UNIVERSITY OF CAPE COAST

THE USE OF E-LEARNING PLATFORMS AMONG UNDERGRADUATE SANDWICH STUDENTS: PREFERENCE AND CHALLENGES AT THE UNIVERSITY OF CAPE COAST

JOSEPH SARPONG ARTHUR

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BY

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Thesis submitted to the Department of Sociology and Anthropology of the Faculty of Social Sciences, College of Humanities and Legal studies, University of Cape Coast, in partial fulfilment of the requirement for the award of Master of Philosophy degree in Sociology

SEPTEMBER, 2022

DECLARATION

Candidate's Declaration

I hereby declare that this thesis is the result of my original research and that no part of it has been presented for another degree in this university or elsewhere.

Candidate's Signature..... Date.....

Name: .....

Supervisor's Declaration

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

Supervisor's Signature.....…… Date.....

Name: .....

ABSTRACT

The integration and application of ICT resources in the classroom offer a great chance to improve the effectiveness of instruction. Again, it would therefore be essential to analyse user preferences and challenges while attempting to use the platform to enable optimal integration of e-learning into the system. The purpose of this study was to investigate the preferences and challenges associated with using e-learning platform among undergraduate sandwich students at the University of Cape Coast. The study was underpinned by the Technology Acceptance Model theory and Theory of Planned Behaviour. The study employed the explanatory sequential mixed-method design which was based on the pragmatist paradigm. Purposive sampling was used to select three ICT experts from the electronic learning and knowledge management section, whiles stratified sampling alongside the simple random technique was used to select 278 undergraduate sandwich students. The study revealed that more undergraduate sandwich students favoured face-to-face learning over the other learning modes. The preference for the e-learning platform among the undergraduate sandwich students was found to be influenced by the perceived usefulness and perceived ease of use of the platform. The study also revealed that a higher percentage of undergraduate sandwich students faced technological difficulties, such as network breakages and slow internet connectivity. Finally, the study revealed that the University of Cape Coast had challenges with finance, human resource and technical challenges. The study recommended the provision of strong internet connections to help curb the challenges undergraduate sandwich students faced.

KEYWORDS

E-learning

E-learning platform

Learning Management system

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DEDICATION

To my mother, Mrs. Cynthia Yaa Prempeh

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CHAPTER ONE

INTRODUCTION

Background to the Study

The world is a revolving circuit. Each arena has been changing over the years. One of the crucial variables influencing change is technology. There is no doubting that technology has had a profound impact on Africa's way of life. Scholars have always been curious about the effects of technology in relation to the conventional way of instruction since the debut of 16 mm film in the 1950s and early computer drill-and-practice systems in the 1970s and 1980s (Morrison, Ross, Kemp, & Kalman, 2010).

The technological characteristics of developing ICTs are increasingly dominating contemporary change and development theories. Many sociologists, such as Judy Wajcman recommend the consideration of technology as the catalyst for the most basic societal trends and revolutions. One of its uses and impacts, according to the scholar, is the inclination to interpret or conceive these technologies in terms of technical features and to establish a relationship with the social world. She claims that sociology's goal is to build analytic categories that allow us to understand the complex interconnections between technology and society, rather than dismiss the weight of the technology. She stated once more that grasping the sociological significance of these innovative technologies necessitates rejecting a simple technological interpretation and acknowledging the embeddedness and varying results of these technologies for various social regimes (Sassen, 2002). The change from face-to-face to mediated interaction is theorised by digital sociology. While digital sociology is gaining popularity, the sociological

analysis of digital objects includes issues such as social order, social activity, and social mobility. Again, we see digital forms of contact in our daily lives and every aspect of society. (Fussey & Roth, 2020).

E-learning is described as the use of technology to facilitate information and communication in the learning process. Not only does e-learning include classroom training and instruction, but it also includes individualised learning. E-learning, often known as computer and internet-based learning, has shown to have several advantages over traditional methods. It is less expensive and speedier, and it can be accessed at any time and from any location, providing students greater control over their studies. (Cantoni et al., 2004; Smith & Rupp, 2004; Dewhurst & Williams, 1998).

The inclusion and implementation of ICT tools and resources in education, commonly referred to as e-learning offers a world of possibilities for delivering instructional materials and obtaining access to a large bank of educational data when properly applied. It has also earned international acclaim as a way of improving teaching and learning processes with the goal of fostering a technology-driven economy and moving it ahead (Tinio, 2003).

According to Russia's Federal State Statistics, the percentage of educational institutions using distant learning technologies grows every year, reaching 78.2 percent in 2015. The international market for e-learning topped $90 billion in 2002 since the majority of firms are experimenting with it (Young, 2003).

The Moodle platform is among the most well-known and extensively used open-source e-learning platform that allows the creation of a course website for only enrolled students (Cole, 2008). This platform allows for the

synchronous and asynchronous flow of information between people who are geographically distant, as well as the construction of students' assessment processes and task management with their timetable.

Wanga, Ngumbuke, and Oroma (2012) with more attention to the difficulties of the e-learning platform in Uganda reported that while universities and other higher education institutions in Uganda have recognised the opportunities that ICT presents to education, the implementation of these revolutionary technologies caught them off guard without adequate preparations, and the integration and utilisation of these tools for education had no proper guideline for implementation. All problems in the development and usage of e-learning platforms were centred on a lack of funding and low levels of abilities in the application of these technologies, according to them. Most Kenyan state universities, according to Tarus (2011), are still in their early stages of implementing e-learning due to numerous hurdles. These issues are numerous and include technological, organisational, and instructional difficulties. According to Tarus et al (2015), one of the greatest hurdles to e-learning adoption at Kenyan public universities is the lack of suitable ICT and e-learning facilities. He further emphasises that infrastructure is unquestionably important in e-learning adoption. Other studies have also found that e-learning platform acceptance and use in schools can encourage active, and persistent learning, elevate student motivation, provide better information access as well as common working supplies, expand knowledge, and assist students in thinking and communicating (Hasan, Khan, and Clement, 2012). According to Nwabufo, Umoru, and Olukotun (2013), e-learning in Nigerian tertiary institutions is still a pipe dream due to the lack of

ICT infrastructure and other socio-economic factors, including the high primary cost of infrastructure development and public access to internet facilities as a requirement to use the e-learning platforms.

Again, other studies in Ghana have also looked at the difficulties of using an e-learning platform and found that a major challenge at the University of Ghana, Legon was the general inadequacy of educational institutions to train students on how to use the e-learning platform (Narh, Boateng, Afful-Dadzie, and Owusu, 2019). Other studies had also reported that it is critical to thoroughly assess the repercussions and obstacles of the development and usage of e-learning at Presbyterian University before the systems are adopted and that it is all too easy to focus solely on technological possibilities. (Eric & Mark-Oliver, 2010).

Other studies, on the contrary, had also concentrated on the prospects and challenges of the use of the e-learning platform at the University of Ghana, Legon, and had concluded that for e-learning platforms to be successful, appropriate computers and easily accessible Internet services are required. Remote Internet access should be arranged as well so that students with laptops and other ICT tools can access the internet.

When the University of Cape Coast (UCC) became a learning centre for the Africa Virtual University (AVU)/Royal Melbourne Institute of Technology (RMIT) Bachelor of Science in Computer science degree in 2003, it began utilizing e-learning to supplement the traditional face-to-face study. A survey on preferred instructional delivery methods was done in 2006 by the Computer Centre for the pioneering group of BSc Computer Science students from UCC/AVU/RMIT and their UCC counterparts. Several courses have

successfully used the Moodle e-learning system since it was deployed in 2007 at the Computer Centre. The COVID-19 pandemic in 2019 compelled the government to order a nationwide lock down and school closures. The government, through the Ministry of Education, had instructed all tertiary universities to set up plans for their students to continue their academic work while at home in order to maintain continuity of teaching and learning. The university had urged all of the faculty to upload their courses to the Moodle platform in order for students to access them for their academic work, in accordance with this guideline.

Statement of the Problem

There are numerous studies on the usage of e-learning platforms, however, the focus of other research was on perceptions, experiences and views of university students on the application of e- learning platforms (Tasir, Al-Dheleai, Harun, & Shukor, 2011; Loh, Wong, Quazi & Kingshott, 2016; Damnjanovic, Jednak, & Mijatovic, 2015; Keller & Cernerud, 2002; Oproiu, 2015; Gilbert, Morton & Rowley, 2007; Moreno, Cavazotte & Alves, 2017). Other studies had also focused on the perceptions and views of lecturers and teachers and their acceptance of the use of the e-learning platforms (Alhumaid, Ali, Waheed, Zahid & Habes 2020; Cheok, Wong, Ayub & Mahmud, 2017).

Consequently, other studies had also looked at the prospects and challenges of using e-learning platforms but were largely focused on university students and a few had looked at teachers and lecturers; (Dadzie, 2009; Igwe, 2012; Edemoh & Ogedebe, 2014; Anene & Odumuh, 2014, Eric & Mark-Oliver, K. E. V. O. R, 2010; Wanga, Ngumbuke & Oroma, 2012). To fill the gap, Agbemaka, Apawu & Akayuure (2015) investigated

undergraduate and postgraduate sandwich students who may or may not be on campus and their usage of some ICTs at the University of Education, Winneba - Ghana. Their study was interested in the knowledge base of the students on some ICTs. However, it is evident that these studies did not address the preferences and challenges students have in their attempt to use the e-learning platform. Moreover, if technology is merely used and is not clearly linked to its preference and hurdles, then there is a risk that students may be disgruntled and any potential benefits will be lost. It is against this background that the study seeks to fill a void in the preference and challenges of the use of e-learning platforms among the undergraduate sandwich students at the University of Cape Coast.

Purpose of the study

The purpose of the research is to examine the preference and challenges of undergraduate sandwich students on the use of e-learning platforms at the University of Cape Coast.

Objectives of the Study

- To determine the level of preference for e- learning platforms among the undergraduate sandwich students.
- To assess the conditions that influence the level of preference for e-learning platforms among the undergraduate sandwich students.
- To explore student experiential challenges of the usage of e-learning platforms.
- To explore the institutional challenges of the usage of e-learning platforms.

Research Questions

- To what extent would the undergraduate sandwich student prefer the use of e-learning platforms?
- What are the conditions influencing the level of preference for the e-learning platforms among the undergraduate sandwich students?
- What are the student's experiential challenges of the usage of e-learning platforms?
- What are the institutional challenges of the usage of e-learning platforms?

Hypothesis

Ho: Age is not likely to affect the conditions influencing preference for the Moodle platform.

H1: Age is likely to affect the conditions influencing preference for the Moodle platform.

Ho: Marital status is not likely to affect the conditions influencing preference for the Moodle platform.

H1: Marital status is likely to affect the conditions influencing preference for the Moodle platform.

Ho: Gender is not likely to affect the conditions influencing preference for the Moodle platform.

H1: Gender is likely to affect the conditions influencing preference for the Moodle platform.

Significance of the Study

This study contributes to knowledge by revealing the state of the use of e-learning tools in instructional delivery and also unravelling the preferences

and challenges of undergraduate sandwich students on the use of the e-learning platform. The study is very essential to all stakeholders such as the undergraduate sandwich students, the Ghana Education Service and the entire nation at large. This study informs policy makers and other interested stakeholders especially the University Board in their technology integration initiatives in Education and also provides a basis for identifying any area of lack or improvement in the use of e-learning systems. The study would help in the achievement of Sustainable Development Goal 4 which seeks to ensure Quality Education. Theoretically, this study contributes to sociology of technology.

Limitations of the Study

Due to time, finances and some other constraints, the study had significant limitations which deserve acknowledgement. Data gathering was rendered more difficult by the coronavirus (Covid-19) pandemic because several potential respondents and participants refused to take part out of fear of the virus's spread. The Unwillingness of some respondents and participants to partake in this study because they did not know the essence of the study being carried out and also since data was taken during the examination period participants didn't have time to respond which was a major limitation in the study.

Delimitations of the Study

The scope of the study is defined to only undergraduate sandwich students within the University of Cape Coast community. The study identifies the preference and challenges with the usage of the e-learning platforms among undergraduate sandwich students. As a result, other sandwich students

who may not be undergraduate students such as graduate students will be excluded from the study.

Operational Definitions

The study sought to explain some key concepts such as educational technology, e-learning, e-learning platforms and digital sociology. Below are the definitions of the various concepts

- *Educational technology* - It concentrates on "technology instruments and media that aid in the communication, development, and exchange of information."
- *E-learning* – The use of media in digital form and information and communication technology in education is referred to as e-learning. Any sort of educational technology utilised in learning and teaching is referred to as e-learning.
- *E-learning platforms*- They are a comprehensive collection of interactive web services that provide educational resources to trainers, students, and those interested in the field with knowledge, equipment and resources to aid in the administration and management of education.
- *Digital sociology* –is a field in sociology that concentrates on mediated interactions and communications.

Organisation of the Study

The study is divided into five sections. The first chapter, which is the introductory chapter, addresses the background to the study, the statement of the problem, the research aims and questions, the significance of the study, the restrictions of the study, the study delimitations, and operational definitions.

The second chapter covers a comprehensive literature review of various empirical studies, theories and conceptual frameworks. The methodology, which includes the study design, study population, research philosophy, sampling, and some ethical considerations, is covered in Chapter three. The fourth chapter covers the data analysis and discussion. The last chapter focuses on the summary and important findings of the study. It also offers some recommendations for policy and further research.

CHAPTER TWO

LITERATURE REVIEW

Introduction

This chapter looks at relevant literature that relates to the study's focus. The chapter is divided into three sections namely; conceptual, theoretical and empirical. The conceptual review focuses on the concept of learning management systems, educational technology,

e-learning, e-learning platforms, Moodle platforms, ICT infrastructure and how various scholars have explained these concepts. The theoretical review explains the Technology Acceptance Model and the Theory of Planned Behaviour. The empirical review focuses on relevant literature on the implementation and use of the e-learning platforms with respect to their preferences and challenges.

Conceptual Review

The concepts reviewed in this section are learning management systems, educational technology, e-learning, e-learning platforms, Moodle platforms, ICT infrastructure and how various scholars have explained these concepts.

Learning Management Systems (LMSs)

A learning management system, according to Araujo Junior and Marquesi (2009), is any virtual environment that leverages information technology to recreate face-to-face learning situations. This system's interaction takes place through devices to enable synchronous or asynchronous communication, allowing for the development of a variety of approaches to encourage student discussion and active engagement. According to Lonn &

Teasley (2009), learning management systems (LMS) are web-based systems that allow teachers and students to exchange resources and engage via the internet. Almrashdeh et al. (2011) had also argued that, the learning management system is a piece of software that is used to propose, perform, and assess a particular learning process.

In recent years, online training has become increasingly popular, whether for schooling or business skill development. This innovative teaching technology not only eliminates the requirement for physical access to learning materials but also increases teacher-student interaction. The learning management system allows members to exchange learning materials and conduct simultaneous and asynchronous interactions with their students via the internet (Vovides et al., 2007). Moodle, Blackboard, Sakai, and KEWL are the most commonly used learning management platforms in this field (Unwin et al., 2010).

Institutions also employ learning management platforms to replace traditional face-to-face delivery by allowing staff to produce and distribute digital learning materials via the internet. Other institutions, notably those that provide distance education, have combined the learning management system with traditional face-to-face instruction to reach more students across geographical boundaries. (Andersson & Grönlund, 2009).

In sum, learning management platforms are web-based learning platforms that are designed to help teachers and students exchange reading materials and course materials to help improve teaching and learning. for example, the Moodle.

Educational Technology

The use of technology has become an integral component of education, work, communication and entertainment. It has revolutionised civilisation and has influenced many elements of daily life. The internet is now ubiquitous. As a matter of fact, the internet is the not the only ICTs tool gaining popularity in education worldwide, all sorts of ICTs such as mobile technologies, video-conferencing, digital television, electronic whiteboards, and digital cameras are also putting up robust momentum in the same field (Jackson, 2008; Education Week, 2007; Mc Campbell, 2002; Marshall, 2002; Marshall, 2002). Technology is making the society increasingly interconnected in what many have come to call the "connected Age". A decade ago, access to technology was limited and wiring schools was one of the country's highest education priorities (Hitlin & Rainie 2005) along with expanded access has come a growing pervasiveness of technology in society.Technology has now made it feasible to learn outside of the classroom. Students can enhance their skills, learn at their speed, and participate in anonymous online debates by taking online classes. Students are no longer restricted to traditional learning. According to Coates, James & Baldwin, (2005), Universities have now adopted technology in their learning environment through which a range of pedagogical and administrative tools are offered for university teaching and learning.

A technology-rich education enables students to bridge cultural and geographical distances around specific tasks, projects, information gathering and relationship building. It makes all subjects more meaningful to students and more adequately prepare them for the world in which they will live and

work. Information access has been made possible by technology. According to Honey et.al (1996), access to this information literally gives all schools regardless of their geography or wealth, the potential to have libraries of unparalleled collections and connections to the same materials that universities have. Educators can now individualize lessons by integrating technology into their curriculum and customize it to the needs of individual students to achieve their potential.

In the wake of covid-19, universities are now adopting e-learning technologies as a paradigm shift from the traditional face to face learning for effective teaching and learning. Several universities have spotted the profit potential of e-learning, among them is the University of Cape Coast who has embraced the idea of offering both courses and programmes online with the use of the Moodle Platform.

In sum, it is evident that educational technology can be seen as the incorporation of the information and communication technology tools into the teaching and learning of the educational curriculum provided for tertiary institutions to help learners learn effectively at their comfort and pace.

E-learning

The Internet and its applications in education have significantly influenced teaching and learning. This has all occurred as a consequence of the covid-19 pandemic and emerging technologies for online learning. In the midst of this pandemic and rapid growth, a new form of pedagogy has emerged called e-learning. What then is e-learning? E-learning is a general term that is used to describe the learning process in which information and communication technology could be utilized. However, there are three forms

of e-learning: web-supplemented, web-dependent, and blended mode (Organisation for Economic Co-operation and Development, 2005). Virtual education, computer-aided learning, e-school, video conferencing, and interactive collaboration are all examples of applications and methods for e-learning where content is distributed through the internet, intranet/extranet, satellite TV, audio/video tape and CD-ROM. Technology-based learning is like the concept of e-learning and its associated terminology (Urdan & Weggen 2000).

According to McLean and Sander, (2003), e-learning has evolved to include not only courses that are taught primarily online and over a distance, but also to include traditional ‘‘brick and mortar’’ courses that have been enhanced with electronic elements. There are a lot of definitions of e-learning in the literature. Some of them overlap for instance: Sun, Tsai, Finger, Chen, and Yeh (2008) defined e-learning as the use of telecommunication technology to deliver information for education and training. Wan, Wang, and Haggerty (2008) also defined it as ‘a virtual learning environment in which a learner’s interactions with materials, friends and teachers are mediated through information and communication technologies’. Both definitions cover important aspects of e-learning, like ‘‘delivery of information for education” and ‘‘interactions through technology”.

E-learning is also described by Khan (2005) as “a creative method for providing a well-designed, student-centred, reciprocal, and interactive learning environment to anyone, anywhere, at any time (p.3).” E-learning, consequently, is described as "electronically mediated asynchronous and

synchronous communication to build and confirm information" by Garrison (2011).

Again, other scholars have also defined e-learning as a collaborative endeavour in which educators, designers, administrators, and users from various fields collaborate to assist a community of learners (Aijuan, & Honglin, 2005; Graham et al., 2001). Condruz-Bacescu (2013) also defined e-learning as the application of internet technology to provide a mixture of solutions that improve performance and knowledge. Both definitions illustrate and requires a collaborative effort from both students and instructors to use internet technologies to acquire knowledge. Hence, e-learning in a general sense refers to "all learning circumstances involving significant use of information and communication tools.

Commission on Technology and Adult Learning (2001), defined e-learning as instructional content or learning experiences delivered or enabled by electronic technology. According to Urdan and Weggen (2000), e-learning encompassed a wide range of technologies and procedures, including computer-based learning, web-based learning, virtual classrooms, and interactive collaboration. Both definitions highlight the incorporation of various learning technologies and procedures.

E-learning aims to intensify the level of education by using emerging multimedia technology and the internet. Furthermore, e-learning has brought a change in teaching and learning, and this is due to the rapid advancement of new technology spreading the idea that education can be easily transferred from the classroom to the electronic environment (Zhang & Nunamaker, 2003; Laurillard, 1993). The process allows students to associate and relate with one

another while also sharing their learning experiences. E-Learning encompasses a large number of systems and platforms. The various e-learning platforms and technologies highlighted by the Commission on technology and Adult Learning (2001), include the Moodle Platform.

In sum, it is obvious that e-learning is a system which encompasses various learning platforms and technologies readily available for individuals to learn and access learning materials via the internet.

E-learning Platforms

The e-learning system encompass a variety of learning technologies and platforms that assist in the delivery of instructions. These platforms are the most important component of the e-learning system. According to Damian (2009), any virtual training environment system relies heavily on these platforms, they include learning, communication, and collaboration tools, as well as course management and user interface design tools.

There are many ways to think about what e-learning platforms or learning management platforms are. Ardito et.al (2006), argues that , the e-learning platforms are server software that is primarily responsible for user management, course management, communication services, as well as providing critical support to the e-learning scene.

E-learning platforms, according to Bri et al. (2009), are physical and logical environments meant to automate and control academic formation operations. He further argued that the platform is responsible for managing, distributing and checking activities for face-to-face and e-learning in an organisation. Again, the platforms assist in the registration of users, monitoring and assessment of learning processes. Both definitions cover the

important roles of the platform like, registration of users, monitoring and assessment of the learning process. There are various platforms available for the e-learning system. The University of Cape Coast has been using the Moodle Platform as at 2007 and is still using it to facilitate academic work.

In sum, the e-learning platforms are learning management systems and a comprehensive set of interactive services that give educational resources to teachers, students, and other scholars in the field with intelligence and resources to assist in registration of users, monitoring and assessment of the learning process to facilitate effective delivery of learning materials.

Moodle Platforms

Various e-learning platforms are available to develop, manage and distribute digital resources for face-to-face and online teaching. According to Aljawarneh (2020), an e-learning platform provides interaction between traditional teaching techniques and digital learning resources, and simultaneously offers students personalised e-learning opportunities. Dias et al., 2020 asserts that, e-learning is an area that has seen considerable growth, particularly since 2020 with the onset of the COVID-19 pandemic. Capterra (2021) reports that there are about 561 e-learning platforms available for academic and educational purposes.

Setiadi et al., (2021) argues that the Moodle platform is among the most widely used and researched e-learning platform. Cole (2008) also argues that the Moodle Platform appears to be one of the widely patronised open-source e-learning platforms that allows instructors to create online courses that only enrolled students may view. Sergis et al., 2017 had also argued that the Moodle Platform was the most popular and preferred open-source e-learning

platform and as such it has a high rate of acceptance in many institutions. All the scholars have captured the Moodle Platform as one of the e-learning platform that is mostly used by instructors for delivery of instructions.

Again, the Moodle Platform had gain high rate of acceptance because it allows instructors to give graded assignments, share documents, organise workshops, and also create a forum for learners in a simple and high-quality manner. According to Dougiamas (2008), the platform is among one of the most user-friendly and easy-to-use free source course-ware platforms available. Berry (2005) also argued that the platform had gained a higher rate of acceptance due to its administration support and good security of the Platform.

Berry (2005) again argues that, in the learner-oriented paradigm, learners vigorously construct new knowledge through individualised modification of subjective approach to the knowledge being formed. They also learn more by sharing what they have learned with others. These concepts are similar to how free source expansion works, in which producers are often users and everyone is free to play with the software.

To summarise, it is obvious that the Moodle platform is any virtual learning environment which is student centred and it is designed to assist teachers to share educational content, resources and materials with students for effective teaching and learning practices.

ICT Infrastructure

Information communication technology (ICT) infrastructure refers to the shared technological assets that serve as the foundation for the unique information system applications of the company. (Cascio & Montealegre,

2016). Thus, the collective elements required for the operation and management of enterprise IT services and IT environments are collectively referred to as information technology infrastructure. According to Obomo (2011), Hardware, software, shared consulting, training, and educational services for the firm or a single institution can all be invested in as part of the IT infrastructure. Such infrastructure includes cable and non-cable telecommunications, satellites, computer networks, transmission and commutation systems, digital television and a wide range of terminal equipment such as software services and applications, databases, electronic archives and digital libraries. All these make it possible to accumulate, recuperate, treat and elaborate digitalized information quickly, easily and cheaply, in data, video or audio format. (Obomo,2011),

In summation, information technology infrastructure refers to all of the components needed to operate and administer corporate IT services and IT environments.

Theoretical Review

The theories reviewed in this study are the Technology Acceptance Model (TAM) and Theory of Planned Behaviour (TPB).

Technology Acceptance Model (TAM)

This work considered TAM as a suitable theory for the study. TAM inspects the influence of technology on a user's behavior. According to Rauniar et al., (2014) ,TAM focuses on the factors which influence a person's general computer acceptance . He again argued that TAM was developed from another theory, called the theory of reasoned action (TRA) which describes a person's behavior by their intentions. TAM was developed by Davis (1989). It

was created to stimulate users' acceptance of information systems and technology. Again, it was aimed at describing the broad elements of computer acceptability, resulting in a better understanding of user behaviour across a wide range of end-user computing technology and user demographics. Davis had used the theory to explain how people feel about using computers in 1989. He argues that TAM consists of two main factors, “Perceived Usefulness” (PU) and “Perceived Ease of Use” (PEU) that influence a person’s intention to make use of a technology.

According to Davis (1989), Perceived usefulness is a concept that describes how much technology is considered to help a potential user perform better . It relates to whether a piece of technology is considered useful for the task at hand. Again, it refers to the individualised probability that using a certain system (e.g., Moodle platform) may increase a potential user's activities. According to Davis (1989), Perceived ease of use is also the degree to which a potential user believes the target system is easy to use. He argues that the barriers associated with the platform will be removed if the technology is simple to use.

In 1996, Venkatesh and Davis developed the final version of the TAM, which did away with the attitude component, after demonstrating that the perceived usefulness and perceived ease of use had a direct influence on action intention. In 2000, Venkatesh and Davis named the final version of the theory as TAM 2. The TAM 2 offered reasons for perceiving a certain system as useful. According to Venkatesh and Davis, TAM 2 proposes that users' mental assessments of the system's usefulness are based on their mental assessments of the fit between critical work goals and the implications of

using the system to execute job activities. After developing TAM 2, Venkatesh had proposed model of variables that would determine the perceived ease of use of any system.

According to Legris, Ingham, and Collerette (2003), aside the broad elements of computer acceptability and the model of variables determining perceived ease of use, there is the need to include components that account for change processes, which might be done by incorporating the concept of innovation into TAM. Again, these scholars argued that aside the Perceived usefulness and Perceived ease of use, there are other factors that also influence individuals' behaviour to use the system or technology. They termed these factors as external variables.

Venkatesh and Bala (2008) merged TAM 2 with the model of the variables that determine perceived ease of use to create TAM 3, a consolidated model of technological adoption. Aside merging TAM 2 and the determinants of perceived ease of use, there were four variables that was introduced as part of TAM which are; individual differences, system characteristics, social influence, and facilitating conditions, all of which influence perceived usefulness and ease of use.

Basic Assumption of TAM

In an attempt to explain users' behavioral intention towards the -learning platform, two basic assumptions would be considered.

1. TAM consists of two main factors namely the Perceived Usefulness and Perceived Ease of Use and they in turn influence a person's intention to use a technology. These factors are regarded as internal variables (Davis et al. 1989).

2. Aside the two factors mentioned above, other variables also influence the behavioral intention towards the use of the online system, and these variables are termed as external variables (Davis et al. 1989). They include individual differences, system characteristics, social influence and facilitating conditions.

Application of Technology Acceptance Model to the Study

Many countries are now facing turbulences in maintaining the stability of its political, social and educational welfares due to the recent worldwide Covid-19 pandemic. Education as an institution was badly affected by this pandemic, in the sense that the mode of teaching and learning shifted from the traditional face-to-face learning to online learning method. Universities started adopting online learning platform to facilitate teaching and learning. As far as this study is concerned, a successful adoption and implementation of the e-learning platform would depend on the preference and acceptance level of the users of the platform. (Butorac, M., Nebic, Z & Nemcanin, D., 2001). According to Kohang and Durante (2003), It is essential that developers and universities' management understand how students perceive and participate in an e-learning environment along with how to apply an effective e-learning approach to improve the learning process.

Park (2009) had also argued that exploring students' intentions and investigating the factors that impact on students' beliefs about e-learning can help management create new methods for attracting a larger number of students who would be willing to use the e-learning systems. The theory suggests that an individual would be willing to use a technology if he/she believes that the technology would be simple to use and in turn improve their performance. Concerning the study, the undergraduate sandwich students

would prefer or accept the Moodle platform if it can easily be used without any challenge and also enhance their performance.

Again, the theory suggests that the behavioral intention to use a technology is influenced by two factors namely; the perceived ease of use and perceived usefulness. TAM considers the impact of perceived ease of use and perceived usefulness on students' intention and attitude to use an e-learning platform. Concerning the study, TAM explains that preference or acceptance of an e-learning platform is influenced by two conditions.

The theory is again used to explain the challenges users encounter whiles using the e-learning platform. The theory suggests that aside the perceived usefulness and perceived ease of use influencing the use of an e-learning platform, there are other conditions that also influence the behavioral intention to use an e-learning platform. According to Davis et al.,(1989) these variables determine the perceived usefulness and perceived ease of use of any platform. According to Venkatesh and Bala (2008), an external variable such as individual differences may encompass user characteristics or demographic characteristics (e.g.gender, age) which in turn influence their preference and acceptance of the e-learning platform. Aside the demographic characteristics, Pituch and Lee (2006) also argued that the internet experience of the user influence their preference and acceptance of the platform. Concerning the study, TAM explains that the challenges of users is influenced by the above-mentioned external variables.

Moreover, TAM was used to explain the challenges faced by the university management in their attempt to implement the e-learning system and its effect on the acceptance and preference of the undergraduate sandwich

students. According to Davis et al., (1989), the facilitating conditions are an important factor which may impact on users' acceptance. Some facilitating conditions include technical support and service quality. According to Ngai et al.,(2007), technical support is the assistance given to solve problems encountered when working with an information system and that provision of a good service for technical support will enhance satisfaction and favorable attitudes of users. Wang & Wang (2009), argued there is a positive relationship between service quality and intention to use an e-learning platform. Concerning the study, TAM explains institutional challenges be it service quality or technical support and its impact on student acceptance and preference for the e-learning platform.

Critique of the theory

Despite its widespread use, TAM has been heavily criticised, prompting the proposers of the idea to attempt to reinterpret it multiple times. According to Chuttur (2009), the theory has been chastised for having doubtful heuristic value, poor explanatory and predictive power. Benbasat and Barki argued that TAM "has shifted scholars' focus from other relevant research questions and has generated a mirage of progress in knowledge acquisition. They again argued that various scholars have attempted to broaden TAM in order to adapt to its ever-changing IT settings but it resulted in theoretical turmoil and misunderstanding.

Theory of Planned Behaviour (TPB)

The Theory of Planned Behaviour is an extension of the theory of reasoned action. The theory was developed as a result of the limitations of the

original model in dealing with behaviour in which people have incomplete volition control (Ajzen & Fishbein,1980).

A major factor of the theory is the individual intention to act a given behaviour. Intentions are seen as motivating variables that affect behaviour since they show how motivated individuals are to attempt and how much effort they intend to put out to carry out the behaviour.

Ajzen (1991) created the TPB hypothesis to explain why people choose to engage in particular activities. The fundamental tenet of the TPB is that intentions are the primary driving elements behind human motivation. People's intentions determine how much effort they are willing to put out and how hard they are willing to attempt when acting in a certain way. An individual's intention is determined by the fundamental principle that the more strongly they intend to engage in a behaviour, the more probable it is that they will carry it out. Behaviours are dependent on two underlying ideas, according to Ajzen (1991), namely normative beliefs (which are the central beliefs that constitute subjective norms) and control beliefs (which are people's beliefs in behavioural control). Individuals will therefore have a favourable attitude about engaging in the behaviour when they believe the outcome will be positive, and vice versa. The TPB contends further that people only engage in particular behaviours when they are aware that their significant others concur with them. As a result, the outcome of attitudes and subjective norms influences the intention to engage in a behaviour.

Basic assumption of the Theory of Planned Behaviour

The theory presents attitudes or also referred to as personal attitudes as the extent to which the outcome of a specific behaviour is expected to be

favourable or unfavourable. It is defined as a person's favourable or unfavourable thoughts related to engaging in a certain action. If a person thinks that engaging in a particular action will primarily result in positive consequences, they will have a favourable attitude toward it (Ajzen, 1991). With regard to e-learning and face-to-face learning, assessment of the favourability of the platforms will duly inform the preference of the undergraduate sandwich students.

According to the theory, subjective norms are the impact of social pressure that an individual feels to execute or refrain from performing an action or behaviour. It is considered that the entirety of available normative belief regarding the expectations of significant referents determines subjective norm (Ajzen, 1991). In this study for an undergraduate sandwich student to prefer e-learning or face-to-face or blended learning, they must have the belief that their colleagues, that is, classmates and friends are also partakers and are in support of the preferred platform for teaching and learning.

The theory presents controlled behaviour as the perception of people's ability to perform a given behaviour. It is the perception of ease or difficulty in exhibiting a specific behaviour. The more positive the attitude and subjective norm regarding the behaviour, the greater the perceived behavioural control, and the stronger a person's intention of exhibiting the behaviour (Ajzen, 1991). That is to say, beliefs about the presence of factors may facilitate or impede the performance of the behaviour. For this reason, in this study, undergraduate sandwich students must believe that they have the skills and capabilities to use or partake in the preferred means of teaching and learning.

Application of the theory of planned behaviour to the study

When the TPB is applied to the current study, undergraduate sandwich students' preferences for either face-to-face, e-learning or blended learning are determined by their intent to partake in that platform. (Ajzen, 1991). Ajzen concludes that an individual's intention, attitude, perceived behavioural control, subjective norms, as well as normative beliefs, influence his or her behaviour and preferences for either e-learning, face-to-face or blended learning. Therefore, a preference for either of the modes of teaching and learning is influenced by students' situation through classroom environments, personal beliefs about capabilities and the development of subjective norms that align with significant others. In conclusion, the propositions of Ajzen's Theory of Planned behaviour (TPB) apply to the preferences of undergraduate sandwich students on the issue of e-learning.

Conceptual framework of the study

The conceptual framework explains how individual preference for e-learning or face-to-face or blended learning is influenced by their perceptions, attitudes and subjective norms. The perception of how useful e-learning or face-to-face or blended learning is to the student may determine their preference. Perceived ease of use, that is, students' perception of how easy or difficult the platform is will also influence their preference. Perceived behavioural control which is the perception of the student's ability to use any of the platforms will also influence their preference. The attitude is the extent to which the outcome of a specific behaviour is expected to be favourable or unfavourable. If the outcome of using any of the platforms is expected to be favourable over the other then preference for that platform will be influenced.

Subjective norms are the impact of social pressure that an individual feels to execute or refrain from performing an action or behaviour. A student must believe that their peers, or classmates and friends, are also participants in and support the preferred platform for teaching and learning if they are to choose e-learning over face-to-face teaching and learning or blended learning.

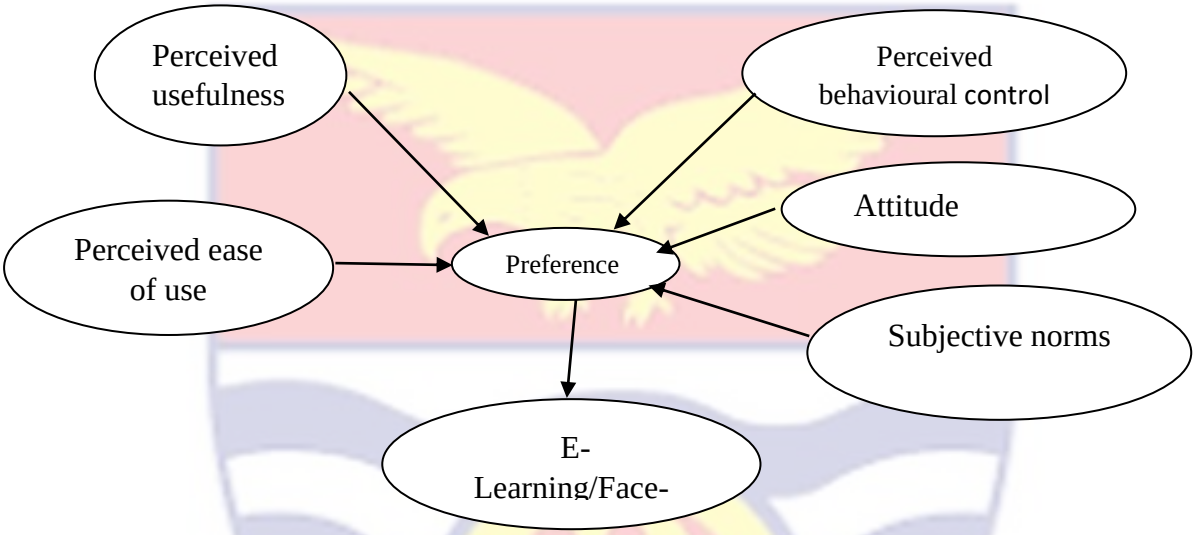

Figure 1: Theory of Planned Behaviour and Technology Acceptance Model
Source: Ajzen (1991)'s

Empirical Review

Preference level of e-learning platforms

The coronavirus outbreak in tertiary education institutions has altered the relationship between teachers and students, resulting in alterations in the teaching-learning process. Universities were compelled to conduct all their activities with students entirely online due to the pandemic (Sobaih, Hasanein, & Elnasr, 2020). Many countries took steps to stop the virus from spreading and to ensure the educational process's long-term survival, all institutions around the world embraced online learning (Ali, 2020). Although internet-based learning is often regarded as a supplement to traditional learning (Abou, Seddiek, Taj-Eddin, Ghenghesh, Nosseir, & El-Khouly, 2014), it became a

vital component in keeping schools and colleges running during the Corona-virus pandemic. Students' perspectives of this approach to instruction may vary as a result of this paradigm shift, and their perceptions may also differ from those observed in study before the epidemic.

E-learning, according to Zhang et al. (2006), allows for the investigation of significantly more flexible learning methodologies while simultaneously lowering the need to attend classes. E-learning with an interactive video component, according to Zhang et al. (2006), allows students to view all classroom events and listen to instructors as many times as needed. According to Brown et al. (2008) and Judahil et al. (2007), this gives teachers a variety of options for communicating with pupils and providing fast feedback. According to Judahil et al. (2007), persons who use modern technology in teaching and learning must have a diverse set of ICT abilities. According to Adenuga et al. (2015), the more complex technology is to manipulate, the less likely consumers are to accept it.

Conditions influencing preference level for e-learning platforms

Decision-makers in education are primarily responsible for shaping the emerging technology-based teaching methods. The students consequently are a significant stakeholder in this process. Students' learning techniques are well-known in e-learning, which is a relatively new learning environment (Adam et al., 2017), readiness for the internet (Muljono, Ramli & Afendi, 2018) and motivation (Rolheiser, Harrison, & Heikoop, 2018). As a result, it can be inferred that learner-related variables play a significant role in virtual learning processes. Paton and Lan (2010) also discovered that students'

academic achievement differed significantly depending on their self-regulated learning profiles.

According to Şahin et al., (2017), online learners' contact profiles vary depending on their learning motivation and strategies. As a result, learner characteristics influence the value derived from the learning environment as well as use patterns; these features are also envisioned to influence their likeness to tutor and learning modes.

Perceived Usefulness

Perceived usefulness is the degree to which a user of technology or information system believes that it will improve his or her performance on the job (Davis, 1987). In other words, it is the degree to which users of a system believe that by utilising the platform, their job efficiency and production would improve. (Mou, Shin, & Cohen, 2016). Furthermore, researchers have discovered that perceived usefulness has a substantial and powerful impact on people's behavioural intent to utilise a revolutionary technology or system. The concept can once again encourage learners to embrace an up-to-date system, hence increasing the attractiveness of online learning.

Perceived Ease of Use

Students' attitudes towards the acceptance of online learning as a new platform for their studies can be influenced by perceived ease of use (PEOU). Taat and Francis (2020) conducted research at a Malaysian institute for teacher education to investigate the level of students' acceptance of e-learning. The research reported that PEOU, as a convenience factor, has a major impact on students' acceptance of e-learning as a source of useful, detailed, and unerring information. Farahat (2012), on the other hand, also looked at the

elements that influence students' propensity to use online learning and reported that students only developed a poor opinion of online learning when they perceive it to be difficult to use.

Experiential challenges of students

Despite the great expansion of electronic learning and its apparent benefits, the effectiveness of such tools will be limited if users are unable to adopt and apply them. As a result, students' willingness to adopt and accept technology is crucial to the successful use of e-learning tools. As a result, practitioners and policymakers must understand the aspects that influence user acceptability of internet-based learning environments in order to improve students' learning outcomes. (Tarhini et al., 2014a).

E-learning adoption is more than just a technology solution: it is also a process that includes a variety of elements, including social ones (Tarhini et al., 2014b), as well as individual considerations (Liaw & Huang, 2011), enabling conditions, for example, are examples of organisational structures (Zhang & Shun, 2006) in addition to behavioural and cultural factors (Masoumi, 2010). Such main elements have a significant impact on the development and application of information technology (Kim & Moore, 2005). Learning styles are currently being discussed as one of the issues in this area.

Learning Styles

To get the highest potential learning outcome, it is necessary to be aware of students' learning styles. The learning styles of students can be difficult to discern and has ramifications on how academics construct learning materials. Most students like to study by engaging with colleagues, while

some like to study through visual presentations and notes on paper. This challenge has a bearing on studying outcomes and complicates things for academics to comprehend their students' studying patterns in an e-learning space. There are numerous teaching methods available, including didactic, facilitative and Socratic methods (Banning, 2005). The didactic method is a traditional teaching method that mostly consists of lecturing and is extremely teacher-centred, and as such learning primarily consists of taking notes and listening to lecturers.

The facilitative approach to teaching helps students make sense of their experiences in relation to real-world events (Gregory, 2002). The teacher can use problem-solving techniques and vicarious learning strategies to encourage students to articulate and theorise what they know in relation to their experiences and interpretation (Preece & Griffin, 2002). Sharing of experiences allows students to critically think and undertake structured reflection on how the events may influence their circumstances.

The Socratic method of teaching also emphasises student-centredness and strongly opposes didacticism. Brownhill (2002), illustrates how teachers can use either authoritarian or non-authoritarian Socratic teaching positions to enhance students to learn independently and become critical thinkers. Both autocratic and non-autocratic teaching approaches equally enhance the ability of students to conceptualise and reflect on positions.

Positive and constructive learning is a shift from teacher-centred to self-directed learning in which academics use a number of strategies to help students become self-directed learners by taking into account their prior experiences and learning styles. To be a good academic or facilitator, one

must be well-informed, self-assured, and authoritative, as well as sensitive to students' needs and learning styles.

Without sufficient direction, support, and nurturing, not all children will be able to reach this level of critical thinking. Students do not have a dominant learning style; consequently, to accommodate students, teachers must be knowledgeable about a variety of learning styles (Mupinga, 2006). If a learner has a strong preference for one learning style over another, he or she will be unable to learn unless information and resources are offered in that format (Zapalska & Brozik, 2006).

A common method for determining a person's learning style is the VARK questionnaire. This procedure classifies a student's learning style as Visual, Aural, Read/Write, or Kinaesthetic. Visual students prefer to learn by using visual aids like graphs, charts, and videos. Aural learners are those who prefer to learn by spoken instructions. Students who like to learn by reading instructions and taking notes are said to have a Read/Write learning style. Instead of reading, kinaesthetic learners prefer to learn by doing. It is worth mentioning that a student may fit into one of two categories, one of which is stronger than the other (Zapalska & Brozik, 2006). Understanding different students' learning styles in order to improve learning outcomes is a current problem for academics in an e-learning environment. In today's classroom, where e-learning technology plays a big part in education delivery, traditional learning approaches may not be sufficient.

Technological Challenges

Technical challenges refer to concerns with development such as defects, speed, faults, functionalities and features that are not performing

properly or according to academic requirements. There are several concerns regarding the current state of e-learning systems that can be found in the e-learning literature. Usability issues, low performance, institutions' failure to adapt to their needs, and criticism for having a teacher-centred system rather than a learner-centred system are among issues that have been raised (Chua & Dyson, 2004).

Technological problems, flaws, and slowness are critical to the efficacy of e-learning technology if academics adopt the system. If the system fails, no one will utilise the technology, and there will be a poor perception of using e-learning technology. This has a huge impact on institutions since they have made considerable investments in technology that must be utilised properly to optimise financial returns.

Visual function and cost-effectiveness

After entering the twenty-first century, the e-learning environment has grown in popularity around the world, as has pertinent research. The use of a computer can have an impact on one's vision. The most common symptoms of computer use are burning eyes and muscle pain, both of which are linked to the amount of time spent on the computer (Taptagaporn et al., 1990). According to Chinese studies, classwork stress has a negative impact on students' vision. Homework is still the most common cause of sight loss among students (Yang et al., 2020).

Zheng et al. (2006) studied the global evolution of myopia prevention, treatment, and visual protection. According to the authors, myopia in students is believed to be caused by excessive growth of the visual axis, notably that of visual acuity. Long-term reading and writing at close range, as well as the

severe strain of academics and assignments, aggravate this disease. Insomnia symptoms include excessive tension, anxiety, and insomnia (Zheng, 2006).

The authors also stressed that the cost of ICT infrastructure is high and might be difficult for both students and lecturers. In some cases, few students who are privileged to afford could find it often difficult to purchase data bundle to connect to online classes. These challenges seem to have resulted in low attendance of students during the online classes.

Poor infrastructure and Inadequate appropriate devices

A study focusing on students' opinions on e-learning identified accessibility, connectivity, lack of appropriate devices, and social issues represented by a lack of touch and involvement with teachers and classmates as among the primary challenges students faced (Aboagye, Yawson, and Appiah, 2020). According to a Nigerian study, a shortage of ICT resources and inadequate infrastructure hinder the use of ICT in education to its full potential (Adeosun, 2010). Advanced kinds of ICT-assisted instruction, such as computer-assisted instruction and internet-assisted instruction, necessitate a strong infrastructure that includes a large number of computers and internet connections. Because computers require electricity, adequate infrastructure is also required (Aduwa-Ogiegbaen & Iyamu, 2005). The majority of ICT resources, such as computers and the Internet, require regular energy supplies to support ICT in education.

Institutional Challenges

Several institutions have failed to integrate technology into their studies as a result of their desire to emulate the conventional way through technology. Institutions frequently use technology as a foundation for teaching

rather than as a pedagogical tool (Lwoga & Sanga, 2007). The first potential impediment to technology integration is the technology itself (Moeller and Reitzes, 2011).

Institutions already have software in place for a variety of purposes, such as a student information system and research assistance tools like NVIVO and SPSS. To make it accessible and provide central help, all these products must be combined and linked within a single e-learning environment. On the other hand, this necessitates the fusion and interconnection of multiple applications. As a result of the increased network traffic required to operate it, the centralised infrastructure must be stable and capable of handling student academic communication.

Hamilton (2009) concluded that technology alone cannot provide a useful learning experience to students who exclusively use learning management systems (LMSs) like Moodle. Furthermore, computers are essential in today's learning environments since they prepare students for future schooling or job. Institutions may be unable to benefit from Moodle due to a lack of funds, lack of access to technology equipment, student resistance to change, and insufficient IT support.

The Technology Acceptance Model (TAM) and theory of planned behavior (TPB) were employed as the underlying theories in this investigation. Because of their understandability and simplicity, these theories have become one of the most widely utilised models in information system research and behavioral intention (Hsiao-hui Hsu and Chang, 2013). Technical preparedness and technical support are additional constructs/ variables that

influence attitudes and behavioural intentions to use the Moodle platform in tertiary institutions of learning, according to Abdullah (2017).

Chapter Summary

Studies indicate that many institutions have employed learning management platforms to replace traditional face-to-face delivery by allowing staff to produce and distribute digital learning materials via the internet. Other institutions, notably those that provide distance education, have combined the learning management system with traditional face-to-face instruction to reach more students across geographical boundaries. Studies have also revealed that educational technology incorporates information and communication technology tools into the teaching and learning of the educational curriculum provided for tertiary institutions to help learners learn effectively at their comfort and pace.

Studies have also indicated that people's behavioural intent to utilize a cutting-edge technology or system is significantly and strongly influenced by perceived usefulness. The idea may once more inspire students to use modern technology, enhancing the allure of online education. However, one current challenge for academics in an online learning environment is comprehending various students' learning styles in order to improve learning outcomes. Traditional learning methods might not be adequate in today's classroom, where e-learning technology plays a significant role in the delivery of education.

Studies have further shown that insufficient infrastructure and a lack of ICT resources prevent ICT from being used in education to its full potential. Robust infrastructure with lots of computers and internet connections is

required for advanced ICT-assisted instruction methods like computer and internet-assisted instruction. As electricity is needed for computers, proper infrastructure is also necessary. The majority of ICT tools used in education, such as computers, and the internet, depend on consistent energy supplies.

CHAPTER THREE

RESEARCH METHODS

Introduction

This chapter goes into the different strategies and methods used to illustrate the utilisation of the e-learning platforms among undergraduate sandwich students. The study area, research philosophy, research approach, research design, and data sources are all presented in depth. Also, the sampling method, data collection instrument and procedure, data interpretation and ethical considerations are presented in depth.

Research Philosophy

This study employed the pragmatist philosophy. As a research paradigm, pragmatism avoids delving into disputed philosophical ideas like truth and reality. Instead, it acknowledges that there may be a single or several realities that can be investigated empirically (Creswell and Clark 2011). A basic tenet of pragmatic philosophy is that knowledge and reality are founded on socially formed beliefs and habits (Yefimov 2004). Pragmatists agree that all knowledge in the world is socially built, but some versions of those social constructs better reflect people's experiences than others (Morgan,2014).

The phenomenology aspect of the pragmatist philosophy argues that it is important for researchers to appreciate the differences between people, and seek to understand how these differences inform how people find meaning. According to Alharahshel and Pius (2020), different people in a society experience and understand the same "objective" reality in different ways, and have individual reasons for their actions. Concerning the study, the

interpretivist philosophy was used to interrogate the challenges faced by students and management in their attempt to use the e-learning platform.

The positivist aspect of the pragmatist philosophy adheres to the view that only factual knowledge is gained through observation and that reality is the same for each person. According to Park (2020), the positivist paradigm is based in the assumption that a single tangible reality exists that can be understood, identified, and measured. This allows explanation and prediction in a causal framework to operate naturally, as causal inferences rely on temporal precedence and association. Concerning the study, the positivist philosophy was used to explain the preference level and conditions influencing the preference level of the undergraduate sandwich students for the e-learning platform.

Research Approach

The study used a mixed-methods approach. In particular, methodological, analytical, and data triangulation were used in the mixed method approach. In order to derive conclusions from the data gathered, this included gathering and analysing both quantitative and qualitative data using a variety of sampling procedures and data sources, as well as combining the two sets of results at some point in the research. Triangulation is employed and used in five forms, either for corroboration, initiation, confirmation, development and expansion of results. The study employed corroboration, initiation and confirmation as the main techniques utilized under triangulation.

According to Fetters and Freshwater (2015), integrating both quantitative and qualitative approaches permit a more complete utilization of data in providing a better understanding of the research problem and complex

phenomena that either approach alone. Therefore, the approach adopted provided enormous potential for generating new ways of the understanding the research problem to enhance our capacities for social explanation.

Research Design

The study employed an explanatory sequential mixed-method design. According to Levine (2006), this design is appropriate because of its role in data types, data collection method, data analysis and interpretation . An explanatory sequential mixed method design is a form of mixed method within which quantitative data is first gathered followed by the qualitative data (Creswell, 2012). This design was adopted because there was enough quantitative data on the interrogated research problem .According to Cooper and Schindler (2011), using this design in a research study increases the perceived quality of the research, especially when the qualitative investigation follows the quantitative, and provides validation for the findings.

The overall purpose of this design is that qualitative data help explain or build upon initial quantitative results. For example, this design is well suited to a study in which a researcher requires qualitative data to explain significant results, anomalies, or unexpected results. This approach can also be utilised when a researcher wants to leverage quantitative participant features to drive deliberate sampling for a qualitative phase, or construct groups based on quantitative results and follow up with the groups in future qualitative research.

Study Area

The study was conducted at the University of Cape Coast. The University of Cape Coast was founded in 1962 and is located west of Cape

Coast near the Atlantic Ocean The university enrol and prepares undergraduate and graduate students for leadership and service as global citizens through its five colleges, which include the College of Humanities and Legal Studies, the College of Education Studies, the College of Agriculture and Natural Sciences, the College of Health and Allied Sciences and the College of Distance Education.

The university's population as of 2019 was 66,635 comprising 20,142 regular students, 4,493 sandwich students and 42,000 distance learning students (University of Cape Coast website, 2019). The current population of the undergraduate sandwich at the University of Cape Coast is 1064 (University of Cape Coast student records, 2021).

The university is situated within three (3) communities: Kwaprow, Apewosika and Amamoma; with an old and a new site. The University of Cape Coast has sandwich programmes and sandwich students who report annually like in other public universities in the country. The University of Cape Coast also happens to use the e-learning platform for teaching and learning for its sandwich programs hence the availability of possible participants for the research study. Additionally, most of the studies that have been carried out already were conducted in some of these public universities with very less studies conducted at the University of Cape Coast hence choosing it as the study area for the study.

Study Population

A study population is a collection of people or other entities with the same characteristics (Stommel & Wills, 2004). For this study, the target population comprises all undergraduate sandwich students in the respective

faculties of the University. The Table below shows the total number of undergraduate sandwich students with their respective programs.

PROGRAM OF STUDY	TOTAL POPULATION
DIPLOMA IN EARLY CHILDHOOD EDUCATION	331
POST DIPLOMA IN EARLY CHILDHOOD EDUCATION	182
POST DIPLOMA DEGREE IN BASIC EDUCATION	47
BSC. NURSING (MENTAL AND COMMUNITY HEALTH NURSING	75
DIPLOMA IN TRANSPORT AND ROAD SAFETY MANAGEMENT	24
DIPLOMA IN SOCIAL BEHAVIOR AND CONFLICT MANAGEMENT	60
POST DIPLOMA DEGREE IN SOCIAL BEHAVIOR AND CONFLICT MANAGEMENT	189
BSC. HEALTH INFORMATION MANAGEMENT	104
POST DIPLOMA MEDICAL LABORATORY SCIENCE	52
TOTAL POPULATION	**1064**

Source: UCC Student Records (2020)

The undergraduate sandwich students were selected for this study because their population is relatively higher hence the basis for their selection. All the undergraduate sandwich students in these respective departments used the e-learning platform.

Sampling Procedure and Sample size

The sample size for the quantitative data was 278 respondents deducing from a total population of 1,064 undergraduate sandwich students at the University of Cape Coast. The sample size was derived using the Cochran

(1977) sample size table formula. The study employed the probability sampling technique specifically stratified and simple random sampling technique. Concerning the quantitative data, the stratified simple random sampling was employed to group the undergraduate sandwich students into their programs of study. The proportionate stratified sampling technique was adopted to help select the 278 sample from the population. Formula for proportionate stratified sampling technique = (sample size/total population multiplied by the total number of students in each respective program). The table below shows the sample size determination.

SAMPLE SIZE DETERMINATION

PROGRAM OF STUDY	**TOTAL POPULATION**	**SAMPLE SIZE OUT 278 SAMPLE**
DIPLOMA IN EARLY CHILDHOOD EDUCATION	331	278/1064 * 331 =**86**
POST DIPLOMA IN EARLY CHILDHOOD EDUCATION	182	278/1064 * 182 =**48**
POST DIPLOMA DEGREE IN BASIC EDUCATION	47	278/1064 * 47 **=12**
BSC. NURSING (MENTAL AND COMMUNITY HEALTH NURSING	75	278/1064 * 75 **=20**
DIPLOMA IN TRANSPORT AND ROAD SAFETY MANAGEMENT	24	278/1064 * 24 **=06**
DIPLOMA IN SOCIAL BEHAVIOR AND CONFLICT MANAGEMENT	60	278/1064 * 60 **=16**
POST DIPLOMA DEGREE IN SOCIAL BEHAVIOR AND CONFLICT MANAGEMENT	189	278/1064 * 189 **=49**
BSC. HEALTH INFORMATION MANAGEMENT	104	278/1064 * 104 **=27**
POST DIPLOMA MEDICAL LABORATORY SCIENCE	52	278/1064 * 52 **=14**
TOTAL	**1064**	**278**

The simple random sampling technique through the lottery method was adopted to select the respondents from each respective program of study.

For the qualitative data, it comprised of FGDs and in-depth interviews. The non-probability sampling technique specifically criterion purposive sampling and convenience sampling was adopted for the study. The total population of the undergraduate sandwich students were again grouped into three groups namely; Faculty of social science, Faculty of arts and Faculty of sciences. With regard to the FGDs, six (6) undergraduate sandwich students who were willing to participate were conveniently selected from the three Faculties above. Participation in the research was clarified to be voluntary and that one can choose to withdraw from the discussion any time they deemed necessary. The FGDs was conducted in a serene environment recommended by the participants. In all 6 participants from the three Faculties took part in the FGDs. Consequently 18 participants indulge in the FGDs.

In-depth interviews were also conducted with IT persons who were purposively selected from the e-learning and knowledge management section of the University. Permission was sought from the IT persons before commencement of the interview. During the course of the interview, I (the researcher) realized that the interviewees were all giving the same responses. So, I (the researcher) decided to end the interview with the third interviewee since the additional information won't add anything new to the already discovered information. In all 3 participants took part in the interview.

Data Collection Instrument

Consistent with the research philosophy, research approach, research design, a questionnaire, FGDs guide and interview guide were adopted to

collect the primary data for the study. A questionnaire was used in this study to collect the quantitative data. The adoption of the questionnaire was influenced by the characteristics of the respondents. Since the respondents were students, they were deemed fit to read and write. The questionnaire was composed of 53 major questions which were both close ended and open-ended questions on preference for the e-learning platform, conditions influencing the preference and non-preference for the e-learning platform and experiential challenges of the undergraduate sandwich students' use of the e-learning platform.

After administering the questionnaire, data gaps were found. The focus group guide was developed to fill these gaps. The FGD guide was composed of semi structured questions and mainly open-ended questions. The guide provided some opportunities for probing for further pertinent data by means of supplementary questions.

An in-depth interview guide was the last instrument used for the study. The interview guide was structured and composed of close ended questions and mainly open-ended questions. One in-depth interview was used to solicit information from IT persons at the e-learning and knowledge management section on the challenges faced by management in their attempt to implement the e-learning platform.

Focus Group Discussion

A focus group discussion is a research technique involving in-depth discussion and questioning of small groups of people about a certain emphasis or issue, generally on a few occasions over time (Krueger,1988). According to Marshall and Rossman (1999), in order to promote conversation and the

presentation of different viewpoints, the interviewer must establish a friendly atmosphere and ask pertinent questions. A focus group discussion is a research technique involving in-depth discussion and questioning of small groups of people about a certain emphasis or issue, generally on a few occasions over time (Krueger,1988). According to Marshall and Rossman (1999), in order to promote conversation and the presentation of different viewpoints, the interviewer must establish a friendly atmosphere and ask pertinent questions. A focused discussion and questioning of small groups of people about a certain emphasis or issue, usually on a few occasions over a period of time, constitutes a focus group discussion (Krueger,1988). In this regard, Marshall and Rossman (1999) stated that the interviewer must establish a friendly atmosphere and ask pertinent questions to promote conversation and the expression of different viewpoints.

In the case for this study, there were 18 undergraduate sandwich students who were recruited to participate in the FGDs in the study area. They were briefed on the topic for discussion and were made to take pseudo names for the discussion. The FGDs were guided by the semi-structured questions in the focus group guide. Information was solicited from these people on usage of the e-learning platform, preference for the e-learning platform, conditions influencing their preference for the platform and challenges faced in the use of the platform. There were 3 FGDs sessions and each session lasted for approximately 45 minutes. The FGDs were all audio recorded. This procedure offered the researcher the opportunity to collect more qualitative data from the participants within a relatively short period as compared to an in-depth interview which requires a one-on-one conversation.

In-depth interviews

In a focus group, six to twelve people are gathered in a room or other private setting to have a discussion under the direction of a facilitator about a particular subject. The goal of this technique was to collect generalized data that showed the undergraduate sandwich students' level of choice for the e-learning platform and the factors affecting that preference. Concerning the study, three interview sessions were conducted. There were 3 participants for the in-depth interviews which included 2 IT Principal Assistants and an IT Technician. Interviews with these participants helped solicit information on the challenges faced by management in their attempt to implement the e-learning platform and linked them to the preference and challenges of the undergraduate sandwich students. The interview guide again helped to solicit information on the installation and maintenance of the e-learning platform.

Data Analysis

The data analysis was done based on the type of data. Thus, qualitative and quantitative data were analysed differently. The data obtained using the questionnaire was analysed using the Statistical Software (SPSS) version 22. Statistical analyses of the data were made using only descriptives such as percentages, frequencies, Kruskal Wallis test and weighted average analysis. The Kruskal Wallis test was used to determine if there were statistically significant differences between age and conditions influencing preference for the Moodle platform, marital status and conditions influencing preference for the Moodle platform and gender and conditions influencing preference for the Moodle platform.The weighted average analysis was conducted to determine the accurate percentage values of the preference for the e-learning platform,

conditions influencing the preference level and the experiential challenges of the undergraduate sandwich students'use of the platform.

With the qualitative data, the FGDs and the in-depth were audio recorded. I did a verbatim transcription with the use of Microsoft Word. After transcription, the data was reviewed to detect similarities and inconsistencies. This made it easier to understand all the potential connections between the various data segments. As concepts emerged, these data segments were given codes, which were then turned into themes and manually analyzed using Microsoft Word. In accordance with the study's aims, thematic analysis was also performed on the data before manual analysis.

Sources of Data

The research relied on primary data. The use of primary data for this study had the benefit of assisting in the collection of data for the study's specific goals. The research questions were designed to elicit data that answered the study's research questions to meet the precise objectives, and this data was mostly collected through the use of questionnaires.

Ethical issues

Before any information was collected from the subjects, I ensured confidentiality and informed consent. All research investigations have several ethical and moral challenges that can be addressed and overcome ahead of the commencement of the study in order to protect participants from potential harm and labelling (Khan, 2014). The study conformed to the Ethical Codes of the University's IRB (Institutional Review Board). The study ensured adherence to the COVID-19 safety protocols. The undergraduate sandwich

students and the IT experts at the e-learning and knowledge management section at the university were well informed about the essence of the study.

Again, in this study, I did not reveal the identities of both the undergraduate sandwich students and the IT experts who took part in the focus group discussions and the interviews respectively. In cases where it was required to report statements from the participants, I used pseudo names to represent the participants. For instance, in this study, I used *Participants 1 or 2* to represent the IT experts and *Teacher 1, a Female social worker* to represent the undergraduate sandwich students who took part in the focus group discussions.

Chapter Summary

This chapter presented the methodology used in the study including the description of the study area, the study design, study population, sample size, sampling techniques, data collection instruments, data analysis procedure and ethical issues. The study was conducted at the University of Cape Coast, and the data collected was both qualitative and quantitative. The data collection tools employed were Questionnaires, an interview guide and FGD guide. The study respondents included the undergraduate sandwich students who were selected using stratified and simple random sampling techniques. The study participants included IT experts and some undergraduate sandwich students who were purposively and conveniently selected for the interviews and Focus Group Discussions respectively. The quantitative data was analysed using Statistical Software (SPSS) version 22 whiles the qualitative data was analysed using thematic analysis. Informed consent, anonymity and confidentiality were strictly upheld in the conduct of the study.

CHAPTER FOUR

RESULTS AND DISCUSSION

Introduction

This study sought to examine the preference and challenges of the use of e-learning platform by undergraduate sandwich students at the University of Cape Coast. This chapter examines the information gathered from respondents and participants. The main instruments for the study are a structured questionnaire, a focus group discussion guide and an interview guide. The following statistical methods were used for the quantitative data; mean, frequencies, percentages one way ANOVA and weighted average analysis whiles the thematic analysis was utilised for the qualitative data.

The results are presented in tables to make them easier to read. In agreement with the main research objective, this section pondered on the preference for the e-learning platform among the undergraduate sandwich students, the conditions influencing the preference for the e-learning platform, the experiential challenges of the undergraduate sandwich students as well as the institutional challenges of using the e-learning platform. The first section delved into the demographics of the respondents. The subsequent section discussed the results of the research objectives. This study employed a mixed method approach and a sequential explanatory design.

Descriptive Results for Socio-Demographic Characteristics

The data was collected across various biographical details. It was important to interrogate the gender background based on the argument raised by Schodt (2005), who suggested that males had a higher level of learning for traditional classroom scenarios whiles females had a higher level of learning

for online learning. The results for the distribution are indicated in Table 1 below.

Table 1: Gender distribution

Gender	Percentage (%)
Females	53.2
Males	46.8

Source: Field Data (2021)

The results above show that the majority of the respondents for this study are females (53.2%) as compared to males (46.8%). This can be attributed to the fact that the just ended 2021 census report had females contributing to approximately 51% of the entire Ghanaian population.

It was also important to interrogate the age of the respondents as against their attitude to use the e-learning platform based on an argument raised by Gilbert (1996), which suggests that elderly adults have a slower rate of perceptual learning than younger persons. The results for the distribution are shown below in Table 2.

Table 2: Age distribution

Age category	Percentage (%)
20 - 30	44.2
31 - 40	46.4
41 - 50	9.4

Source: Field Data (2021)

The findings in Table 2 above show that the highest represented age group are those in 31-40 age brackets (46.4%). This is followed by those in the age brackets of 20-30 (44.2%). The least group are those in the age brackets 41-50 (9.4%). The age distribution shows that the respondents in this study

encompass a relatively higher number of younger undergraduate sandwich students at the university and that the middle-aged adults make up the majority of the audience for instructional approaches such as the e-learning platform, with 80% of those polled being under 45 years old (Mungania,2003).

Again, it was important to interrogate the program level of the respondents based on the argument raised by Venkatesh and Davis (2000), that continual usage of the e-learning platform influences the preference of the individual. The results for the distribution are shown in Table 3 below.

Table 3: Program level distribution

Program Level	Percentage (%)
350	51.1
400	48.9

Source: Field Data (2021)

The results in Table 3 above show that the majority of the undergraduate sandwich students in this study were in level 350 (51.1%) as compared to those in level 400 (48.9%). This distribution shows that the majority of the respondents are second-year undergraduate sandwich students. This implies that the majority of the respondents had already used the platform in their first year (Level 300) and hence they would have a previous experience of the use of the platform which would in turn influence their preference for the platform.

Again, it was prudent to interrogate the marital status of the respondents based on the argument raised by Pontes et al. (2010), who stated that the multiple roles such as personal and family responsibilities of the married make e-learning a preferred choice of content delivery. The results for the distribution are shown below in Table 4.

Table 4: Marital status distribution

Marital status	Percentage (%)
Married	48.6
Single	47.8
Divorced	2.2
Widowed	1.4

Source: Field Data (2021)

The results in Table 4 above show that the number of married undergraduate sandwich students constitutes 48.6% of the total respondents. The number of unmarried or single undergraduate sandwich students constitutes 47.8% of the entire respondents. Again, the number of divorced undergraduate sandwich students constitutes 2.2% of the total respondents for the study. Finally, 1.4% of the total respondents were widowed. This distribution shows a higher number of married undergraduate sandwich students at the University of Cape Coast. Pontes et al. found similar results (2010) and stated that married students were more likely to enrol in an online class than single students.

Again, it was important to interrogate the occupation of the respondents based on an argument raised by Mungania (2003), that individual with e-learning expertise from a job or a company were more likely to use the e-learning platform. The results for the distribution are shown in Table 5 below.

Table 5: Occupational level distribution

Occupation	Percentage (%)
Teacher	47.8
Unemployed	15.5
Social worker	13.3
Civil servant	9.7
Nursing	7.2
Pastor	3.6
Trader	2.9

Source: Field Data (2021)

The results in Table 5 indicate that out of the total respondents, approximately 48% of them were teachers, 16% of them were unemployed, 13% of them were social workers, 10% of them were civil servants, 7% of them were nurses, 3% of them were traders and finally, 4% of them were pastors or reverend ministers. The distribution shows that the higher number of undergraduate sandwich students were teachers. This is due to the fact that among all the undergraduate sandwich programmes run by the University of Cape Coast, the Faculty of Education has the highest number of undergraduate sandwich students with a total number of 560 students out of 1064 undergraduate sandwich students.

Finally, it was important to interrogate the location of the respondents based on the argument raised by Beqiri et al. (2010), who argued that students who stay farther away from the school campus were more satisfied with e-learning than those staying closer to campus.

The results of the distribution are presented in Table 6 below.

Table 6: Location distribution

Location	Percentage (%)
Greater Accra	21.9
Ashanti Region	20.9
Central Region	19.8
Western Region	7.9
Upper East	6.1
Northern Region	5.8
Upper West	4.7
Eastern Region	4.3
Volta Region	4.0
Bono Region	3.3
Brong Ahafo	1.4

Source: Field Data (2021)

The results in Table 6 above show that out of the total respondents, approximately 22% constitute undergraduate sandwich students living in Greater Accra, approximately 21% of the total respondents were living in Ashanti Region, approximately 20% of the total respondents were living in Central Region, approximately 8% of the total respondents were living in Western Region, approximately 6% of the total respondents were living in Upper East Region, approximately 6% of the total respondents were living in Northern Region, approximately 5% of the total respondents were living in Upper West Region, approximately 4% of the total respondents were living in Eastern region, Four percent (4%) of the total respondents were living in Volta region, approximately 3% of the total respondents were living in Bono region, approximately 1% of the total respondents were living in the Brong Ahafo region.

Regions in the coastal belt which constituted; Western, Central, Greater Accra and Volta regions had 149 undergraduate sandwich students out

of the total respondents of 278, and regions in the forest belt which also encompasses; Eastern, Ashanti, Brong Ahafo and Bono regions had 83 students out of the total respondents and finally regions in the savannah belt which constituted; Upper East, Upper West, and Northern Region had 46 students out of the total respondents.

The results showed a sparse distribution with a higher number of them living in the coastal belt, followed by the forest belt and then the savannah belt. This is due to the fact that the regions in the coastal belt are relatively nearer to the University. The demographic data reveals that the respondents are nearly equitably distributed across gender, age, program level, marital status, occupation, and location.

In sum, the demographic characteristics have indicated that the majority of the respondents in this study are females, with a higher number of them relatively younger and in their second year. The distribution again showed that a higher number of them were married, with a higher percentage of them being teachers with a higher number of them living in the coastal belt.

Factors Influencing the Use of E-learning Platforms in the University of Cape Coast

This section includes the findings and analysis based on the factors influencing the use of e-learning platforms in the university. Respondents were asked to tick the appropriate response on a list of questions such as first time taking an online class, devices used for the e-learning, where you reside during the online class, source of internet, mobile network used, nature of course material, hours spent in a day for a lecture, and the number of people

involved at a time using the e-learning platform at the University of Cape Coast. The results are presented in Table 7.

Table 7: Factors Influencing the Use of the E-learning Platform

Factors		Percentage (%)
First time taking An online class	Yes	35.6
	No	64.4
Device used for The e-learning	Smartphones only	40.3
	Laptops only	22.7
	Both Smartphone and Laptop	34.2
	Tablet	1.8
	Desktop	1.1
Where do you reside during the online class?	Campus	19.4
	Place of work	35.6
	Home	45
Source of Internet	LAN	10.1
	Mobile Data Pack	76.3
	Wi-Fi	13.7
Mobile network used	MTN	50
	Vodafone	41.7
	Airteltigo	7.9
	Glo	0.4
Nature of course material	Reading material	52.2
	Video content alongside reading material	47.8
Hours spent in a day for lecture	1hour	1.8
	2hours	31.3
	3hours	66.9
Number of people involved at a time using the e-learning platform	Lone usage	59
	Group usage	41

Source: Field Data (2021)

The results presented in Table 7 above show that the majority of the respondents in this study had already taken an online class before e-learning was introduced by the university (64.4%) as compared to those who are now taking it for the first time (35.6%). This means that the majority of them have had prior knowledge of an online setting hence they would be able to use the

e-learning platform. This implies that the implementation of the e-learning platform by the university as part of its mode of learning would be successful sine students have a prior knowledge of an online environment.

With respect to devices used for the e-learning session, approximately 40% of the entire respondents used smartphones only, approximately 23% used laptops only, approximately 34% of them used both the smartphone and a laptop, approximately 2% of them used tablets and finally, approximately 1% of them used the desktop. This distribution indicates that a higher number of undergraduate sandwich students preferred the smartphone for e-learning. This is due to the fact that they are very conversant with the usage of smartphones and with regard to the ease of use in terms of their portability, the smartphones can easily be carried along to any place for online classes or studies. This means that to ensure effective use and preference for the e-learning platform, the platform must be compatible with smartphones. This implies that student would be willing to use the platform since it is compatible with the smartphone hence the implementation of the platform by the university would be successful. These results are in line with the findings of Roberts and Rees (2014) and Martinez, Sanchiz, Batanero and Rosa (2019), who reported that approximately 76% of students, used mobile phones for e-learning because it was popular device among students.

With respect to the place, they stayed for the e-learning sessions; approximately 20% of the respondents came to campus for the e-learning class. Approximately 36% of them stayed in their place of work for the e-learning class. 45% of the undergraduate sandwich students stayed home for the e-learning class.

Some participants from the focus group discussion pointed out that they preferred their homes for e-learning than on campus or at the workplace. They explained that their preference for having e-learning at home is conditioned on the distance to be travelled from home. That is they would prefer home if the available option requires them to travel. The participants also highlighted that their choice of home for the e-learning is influenced by the serene nature of the environment in which they find themselves. They pointed out that the serenity is mostly gotten at home when their children are not at home. It was also emphasised that having e-learning at home is influenced by workplace conditions; some had stated that it took time to be granted a study leave at the workplace and for the matter staying home can help study and work at the same time.

Some statements from the participants were:

> *"For me, I prefer the house, I am not from here, so if I should come all the way to campus to do e-learning, why not stay at home for the e-learning. If I am to do e-learning, I will do it at home"* (27-year-old Nurse, Volta region, level 350, BSc. Nursing)

> *"The house is okay. Sometimes you will get a serene environment when you are at home especially when the children are not around. Sometimes you can put them at one corner and you also are at another corner and you are safe and you get more concentration".* (30-year-old female prison officer, Greater Accra, level 400, Post diploma degree in social behaviour and Conflict management)

> *"Yeah, I prefer home because sometimes you can't get the chance to have two months or more leave. So, if I should blend it, then I will prefer to do the e-learning at home before I take leave to come to campus".* (29-year-old Female social worker, Ashanti region, level 400, Post diploma degree in Social Behaviour and Conflict Management)

From Table 7 above, it can be observed that a higher number of undergraduate sandwich students stayed home for the e-learning class. The study also brought to light some conditions influencing preference for e-learning platforms at home which include; distance to be travelled, serene home environment and workplace conditions. This implies that the implementation of the e-learning platform by the university would be successful since the platform could be access by students irrespective of their location. These results are in line with the findings of Poole (2000), who reported that learners frequently used their home computers to access course information, as this was the most convenient location for them.

With respect to the source of internet used for the e-learning sessions, approximately 10% of the respondents used a local area network (LAN) as their source of internet, approximately 76% of the respondents used a mobile data pack as their source of internet for the e-learning class and approximately 14% of the respondents used Wi-Fi as their source of internet. The distribution indicated that the majority of the undergraduate sandwich students used mobile data packs as the major source of internet for the e-learning class. Since the majority of them stayed home for the e-learning and the quantitative data had also shown that the majority of them preferred smartphones only for the e-learning, it now shows a reflection on their preference for mobile data

packs for the e-learning. This implies that a higher number of the undergraduate sandwich students are conversant with mobile data pack than the other source of internet for the online class and hence the implementation of the e-learning platform as part of the mode of learning would be successful since the platform can be accessed with a mobile data bundle as well. These findings are in line with Girish, Aditya, Aiswarya and Muthuprasad (2021), who reported that the majority of the students preferred to use smartphones for online learning.

With respect to the mobile network used, fifty percent of the respondents used MTN, approximately 42% of the respondents used Vodafone, approximately 8% of the respondents used AirtelTigo and Glo users constitute 0.4% of the respondents. Furthermore, the focus group discussion brought to light the observations and experiences of the participants on the issue of mobile networks preferred for e-learning.

Some participants from the focus group discussions pointed out that they preferred MTN to other networks. Their preference was conditioned on the fact that the telecommunication network (MTN) had good internet connection at their place of residence. Again, their preferences for this network were because it had affordable offers and lasted longer compared to other networks. This suggests that students' preference for an e-learning platform was conditioned on the good internet connection and affordable bundle offers of the mobile network. Some participants stated:

> *For me, I use MTN because where I stay, the network is really good so I use MTN* (33-year-old male teacher, Greater Accra, level 400, Post diploma degree in Basic Education)

> *I also use MTN because the bundle offered is affordable and last longer* (29-year-old female social worker, Central Region, level 400, Post diploma degree in Social Behaviour and Conflict Management).

This result implies that a successful implementation of the e-learning platform by the university would depend on the student's network connection at their respective location of residence and place of work.

With respect to the nature of course material used for the e-learning, approximately 52% of the respondents used reading material for the e-learning class and approximately 48% of the respondents used reading materials alongside video content. These results indicate that the majority of the undergraduate sandwich students used reading materials for the e-learning class. This indicates that they are now conversant with the reading materials such as lecture slides and as such it implies that a successful implementation of the e-learning platform must ensure that the platform is compatibility with reading materials.

With respect to hours spent in a day for a lecture, approximately 2% of the respondents used an hour for the e-learning class, approximately 31% of the respondents used two (2) hours in a day for the e-learning class and approximately 67% of the respondents used three (3) hours in a day for the e-learning class. These results indicate that the majority of the undergraduate sandwich students used on average three (3) hours in a day for the e-learning class. For that matter, if they are to sit for three consecutive hours for the e-learning session, there is the possibility that their activities in the workplace and home would be affected, which in turn would influence their preference

for the e-learning platform. It implies that the implementation of the e-learning platform would not be successful since students can't just sit for 3 hours in their work place for lectures whiles they also have office duties to perform.

Finally, with respect to the number of people involved at a time using the e-learning platform, the results indicate that 59% of the respondents used the platform alone as compared to 41% who used the platform in a group. This distribution indicates that the majority of the undergraduate sandwich students used the platform for lectures all by themselves. These results corroborate the fact that the majority of them preferred to have the lectures alone in their homes. It implies that the implementation of the e-learning platform would be successful since the students could use it without any assistance from colleagues.

In sum, the factors influencing the use of the e-learning platform indicated that the majority of the respondents had already taken an online class before, and a higher number of them preferred to stay home. The majority of them used smartphones with mobile data packs as their preferred source of the internet with MTN as their preferred mobile network. The distribution again revealed that the majority of the undergraduate sandwich students spent an average of three (3) hours a day on the e-learning platform all by themselves.

Level of Preference for E-learning Platforms among Undergraduate Sandwich Students

The goal of the study was to find out the preference level of the undergraduate sandwich students for the e-learning platform. In this study, respondents were presented with three modes of learning namely online learning, face-to-face learning and blended learning. The respondents were

asked to tick the appropriate mode of learning that they preferred in terms of comprehensive and in-depth learning, remembering in detail whatever they learn, learning and understanding the course materials, learning better, getting feedback from tutors, remembering discussions easily, contributing during lectures, saving time and cost for effective learning, computer literacy skills, work schedule, the cost involved and distance to be travelled. The results are shown in Table 8 below.

Table 8: Level of Preference of Undergraduate Sandwich students for the e-learning platform

	Frequency			Percent (%)		
	OL	F2F	BL	OL	F2F	BL
Comprehensive and in-depth learning	28	138	112	10.1	49.6	40.3
Remember in detail whatever you learn	25	116	87	9.0	59.7	31.3
Learn and understand the course materials	28	155	94	10.1	55.8	34.2
Learn better	26	160	92	9.4	57.6	33.1
Getting feedback from tutors	25	167	86	9.0	60.1	30.9
Remember discussions easily	23	156	99	8.3	56.1	35.6
Easily Contribution during lectures	26	165	87	9.4	59.4	31.3
Save time and cost	59	149	70	21.2	53.6	25.2
Computer literacy skills	80	80	118	28.8	28.8	42.4
Work schedule	69	107	102	24.8	38.5	36.7
Cost involved	73	136	69	26.3	48.9	24.8
Distance Travelled	117	70	91	42.1	25.2	32.8

Source: Field Data (2021)

Table 9 below shows the mean averages of the various learning modes depicting the preference level of the undergraduate sandwich students. These averages were calculated by summing up the percentages of the various learning modes and dividing them by the total number of the variables (12) under study. The results are shown in Table 9 below. (Mean average formula= (Ex/n) where Ex is the percentage values of the learning modes and n is the total number of variables or questions under study for preference level of the undergraduate sandwich students.

Table 9: Mean averages for preference for the various learning modes

	Online Learning	Face to Face learning	Blended learning
	17.34	49.44	33.22
Total		100	

Source: Field Data (2021)

From the results in Table 9 above, approximately 17% of the total respondents preferred the use of online learning only, approximately 49% of the total respondents preferred the use of face-to-face learning only and finally approximately 33% of the total respondents preferred blended learning (both online and face to face learning). These results depict that a higher number of undergraduate sandwich students preferred the use of face-to-face learning only. From the results in Table 8 above, it can be inferred that the preference for the e-learning platform or online learning was only conditioned on the distance to be travelled. This means that the preference for the e-learning platform is influenced by the distance to be travelled. This implies that implementation of the platform by the university would not be successful

since a higher number of the undergraduate sandwich students prefers the face-to-face learning mode.

Degree of preference for the e-learning platform

Respondents were asked to choose the appropriate response on a scale of 1-10 on how they would rate the learning modes specifically online learning only, face to face to learning only, blended learning and if they did not prefer a particular mode of learning they can tick 'no response'. On a scale of 1-10, 1-4 indicated a lower preference, 5-7 indicated moderate preference and 8-10 indicated a higher preference for a learning mode and N\R represents no response. The results are shown in Table 10 below.

Table 10: Degree of Preference for the learning modes

	N/R	Low	Mod	High
Online Learning	25(09)	67(24.1)	128(46)	58(20.9)
Face-to-Face Learning	06(2.2)	14(05)	83(29.9)	175(62.9)
Blended Learning	07(2.5)	14(05)	72(25.9)	185(66.5)

Source: Field Data (2021)

Table 10 above shows the degree of preference for the various learning modes. From the table, it can be observed that 25 out of the total respondents chose no response for online learning with a percentage value of 9% suggesting that they do not prefer online learning, also 67 out of the respondents with a percentage value of approximately 24% chose a lower preference for online learning, 128 out of the total respondents with a percentage value of 46% chose a moderate preference, 58 out of the total respondents with a percentage value of approximately 21% chose a higher preference for online learning. It can be inferred that a relatively higher

number of undergraduate sandwich students preferred online learning. This implies that the university would not find it difficult to implement the e-learning platform as part of its mode of delivery.

With respect to preference for face-to-face learning only, approximately 2% of the respondents did not prefer the use of face-to-face learning only, five percent of the respondents had a lower preference for face-to-face learning only, approximately 30% of the respondents had a moderate preference for face-to-face learning only, approximately 63% of the respondents had a higher preference for face-to-face learning. It can be observed that the majority of the undergraduate sandwich students preferred face-to-face learning. This implies that the implementation of the platform for effective teaching and learning would not be successful since the majority of the students prefers the face-to-face learning mode.

With regard to preference for blended learning, approximately 3% of the total respondents did not prefer blended learning, five percent of the total respondents had a lower preference for blended learning, approximately 26% of the total respondents had a moderate preference for blended learning and finally, approximately 67% of the total respondents had a higher preference for blended learning. The results suggest that the majority of the undergraduate sandwich students preferred blended learning. This implies that implementation of the platform by the university as part of its mode of delivery would be successful since the majority of the students preferred both the online and face to face learning mode.

For further analysis, the weighted average analysis was conducted in Table 11. The weighted average analysis is done by taking into consideration

the varying degrees of importance of the numbers or values in each respective learning mode. The weighted average differs from other averages, it is normally done by multiplying each value within each respective learning mode by its weight and then later summing up all the values.

Table 11: Weighted Average analysis of the learning modes

	N/R	Low	Mod	High	Total
Online learning	25(10)=250	67(20)=1340	128(30)=3840	58(40)=2320	750
Face to Face learning	6(10)=60	14(20)-280	83(30)=2490	175(40)=7000	9830
Blended learning	7(10)=70	14(20)=280	72(30)=2160	185(40)=7400	9910

Source: Field Data (2021)

Table 11 above shows the results of the weighted average analysis. The results depict that a higher number of undergraduate sandwich students have a moderate preference for online learning. Again, it is observed that the majority of the sandwich students preferred face-to-face and blended learning. This implies that the implementation of the platform by the university authorities would be successful since the majority of the students preferred both the online and face to face learning mode.

Table 12: Percentage value of the Weighted Average analysis of the learning modes

	Percent			
	N/R	Low	Mod	High
Online learning only	3.22	17.29	49.54	29.93
Face to Face learning only	0.61	2.84	25.33	71.21
Blended learning	0.70	2.82	21.79	74.67

Source: Field Data (2021)

In Table 12 above, the results show that approximately 3% of the respondents did not prefer the use of online learning only, approximately 17% of the respondents had a lower preference for the use of online learning only, approximately 50% of the respondents had a moderate preference for the use of online learning only and approximately 30% of the respondents had a higher preference for the use of online learning only. These results showed that the majority of the undergraduate sandwich students had a moderate preference for the use of online learning only and their preference was conditioned on the distance to be travelled to campus. This implies that the implementation of the platform would be successful since a relatively higher number of students come from relatively far distance away from the university.

With regard to face-to-face learning only, the results show that approximately 1% of the respondents did not prefer the use of the face-to-face learning only, approximately 3% of the respondents had a lower preference for the use of face-to-face learning only, approximately 25% of the respondents had a moderate preference for the use of face-to-face learning only and finally approximately 71% of the respondents had a higher preference for the use of the face-to-face learning only. This means that the majority of the undergraduate sandwich students preferred the use of face-to-face learning and their preference was largely conditioned on the poor internet connection which interrupted the online lecture.

The narratives below also suggest that some participants preferred the use of face-to-face learning to the other learning modes and their preference was conditioned on poor internet connections and limited time allocation for

the online class. This implies that poor internet connectivity and limited time allocation for online classes influence people's decision to use the platform. The results revealed that for effective teaching and learning, the majority of the undergraduate sandwich students preferred face-to-face interactions. The narratives below however show that poor internet connection and limited time allocation for the online class are factors that influenced students' preference for face-to-face learning.

> "*With the traditional learning, you can make notes, ask questions and even share the experience because, with the online, the network might not be good".* (Female social worker, 28-year-old, Volta region, level 400, Post diploma degree in Social Behaviour and Conflict Management).

> *"I prefer the face-to-face to the e-learning platform. This is because, for sandwich students, we only meet for two months to cover the whole semester, so since we have been moved to the e-learning platform, they should increase our two months to three months. Using the 2 months to cover the semester is not easy. The regular has more months than we the sandwich."* (Male Policeman, 34-year-old, Greater Accra, level 350, Post diploma degree in Social Behaviour and Conflict Management).

This suggests that people's decision to use an e-learning platform is influenced by the poor internet connection and limited time stipulated for the online class. The findings show that the majority of undergraduate sandwich students preferred face-to-face contact for efficient teaching and learning. This implies that the implementation of the e-learning system for teaching and learning would not be successful since the majority of students preferred the face-to-face learning mode.

In terms of preference for blended learning, the results show that approximately 1% of the respondents did not prefer the use of blended learning, approximately 3% of the respondents had a lower preference for the use of blended learning, approximately 22% of the respondents had a moderate preference for the use of blended learning and finally approximately 75% of the respondents had a higher preference for the use of blended learning. This result shows that the majority of undergraduate sandwich students preferred the use of blended learning for effective teaching and learning process.

This was also revealed in the focus group discussion when some participants indicated that they preferred blended learning and their preference was conditioned on the fact that the e-learning platform assists students to learn while at the workplace. Some participants however expressed that their preference for this learning mode is conditioned on the fact they are shy to ask questions in class, so the e-learning would help them ask questions via the platform whiles the face-to-face would assist in studies and understanding of the courses. Some narrations that emerged were:

> *"I have a contrary view. In my case, classes start early in the morning to the afternoon, which makes it impossible for me as a worker to join classes. So, I will prefer 50/50. 50 e-learning, 50 face to face."* (Male Teacher, 32-year-old, Greater Accra, level 400, Post diploma degree in Basic Education)

> *"For me I have 21 days leave, so joining the e-learning for 30 days and the face-to-face for 30 days will help me a lot".* (Male social worker, 34-year-old, Central Region, level 400, Post diploma degree in Social Behaviour and Conflict Management)

> "*I like both face-to-face and online. Online is good because I am a shy type. I can't answer or ask questions in class so online helps me with that. The face- to -face helps me with my studies. When I see the lecturer's face, I grab everything that he is saying. So, I like both."* (Female social worker, 30-year-old, Ashanti Region, Post diploma degree in Social Behaviour and Conflict Management)

The findings revealed that for effective teaching and learning, the majority of undergraduate sandwich students preferred blended learning (both face-to-face and online learning). The results indicate that their preference for online learning is conditioned on workplace conditions and distance to be travelled whiles their preference for face-to-face learning only is also conditioned on poor network connections of the online class. This means that preference for the e-learning platform is influenced by workplace conditions, distance to be travelled and poor internet connections. This implies that the implementation of the platform as part of the university's mode of delivery would be successful since the majority of students preferred a blend of online and face to face learning mode.

Assessing the Conditions Influencing the Level of E-learning Preference among Undergraduate Sandwich Students

The study's goal was to assess the conditions influencing the level of preference for the e-learning platform among undergraduate sandwich students. Respondents were asked to choose the appropriate response from a Likert scale where SA= strongly agree, N= Neutral, D= Disagree and SD= strongly disagree. The items under study are; I prefer studying through the platform because It helps me to understand the courses very well, I prefer it

because I can easily access the learning materials on the platform, I prefer the platform because it is user-friendly, I prefer the platform because it gives me easy access to past questions for my courses, I prefer the e-learning platform because it allows me to study irrespective of my location, I prefer the platform because I can listen and take notes with ease during the online lecture, I prefer the platform because I can easily submit my reports and assignments to the lecturer with ease, I prefer the platform because it helps me to freely ask questions in spite of my shyness, I prefer the platform because learning through the platform is done at my comfort and pace and finally I prefer the platform because it has increased my computer literacy skills. The results are shown in Table 13 below.

Table 13: Conditions influencing Level of Preference of Undergraduate Sandwich students for the e-learning platform

	Frequency				
	SA	A	N	D	SD
I prefer studying through The platform because it Helps me to understand The courses very well	79	20	66	80	33
I prefer the platform Because I can Easily access learning Materials on the Platform	70	126	34	45	03
I prefer the platform Because it is user Friendly	80	134	21	33	10
I prefer the platform Because it gives me Access to past questions For my courses	52	69	31	84	42

I prefer the e-learning Platform because it allows Me to study irrespective of My Location	79	119	23	39	18
I prefer the platform Because I can listen And take notes with ease During the online lecture	59	97	37	68	17
I prefer the platform Because I can easily Submit my reports and Assignments to the lecturer With ease	63	109	34	55	17
I prefer the platform Because it helps me to freely Ask questions in spite Of my shyness	75	115	37	41	10
I prefer the platform Because learning through the Platform is done on my own Comfort and Pace	70	110	45	39	06
I prefer the platform Because it has increased My computer literacy skills	98	121	33	23	03
Total			278		

Source: Field Data (2021)

For further analysis, the weighted average analysis was conducted below.

Table 14: Weighted average analysis of the conditions influencing preference level of the e-learning platform

	SA	A	N	D	SD	Total
I prefer studying through the platform because it Helps me to understand the courses very well	79(50) =3950	20(40) =800	6(30) =1980	80(20) =1600	33(10) =330	8660
I prefer the platform because I can easily access learning Materials on the Platform	70(50) =3500	126(40) =5040	34(30) =1020	45(20) =900	03(10) = 30	10,490
I prefer the platform because it is user friendly	80(50) =4000	134(40) =5360	21(30) =630	33(20) =660	10(10) =100	10,750
I prefer the platform because it gives me access to past questions for my courses	52(50) =2600	69(40) =2760	31(30) =930	84(20) =1680	42(10) =420	8,390
I prefer the platform because it allows me to study irrespective of my location	79(50) =3950	119(40) =4760	23(30) =690	39(20) =780	18(10) =180	10,360
I prefer the platform because I can listen and take notes with ease during the online lecture	59(50) =2950	97(40) =3880	37(30) =1110	68(20) =1360	17(10) =170	9470
I prefer the platform because I can easily submit my reports and assignments to the lecturer with ease	63(50) =3150	109(40) =4360	34(30) =1020	55(20) =1100	17(10) =170	9800
I prefer the platform because it helps me to freely ask questions in spite of my shyness	75(50) =3750	115(40) =4600	37(30) =1110	41(20) =820	10(10) =100	10,380
I prefer the platform because learning through the Platform is done on my own Comfort and Pace	70(50) =3500	110(40) =4400	45(30) =1350	39(20) =780	06(10) =60	10,090
I prefer the platform because it has increased my computer literacy skills	98(50) =4900	121(40) =4840	33(30) =990	23(20) =460	03(10) =30	11,220

Source: field data (2021)

Table 14 above shows the results of the weighted average analysis with regard to the conditions influencing preference for the e-learning platform. Table 15 shows the percentage values of the conditions influencing the preference for the e-learning platform.

Table 15: Conditions influencing preference level of the e-learning platform

	SA	A	N	D	SD
I prefer studying through the platform because it helps me to understand the courses very well	45.61	9.23	22.86	18.47	3.81
I prefer the Platform I can easily access learning Materials on the Platform	33.36	48.05	9.72	8.58	0.29
I prefer the platform because it is user friendly	37.21	49.86	5.86	6.14	0.93
I prefer the platform because it gives me access to past questions for my courses	30.99	32.90	11.08	20.02	5.00
I prefer the e-learning platform because it allows me to study irrespective of my location	38.13	45.95	6.66	7.53	1.74
I prefer the platform because I can listen and take notes with ease during the online lecture	31.15	40.97	11.72	14.36	1.79
I prefer the platform because I can easily submit my reports and assignments to the lecturer with ease	32.14	44.49	10.41	11.22	1.73
I prefer the platform because it helps me to freely ask questions in spite of my shyness	36.13	44.32	10.70	7.90	0.96
I prefer the platform because learning through the Platform is done at my own Comfort and Pace	34.69	43.61	13.38	7.73	0.60
I prefer the platform Because it has increased my computer literacy skills	43.67	43.14	8.82	4.01	0.27

Source: Field Data (2021)

From table 15 above, it was found that approximately 46% of the total respondents strongly agreed that the e-learning platform helped them understand the courses very well, approximately 9% out of the respondents agreed that the platform helped them in understanding the courses very well, approximately 23% out of the respondents were neutral, approximately 18% out of the respondents disagreed that the e-learning platform helped them understand the courses very well, approximately 4% out of the respondents strongly disagreed that the e-learning platform helped them understand the courses very well. This means that a higher number of undergraduate sandwich students preferred the platform because it assisted them in understanding the courses very well. This corresponds with Davis (1989) TAM specifically 'perceived usefulness' which argues that an individual is willing to use any technology if he/she believes that it will improve his/her performance. Applying Davis (1989) TAM to the study, it is obvious that a higher number of undergraduate sandwich students were willing to use the e-learning platform because it helped them understand the courses very well. This is also in line with the theory of planned behaviour (TPB), which emphasizes that a person's behavioural intentions are the primary factors in determining that person's behaviour (Azjen &Fishbein, 1980). The learner must be able to determine from experience that the preferred form of learning will be advantageous to them in this subject. This implies that implementation of the platform by the university as part of its mode of delivery would be successful since students could understand their courses using the platform.

Again, it was found that approximately 33% of the respondents preferred the e-learning platform because it gave them easy access to learning

materials on the platform, approximately 48% of the respondents agreed that the platform gave them easy access to learning materials, also approximately 10% out of the respondents were neutral, approximately 9% out of the respondents disagreed that the platform gave them easy access to learning materials, approximately 0.3% of the total respondents strongly disagreed that the platform gave them easy access to learning materials. These results depict that a higher number of undergraduate sandwich students preferred the e-learning platform because it allowed them to access the learning materials reliable for studies. This also corresponds with Davis (1989) TAM specifically 'perceived usefulness' which argues that an individual is willing to use any technology if he/she believes that it will improve his/her performance. Applying Davis (1989) Technology Acceptance to the study, it is clear that a higher number of undergraduate sandwich students were willing to use the e-learning platform because it gave them access to learning materials for studies. Again, this result implies that implementation of the platform for effective teaching and learning would be successful since it gives students easy access to learning materials.

Again, approximately 37% of total respondents strongly agreed that the platform was user-friendly, approximately 50% of total respondents agreed that the platform was user friendly, approximately 6% of respondents were neutral, approximately 6% of the total respondents disagreed that the platform was user-friendly, and approximately 1% of the total respondents strongly disagreed that the platform was user-friendly. These results show that a higher number of undergraduate sandwich students preferred the platform because it was user-friendly. This was also revealed when some participants indicated

that their preference for the platform is conditioned on the fact that they can use the platform irrespective of their computer literacy skills.

> "*I am not good at IT but the first time I used the platform I was able to use it."* (29-year-old female nurse, level 350, Volta Region, BSc. Nursing).

> *"You don't have to be good at it before you can use the platform. It is something that you can easily use without restrictions. You won't type words for you to say that you don't have the skills to use the platform*". (32-year-old policewoman, level 400, Western Region, Post diploma degree in Social Behaviour and Conflict Management)

These results imply that preference for the e-learning platform is conditioned on the user-friendliness of the platform and prior knowledge of the use of internet technology tools. According to Davis' (1989) TAM specifically "perceived ease of use," a person would be inclined to utilize a technology if they think it will be simple to use. Therefore, if the technology is easy to use, obstacles will be removed. Applying Davis (1989) TAM to the study, it can be observed that a higher number of the undergraduate sandwich students were willing to use the Platform because it was user-friendly. This implies that implementation of the platform as part of the university's mode of delivery would be successful since a higher number of students could easily use it to learn.These findings support Kareal and Klema's (2006) assertion that Moodle is one of the most adaptive systems and that this characteristic is a critical component of an effective e-learning system. They also emphasised that the Moodle Platform was the most user-friendly e-learning system on the market.

Approximately, 31% of the respondents strongly agreed that the platform gave them access to past questions, approximately 33% of the respondents agreed that the platform gave them access to past questions, approximately 11% of the respondents were neutral, approximately 20% of the respondents disagreed that the platform gave them access to past questions, and finally, approximately 5% of the respondents strongly disagreed that the platform gave them access to past questions. This means that a higher number of undergraduate sandwich students preferred the platform because it gave them access to past questions. This is consistent with the "perceived ease of use" notion from Davis' (1989) TAM, which contends that a person would adopt a technology if they think it will be simple to use. Applying Davis' (1989) TAM to the study, it is evident that a greater proportion of the undergraduate sandwich students were eager to utilize the platform due to easy access to past questions. This implies that the implementation of the platform by the university as part of its mode of delivery would be successful since it gave a higher number of students access to past questions for studies.

Again, it was found that approximately 38% of the respondents strongly agreed that they could study with the platform irrespective of their location, approximately 46% of the respondents agreed that they could study with the platform irrespective of their location, also approximately 7% of the respondents were neutral, approximately 8% of the respondents disagreed that they could study with the platform irrespective of their location, approximately 2% of the respondents strongly. This means that a higher number of undergraduate sandwich students preferred e-learning because it allowed them to study irrespective of their location. Some participants

expressed their experiences and views on the flexibility of the platform. Below are some narratives.

> "*I prefer e-learning. Because at the time we were having it, I was at the hospital. If not for the e-learning, I wouldn't have had the chance to be part of the class."* (32-year-old female social worker, level 400, Eastern region, Post diploma degree in Social Behaviour and Conflict Management)

> *"To me, the e-learning is more convenient. You can access the platform wherever you find yourself. The nature of my work will never allow me to stay on campus for two months or beyond*." (31-year-old male policeman, level 350, Ashanti region, Post diploma degree in Social Behaviour and Conflict Management).

This is consistent with Davis' (1989) TAM which holds that people would utilize any technology if they think it will improve their performance. When Davis (1989) TAM was applied to the study, it became obvious that more undergraduate sandwich students were eager to use the e-learning platform because it is accessible from anywhere. This implies that the implementation of the platform by the university would be successful since it allows students access irrespective of their location for studying.This result is also in line with Gardner et al. (2016), who reported that the e-learning platform could be used regardless of the physical location of the user.

Again, it was found that approximately 31% of the respondents strongly agreed that they could easily listen and take notes with the platform during lectures, approximately 41% of the respondents agreed that they could easily listen and take notes with the platform during lectures, approximately 12% of the respondents were neutral, approximately 14% of the respondents

disagreed that they could easily listen and take notes with the platform during lectures, approximately 2% of the respondents strongly disagreed that they could listen and take notes with the platform during lectures. These results depict that a higher number of undergraduate sandwich students preferred the e-learning platform because they could easily listen and take notes during online lectures. This also corresponds with Davis (1989) TAM specifically 'perceived ease of use' which argues that an individual would be willing to use a technology if he/she believes the technology will be easy to use. Applying Davis' (1989) TAM to the study, it can be inferred that a higher number of undergraduate sandwich students were willing to use the platform because they could easily listen and take notes during the online lecture. This indicates that preference for the e-learning platform is influenced by the perceived ease of use of the platform. This implies that implementation of the platform by the university as part of its mode of delivery would be successful since a higher number of students could listen and take note via the platform.

From the results above, it was found that approximately 32% of the respondents strongly agreed that they could submit their reports and assignments with the platform, approximately 44% of the respondents agreed that they could submit their reports and assignments with the platform, also approximately 10% of the respondents were neutral, approximately 11% of the respondents disagreed that they could submit their reports and assignments with the platform, finally approximately 2% of the respondents strongly disagreed that they could submit their reports and assignments with the platform. These results indicate that a higher number of undergraduate sandwich students preferred the e-learning platform because it helped them

submit their reports and assignments. These results resonate with Davis (1989) TAM specifically 'perceived usefulness' which contends that an individual would be willing to use any technology if he/she believes that it would improve his/her performance. Applying Davis (1989) Technology Acceptance to the study, it was obvious that a higher number of undergraduate sandwich students were willing to use the e-learning platform because it helped them submit their reports and assignments. This again indicates that e-learning preference is influenced by the perceived usefulness of the platform. This implies that the implementation of the platform by the university would be successful since a higher number of students could submit their assignments and reports via the platform.

It was also found that approximately 36% of the respondents strongly agreed that they could ask questions freely despite their shyness. Approximately 44% of the respondents agreed that they could ask questions freely despite their shyness, approximately 11% of the respondents were neutral, and approximately 8% of the respondents disagreed that they could ask questions freely despite their shyness, approximately 1% of the respondents strongly disagreed. These results show that a higher number of undergraduate sandwich students preferred the e-learning platform because it allowed them to ask questions freely despite their shyness. This resonates with Davis (1989) TAM specifically 'perceived usefulness' which argues that an individual would be willing to use any technology if he/she believes that it would improve his/her performance. Applying Davis (1989) Technology Acceptance to the study, it could be observed that a higher number of undergraduate sandwich students were willing to utilise the e-learning

platform because they could ask questions freely despite their shyness. This shows that e-learning preference is influenced by the perceived usefulness of the platform. This implies that the university authorities can easily implement the platform since a higher number of students could freely use it to ask questions despite their shyness.

Again, it was found that approximately 35% of the respondents strongly agreed that they could learn at their comfort and pace with the platform, approximately 44% of the respondents agreed that learning through the platform was done at their comfort and pace, and approximately 13% of the respondents were neutral, approximately 8% of the respondents disagreed that learning through the platform was done at their comfort and pace, approximately 1% of the respondents strongly disagreed that they could learn at their comfort and pace with the platform. These results depict that a higher number of undergraduate sandwich students preferred the e-learning platform because they could learn at their comfort and pace with the platform. This also corresponds with Davis (1989) TAM specifically 'perceived ease of use' which argues that an individual would be willing to use a technology if he/she believes the technology would be easy to use. Applying Davis (1989)'s TAM to the study, it was obvious that a higher number of undergraduate sandwich students were willing to use the platform because they could learn at their comfort and pace. This indicates that preference for e-learning platforms is influenced by the perceived ease of use of the platform. This implies that implementation of the platform as part of the mode of delivery would be successful since a higher number of undergraduate sandwich students could learn at their comfort and pace with the platform.

Finally, it was found that approximately 44% of the respondents strongly agreed that the platform had increased their computer literacy skills, approximately 43% of the respondents agreed that the platform had increased their computer literacy skills, approximately 9% of the respondents were neutral, approximately 4% of the respondents disagreed that the platform had increased their computer literacy skills, approximately 0.3% of the respondents strongly disagreed that the platform had increased their computer literacy skills. These results depict that a higher number of undergraduate sandwich students preferred the e-learning platform because it increased their computer literacy skills. This is consistent with the construct of "perceived usefulness" in Davis' (1989) TAM, which holds that a person would adopt any technology if they feel it will enhance their performance. Applying Davis' (1989) TAM to the study, it was evident that a higher percentage of the undergraduate sandwich students were willing to use the e-learning platform because it increased their computer literacy skills. This means that preference for the e-learning platform is influenced by its perceived usefulness. This implies that implementation of the platform by the university would be successful since the platform increased a higher number of undergraduate sandwich student's computer literacy skills.

Non-Preference for E-learning Platforms

Respondents were asked to choose the appropriate response from a Likert scale where SA= strongly agree, N= Neutral, D= Disagree and SD= strongly disagree. The items under study are: I don't prefer studying through the e-learning mode because I find it difficult to understand the courses very well, I don't prefer the platform because I find it difficult to easily access the

learning materials on the platform, I don't prefer the platform because it isn't user friendly, I don't prefer the platform because I find it difficult to access past questions for my courses, I don't prefer the e-learning platform because I find it difficult to use the platform to study irrespective of my location, I don't prefer the platform because I find it difficult to listen and take notes with ease during the online lecture, I don't prefer the platform because I find it difficult to submit my reports and assignments to the lecturer with ease, I don't prefer the platform because I find it difficult to freely ask questions in spite of my shyness, I don't prefer the platform because I find it difficult to learn at my own comfort and pace and finally, I don't prefer the platform because it did not add any value to my computer literacy skills. The results are shown in Table 16.

Table 16: Conditions influencing Level of Non-preference for E-learning Platform among Undergraduate Sandwich students

	Frequency				
	SA	A	N	D	SD
I don't prefer studying through the E-learning mode because I find it difficult to understand the courses Very well	33	80	61	55	49
I don't prefer the platform Because I find it difficult to easily access learning materials on the Platform	05	42	35	121	75
I don't prefer the platform Because it isn't user -friendly	10	32	23	122	91
I don't prefer the platform Because I find it difficult to access Past questions for my courses	41	89	29	65	54
I don't prefer the platform because I find it difficult to study Irrespective of their location	19	35	24	112	88

I don't prefer the platform because I find it difficult to listen and take notes with ease during lectures	21	61	37	88	71
I don't prefer the platform because I find it difficult to easily submit my reports and assignments	16	54	33	112	63
I don't prefer the platform because I find it difficult to freely ask questions in spite of my shyness	08	46	39	100	85
I don't prefer the platform Because I find it difficult to learn at my own comfort and pace	06	40	44	109	79
I don't prefer the platform because it did not add any value to my computer literacy skills	05	27	29	118	99
Total					278

Source: Field Data (2021)

For further analysis, the weighted average analysis was conducted in Table 17.

Table 17: Weighted average analysis of the conditions influencing the non-preference level

	SA	A	N	D	SD	TOTAL
I don't prefer the platform because I find it difficult to understand the courses very well	1650	3200	1830	1100	490	8270
I don't prefer the platform because I find it difficult to easily access learning materials on the platform	250	1680	1050	2420	750	6150
I don't prefer the platform because it isn't user friendly	500	1280	690	2440	910	5820
I don't prefer the platform because I find it difficult to access past questions for my courses	2050	3560	870	1300	540	8320

I don't prefer the platform because I find it difficult to study irrespective of my location	950	1400	720	2240	880	6190
I don't prefer the platform because I find it difficult to listen and take notes with ease during lectures	1050	2440	1110	1760	710	7070
I don't prefer the platform because I find it difficult to submit my reports and assignments	800	2160	990	2240	630	6820
I don't prefer the platform because I find it difficult to freely ask questions in spite of my shyness	400	1840	1170	2000	850	6260
I don't prefer the platform because I find it difficult to learn at my own comfort and pace	300	1600	1320	2180	790	6190
I don't prefer the platform because it did not add any value to my computer literacy skills	250	1080	870	2360	990	5550

Source: Field Data (2021)

Table 17 above indicates the results of the weighted average analysis with respect to the conditions influencing non- preference for the e-learning platform. Table 18 shows the percentage values of the conditions influencing the non- preference for the e-learning platform.

Table 18: Conditions influencing the non-preference level of the e-learning platform

	SA	A	N	D	SD
I don't prefer the platform because I find it difficult to understand the courses very well	19.95	38.69	22.13	13.30	5.93
I don't prefer the platform because I find it difficult to access learning materials on the Platform	4.07	27.32	17.07	39.35	12.20
I don't prefer the platform Because it isn't user friendly	8.59	21.99	11.86	41.92	15.64
I don't prefer the platform Because I find it difficult to access past questions for my courses	24.64	42.79	10.46	15.63	6.50
I don't prefer the platform because I find it difficult to study irrespective of my location study	15.35	22.62	11.63	36.19	14.22
I don't prefer the platform because I find it difficult to listen and take notes with ease during lectures	14.85	34.51	15.70	24.90	10.04
I don't prefer the platform because I find it difficult to submit my reports and assignments	11.73	31.67	14.51	32.84	9.23
I don't prefer the platform because I find it difficult to freely ask questions in spite of my shyness	6.39	29.39	18.69	31.95	13.58
I don't prefer the platform because I find it difficult to learn at my comfort and Pace	4.84	25.85	21.32	35.22	12.76
I don't prefer the platform because it did not add any value to my computer literacy skills	4.50	19.50	15.68	42.52	17.84

Source: Field Data (2021)

From the results in Table 18 above, it was found that approximately 20% of the respondents strongly agreed that they could not understand the courses very well with the platform, approximately 39% of the respondents agreed that the platform could not assist them to understand the courses very well, approximately 22% of the respondents were neutral, approximately 13% of the respondents disagreed that they could not understand the courses very well with the platform, approximately 6% of the respondents strongly disagreed that they could not understand the courses very well with the platform. This means that a higher number of undergraduate sandwich students could not understand the courses very well with the platform. Some participants expressed:

> *"Sometimes, I prefer to see the lecturer face to face to help me focus than watching or listening online. The physical presence helps to focus. The lecturer's gestures and signs help me to better understand what the lecturer wants to communicate."* (30-year-old male teacher, Greater Accra, level 350, Post diploma degree in Basic Education).

> *One thing that makes me dislike the online learning is that, for me I have to see your face before I can get what you are saying. If you are teaching and I am not looking at you, I may be listening but not getting what you are saying. With the e-learning, the lecturer may be speaking and you are just hearing the voice but not seeing his face. So, if I am not seeing your face, I won't understand what you are saying. So that's one thing that doesn't make me dislike e-learning".*
>
> (29 Female social workers, Ashanti region, level 350, Post diploma degree in Social Behaviour and Conflict Management).

The results indicate that a higher number of undergraduate sandwich students could not understand the courses very well with the platform. This is consistent with the construct of "perceived usefulness" in Davis' (1989) TAM, which asserts that if individuals believe that the technology would improve their performance, then they would be willing to use it and vice versa. The results suggest that more undergraduate sandwich students would not be willing to use the e-learning platform since they could not understand the courses very well with it. This implies that a higher number of the students are still learning to use the platform, and that they would rather prefer the face-to-face learning to the online learning would in turn affect the university's intention to implement the platform as part of its mode of delivery.

It was also found that approximately 4% of the respondents strongly agreed that they could not access the learning materials with the platform, approximately 27% of the respondents agreed that they could not access the learning materials with the platform, approximately 17% of the respondents were neutral, approximately 39% of the respondents disagreed that they could not access the learning materials with the platform, approximately 12% strongly disagreed that they could not access the learning materials with the platform. These results show that a higher number of undergraduate sandwich students preferred the e-learning platform because they could access the learning materials with the platform. This is also consistent with the construct of "perceived usefulness" in Davis' (1989) TAM, which holds that people would use or employ any technology if they think it will enhance their performance. With regard to the results above, a greater percentage of the undergraduate sandwich students were willing to use the e-learning platform

because it made it easier for them to access and acquire learning materials. This suggests that the perceived usefulness of the e-learning platform influenced students' preference for it. This implies that implementation of the platform by the university would be successful since it gave the undergraduate sandwich students access to learning materials.

Again, it was found that approximately 9% of the respondents strongly agreed that the platform was not user-friendly. Approximately 22% of the respondents agreed that the platform was not user-friendly, 12% of the respondents were neutral, 42% disagreed that the platform was not user-friendly and 16% of the respondents strongly disagreed that the platform was not user-friendly. These results show that a higher number of undergraduate sandwich students preferred the e-learning platform because it was user-friendly. This resonates with Davis (1989)'s TAM specifically 'perceived ease of use' which argues that an individual would be willing to use a technology if he/she believes that the technology would be easy to use. Applying Davis (1989) TAM to the study, it was evident that a higher number of undergraduate sandwich students were willing to use the platform because it was user-friendly. This implies that the university's intention to implement the platform as part of its mode of delivery would be successful since a higher number of the undergraduate sandwich students could easily use it.

It was found that approximately 25% of the respondents strongly agreed that they could not access past questions for their courses with the platform, approximately 43% of the respondents agreed that they could not access past questions for their courses with the platform, approximately 11% of the respondents were neutral, approximately 16% of the respondents

disagreed that they could not access past questions for their courses with the platform, approximately 7% of the respondents strongly disagreed that they could not access past questions for their courses with the platform. These results show that a higher number of the undergraduate sandwich students did not prefer the platform because they could not access past questions for their courses. This is in line with Davis' (1989) TAM, which contends that a person would adopt a technology if he/she thinks it would be simple to use. Applying Davis (1989)'s TAM to the study, it was evident that a greater proportion of the undergraduate sandwich students were reluctant to use the platform since they could not access past questions for their courses. This implies that implementation of the e-learning platform by the university would not be successful since it failed to give the undergraduate sandwich students access to past questions.

Again, it was found that approximately 15% of the respondents strongly agreed that they could not study with the platform irrespective of their location, approximately 23% of the respondents agreed that they could not study with the platform irrespective of their location, approximately 12% of the respondents were neutral, approximately 36% of the respondents disagreed that they could not study with the platform irrespective of their location, approximately 14% of the respondents strongly disagreed that they could not study with the platform irrespective of their location. These results depict that a higher number of undergraduate sandwich students preferred the e-learning platform because they could study with the platform irrespective of their location. Again, this is consistent with Davis' (1989) TAM, which holds that a person would utilize any technology if he/she thinks it would enhance their

performance. A higher number of undergraduate sandwich students were eager to utilize the e-learning platform since they could study with the e-learning platform irrespective of their location. This implies that implementation of the e-learning platform by the university authorities would be successful since the undergraduate sandwich students could study irrespective of their location.

It was found that approximately 15% of the respondents strongly agreed that they could not listen and make notes with the platform during lectures, approximately 35% of the total respondents agreed that they could not listen and make notes with the platform during lectures, approximately 16% out of the respondents were neutral, approximately 25% of the respondents disagreed that they could not listen and make notes with the platform during lectures, approximately 10% out of the respondents strongly disagreed that they could not listen and make notes with the platform during lectures. The results indicate that a higher number of undergraduate sandwich students did not prefer the e-learning platform because they could not listen and make notes with ease during the online lectures. This corresponds with Davis (1989)'s TAM specifically 'perceived ease of use,' which argues that an individual would be willing to use a technology if he/she believes that the technology would be easy to use and vice versa. Applying Davis (1989)'s TAM to the study, it was clear that a higher number of undergraduate sandwich students were not willing to use the platform because they could not listen and make notes during online lectures. This implies that a higher number of the undergraduate sandwich students are still adjusting or adapting to the e-learning system and that it would be difficult for the university to implement the platform as part of its mode of delivery.

Again, it was found that approximately 12% of the respondents strongly agreed that they could not submit their reports and assignments with the platform, approximately 32% of the respondents agreed that they could not submit their reports and assignments with the platform, approximately 15% of the respondents were neutral, approximately 33% of the respondents disagreed that they could not submit their reports and assignments with the platform, approximately 9% of the respondents strongly disagreed that they could not submit their reports and assignments with the platform. These results indicate that a higher number of undergraduate sandwich students preferred the e-learning platform because they could submit their reports and assignments. This is consistent with the "perceived usefulness" of Davis (1989)'s TAM, which holds that an individual would adopt or use any technology if they believe it would enhance their performance and vice versa. From the results above, it was obvious that a greater percentage of the undergraduate sandwich students were eager to utilize the e-learning platform because they could submit their reports and assignments. This implies that implementation of the platform by the university would be successful since the students could submit their reports and assignments.

It was again found that approximately 6% of the total respondents strongly agreed that they could not freely ask questions with the platform during lectures, approximately 29% of the respondents agreed that they could not freely ask questions with the platform during lectures, approximately 19% out of the respondents were neutral, approximately 32% out of the respondents disagreed that they could not freely ask questions with the platform during lectures and approximately 14% of the respondents strongly disagreed that

they could not freely ask questions with the platform during lectures. These results show that a higher number of undergraduate sandwich students preferred the e-learning platform because they could freely ask questions during lectures. This again resonates with Davis (1989) TAM specifically 'perceived usefulness' which argues that an individual would be willing to use any technology if he/she believes that it would improve his/her performance. Applying the theory to the study, it was clear that a higher number of undergraduate sandwich students were willing to use the e-learning platform because they could freely ask questions during lectures despite their shyness. This implies that implementation of the platform would be successful since students could freely use it to ask questions during lectures.

It was found that approximately 5% of the total respondents strongly agreed that they could not learn at their comfort and pace with the platform, approximately 26% of the respondents agreed that they could not learn at their comfort and pace with the platform, approximately 21% out of the respondents were neutral, approximately 35% out of the respondents disagreed that they could not learn at their comfort and pace with the platform, approximately 13% out of the respondents strongly disagreed that they could not learn at their comfort and pace with the platform. These results indicate that a higher number of undergraduate sandwich students preferred the e-learning platform because they could not learn at their comfort and pace. According to Davis' (1989) TAM with an emphasis on the "perceived ease of use," a person is more likely to utilize a technology if they think it will be simple to use. It was clear from the results that more undergraduate sandwich students were eager to use the platform because they could learn at their comfort and pace. This

implies that implementation of the platform would be successful since students could learn at their own pace using the platform.

Finally, it was found that approximately 5% of the total respondents strongly agreed that the platform added no value to their computer literacy skills, approximately 20% of the respondents agreed that the platform added no value or increased their computer literacy skills, approximately 16% out of the respondents were neutral, approximately 43% out of the respondents disagreed that the platform added no value or increased their computer literacy skills, approximately 18% % out of the respondents strongly disagreed that the platform added no value or increased their computer literacy skills. These results depict that a higher number of undergraduate sandwich students preferred the e-learning platform because it increased their computer literacy skills. This resonates with the "perceived usefulness" put out by Davis (1989) in his TAM, which contends that people would adopt any technology if they think it would improve their performance. Per the results above, it could be inferred that more undergraduate sandwich students were eager to use the e-learning platform since it had improved their computer literacy skills. This implies that the implementation of the platform by the university would be successful since the platform had improved student's computer literacy skills.

Hypothesis testing

One way ANOVA specifically the Kruskal Wallis test is done to test for the significant level between age of the undergraduate sandwich students as against the conditions influencing the preference for the Moodle platform. The conditions influencing the preference level are: perceived usefulness and perceived ease of use.

H1: Age is likely to affect the conditions influencing the preference for the Moodle platform.

	I prefer the platform because I can understand the courses	I prefer the platform because I can easily access the learning materials	I prefer the platform because it is user- friendly	I prefer the platform because it gives me access to past questions	I prefer the platform because I can study irrespective of my location	I prefer the platform because I can take notes	I prefer the platform because I can submit my reports using the platform	I prefer the platform because I can freely ask questions	I prefer the platform because I can learn at my own comfort and pace	I prefer the platform because it added value to my compute r literacy skills
Chi-square	2.554	1.186	.191	4.370	.166	.010	1.051	.537	3.498	3.377
df	2	2	2	2	2	2	2	2	2	2
Asymp. Sig	.279	.553	.909	.112	.921	.995	.591	.765	.174	.185

a. Kruskal Wallis Test

b. Grouping Variable: Age of respondent

Fidell, Tabachnick, Mestre, and Fidell (2013) claim that, for social science research, a significant level of less than or equal to.05 is required. The results from the ANOVA Table do not reflect a significant figure of p=.000. If this condition is attained, the predictor variable does an excellent task of explaining the response variable's fluctuation. As a result, if the p-value is greater than .05, then it can be deduced that the age of the respondent is not significant of the conditions influencing the preference for the Moodle Platform. This implies that the conditions influencing preference for the Moodle Platform are not influenced by age category of the user. With regard to the study, it can be seen that the perceived ease of use and perceived usefulness of the platform is not influenced by the age category of the undergraduate sandwich students. The results are consistent with the findings of Fleming et al., (2017) and Bączek et al. (2021) who reiterated that age should not be seen as an obstacle to e-learning.

H1: Marital Status is likely to affect the conditions influencing the preference for the Moodle platform.

	I prefer the platform because I can understand the courses	I prefer the platform because I can easily access the learning materials	I prefer the platform because it is user friendly	I prefer the platform because it gives me access to past questions	I prefer the platform because I can study irrespective of my location	I prefer the platform because I can take notes	I prefer the platform because I can submit my reports using the platform	I prefer the platform because I can freely ask questions	I prefer the platform because I can learn at my own comfort and pace	I prefer the platform because it added value to my computer literacy skills
Chi-square	1.678	.957	2.998	1.421	1.066	3.553	.881	4.920	2.536	3.510
df	3	3	3	3	3	3	3	3	3	3
Asymp. Sig	.642	.812	.392	.701	.785	.314	.830	.178	.469	.319

a. Kruskal Wallis Test

b. Grouping Variable: Marital status

Fidell, Tabachnick, Mestre, and Fidell (2013) claim that, for social science research, a significant level of less than or equal to.05 is required. The results from the ANOVA Table do not reflect a significant figure of p=.000. If this condition is attained, the predictor variable does an excellent task of explaining the response variable's fluctuation. As a result, if the p-value is greater than .05, then it can be deduced that the marital status of the respondents are not significant of the conditions influencing the preference for the Moodle Platform. This implies that the perceived ease of use and perceived usefulness are not influenced by the marital status of the user. Concerning the study, it can be deduced that the conditions influencing the preference for the Moodle platform is not influenced by the marital status of the undergraduate sandwich students. The results are consistent with the findings of Mungania (2003), who argued that marital status agreed is not a major determinant for e-learning's success.

H1: Gender is likely to affect the conditions influencing the preference for the Moodle platform.

	I prefer the platform because I can understand the courses	I prefer the platform because I can easily access the learning materials	I prefer the platform because it is user friendly	I prefer the platform because it gives me access to past questions	I prefer the platform because I can study irrespective of my location	I prefer the platform because I can take notes	I prefer the platform because I can submit my reports using the platform	I prefer the platform because I can freely ask questions	I prefer the platform because I can learn at my own comfort and pace	I prefer the platform because it added value to my computer literacy skills
Chi-square	5.895	3.074	2.998	.227	1.923	3.525	2.442	.426	3.361	2.542
df	1	1	1	1	1	1	1	1	1	1
Asymp. Sig	.115	.980	.392	.634	.166	.060	.118	.514	.067	.111

a. Kruskal Wallis Test

b. Grouping Variable: Gender of respondent

Fidell, Tabachnick, Mestre, and Fidell (2013) claim that, for social science research, a significant level of less than or equal to.05 is required. The results from the ANOVA Table do not reflect a significant figure of p=.000. If this condition is attained, the predictor variable does an excellent task of explaining the response variable's fluctuation. As a result, if the p-value is greater than .05, then it can be deduced that the Gender of the respondents are not significant of the conditions influencing the preference for the Moodle Platform. This implies that the perceived ease of use and perceived usefulness are not influenced by the Gender of the user. Relating it to the study, it can be deduced that the conditions influencing the preference for the Moodle platform are not influenced by the Gender of the undergraduate sandwich students. The results are consistent with the findings of Arena et.al.,(2010), who argued that the Gender of the user did not affect his/her use and adoption of the e-learning platform.

Experiential Challenges among Undergraduate Sandwich Students on the Usage of the E-learning Platform

The research objective sought to examine the experiential challenges among undergraduate sandwich students on the usage of the e-learning platform. Respondents were asked to choose the appropriate response from a Likert scale where SA= strongly agree, N= Neutral, D= Disagree and SD= strongly disagree. The items under study are: I cannot follow the lecture using the e-learning platform due to the network beaks, I have eye burns after every online class due to closeness to the screen of my device, I find it difficult to use the e-learning platform because my device is faulty, when I am using the e-learning platform the internet is very slow, it takes time to get feedback

when I am using the platform, there is power outage when I am using the platform, I feel lonely whenever I am using the platform, it costs me more when using the platform and I lack the technology or software required for the platform at home. The results are shown in Table 19.

Table 19: Experiential challenges among Undergraduate Sandwich Students on the use of the e-learning platform

	SA	A	N	D	SD
I cannot follow the lecture using the e-learning platform due to the network breaks	52 (18.7)	99 (35.6)	52 (18.7)	59 (21.2)	16 (5.8)
I have eye burns after every online class due to closeness to the screen of my device	37 (13.3)	70 (25.2)	42 (15.1)	91 (32.7)	38 (13.7)
I find it difficult to use the e-learning platform Because my device is faulty	16 (5.8)	46 (16.5)	49 (17.6)	110 (39.6)	57 (20.5)
When I am using the e-learning, the internet is very slow	53 (19.1)	80 (28.8)	62 (22.3)	55 (19.8)	28 (10.1)
It takes time to get feedback when I am using the platform	41(14.7)	80 (28.8)	45 (16.2)	82 (29.5)	30 (10.8)
There is a power outage when I am using the platform	26 (9.4)	51 (18.3)	58 (20.9)	104 (37.4)	39 (14.0)
I feel lonely whenever I am using the platform	24 (8.6)	47 (16.9)	45 (16.2)	104 (37.4)	58 (20.9)
I t costs me more when using the platform	63 (22.7)	72 (25.9)	50 (18.0)	57 (20.5)	36 (12.9)
I lack the technology or software required for the platform at home	28 (10.1)	50 (18.0)	22 (7.9)	113 (40.6)	65 (23.4)

Source: Field Data (2021)

Table 19 above shows the various experiential challenges among undergraduate sandwich students. For further analysis, the weighted average analysis was conducted in Table 20 below.

Table 20: Weighted average analysis of the experiential challenges of the Undergraduate sandwich students

	SA	A	N	D	SD	Total
I cannot follow the lecture using the e-learning platform due to network breakages	2600	3960	1560	1180	160	9460
I have eye burns after every online class due to closeness to the screen of my device	1850	2800	1260	1820	380	8110
I find it difficult to use the e-learning platform because my device is faulty	800	1840	1470	2200	570	6880
When I am using e-learning, the internet is very slow	2650	3200	1860	1100	280	9090
It takes time to get Feedback when I am Using the platform	2050	3200	1350	1640	300	8540
There is a power outage when am using the platform	1300	2040	1740	2080	390	7550
I feel lonely whenever I am using the platform	1200	1880	1350	2080	580	7090
It costs me more when using the platform	3150	2880	1500	1140	360	9030
I lack the technology or Software required for the platform at home	1400	2000	660	2260	650	6970

Source: Field Data (2021)

Table 21 below also shows the percentage values of the weighted average analysis.

Table 21: Experiential challenges of the Undergraduate sandwich students

	SA	A	N	D	SD
I cannot follow the lecture using the e-learning platform due to network breakages	27.48	41.86	16.49	12.47	1.70
I have eye burns after every online class due to closeness to the screen of my device	22.81	34.53	15.54	22.44	4.69
I find it difficult to use the e-learning platform because my device is faulty	11.63	26.74	21.37	31.98	8.28
When I am using an e-learning platform, the internet is very slow	29.15	35.20	20.46	12.10	3.08
There is a power outage when am using the platform	17.22	27.02	23.05	27.55	5.17
I feel lonely whenever I am using the platform	16.93	26.52	19.04	29.33	8.18
It costs me more when using the platform	34.88	31.89	16.61	12.62	3.99
I lack the technology or Software required for the Platform at home	20.09	28.70	9.47	32.42	9.33

Source: Field Data (2021)

From the results in Table 21 above, it was found that approximately 28% of the respondents strongly agreed that they could not follow the lecture using the e-learning platform as a result of network breaks. Approximately 42% of the respondents agreed that they could not follow the lecture using the platform as a result of network breaks. Approximately 16% of the respondents were neutral, approximately 12% of the respondents disagreed that they could not follow the lecture as a result of network breakages and approximately 2% of the respondents strongly disagreed that they could not follow the lecture as

a result of network breakages. The results depict that a higher number of undergraduate sandwich students could not follow the lecture due to network breaks. Some participants in the focus group discussions expressed their experiences on the issue of network breakages.

They expressed that they encountered network breakages and sometimes they do hear echoing sounds during the online class which intend to distract them from communicating with the lecturer and having a successful online class. Again, an IT person also shared his expert view on the network breakages during the interview. He expressed that the slow internet connectivity and network breakages are mostly experienced by the student and not the department managing the platform. His narrative came to confirm the experience and challenges raised by the participant in the focus group discussion.

> *There are breakages all the time. You will be hearing echoes and network breakages. Sometimes when the lecturer is giving a definition for a concept, you would just hear the end and not the beginning of the definition.* (Male teacher, 32 years old, level 400, Volta Region, Post diploma degree in Basic Education).

> *"The internet connectivity is mostly not on our side it is on the students side sometimes we have internet issues, like this morning for instance we had an issue with the internet but mostly I'll say it's okay on our side unless maybe if we are at home and there's any issue someone will call you and say I have this issue I have to submit my assignment but I can't log in or something like that one you have to find a way to get internet access to help the people okay?" If you cannot find it that means they would be in trouble because they can't submit their assignment so with the internet access the issue is mostly with the student or the end user, some of*

them, especially those at far places might not have internet in their general vicinity some too would have it but the strength of the connection is low these are the main issues with the internet at least when it comes with students." (Principal IT Assistant, E-learning session, UCC).

Results from the factors influencing e-learning preference also reported that the network breakages experienced by the undergraduate sandwich students were not because of a network breakage of the institution but it was as a result of the geographic location of the undergraduate sandwich students. The results from the table alongside the narratives depict that a higher number of undergraduate sandwich students could not follow the lecture because of the network breakages of the platform. This would imply that, the implementation of the e-learning platform by the university would not be successful since the platform failed to assist students learn by carefully following the lecture. The results agree with Kibuku et.al (2020), who reported that poor quality of the internet hindered the efficiency with which e-learners undertook their e-learning activities.

Again, it was found that approximately 23% of the respondents strongly agreed that they had eye burns after every online class due to closeness to the screen of their device. Approximately 35% of the respondents agreed that they had eye burns after every online class due to closeness to the screen of their device, approximately 16% of the respondents were neutral, approximately 22% of the respondents disagreed to have had eye burns after every online class due to closeness to the screen of their device and finally, approximately 5% of the respondents strongly disagreed to have had eye burns after every online class due to closeness to the screen of their device. The

result shows that a higher number of undergraduate sandwich students experienced eye burns during the online lectures. This result would imply that implementation of the platform by the university would not be successful since a higher percentage of the students experienced eye burns while using the platform.This was in line with Octaberlina et.al (2020), who reported that e-learning processes may cause students to have physical problems such as eye strain.

Again, it was found that approximately 12% of the respondents strongly agreed to have had a challenge in using the platform due to a faulty device, approximately 27% of the respondents agreed to have also had a challenge in using the platform due to a faulty device. Approximately 21% of the respondents were neutral, 32% of the respondents disagreed to have had a challenge in using the platform due to a faulty device and approximately 8% of the respondents strongly disagreed to have also had a challenge in using the platform due to a faulty device.

Furthermore, the qualitative data (interview) was brought in to corroborate the quantitative results on the difficulty in using the platform due to faulty devices. The interviewee stated that a higher number of the undergraduate sandwich students did not use phones that were IT enabled and again lacked any IT skills necessary for the online class. Below is the narrative;

> *"So, the challenges that we had was user challenges and technical challenges. As of now we have a lot of user challenges, some don't have phones that are IT enabled, they just make phone calls, receive calls and text messages what we call 'yam phones' and you can't use it for the e-learning. We have others who have sophisticated phones but still don't have the skills needed to*

> *operate the device, all that they know is using the phone for texting i.e WhatsApp and occasionally going to Facebook but now they would need browser skills for instance how to know your address bar, how to enter a web address , so basically the user end is the challenge."* (Principal Technician, E-learning session, UCC).

The result shows that a higher number of undergraduate sandwich students used suitable devices and not faulty devices for the online lectures. This result further implies that students would have a successful online class since they possess a suitable device for the class and that the university's intention to implement the e-learning platform would also be successful.This result is in line with the findings of Yilmaz (2016), who reported that the majority of students use good and suitable devices for e-learning.

Again, it was also found that approximately 29% of the respondents strongly agreed to have experienced slow internet connectivity with the platform, approximately 35% of the respondents agreed to have also experienced slow internet connectivity with the platform, approximately 21% of the respondents were neutral. In addition, approximately 12% of the respondents disagreed to have experienced slow internet connectivity with the platform and approximately 3% of the respondents strongly disagreed to have also experienced slow internet connectivity with the platform. The result is consistent with the experiences of the participants on the slow internet connectivity of the platform. They expressed that;

> *"Sometimes the person is talking slow, which is as a result of poor network connection" (29-year-old Female Nurse, Eastern Region, level 350, BSc. Nursing)*

"For me, the only difficulty with this e-learning platform is the internet connectivity. If the internet is stable, there is no problem. Just like the face- to -face, you have a place where you can type your comments and ask questions. The lecturer is also there for you to see." (32-year-old Male teacher, level 400, Ashanti region, Post diploma degree in Basic Education)

"With internet access, the links are slow, when you raise your hand, the lecturer may not see it. The problem is the speed of the internet. If the speed is slow, you will have a problem with the communication." (30-year-old Male teacher, level 400, Volta Region, Post diploma degree in Basic Education)

The narratives above indicate that the undergraduate sandwich students experienced slow internet connectivity with the e-learning platform during the online class. The result depicts that a higher number of undergraduate sandwich students experienced slow network connections with the platform. This implies that a higher number of them would not prefer the platform due to slow network connections and as a result it would be difficult for the university to implement the platform successfully as part of its mode of delivery.These results are in line with the findings of Nguyen et al. (2020), who had reported slow internet connectivity as a challenge for the e-learning system.

It was found that approximately 24% of the respondents strongly agreed that they experienced delayed feedback with the platform, approximately 37% of the respondents agreed to have also experienced delayed feedback with the platform. Approximately 16% of the respondents were neutral, approximately 19% of the respondents disagreed to have had

delayed feedback with the platform and approximately 4% of the respondents strongly disagreed to have also had delayed feedback with the platform. The results show that a higher number of undergraduate sandwich students experienced delayed feedback during the online lectures. This implies that a higher number of the students would not prefer the platform as a result of the delayed feedback and that a successful implementation of the platform by the university would be difficult to undertake.

Again, it was found that approximately 17% of the respondents strongly agreed to have experienced a power outage during the online class, approximately 27% of the respondents agreed to have experienced power outage during the online class, approximately 23% of the respondents were neutral, approximately 28% of the respondents disagreed to had experienced power outage during the online class, approximately 5% of the respondents strongly disagreed to had experienced power outage during the online class. The results show that a higher number of them experienced a power outage during the online class. This implies that a higher number of students would not prefer the platform due to the power outage and that a successful implementation of the platform by the university authority would be difficult to carry out. This result is consistent with the findings of Ivwighreghweta and Onoriode (2012) who cited power interruptions, a lack of internet navigation abilities, and the lack of Internet facilities as e-learning platform problems. Some participants had also expressed their concern about the issue of power outage;

> *"There was a day we were having a lecture then all of a sudden then light went out at the lecturer's end and it came on again then went off again, so we had to postpone that lecture".*

(Female Nurse, 31 years old, Sunyani, level 350, BSc. Nursing)

"It is true the power outages affect us. Yesterday from 2 pm to 10 pm, there was a power outage. We were waiting for it to come so that we could charge our laptops for the online class but it never came. So, we had to force ourselves into the town where we can access power."

(33-year-old Male social worker, Takoradi, level 400, Post diploma degree in Social Behaviour and Conflict Management).

Again, it was found that approximately 17% of the total respondents strongly agreed to have felt lonely with the platform, approximately 27% of the respondents agreed to have felt lonely with the platform as well. Approximately 19% of the respondents were neutral, approximately 29% of the respondents disagreed to have felt lonely with the platform, approximately 8% of the respondents strongly disagreed to have felt lonely with the platform. The result shows that a higher number of undergraduate sandwich students did not feel lonely during the online lectures. This implies that a higher number of them could use the platform all by themselves without any assistance from colleagues and this would eventually influence their preference for the platform which in turn would ensure a successful implementation of the e-learning platform by the university. The result is in line with Thorpe and Godwin (2006), who reported that students did not feel lonely whenever they used the e-learning platform.

Also, it was found that approximately 35% of the total respondents strongly agreed that it costs them more when using the platform, approximately 32% of the respondents agreed that it costs more using the platform. Approximately 17% of the respondents were neutral, approximately

13% out of the respondents disagreed to have spent more with the platform, approximately 4% out of the respondents strongly disagreed to have spent more with the platform. This result shows that a higher number of undergraduate sandwich students spent a lot during the online lectures. This implies that a higher number of students would prefer the traditional face to face learning which would cost relatively less and this has the tendency to affect the implementation of the platform by the university.This result is in line with the findings of Adeoye, Adanikin & Adanikin (2020), who had reported that the e-learning platform costs more on the side of the user.

Finally, it was found that approximately 20% of the respondents strongly agreed that they lacked the technology or software required for the platform, approximately 29% of the respondents agreed that they lacked the technology required for the platform; approximately 9% of the respondents were neutral. Approximately 32% of the respondents disagreed with not having the technology or software required for the platform, also approximately 9% of the respondents strongly disagreed with not having the technology or software required for the platform. The result shows that a higher number of undergraduate sandwich students had the technology required for the platform. This implies that the students had prior knowledge about the platform since they had the required software for the platform which would in turn ensure a successful implementation of the platform by the university authorities as part of its mode of delivery.

Institutional Challenges of the Usage of the E-learning Platform

The goal of the study was to learn more about the University's institutional challenges in implementing and using the e-learning platform.

Experts at the E-learning and Knowledge Management were purposely selected to be the participants for this study as a result of their expert knowledge in the installation and maintenance of the Moodle platform. The interviewees were asked about the challenges they encounter during the installation, maintenance, and use of the Moodle platform. The following were the sub-themes derived from the interview: financial challenges, technical challenges, and human resource needs.

Financial Challenges

Undoubtedly, finance is one of the most crucial aspects of any organization or institution. Finance helps ensure smooth running of any organization. With regard to the study, adequate finance or financing would ensure effective and successful implementation of the e-learning platform, but with respect to the interview sessions conducted on the challenges faced by the university, it was discovered that the installation and maintenance of the platform comes with a cost and these costs are supposed to be catered for by the University Authority. The participants expressed that one of the major issues facing the IT section which handles e-learning is financial. They explained that the lack of funds and similar financial resources has made the operation of the system difficult. they needed applications, hardware, and plug-ins for the smooth running of the platform but again stated that it becomes difficult to get funds from the management of the University to purchase these technological tools. They explained that the installation and maintenance come with a cost and these costs are supposed to be catered for by the University Authority. But very often the leader of the IT section ends

up using their own money to fund this application which they mostly do not get a refund for

> "...*We need applications and plug-ins but the university is not providing any money for that. Sometimes when we ask for money, it appears you are just taking the money to spend it. We have even asked the university to provide us with a credit card or a debit card that can help us do all these purchases but to no avail… these are some financial challenges we sometimes face"* (Principal ICT Assistant)

> *"The first one would have to be financing. financing in a sense that there are at times the servers will need to be uploaded but when we request for money for these purchases, the university would tell us to wait because there is no money so we would just have to wait until there is a miracle."*
> (Principal ICT Assistant 2)

It was discovered that a successful implementation of the e-learning platform at the University of Cape Coast would depend on the financial challenges the institution is facing now. If these challenges are dealt with it would influence the preference of the undergraduate sandwich students for the e-learning platform. It implies that the university is still at an infant stage so far as the implementation of the platform is concerned. These findings are in line with Zhang et al. (2002), Tyan (2003) and Cantoni et al. (2004) who reported that the financial factor, plays an important and critical role in the management of the e-learning system.

Technical Challenges

The technical capabilities of any information system are critical to the overall performance of the system. Due to technological advancements,

organizations are now reshaping their activities and making it more integrated and streamlined .To ensure effective and smooth running of any organization's system, there is need to have a more reliable technical and technological tools for operation. With regard to the study, a reliable technical and technological system would ensure a successful and smooth running of the e-learning platform, however it was discovered that the e-learning platform had some technical challenges such as poor internet connection from their internet service provider resulting in ineffective teaching and learning . Thus, in such a situation, students might have good internet connections but if the institution is experiencing a poor internet connection as a result of a bad network connection from their internet service provider, then it would affect the use of the e-learning platform. They stated:

> *"Technical challenges would look at circumstances where the network goes down ...There are times you would be there and the network will go off. So, we would have to check if it's from our side or our internet service provider ... Another one is also Cybersecurity ... (Principal technician)*

> *"Yes, for example when your service provider is down, for instance, Vodafone supplies us with the internet, so when Vodafone is down, basically it means we are also down. So, there are times that the student end might have internet access but at our end, there wouldn't be any internet connection because the one providing it is down." (Principal ICT Assistant 2).*

This implies that there is the issue of technical challenges which may affect the preference of undergraduate sandwich students which would in turn affect the implementation of the platform as part of the university's mode of delivery. That is if students feel that the e-learning platform would not be easy to access as a result of the technical challenges then they would not prefer to

use it. These findings support those of Cantoni et al (2004), and Rezaei Mood (2006) who reported technical resources are one of the sustainable implementation dimensions of e-learning.

Human resource needs

Human resource is very critical in the management of any organization. Sufficient or adequate human resource in any organization or institution plays a pivotal role as far the productivity is concerned. With regard to the study, adequate human resource would ensure effective implementation of the platform, however the study discovered that the institution's IT section had human resources needs specifically trained and experienced technicians. These experts had mentioned that, the system has been in place for some time now and has become more useful that they seek extra hands. They emphasised that not just anybody with a four-year degree programme in computer science or ICT could operate the system but people with an expert understanding of how to use an e-learning platform and its application to help run the e-learning platform. Consequently, they need more people with expert knowledge on the implementation of e-learning platforms so that other personnel can specialise on other areas such as administrative or technical to help in the smooth running of the e-learning platform. They expressed:

> "*Just as I talked about earlier, with every application you need to study it …, even though the university has been using the platform for some time now, I think the actual sign up of all students was when the pandemic came in. But we don't have enough personnel to help run the system. One can have a degree in IT or computer science but this is a specific application we are dealing with. So, in one way or the other one requires a form of training before one can implement such an application."* (*Principal Technician).*

> *"We are not okay, ideally, we have to get departmental administrators so that they handle the challenges at the various colleges and faculties so that if the challenges are beyond them, they could come to the technical level, but we double as the administrators and as technical workers as well. we still need people with IT, technical skills and most of the time not people with just four-degree speciality but people with some extra training in different areas like word programming, system administration, network, security, adverse skill set."*
> *(Principal ICT Assistant)*

These findings implies that the e-learning session at the University of Cape Coast needs more IT experts to help in the daily management of the e-learning platform to ensure a smooth running of the system ensure effective teaching and learning on the Moodle Platform and that the university is still at the infant stage of implementing the platform for effective teaching and learning. These findings are in line with Leary and Berge (2006), who report that qualified IT personnel was very critical to the implementation of the e-learning platform.

Chapter Summary

The study found that more undergraduate sandwich students favoured face-to-face learning over other learning techniques. The preference for the e-learning platform among undergraduate sandwich students was found to be influenced by the perceived usefulness and perceived ease of use. The study also revealed that a higher percentage of undergraduate sandwich students faced technological difficulties, such as network and power outages and sluggish internet connectivity. The study revealed that the University of Cape

Coast had challenges with finance, technical challenges, and insufficient human resource.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introduction

The study's main goal was to investigate undergraduate sandwich students' preferences and challenges associated with the use of the e-learning system. The study focused on students' preferences, as well as the factors that influence their preferences, again the obstacles that the institution and students experience when using the e-learning platform was also considered. This section comprises an overview of the entire project, as well as the study's results and applicable suggestions based on the data analysis, which will be used to inform policy formation and execution. This section also includes suggestions for further investigation.

Summary

This research has been swayed by the aim to examine the preference and challenges with the use of e-learning platforms among undergraduate sandwich students at the University of Cape Coast. The specific objectives that guided the study are to:

- To determine the level of preference for e-learning platforms among the undergraduate sandwich students.
- To assess the conditions that influence the level of preference for e-learning platforms among the Undergraduate sandwich students.
- To explore student experiential challenges of the usage of e-learning platforms.
- To explore the institutional challenges of the usage of e-learning platforms.

The study adopted the explanatory sequential mixed-method design. The population considered for the study was thousand and sixty-four (1064) undergraduate sandwich students. From a population of 1064 undergraduate sandwich students, a sample of two and seventy-eight (278) students were chosen for the study through the Cochran (1977) sample size table. Questionnaires were utilised to gather information from respondents on the types of learning modes they prefer, some conditions influencing their preference and the challenge they face using the Moodle platform. Iinterviews were conducted with a Principal technician and two Principal ICT Assistants at the E-learning and Knowledge Management session. Descriptive statistics (frequency, percentages), weighted average analysis, phenomenological analysis, and a non-parametric test, specifically the Kruskal Wallis test and thematic analysis were used to examine the data.

Again, the demographic characteristics have indicated that the majority of the respondents in this study were females, with a higher number of them relatively younger and in their second year. The distribution again showed that a higher number of them were married, with a higher percentage of them being teachers with a higher number of them living in the coastal belt

Findings

The summary of data gathered on the preference and challenges of e-learning platforms among undergraduate sandwich students at the University is as follows: The key findings are as follows per the objectives of the study

- In terms of the factors influencing the use of the e-learning platform, it was found that the majority of the respondents had already taken an online class before, and a higher number of them preferred to stay

home, with the majority of them using smartphones with mobile data pack as their preferred source of the internet with the majority of them using MTN as their preferred mobile network and finally the majority of them spent on the average three (3) hours in a day using reading materials on the e-learning platform all by themselves.

- In terms of the preference level of the undergraduate sandwich students, the study revealed that a higher number of the undergraduate sandwich students preferred face-to-face to the other learning modes.

Additional information on the preference level of the Undergraduate sandwich students for the e-learning platform is as follows:

- Concerning the degree of preference for the e-learning platform, it was found that a higher number of the undergraduate sandwich students preferred face-to-face learning due to the poor network connections of the e-learning platform, with a few of them preferring online learning due to the distance to be travelled to campus.
- In terms of conditions influencing the preference and non –preference for the e-learning platform, it was found that a higher number of Undergraduate sandwich students preferred the e-learning platform because of its perceived usefulness and perceived ease of use of the platform.
- In terms of the experiential challenges of the Undergraduate sandwich students, it was found that a higher number of them experienced technological challenges such as network breakages and slow internet connectivity.

- In terms of the non- parametric test on conditions influencing preference for the Moodle Platform, it was found that the age, gender and marital status of the user did not influence the perceived ease of use and perceived usefulness of the platform.
- In terms of institutional challenges faced with the implementation of the e-learning platform, the study found that the institution had a challenge with finance, technical challenges, and insufficient human resource.

Conclusions

The goal of the study was to find out what undergraduate sandwich students at the University appreciate about using an e-learning platform and what problems they face when doing so. According to the results of the poll, a higher percentage of undergraduate sandwich students favoured face-to-face learning over other learning modes for effective teaching and learning.

Second, it can be concluded that perceived usefulness and perceived simplicity of use are the factors that influenced students' preferences for and against the e-learning platform.

Again, the findings from the research show that a higher number of undergraduate sandwich students experienced technological challenges such as network breakages and slow internet connectivity.

Finally, the findings from the research show that the institution in their attempt to ensure a successful implementation of the e-learning platform had a challenge with finance, technical challenges and insufficient human resource.

Recommendations

The following recommendations are made based on the study's results and conclusions. The Management of the University of Cape Coast should ensure strong and secured internet connections to avoid network breaks and delayed feedback during the online lecture. As it has been revealed in this study as a major challenge to the successful implementation of the e-learning platform.

The management of the University of Cape Coast should provide training necessary for developing the undergraduate sandwich students' electronic capacities, in order to enhance their preparation, knowledge and behavioral intention towards the e-learning platform . As it has been shown in this study to impede the preference for the platform.

Finally, the management of the University should provide funds to the e-learning and knowledge management section to help secure the applications, plug-ins and servers needed for a successful implementation of the Moodle platform for effective teaching and learning. Again, more skilled ICT personnel should be employed to help assist in the installation, maintenance, and management of the Moodle platform for effective teaching and learning at the university.

Suggestions for Further Research

This research was carried out to learn more about the preference and challenges of the e-learning platform among undergraduate sandwich students in the University, subsequent researchers can find out about the preference and challenges of the e-learning platform among lecturers at the University of

Cape Coast, to know more about the reasons behind lecturers preferring the e-learning platform and challenges they face using the platform to teach.

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APPENDICES

APPENDIX A

INTERVIEW GUIDE: IT EXPERTS (E-LEARNING)

Demographic characteristics

Gender ……..

Age ……

Level of Education…….

Position ……..

Years of working ……

Historical background……..

- **Implementation and Use of E-learning platform**
- What is e-learning
- Can you tell me some types of e-learning platforms?
- What type of e-learning platform is the university currently using and why?
- What goes into the installation of the e-learning platform in the university? Probe
- Do you do some kind of maintenance on the e-learning platform? Probe

- **Institutional challenges**
- Can you tell me some strength and weakness of the e-learning platform the university is using?
- Did you face any financial challenges with the implementation of the e-learning platform? Probe
- Can you tell me some technical challenges as well? Probe
- Are there any challenges with respect to human labor requirement or IT persons?
- Are there any challenges with respect to getting resource from the school authorities?

APPENDIX B

UNIVERSITY OF CAPE COAST

COLLEGE OF HUMANITIES AND LEGAL STUDIES

FACULTY OF SOCIAL SCIENCES

DEPARTMENT OF SOCIOLOGY AND ANTHROPOLOGY

QUESTIONNAIRE ON THE USE OF E-LEARNING PLATFORMS AMONG UNDERGRADUATE SANDWICH STUDENTS IN THE UNIVERSITY OF CAPE COAST

I am a 2nd year M.Phil. Student at the university of Cape coast conducting studies on the use of e-learning platform among undergraduate sandwich students at the university of Cape coast. This questionnaire is designed to better examine the use of e-learning platforms among the undergraduate sandwich students of the University of Cape Coast. Your participation in this study will contribute greatly to the success of this research. All information provided will be kept confidential. Please respond to the item on the questionnaire by ticking and writing where necessary.

SECTION A: BACKGROUND INFORMATION

- Gender: Male [ ] Female [ ]
- Age: 20- 30 [ ]
  31 -40 [ ]
  41 –50 [ ]
  51 – 60 [ ]
- Program level: 350 [ ]
  400 [ ]
- Marital status: Married [ ]
  Single [ ]
  Divorced [ ]
  Widowed [ ]
- Occupation …….
- Location ……..

USE OF E-LEARNING PLATFORMS IN THE UNIVERSITY OF CAPE COAST

7. This year is my first time taking an online class?

Yes [ ]

No [ ]

8. Device used for the e-learning

Smartphone [ ]

Laptop [ ]

Smartphone and Laptop [ ]

Tablet [ ]

Desktop [ ]

- Where do you reside during the online class?

Campus [ ]

Place of work [ ]

Home [ ]

Other specify……..

- What is your Source of internet for the online class?

LAN [ ]

Mobile data pack [ ]

Wi-Fi [ ]

- What mobile network is used for the e-learning?

MTN [ ]

Vodafone [ ]

Aiteltigo [ ]

Glo [ ]

Other specify ……..

- What is the nature of course material?

Reading material [ ]

Video content alongside reading material [ ]

- What is the average number of hours spent in a day for lectures?

1hour [ ]

2hours [ ]

3 hours [ ]

- How many people are involved at a time using the e-learning platform

Lone usage [ ]

Group usage [ ]

SECTION B: PREFERENCE FOR E-LEARNING PLATFORM

(Please tick the appropriate response to determine preference level for the following learning modes (Online learning, Face to Face learning, Both online and face to face learning) from the questions below.

- Which of these learning modes would you prefer in terms of comprehensive and in-depth learning?

Online learning [ ] Face to Face [ ] both online and face to face Learning [ ]

- Which of these learning modes would you prefer to help you remember into details whatever you learn?

Online learning [ ] Face to Face [ ] both online and face to face Learning [ ]

- Which of these learning modes would you prefer to help you learn and understand the course materials?

Online learning [ ] Face to Face [ ] both online and face to face Learning [ ]

- Which of these learning modes would you prefer to help you learn better?

Online learning [ ] Face to Face [ ] both online and face to face learning [ ]

- Which of these learning modes would you prefer to help you get feedback from tutors easily?

Online learning [ ] Face to Face [ ] both online and face to face learning [ ]

- Which of these learning modes would you prefer to help you to remember discussions easily?

Online learning [ ] Face to Face [ ] both online and face to face learning [ ]

- Which of these learning modes would you prefer to help you to easily contribute during lectures?

Online learning [ ] Face to Face [ ] both online and face to face learning [ ]

- Which of these learning modes would you prefer to help you save time and cost for effective learning?

Online learning [ ] Face to face [ ] both online and face to face learning [ ]

- Looking at your computer literacy skills, which of these learning modes would you prefer

Online learning [ ] Face to Face learning [ ] both online and face to face learning [ ]

- Looking at your work schedule, which of these learning modes would you prefer

Online learning [ ] Face to Face learning [ ] both online and face to face learning [ ]

- Looking at the cost involved, which of these learning modes would you prefer

Online learning [ ] Face to Face learning [ ] both online and face to face learning [ ]

- Looking at the distance to be travelled from your home residence to campus, which of these learning modes would you prefer

Online learning [ ] Face to Face learning [ ] both online and face to face learning [ ]

LEVEL OF PREFERENCE

Choose the appropriate response, from a scale of 1- 10 how would rate the preference for the learning modes; online learning only, face to face only, both online and face to face learning. If you do not prefer a particular learning mode, choose no response [N/R]

If you prefer Online learning only, choose from a scale 1 – 10 your level of preference

1[ ] 2 [ ] 3[ ] 4 [ ] 5 [ ] 6 [ ] 7 [ ] 8 [ ] 9 [ ] 10 [ ] N/R [ ]

If you prefer Face to Face learning only, choose from a scale of 1- 10 your level of preference

1[ ] 2 [ ] 3[ ] 4 [ ] 5 [ ] 6 [ ] 7 [ ] 8 [ ] 9 [ ] 10 [ ] N/R [ ]

If you prefer both online and face to face learning mode, choose from a scale of 1- 10 your level of preference

1[ ] 2 [ ] 3[ ] 4 [ ] 5 [ ] 6 [ ] 7 [ ] 8 [ ] 9 [ ] 10 [ ] N/R [ ]

SECTION C: CONDITIONS THAT INFLUENCE PREFERENCE FOR E-LEARNING PLATFORMS

(Please tick the appropriate response from the Likert scale where SA=strongly agree, A= Agree, N= Neutral, D= Disagree, SD= strongly disagree). The items are categorised into perceived ease of use, perceived usefulness, technical availability, self-discipline and computer literacy respectively.

Statement CPREFERENCE)	SA	A	N	D	SD
• I prefer studying through the e-learning mode because I am able to understand the courses very well					
• I prefer the platform because I can easily access learning materials on the platform					
• I prefer the platform because it is user friendly					
• I prefer the platform because it gives me easy access to past questions for my courses					
• I prefer the e-learning platform because it allows me to study					

irrespective of my location					
• I prefer the platform because I can listen and take notes with ease during the online lecture					
• I prefer the platform because I can easily submit my reports and assignments to the lecturer with ease					
• I prefer the platform because it helps me to freely ask questions in spite of my shyness					
• I prefer the platform because learning through the platform is done at my own comfort and pace					
• I prefer the platform because it has increased my computer literacy skills					

Statement (NON-PREFERENCE)	SA	A	N	D	SD
• I do not prefer the platform because I am not able to understand the courses very well through the e-learning mode					
• I do not prefer the platform because I cannot access learning materials on the platform					
• I do not prefer platform because it is not user friendly					
• I do not prefer the platform because there is no space for past questions for my courses					
• I do not prefer the e-learning platform because it hinders my studies irrespective of my location					
• I do not prefer the platform because I am unable to make notes at the lecturer's talking pace					
• I do not prefer the platform					

because I am unable to submit my reports and assignments					
• I do not prefer the platform because I am unable to ask questions during lectures					
• I do not prefer the platform because I am unable to learn at my own comfort and pace					
• I do not prefer the platform because it has not added any value to my computer literacy					

SECTION D: EXPERIENTIAL CHALLENGES AMONG UNDERGRADUATE SANDWICH STUDENTS ON THE USAGE OF THE E-LEARNING PLATFORM

(Please tick the appropriate response from the Likert scale where SA=strongly agree, A= Agree, N=Neutral, D= Disagree, SD= strongly disagree)

Statement	SA	A	N	D	SD
• I cannot follow the lecture using the e-learning platform due to the network breaks					
• I have eye burns after every online class due to closeness to the screen of my device					
• I find it difficult to use the e-learning platform because my device is faulty					
• When I am using the e-learning platform, the internet is very slow					
• It takes time to get feedback when I am using the platform					
• There is power outage when I am using the platform					
• I feel lonely whenever I am using the platform					
• It costs me more when using the platform					
• I lack the technology or software required for the platform at home					

APPENDIX C

FOCUS GROUP DISCUSSION: UNDERGRADUATE SANDWICH STUDENT

Demographic characteristics

Gender ……..

Age ……

Program Level……..

Marital status ……

Occupation ……

A. USAGE OF E-LEARNING

- To you what do you think e-learning is
- Do you know any e-learning platform?
- What is the device used for the e-learning?
- Location used for the e-learning and why
- Source of internet used for the e-learning and why
- What mobile network is used for the e-learning and why

B. PREFERENCE FOR E-LEARNING PLATFORM

- As a student, how does your experience of online educational programs compare with traditional in - class instruction? How do you like or dislike it (preference level) and why (whether flexibility, time management , reduction of cost , teaching efficiency)
- As a student, tell me about your technical skills to use the platform (perceived ease of use, computer literacy skills)
- As a student, tell me how the e-learning platform has improved your performance (perceived usefulness)

C. CONDITIONS INFLUENCING PREFERENCE

- As a student, tell me about the cost effectiveness of the platform
- As a student, tell me about how friendly the platform is
- As a student, do you think your learning style can be a challenge of using the platform

(Whether you are visual, auditory, reading and kinesthetic learner)

D. CHALLENGES OF THE PLATFORM

Institutional challenges

- Tell me about the slow network connectivity you face during the online lecture?
- Tell me how power outage affects your studies?

Student experiential challenges

- tell me about your computer literacy skills and how it affects your usage of the platform?

(eg, power outage)

APPENDIX D

	SA	A	N	D	SD	TOTAL
I don't prefer the platform Because it doesn't helps me to Understand the courses Very well	33(50) =1650	80(40) =3200	61(30) =1830	55(20) =1100	49(10) =490	8270
I don't prefer the platform Because it doesn't helps me To easily access learning Materials on the Platform	05(50) =250	42(40) =1680	35(30) =1050	21(20) =2420	5(10) =750	6150
I don't prefer the platform Because it isn't user Friendly	10(50) =500	32(40) =1280	23(30) =690	122(20) =2440	91(10) =910	5820
I don't prefer the platform Because it has no space for Past questions	41(50) =2050	89(40) =3560	29(30) =870	65(20) =1300	54(10) =540	8320
I don't prefer the platform Because I can't study Irrespective of their Location	19(50) =950	35(40) =1400	24(30) = 720	112(20) =2240	88(10) =880	6190
I don't prefer the platform Because I can't listen And take notes with ease	21(50) =1050	61(40) =2440	37(30) =1110	88(20) =1760	71(10) =710	7070
I don't prefer the platform Because I can't easily Submit my reports and Assignments	16(50) =800	54(40) =2160	33(30) =990	112(20) =2240	63(10) =630	6820

I don't prefer the platform Because I can't freely Ask questions in spite Of my shyness	08(50) =400	46(40) =1840	39(30) =1170	100(20) =2000	85(10) =850	6260
I don't prefer the platform Because learning isn't done at my own comfort and Pace	06(50) =300	40(40) =1600	44(30) =1320	109(20) =2180	79(10) =790	6190
I don't prefer the platform Because it has not added any Value to my computer literacy Skills	05(50) =250	27(40) =1080	29(30) =870	118(20) =2360	99(10) =990	5550

Source: Field Data (2021)

APPENDIX E

	SA	A	N	D	SD
I prefer studying through the platform because I helps me to understand the courses very well	3950/8660×100 =45.61	800/8660×100 =9.23	1980/8660×100 =22.86	1600/8660×100 =18.47	330/8660×100 =3.81
I prefer the Platform I can easily access learning Materials on the Platform	3500/10490×100 =33.36	5040/10490×10 =48.05	1020/10490×100 =9.72	900/10490×100 =8.58	30/10490×100 =0.29
I prefer the platform because it is user friendly	4000/10750×100 =37.21	5360/10750×100 =49.86	630/10750×100 =5.86	660/10750×100 =6.14	100/10750×100 =0.93
I prefer the platform because it gives me access to past questions for my courses	2600/8390×100 =30.99	2760/8390×100 =32.90	930/8390×100 =11.08	1680/8390×100 =20.02	420/8390×100 =5.00
I prefer the e-learning platform because it allows me to study irrespective of my location	3950/10360×100 =38.13	4760/10360×100 =45.95	690/10360×100 =6.66	780/10360×100 =7.53	180/10360×100 =1.74
I prefer the platform because I can listen and take notes with ease during the online lecture	2950/9470×100 =31.15	3880/9470×100 =40.97	1110/9470×100 =11.72	1360/9470×100 =14.36	170/9470×100 =1.79
I prefer the platform because I can easily submit my reports and assignments to the lecturer with ease	3150/9800×100 =32.14	4360/9800×100 =44.49	1020/9800×100 =10.41	1100/9800×100 =11.22	170/9800×100 =1.73
I prefer the platform because it helps me to freely ask questions in spite of my shyness	3750/10380×100 =36.13	4600/10380×100 =44.32	1110/10380×100 =10.70	820/10380×100 =7.90	100/10380×100 =0.96
I prefer the platform because learning through the Platform is done at my own Comfort and Pace	3500/10090×100 =34.69	4400/10090×100 =43.61	1350/10090×100 =13.38	780/10090×100 =7.73	60/10090×100 =0.60
I prefer the platform Because it has increased my computer literacy skills	4900/11220×100 =43.67	4840/11220×100 =43.14	990/11220×100 =8.82	460/11220×100 =4.01	30/11220×100 =0.27

Source: Field Data (2021)

APPENDIX F

	SA	A	N	D	SD	TOTAL
I don't prefer the platform Because it doesn't helps me to Understand the courses Very well	33(50) =1650	80(40) =3200	61(30) =1830	55(20) =1100	49(10) =490	8270
I don't prefer the platform Because it doesn't helps me To easily access learning Materials on the Platform	05(50) =250	42(40) =1680	35(30) =1050	121(20) =2420	75(10) =750	6150
I don't prefer the platform Because it isn't user Friendly	10(50) =500	32(40) =1280	23(30) =690	122(20) =2440	91(10) =910	5820
I don't prefer the platform Because it has no space for Past questions	41(50) =2050	89(40) =3560	29(30) =870	65(20) =1300	54(10) =540	8320
I don't prefer the platform Because I can't study Irrespective of their Location	19(50) =950	35(40) =1400	24(30) = 720	112(20) =2240	88(10) =880	6190
I don't prefer the platform Because I can't listen And take notes with ease	21(50) =1050	61(40) =2440	37(30) =1110	88(20) =1760	71(10) =710	7070
I don't prefer the platform Because I can't easily Submit my reports and Assignments	16(50) =800	54(40) =2160	33(30) =990	112(20) =2240	63(10) =630	6820
I don't prefer the platform Because I can't freely Ask questions in spite Of my shyness	08(50) =400	46(40) =1840	39(30) =1170	100(20) =2000	85(10) =850	6260
I don't prefer the platform Because learning isn't done At my own comfort and Pace	06(50) =300	40(40) =1600	44(30) =1320	109(20) =2180	79(10) =790	6190

APPENDIX G

	SA	A	N	D	SD
I don't prefer the platform Because it doesn't helps me to Understand the courses Very well	1650/8270×100 =19.95	3200/8270×100 =38.69	1830/8270×100 =22.13	1100/8270×100 =13.30	490/8270×100 =5.93
I don't prefer the platform Because it doesn't helps me To easily access learning Materials on the Platform	250/6150×100 =4.07	1680/6150×100 =27.32	1050/6150×100 =17.07	2420/6150×100 =39.35	750/6150×100 =12.20
I don't prefer the platform Because it isn't user Friendly	500/5820×100 =8.59	1280/5820×100 =21.99	690/5820×100 =11.86	2440/5820×100 =41.92	910/5820×100 =15.64
I don't prefer the platform Because it has no space for Past questions	2050/8320×100 =24.64	3560/8320×100 =42.79	870/8320×100 =10.46	1300/8320×100 =15.63	540/8320×100 =6.50
I don't prefer the platform Because I can't study Irrespective of their Location	950/6190×100 =15.35	1400/6190×100 =22.62	720/6190×100 =11.63	2240/6190×100 =36.19	880/6190×100 =14.22
I don't prefer the platform Because I can't listen And take notes with ease	1050/7070×100 =14.85	2440/7070×100 =34.51	1110/7070×100 =15.70	1760/7070×100 =24.90	710/7070×100 =10.04
I don't prefer the platform Because I can't easily Submit my reports and Assignments	800/6820×100 =11.73	2160/6820×100 =31.67	990/6820×100 =14.51	2240/6820×100 =32.84	630/6820×100 =9.23
I don't prefer the platform Because I can't freely Ask questions in spite Of my shyness	400/6260×100 =6.39	1840/6260×100 =29.39	1170/6260×100 =18.69	2000/6260×100 =31.95	850/6260×100 =13.58
I don't prefer the platform Because learning isn't done At my own comfort and Pace	300/6190×100 =4.84	1600/6190×100 =25.85	1320/6190×100 =21.32	2180/6190×100 =35.22	790/6190×100 =12.76
I don't prefer the platform Because it has not added any Value to my computer literacy Skills	250/5550×100 =4.50	1080/5550×100 =19.50	870/5550×100 =15.68	2360/5550×100 =42.52	990/5550×100 =17.84

Source: Field Data (2021)

APPENDIX H

	SA	A	N	D	SD	Total
I cannot follow the lecture using the e-learning platform due to network breakages	52(50) =2600	99(40) =3960	52(30) =1560	59(20) =1180	16(10) =160	9460
I have eye burns after Every online class due To Closeness to the screen Of My device	37(50) =1850	70(40) =2800	42(30) =1260	91(20) =1820	38(10) =380	8110
I find it difficult to use The E-learning platform Because my device is faulty	16(50) =800	46(40) =1840	49(30) =1470	110(20) =2200	57(10) =570	6880
When I am using the E-learning, the internet is Very slow	53(50) =2650	80(40) =3200	62(30) =1860	55(20) =1100	28(10) =280	9090
It takes time to get Feedback when I am Using the platform	41(50) =2050	80(40) =3200	45(30) =1350	82(20) =1640	30(10) =300	8540
There is power outage When I am using the Platform	26(50) =1300	51(40) =2040	58(30) =1740	104(20) =2080	39(10) =390	7550
I feel lonely whenever I Am using the platform	24(50) =1200	47(40) =1880	45(30) =1350	104(20) =2080	58(10) = 580	7090
It costs me more when Using the platform	63(50) =3150	72(40) =2880	50(30) =1500	57(20) =1140	36(10) =360	9030
I lack the technology or Software required for the Platform at home	28(50) =1400	50(40) =2000	22(30) =660	113(20) =2260	65(10) = 650	6970

Source: Field Data (2021)

APPENDIX I

	SA	A	N	D	SD
I cannot follow the lecture using the e-learning platform due to network breakages	2600/9460×100 =27.48	3960/9460×100 =41.86	1560/9460×100 =16.49	1180/9460×100 =12.47	160/9460×100 =1.70
I have eye burns after Every online class due To Closeness to the screen Of My device	1850/8110×100 =22.81	2800/8110×100 =34.53	1260/8110×100 =15.54	1820/8110×100 =22.44	380/8110×100 =4.69
I find it difficult to use The E-learning platform Because my device is faulty	800/6880×100 =11.63	1840/6880×100 =26.74	1470/6880×100 =21.37	2200/6880×100 =31.98	570/6880×100 =8.28
When I am using the E-learning, the internet is Very slow	2650/9090×100 =29.15	3200/9090×100 =35.20	1860/9090×100 =20.46	1100/9090×100 =12.10	280/9090×100 =3.08
There is power outage When I am using the Platform	1300/7550×100 =17.22	2040/7550×100 =27.02	1740/7550×100 =23.05	2080/7550×100 =27.55	390/7550×100 =5.17
I feel lonely whenever I Am using the platform	1200/7090×100 =16.93	1880/7090×100 =26.52	1350/7090×100 =19.04	2080/7090×100 =29.33	580/7090×100 =8.18
It costs me more when using the platform	3150/9030×100 =34.88	2880/9030×100 =31.89	1500/9030×100 =16.61	1140/9030×100 =12.62	360/9030×100 =3.99
I lack the technology or Software required for the Platform at home	1400/6970×100 =20.09	2000/6970×100 =28.70	660/6970×100 =9.47	2260/6970×100 =32.42	650/6970×100 =9.33

Source: Field Data (2021)

APPENDIX J

INFORMED CONSENT FORMS

THE USE OF E-LEARNING PLATFORMS AMONG UNDERGRADUATE SANDWICH STUDENTS: PREFERENCE AND CHALLENGES AT THE UNIVERSITY OF CAPE COAST

JOSEPH SARPONG ARTHUR
DEPARTMENT OF SOCIOLOGY AND ANTHROPOLOGY,
UNIVERSITY OF CAPE COAST, CAPE COAST; GHANA

INFORMED CONSENT FOR ADULTS

PART I: INFORMATION SHEET

Title: [**The use of e-learning platform among undergraduate sandwich students: preference and challenges at the University of Cape coast]**
Principal Investigator: [**Joseph Sarpong Arthur]**
Address: **Department of Sociology and Anthropology, University of Cape Coast, Cape Coast]**

General Information about Research

The main objective of the study is to examine the prospects and challenges associated with the use of e-learning platforms among undergraduate sandwich students from the University of Cape Coast. The findings from this study will inform policy makers and other interested stakeholders especially the University Board in their efforts to integrate technology in Education, again the findings would help in the achievement of the Sustainable Development Goal 4 which seeks to ensure Quality Education.

Procedures

In-depth interviews

To find answers to the research questions, I invite you to take part in this research. If you accept, you will be required to participate in an interview with myself [Arthur Joseph Sarpong] as the researcher. You are being invited to participate in this research because as a resourceful participant in the e-learning section of the university, I believe that your expertise would help me understand the challenges the institution face with the use of the e-learning platform.

The interview is expected to last for 40 minutes. With your permission, the interview will be tape recorded, but you will not be identified by any person or group not directly related to the research with name or on the tape. Additionally, the tape will be kept in a secured folder personally by the

researcher and the data will be deleted entirely after they have been transcribed and the research report prepared.

If you do not wish to answer any of the questions asked during the interview, you may say so and the interview will move on to the next questions. The interview will take place in a location of your choice as a research participant, and no one else but the interviewer will be present. The information recorded will be considered confidential and no one else except the researcher (Joseph Sarpong Arthur) will have access to the information documented during the interview.

Possible Risks and Discomforts

There is no possible risk to you from your participation in this study. I shall safeguard the confidentiality of information. The information collected from you will not be made available to other people who are not directly involved in this study and therefore, your participation and information will remain confidential.

Possible Benefits

The information you provide during the interviews will be useful in examining the use of the e-learning platform among the undergraduate sandwich students in the University of Cape Coast. The information you provide will contribute to knowledge by unravelling the challenges associated with the use of the e-learning platform and again will be very essential to all stakeholders such as the undergraduate sandwich students, the Ghana Education Service and the entire nation at large.

Confidentiality

The information that you share with me will be kept confidential; it will be used strictly for research only. The information given in the interviews will be limited to only the researcher. Under no circumstance will anyone who is not directly involved in this research be allowed to access the information that I obtain from you. This consent form will be kept separate from the research instrument and will be destroyed after a year. The recorded and transcribed responses will be kept under lock. The transcribed responses will be destroyed one year after the completion of the study.

Compensation

There will be no compensation in participating in this study. However, the final results of this study will be shared with you to enlighten you on the institutional challenges faced by the University.

Voluntary Participation and Right to Leave the Research

Participation in this research is highly voluntary. As a participant, you can therefore withdraw without any form of penalty.

Contacts for Additional Information

The research project is under the responsibility of Dr. (Mr.) John Windie Ansah (University of Cape Coast), to whom any additional information or complaint can be addressed. He can be contacted on 0244981048.

You can as well contact the researcher (Joseph Sarpong Arthur) on 0508956275 for any additional information.

Your rights as a Participant

This research has been reviewed and approved by the Institutional Review Board of University of Cape Coast (UCCIRB). If you have any questions about your rights as a research participant you can contact the Administrator at the IRB Office between the hours of 8:00 am and 4:30 p.m. through the phone lines 0558093143/0508878309 or email address: irb@ucc.edu.gh.

PART II: VOLUNTEER'S AGREEMENT

The above document describing the benefits, risks and procedures for the research title ***(The use of e-learning platform among undergraduate sandwich students: preference and challenges at the University of Cape coast)*** has been read and explained to me. I have been given an opportunity to have any questions about the research answered to my satisfaction. I agree to participate as a volunteer.

Volunteer's Name: ……

Volunteer's Mark/Thumbprint…….

Date: **……**

If volunteer cannot read the form themselves, a witness must sign here:

I was present while the benefits, risks and procedures were read to the volunteer. All questions were answered and the volunteer has agreed to take part in the research.

Witness's Name: ……

Witness's Mark/Thumbprint: ……

Date: ……

I certify that the nature and purpose, the potential benefits, and possible risks associated with participating in this research have been explained to the above individual.

Researcher's Name: ……...

Researcher's Signature: ……. ……..

Date: **…….**

APPENDIX K

ETHICAL CLEARANCE

UNIVERSITY OF CAPE COAST

INSTITUTIONAL REVIEW BOARD SECRETARIAT

TEL: 0558093143 / 0508878309
E-MAIL: irb@ucc.edu.gh
OUR REF: UCC/IRB/A/2016/1372
YOUR REF:
OMB NO: 0990-0279
IORG #: IORG0009096

23RD MAY, 2022

Mr. Joseph Sarpong Arthur
Department of Sociology and Anthropology
University of Cape Coast

Dear Mr. Arthur,

ETHICAL CLEARANCE – ID (UCCIRB/CHLS/2021/82)

The University of Cape Coast Institutional Review Board (UCCIRB) has granted Provisional Approval for the implementation of your research **The use of E-learning Platform among Undergraduate Sandwich Students in the University of Cape Coast.** This approval is valid from 23rd May, 2022 to 22nd May, 2023. You may apply for a renewal subject to submission of all the required documents that will be prescribed by the UCCIRB.

Please note that any modification to the project must be submitted to the UCCIRB for review and approval before its implementation. You are required to submit periodic review of the protocol to the Board and a final full review to the UCCIRB on completion of the research. The UCCIRB may observe or cause to be observed procedures and records of the research during and after implementation.

You are also required to report all serious adverse events related to this study to the UCCIRB within seven days verbally and fourteen days in writing.

Always quote the protocol identification number in all future correspondence with us in relation to this protocol.

Yours faithfully,

Samuel Asiedu Owusu, PhD
UCCIRB Administrator

ADMINISTRATOR
INSTITUTIONAL REVIEW BOARD
UNIVERSITY OF CAPE COAST