COMPARING FACE-TO-FACE AND ONLINE TEACHING AND LEARNING IN HIGHER EDUCATION

Patricia Ananga and Isaac Kofi Biney

A comparison of face-to-face and online teaching and learning has been undertaken to ascertain the focal point that would justify the best-preferred option as far as teaching and learning in DE is concerned. This study is particularly important because as higher education institutions are faced with the challenge of huge number of prospective students seeking higher education in the midst of inadequate infrastructures, it becomes very necessary to look at DE as an option with a combination of different modes of delivering instruction. At the University of Education, Winneba (UEW), some faculties and departments, especially the distance education department, have adopted the face-to-face and online modes of delivering instruction. The pursuit of which would require a critical overview of the two modes to ascertain the strengths, weaknesses and how the two can complement each other for effective delivery of instruction to cater to a large number of students. The review suggested that academics or lecturers should endeavour to adopt the blended or hybrid mode in their teaching and learning. Policy decision makers can also use this study as it provides information on better practices as far as the blended mode of teaching and learning in higher education institutions is concerned.

KEYWORDS: Higher Education, Distance Education, Face-to-Face, Online Learning, ICT

INTRODUCTION

Higher education (HE) institutions are increasingly expanding their services to meet the growing demand for educational opportunities. Particularly, adult learners (traditional and transitioning), need new forms of getting knowledge

Patricia Ananga
PhD Scholar, School of Continuing and Distance Education, (SCDE)
College of Education, University of Ghana, Legon

Isaac Kofi Biney ✉
Lecturer, School of Continuing and Distance Education, (SCDE),
College of Education, University of Ghana, Legon
Email: ikkbiney@yahoo.co.uk

and training so that they can be competitive workforce at workplaces. A new set of potential students who demand access to flexible learning opportunities have emerged through trends in globalization and the global economy (Hanover research, 2011). It has been observed that globalisation and rapid technological advances have also brought about generational shifts in values today that are re-shaping the way university students view education generally. The changing dynamics of our technology-driven century has totally altered the way higher education (HE) is perceived, delivered and even studied (Hanover, 2011). In education, and especially at the tertiary level, the adoption of a distance learning programme is fast becoming an alternative and attractive option as it offers the potential clientele flexibility of learning. Distance Education hinges on communication and technology as its bedrock. As aptly recounted in one definition:

"Distance education implies that the majority of educational communication between (among) teacher and student(s) occurs non-contiguously (at different times and at separate places – separating the instructor-tutor from the learner). It must involve two-way communication between (among) teacher and student(s) for the purpose of facilitating and supporting the educational process. It uses technology to mediate the necessary two-way communication" (Garrison & Shale, 1987, p. 11).

It can be seen from the definition that the concept of "distance education" is concerned with a type of educational delivery where teaching and learning are separated in time and space with technology playing a key supporting role in enabling this form of delivery. Some research studies have revealed the main streaming of Distance Education (DE) into the policy making process of institutions.   note that the University of Botswana in 2005 issued a report on main streaming DE into its policy making process with emphasis on the integration of DE into institutional culture. This, in a way, will enable university rules, regulations and bureaucracies, budgetary and student services and administration decision making to align with the needs of distance learners. Bottomley and Calvert (2003) posit that this policy must contain values that will guarantee access for DE students and faculty to a range of services comparable to those available for on-campus students.

With massification of HE, the increasing demands for HE poses a persistent challenge of space for universities. For example, at a recent matriculation ceremony (October, 2015) for fresh students at the University of Ghana, the Vice Chancellor, Professor Ernest Aryeetey, indicated that out of a total of 35,630 applications received, the university was able to admit only 18,106 students. Thus, 17,524 prospective students who applied to pursue various programmes could not gain admission. This, according to him, was due to the

limited number of facilities and staff in the university, a situation which may not be different in other universities in Ghana. Lack of such facilities calls for the exploration of other alternatives in order to make higher education accessible to prospective students.

Distance Education, with e-learning as a major component, has been found to be an option for this challenge. E-learning can be defined as utilizing electronic technologies to access educational curriculum outside of a traditional classroom, is an alternative to this identified problem of space. It can be inferred that this problem of physical space allocation does not exist in e-learning since teaching and learning via e-learning does not require classroom space but the Internet which could be accessed anytime anywhere. For instance, e-learning which operates in distance learning format increases learning opportunities for those geographically separated. This means that its flexible format will be most suited for busy individuals who want to learn at a distance. Roblyer & Edwards (2000) define distance learning as: "the acquisition of knowledge and skills through mediated information and instruction, encompassing all technologies and other forms of learning at a distance" (p. 192). With distance learning and e-learning playing key roles in education as indicated in the above argument, it would not be far-fetched for management of HE institutions and instructors to explore options in their choice of instructional delivery modes. Thus, HE institutions must devise effective strategies in order to determine how to better meet the increasing demand for HE. The need to reshape institutions to cope with these challenges and still retain the capacity for effective knowledge creation and transfer is important. The Ghanaian policy on tertiary education provides the policy framework for universities in Ghana to increase access to tertiary education, and the universities' response to this national aspiration has given birth to DE programmes since 1996 .

Considering the global trends in technological developments, every DE student in Ghana should be encouraged to use ICT tools. In Ghana, the four major public tertiary institutions namely; University of Education, Winneba, Kwame Nkrumah University of Science and Technology (KNUST), University of Ghana, Legon and University of Cape Coast are all using a blend of face-to-face and online learning in delivering instruction to students in DE. Thus, online studies and 'real-time' off-campus tutoring is becoming an accepted mode of delivery in most Ghanaian HE institutions medium of study. In most cases, both approaches are combined to deliver instruction to students while in others a purely face-to-face delivery mode is employed. That notwithstanding, it is important to acknowledge the fact that traditional face-to-face mode of delivering instruction, has certain inherent potential so far as teaching and

learning is concerned. In the midst of the current power outages in Ghana, Internet connectivity challenges, especially with learners and instructors in the hinterlands, as well as people's attitudes towards emerging technologies, it would not be out of place to critically consider the two modes of delivering instruction. In the face of the elaborate explanation offered, the following key questions are to be answered: Are the delivery strategies of the two modes (face-to-face and online) the same or different? How are lecturers employing the two modes in their instructional delivery? Are there benefits and challenges in using the two? In order to address these issues, the authors attempted to outline the paper, which is basically theoretical in nature. The authors first dealt with the problem statement, which touches on the gap in theory that needs to be filled. The second section of the paper reviews literature on the various themes in the study with theoretical basis of issues in the paper. The third section outlines the method adopted in this paper. The authors make recommendations based on the review undertaken, and finally, draws conclusion to the paper.

PROBLEM STATEMENT

Higher education institutions in Ghana appear to be overwhelmed with the huge demand of student enrolment. To meet this demand however, the universities are devising, and equally craving for alternative ways of delivering their programmes. In deciding on which alternative to choose from, higher education institutions today, would require a better understanding of how face-to-face and online teaching and learning modes are compared in terms of their operations, instructional strategies employed by lecturers in the two modes, ways lecturers and students interact, among others. It is, however, interesting to note that there is surprisingly weak empirical evidence within the Ghanaian context that compares the face-to-face and online teaching modes of delivering, instruction particularly in distance education. That is, little is known about the state of online instruction that compares with face-to-face delivery in terms of instructional strategies, lecturer/student interaction, and student/student interaction, among others.

The overall intention of this theoretical and library research paper, is to provide a synthesis of some theories of distance learning, ICT use in DE, technology use in DE delivery, access participation and location; choice of mode and use of ICT in DE, teaching and learning strategies and more importantly, how face to face and online learning modes of instruction are compared. The paper dwells on literature from other contexts to help develop a critical analysis of the key issues raised by the authors. The questions to be answered in this study are relevant for management, staff, and students of

UEW who are key stakeholders in the teaching and learning process. These issues are specific and relevant to UEW with implications for practice in other institutions with a similar situation.

REVIEW OF RELATED LITERATURE

This section reviews literature relevant to this study. It begins with an overview of the theories of distance learning; teaching and learning, ICT use in distance education-teaching and learning, technologies used in DE delivery, access, participation and location, choice of DE delivery mode and face-to-face and online learning modes of instruction compared.

For some time now, researchers and theorists have been articulating distance learning theories. Lauzon (1992) argues that early distance learning models hinged more on matters that borders on education rather than learning. The increased popularity and ease of distance learning has been greatly enhanced by the integration of digital and telecommunication technologies. According to Abdulla (2004), more recent theories have been focusing more on changes in student learning, and teacher roles. Tebeaux (1995) reviewed four of such theories, one of which is Keegan's (1996) theory, which focused more on how technology can make the student more independent. The emphasis of this theory is on how students and teachers are freed from the need to live in the same physical space. In this sense, students are free to choose learning formats, combine media and methods so that subjects are taught in the best way possible, employing media which allow students to adapt materials to their individual learning needs, and allow truthful evaluation of students' achievement. Similarly, Peters' (2002) theory of distance learning, the second of the theories reviewed which is similar to that of Keegan's (1996), examines the effect of technological changes on distance learning. This theory posits that, technology will redefine the roles of learners and teachers making learning more autonomous, and independent of teachers. Instructor's role will become more like a facilitator or guide who supports the learners.

The third theory, that is the Holmberg's (1985) theory of distance learning, expands on Peter's (2002) theory of role changes for both learners and instructors. This theory, however, goes further to emphasise how such role changes will promote motivated and interested students. The increased motivation and interest will result from increased student interaction with content, access to information with increased opportunity to manipulate course material. The final theory reviewed by the researcher cited by Tebeaux (1995) is Perraton's (1998) work which contains a combination of ideas from Peters (2002), Keegan (1996) and Holmberg (1985) emphasise that for distance

learning to be effective, multimedia programmes, regular activities, feedback, and a carefully organised system of delivery is required.

To them, these theories depict how distance learning differs from traditional learning, particularly with its focus on student autonomy, changes in the roles of the instructor as well as technological impact. It is very important to note that these theories can aid instructors to conceptualise courses, and especially, when planning educational objectives. Additionally, if the goal of every educational programme and instructor is to ensure and encourage student learning and interactivity with the content and with each other as students, then distance learning theories should be looked at due to their capacities to assist the instructor in course design, and also develop interactive activities. Leonard (1996), similar to Peters' (2002) ideas about the fact that distance learning will change the roles of teachers and learners in the learning process, states that teaching is either expository or hypothetical. According to him, expository teaching on the one hand is synonymous with traditional teacher-centred teaching that relies on teacher control of the learning process. On the other hand, teaching that is student-oriented is hypothetical where students play primary roles in formulating, manipulating and organising content.

It is important to note that most of the learning is underpinned by the principles of constructivism learning theory. It is also significant to acknowledge that the theory of constructivism fits into distance learning, due to its mode of delivery with emphasis on learner-centredness. Research has shown that constructivism learning theory which is focused on knowledge construction is based on learner's previous experience, and can be drawn on to understand how learning among learners occur (Harman & Koohang, 2005; Hung, 2001; Hung & Nichani, 2001). According to Woolfolk (1993), one of the critical concepts is that students can actively construct their own knowledge where the students' mind use information from the outside world to determine what the student will learn.

Thus, ensuring that learning is moved from being passive reception of knowledge to an active mental work, Carswell (2001) argues that reality is in the learner's mind, and the goal of learning is to construct in the learner's mind its own unique conception of events. This suggests that learners need to become independent in order to be able to construct their own learning. The above agrees with Koyanagi (n.d.) who believes in the independent exploration of the content by students that will lead to a deeper understanding. To enable students, survive this independence, there is the need to create a meaningful environment that includes communication and collaboration (Gold, 2001). The instructor is therefore supposed to create a good environment by posing

problems and providing relevant information to enable the student to understand the relevance of the new information (Mayer, 1996). The theory of constructivism fits very well in distance education delivery as the focus of DE is supposed to be learner-centred.

Again, in the planning, organising, designing, implementation of content, the learner is central to the whole process and as such all activities and materials are supposed to be in such a way that will promote the construction of ideas. Instructors serve as guides, facilitators, support and their main role is to stand back and allow learners to explore. As they explore the content, activities, they get a deeper understanding and this understanding enables them to be independent. In effect, they are able to learn with or without an instructor. One key player in achieving learner-autonomy/independence in learners is through the use of Information Communication Technology (ICT). The next section deals with a review of ICT use in distance education: teaching and learning.

ICT Use in Distance Education: Teaching and Learning

Distance Education in higher education has been enhanced globally over the years through the use of Information and Communication Technology (ICT). indicated that ICT-enhanced higher education by distance is likely to become the most significant driver of cross-border provision and certainly, it is now. They further noted that the provision of open, distance and technology enabled learning nationally is progressively seen as the key to permitting mass access to higher educational opportunities. This implies that, adopting DE mode for instructional delivery requires the use of varied ICT resources that will make learning flexible for the clientele.

Makaza and Madzima (2008) examined the opportunities that exist and challenges that hinder the successful adoption of e-learning technology as a medium of instruction at selected universities in Zimbabwe. The results of this study indicate that e-learning at most of the universities is still at its infant stage. This research exposes a number of reasons for the limited successes, which are related to infrastructural development, support and pedagogical considerations for e-learning. According to Makaza and Madzima (2008),

"E-learning is gaining some ground in University education throughout the world. The problem of the research is that 'even though currently, a large number of universities world-wide support e-learning in different forms research on e-learning suggest that the wide spread adoption of e-learning in university education in Zimbabwe, has not reached its full potential" (P. 36).

Makaza and Madzima (2008) further observed that universities are

investing more and promoting administrative software at the expense of Learning Management Systems (LMS) software that supports teaching and learning. However, in promoting the introduction of ICT-based courses for pre-service teachers, Lee, Teo, Chai, Choy, Tan, and Seah (2007) hypothesized that pre-service teachers' perception of their ICT competence will significantly influence their perception of the course usefulness, which in turn, influenced their course satisfaction. They asserted that given the key role that teachers play in the effective use of technology in education, there is a need to ensure that teacher education programmes prepare teachers for the effective integration of ICT in the classrooms. They claim that there is a need to adopt a student-centred learning framework to design an ICT-based Student-Centred Learning (SCL) curriculum for all pre-service teachers. In their words, it is suggested that there is the need to:

"Introduce pre-service teachers to the various IT tools and platforms such as LEAD.com which are currently available in schools and to teach pre-service teachers how to design customized solutions that can help schools connect different technology components through SCL". (Lee, Teo, Chai, Choy, Tan, & Seah, 2007).

Equally, their studies also reveal that several instructors have also raised the need for a more flexible course structure so that technology skills and tools could be introduced according to the needs of students. To further buttress the point reinforcing the place of ICT in education-knowledge exchange between professionals, Wang, McPherson and Tsuei (2008) suggest that information communication technology can facilitate knowledge exchange between in-service teachers in two different contexts: how the use of wikis, blogs and e-mail facilities can be used to increase participants' (in-service teachers) awareness of international cultures in an educational context was explored to enhance cross-cultural interaction between the two different contexts, and provide participants opportunities to use ICT tools. Insights gained showed that both groups of participants gained important perspectives on global education, increased knowledge of each other's culture and its impact on education, and increased competence with ICTs.

Technologies used in Distance Education Delivery

The types of technologies used in distance education are divided into two synchronous and asynchronous. The former is a mode of online delivery where all participants are present at the same time requiring that timetable to be organized whiles the latter is a mode of online delivery where participants access course materials on their schedule and are not together at the same time.

With regards to distance education delivery, the choice of modes of delivery is a very important issue, especially considering contexts. Opting for either synchronous or asynchronous mode is considered very critical. According to the factor analysis done by Beyth-Marom, Saporta and Caspi (2005), four factors: "time management," "ease of access" to learning materials, "positive aspects of interaction," and "negative aspects of interaction" are strong determinant of students' preferences regarding tutorial modes. According to their research, preferences of tutorial mode were determined by students' learning-habit inclinations, thus, with some of the students preferring satellite-based synchronous tutorials to asynchronous tutorials. Those who prefer the satellite-based synchronous tutorials have stronger views toward the positive aspects of interactions and score lower on the need for autonomy and access to learning materials than those who prefer the satellite-based asynchronous tutorials.

Access, Participation and Location: Choice of Mode and using ICT in DE

Access, participation and location with choice of mode regarding the use of ICT in DE is very worthy considering when it comes to modes of instructional delivery in DE. The issues of barriers confronting all adults who wish to access learning remain a powerful concern, particularly for those in rural and disadvantaged areas, since this has a lot of implications on the students' academic success. For instance, Watt and Peterson (1999) posit that location of provision and flexibility of entry and exit can make or break a student's education career. This comment summarises a situation in which conventional provision is perceived as making too many demands in terms of attendance for many adults to cope with, alongside work and family roles. Yet, the new technology options which offer a way out of such problems by delivery through new ICT are unlikely to be available to the typical access learner who dwells in a disadvantaged area or low income social groups. ICT offers the solution in terms of delivery; yet, the reality is that personal resources are required to a level beyond the reach of those who have typically been the target of DE initiatives.

Face-to-face and Online Teaching Modes of Instruction Compared

Teaching modes in both face-to-face and online are very important to look at if instruction will be effective. Face-to-face instruction otherwise known as traditional instruction is concerned with the teacher being the controller of the learning environment and plays the role of an instructor. Students in this type of instruction are regarded as having 'knowledge holes' that need to be filled with information. Ultimately, it is the teacher who causes learning to occur (Novak, 1998). Lecturing is considered to be one key time-tested and long-

venerated teaching method that remains the most frequently used method of instruction in higher education throughout the world (Svinicki & McKeachie, 2011; Lambert, 2012, p. 25 as cited in Millis, 2012). The question then is, how can learners fully benefit from the learning process? Students need to be provided with the necessary environment that will make them "...active in developing their knowledge." (Hestenes, 2012). Weimer (2002) strongly advocates for active learning as a crucial element of the new force to what is currently referred to as learner-centred teaching. It involves students in doing things and thinking about what they are doing (Bowell & Eison, 1991). This contrasts with traditional lecture where students are inactive recipients of information from instructors. It can be inferred from the above argument that for learners to be active participants in face-to-face instruction, there is the need for instructors to actively involve learners in the teaching and learning process, so that they can develop their own knowledge without the instructor's interference.

The traditional learning theory of 'sage on the stage' emphasises the teacher as the centre of the learning process. This approach places the sole duty of learning on the transfer of knowledge from the teacher to the student, often termed the lecture method. Thus, the teacher teaches as the students sit and take notes. Considering the basic design of online learning, where the teacher and student are not physically present, there must be a change from this learning paradigm so that each student can be successful in this learning environment. A student-centred approach to learning often known as the teacher being 'the guide on the side,' is in line with the online learning. In such a mode of teaching and learning, teachers cannot hover around the classroom, watching learners learn, waiting to provide guidance when learners make mistakes. Indeed, online learning could be stimulating for its potential to get in touch with students individually. But, the question is: what teaching techniques or methods can do this? How do teachers ensure successful learning to occur in the virtual setting?

Some researchers have identified some teaching techniques that teachers are supposed to use in an online or e-learning environment. According to them, teachers should optimise student engagement and success (Casey & Evans, 2011; Hazari et al., 2009); foster interaction between student and content, other students, teachers, and outside experts (Alghamdi, 2013; Edwards et al., 2012; Hewege & Perera, 2013); facilitate learning through providing intellectual stimulation, salient questions, ethical options, and resources for further inquiry (Freidhoff, 2008; Joshi & Babacan, 2012); offer ways to sort out, recognise, and enhance students' unique qualities, interests, and skills (Casey & Evans, 2011; Doering et al., 2009; Hadjerrouit, 2011); allow for critical and reflective thinking, real-world application of concepts and skills, as well as

encourage additional dialogue and seeking of assistance (Ang et al., 2008; Im & Lee, 2004; Lee & Osman, 2012).

Face-to-face and online learning modes of instruction have similar features. Drouin (2012), and Benton and Cashin (2012) contend that face-to-face and online courses have several key teaching factors in common. These include student-student and student-instructor interactions, instructor support and mentoring, lecture/content delivery quality, course content and social networking tools. According to Drouin (2012), these are the best practices for online courses that could also serve as best practices in face-to-face, for student, peer and self-ratings. Reisetter et al. (2007) looked at whether online and face-to-face learners are similarly content with the quality of their learning. Their findings showed that both learning styles scored equally with regard to learning outcomes and satisfaction, even though, each style has absolutely different learning experiences.

With regards to the comparison of the efficacy of face-to-face and online learning, Solimeno et al. (2008) revealed that asynchronous collaborative learning online can boost professional competences, normally acquired only in small face-to-face educational settings. In their report, they indicated that online learning can be used to provide innovative educational opportunities to fit the particular needs of students who have time management problems in their learning strategies, with low anxiety, and high problem-solving efficacy. In their most recently completed face-to-face and online class, Wuensch et al. (2008) evaluated the pedagogical characteristics of the two modes and revealed that students rate online lessons as far superior to face-to-face lessons in terms of convenience and in permitting self-pacing, but they also rate online lessons as inferior in a number of other ways. Online and face-to-face instructional modes, therefore, have their own strengths and weaknesses.

That notwithstanding, both modes can be improved by reducing the weaknesses and maintaining the strengths. Though different, the two modes play complementary roles (Berger et al. 2008) and by this, the combination of the two modes, known as "blended learning" become very relevant. Thus, teachers are enabled to design, develop and deliver effective mixed programmes. On the contrary, this does not rule out the fact of the persistent weaknesses that may exist in blended learning (combination of face-to-face and online learning). Jackson and Helms (2008) have established that blended/hybrid mode continuously exhibited the same weaknesses of the online mode. They stressed that the addition of face-to-face interaction does not minimise weaknesses.

PROCEDURE ADOPTED

The paper adopts a theoretical approach of literature review, thus, library research that involves studies conducted on the various themes identified in the study. These include theories in distance learning; teaching and learning, ICT use in distance education, technology use in distance education delivery, technologies in distance education and access participation and location; choice of mode and using ICT in DE. The paper used a critical literature review approach through a comprehensive search of publicly available literature on the various themes identified. Electronic search was conducted via databases such as EBSCO, ERIC, PsycINFO, Emerald group publishing, among others. Web searches were also performed with the Google, Edusearch, Ask.com and a few others. Manually, searches were conducted from several distance education journals both locally and internationally. All the studies that were retrieved were read by the researchers, and the key issues relevant to this study, were appropriately captured and referenced. Aspects that are to be criticised were duly carried out.

RECOMMENDATIONS

It is recommended that higher education and for that matter University of Education, Winneba (UEW), distance education students and instructors should fully benefit from the whole teaching and learning process. This is possible by using both online and face-to-face modes, in a blended mode. As the work of academics shifts from a purely face-to-face mode to blended and online modes, they (academics), should be provided the opportunity to critically assess their own practices. They should also discuss with colleagues the need to adopt innovative pedagogical practices for the new teaching spaces.

This study offers the provision of a better understanding of the teaching and learning processes in the online environment in our context. Shifting some or all of the learning online requires varying of pedagogy, andragogy and practice to ensure effective learning outcomes. "The challenge is to systematically explore the integration of pedagogical ideas and new communications technology that will advance the evolution of higher education as opposed to reinforcing existing practices" (Garrison et al., 2010, p. 31). For many instructors, their attention has not yet shifted from the technological tools to the pedagogical practices and use of the tools. This has an impact not only on instructor identity but also on the effectiveness of the teaching and the perceptions and satisfaction of the learners. The issues discussed in this paper will inform policy on better practices so far as online and face-to-face modes of teaching and learning are concerned.

CONCLUSION

This paper explored theoretical perspectives of online and face-to-face teaching and learning modes in higher education. The themes under review included theories in distance learning; teaching and learning, ICT use in distance education, technologies used in distance education delivery, access, participation and location; choice of mode and using ICT in DE and comparison of face-to-face and online teaching and learning modes of instruction. As learners learn at a distance, it is very important to package the instructional delivery to meet the needs of the learner- placing the learner at the centre of the learning process. Various studies revealed the need to adopt one technology or the other, which will help redefine the roles of learners (Peters, 2002), and the fact that learners need to construct their own ideas by exploring the content and activities of lessons. By doing so, whatever students learn will become part of them. It provides learners the hands-on experience, which in itself is the critical learning skill that today's learners, should be abreast with.

Considering the two modes, face-to-face and online delivery instruction to learners, it was revealed from the library research and hands-on experience that even though each of the modes has their strengths and also complements each other. They, however, have weaknesses which can be worked on for maximum benefit in the teaching and learning process. There may not be important differences found between the two teaching and learning modes, and even if differences exist, they are likely due to the teacher's involvement and the institution's commitment in the programming of the learning process (Redmond, 2011).

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