing the use of ICT in their separate classes by tutors, ICT courses should be made compulsory for tutors to undertake them, starting e-learning with mixed of both online and offline learning, and giving learning to the students by their own particular manner with help them understand better to enhance e-learning. When these are provided and appropriately done, e-learning in the colleges of education will improve.

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