

# *ICT Usage amongst University of Ghana Distance Education Learners, Koforidua*

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## *Abstract*

*The usage of Information Communication Technologies (ICT) in learning has been on the increase as a result of continuous efforts by higher educational institutions to offer programs at different geographical locations. As a result of this, students are encouraged to learn using ICT tools which make teaching and learning much easier compared to traditional ways of learning. This however has challenging effects on the efficiency and health of students who opt for distance education. The research explored the issues with a sample size of 5 respondents from the University of Ghana long distance centre at Koforidua. It was reported that the challenges of ICT usage outweighed its benefits. In that regard, three main themes namely technical, educational and health problems emerged whilst the benefits were portability, access to information, technology advancement, marketing strategies, mixed coping strategies and entertainment. Implications for theory and practice are discussed.*

**Keywords:** ICT, E-learning, Distant Education, Knowledge acquisition, Ghana

## Introduction

In recent times, the quest for higher learning has reached a surge and higher educational institutions around the globe have resorted to designing different modes of learning to meet the demands of students including the working class (Venkataraman & Sivakumar, 2015). One of the mediums of learning, which has impacted or perhaps can affect teaching and learning, is the integration of Information Communication Technology (ICT) in Education. Furthermore, the use of ICT has led to educational scholars inventing a variety of channels such as gamification (game-based learning) and social networking to solve problems, build knowledge and enhance engagement in academic activities (Hamari, Shernoff, Rowe, Collier, Ashell-Clarke & Edwards, 2015). Evidence from some studies report on the positive impact of ICT in teaching and learning outcomes of students (Higgins, 2003; Meijer et al., 2008; Ziden, Ismail, Spian, & Kumutha, 2011).

ICT tools refer to any online device that offers flexible teaching and learning methods within and out of the classroom environment (Venkataraman & Sivakumar, 2015). The

concept of ICT is used interchangeably with E-learning because it bears similar definitions with the former. Some studies have reported both advantages and disadvantages of using ICT packages especially e-learning in higher learning. For instance scholars have identified that teaching instructors who use ICT devices in teaching have advantages such as cost effective, compensates for scarcities of academic staff, allows for self-pacing amongst others (Algahtani, 2011; Amer, 2007; Codone, 2001; Klein & Ware, 2003; Judahil et al., 2007; Marc, 2002; Smedley, 2010; Urdan & Weggen, 2000; Zhang et al., 2006).

On the contrary, users of ICT for learning also develop low interaction skills, engage in plagiarism, piracy, cheating etc. More importantly, tests and assessments in e-Learning are frequently supervised by proxy, it may be difficult, if not impossible, to control or regulate activities such as cheating. Also, with respect to clarifications, explanations, and interpretations, the e-Learning method may be less effective than traditional methods of learning. The learning process is much easier than face-to-face with instructors or teachers (Collins et al. 1997; Klein & Ware, 2003; Hameed et al, 2008; Almosa, 2002; Akkoyuklu & Soylyu, 2006; Lewis, 2000; Scott et al. 1999; Marc, 2002).

Studies on the impact of these ICT tools seem restricted to the area of education. It was against this backdrop that the present study sought to explore other challenges affecting students as they use ICT tools or e-Learning.

## Theoretical Frameworks

### *The Social Cognitive Theory*

In exploring the health and technical challenges of using ICT, the social cognitive theory explains the basis for which these challenges can be investigated. The theory postulates that the social and technological changes within an environment do have influence on an individual's attitudes, beliefs and expectations and thus tend to create different outcomes. In view of this, it is expected that the use of ICT for educational purposes can have both negative and positive outcomes within and out of the learning environment.

### *The Self-determination Theory (Ryan & Deci, 2000)*

This theory identifies two types of motivation namely extrinsic and intrinsic. Extrinsic motivation refers to the tangible rewards one receives for performing a task whilst intrinsic motivation is found in an individual's own desire or zeal for engaging in the task without depending on visible benefits. In this regard the use of ICT for learning is proposed to be intrinsically rewarding and so it is assumed that when the students pursuing distance packaged programs are offered such devices for learning, it inspires learning thereby improving skills of students.

## Literature Review

### *Studies on the impact of ICT tools, E-learning for educational purposes*

Venkataraman and Sivakumar (2015) assessed the impact of e-learning in group-based learning on academic performance. More importantly, the study assessed the details of

the e-learning methodology with students and their peers used on group-based learning and the importance of the methodology. A survey was conducted among the students and the staff members in various disciplines. It was reported that group based learning in e-learning environment is the best way to delivering course content in order to achieve positive learning outcomes.

Similarly, Mensah (2017) examined Ghanaian tertiary students' usage of ICT and concludes that laptops, tablets and mobile phones are used mainly for social and leisure activities compared to academic duties. Again, students above the age of 31 are likely to use ICT tools for academic purposes than older students. The study concludes that efforts are needed to reduce the distractions on the part of students.

Kimiloglu, Ozturan and Kutlu (2017) examined the attitudes of workers in 500 corporations in Turkey towards the use of e-learning for corporate training. Students were sampled and administered with questionnaire. Kimiloglu et al. reported that the workers in the firms had hesitant attitudes towards the use of e-learning for corporate learning. Additionally, the study reported that the advantages of e-learning in corporate training were as follows: convenience and accessibility, employee commitment and motivation, customization and outsourcing, and cost effectiveness while the disadvantages have been grouped as personal and organizational factors.

Khasawneh (2015) investigated the development of e-learning process through the adoption of ICT usage among the academic staff in the Jordanian universities. The study focused on the determinants of ICT usage in the public universities among the academic staff. The Decomposed Theory of Planned Behaviour (DTPB) was used to underpin the study. The study reported that variables such as self-efficacy (SE) and facilitating condition (FC) have positively related to Behavioural Intention (BI) when academic staff adopts ICT usage in the higher educational systems. Additionally, a significant relationship existed between academic staff's perception of technology characteristics and their Perceived Behavioural Control (PBC) as they adopt ICT devices for teaching.

Benninck (2004) assessed the benefits and challenges of e-learning in corporate organizations and reported that employees lacked computer skills, feared technology, development and maintenance cost issues. Others include educational problems, technical problems such as broadband width, internet problems and technology incompatibility. A follow up study was done by Gudanescu (2010) in different educational settings and reported similar findings. For the advantages, both studies (Benninck, 2004; Gudanescu, 2010) reported that using ICT devices for learning brings some flexibility in the learning process and there is consistency in training and delivery.

Hamari et al (2015) examined how game-based learning on electronic media influenced student engagement and immersion. The study adopted an experimental approach by introducing electronic games to 134 high school students. The results showed that there was a relationship between challenge and perceived learning as well as between skill

development and engagement. This implied that the use of gamification impacted learning attitudes positively.

Some studies on ICT, e-learning and distance education in Ghana, Africa and beyond have reported insightful findings. For instance, Edumadze, Ogoe, Essilfie, Edumadze and Graham (2017) assessed e-learning on University of Cape Coast distance education students and reported that majority of the students have basic computing skills, however the students have little or no experience with search engines which helps them to learn. In addition, the study concur that although 92.5% of the students have internet access, 53.6% have the requisite skills to surf the internet. The study makes final remarks that a lot of the students are prepared to pay extra charges to enjoy e-learning activities.

Ohene and Essuman (2014) examined challenges faced by distant education students of the University of Education, Winneba with a sample size of 156. The findings of the study show that institutional, instructional, social, psychological and financial account for the challenges in the distance learning centres. With regard to the finances, full fees are required before students are registered, and lack of counselling centres accounts for poor motivation by students.

In a related study, Badu-Nyarko and Amponsah (2016) assessed the challenges in distance education at University of Ghana and report that students have issues with registration as well as inadequate lecture periods. In addition, facilitators had other challenges such as inadequate training, low financial motivation, late attendance of students, late delivery of modules to students and overloaded modules to be treated in a semester.

Andrews and Tynan (2012) conducted a study on distance learners' experiences and found out that students fit their learning in and around other interests and commitments which makes the use of ICT very challenged. Again the study identified the lack of connection between the distance centres and the parent institution, which inhibits flow of information. The study also makes profound statement that the quality of information and delivery by lecturers have certain challenges due to the fact that some lecture notes are found on the internet which may not be wholesome.

Simpson (2013) considered student retention in distance education and reported that one of the biggest problems in distance education was student dropout. The study further recommends that motivation is essential in whetting students' appetite to engage in part-time learning.

Irinoye, Ayamolowo and Tijnai (2014) investigated nursing students' perception and attitudes to ICT supports for distance education and report that 63.9% of the students do not have any formal computer-based training, which impedes on their learning. In addition, lack of internet access continues to negatively impact on teaching and learning.

Rankapola (2017) also assessed learner's readiness on the usage of lecture podcasts in

enhancing teaching and learning. The study reports that students are very receptive to podcasting technology and that it helps to enhance and accommodate different learners. In addition to this, the study also makes interesting revelations that some students are able to listen at free time which helps them to make good grades.

### Research Questions

1. What are the challenges students on distance education programmes face as they use ICT tools for learning?
2. What are the benefits for using ICT tools distance education programmes?

### Methodology

#### *Participants*

Five (5) students from the University of Ghana Distance Education Centre, Koforidua made up the sample for the study. The students were chosen because they had enrolled on an educational program which required the use of ICT device or tablets for accessing reading materials and assignments. It also involved getting an in-depth knowledge of the participants' experiences about their challenges with respect to using the devices.

#### *Instrument*

Interview guides was used to collect data from participants. The guide were semi structured and comprised open-ended questions on advantages and disadvantages of using ICT tools for learning. Additionally probes were introduced in the interviewing process in order to get explicit answers from participants.

#### *Procedure*

The interviews were personally conducted (after lectures held on weekends) in English because the participants spoke the language fluently. Each interview session lasted for one hour and so the data collection period was one day. Ethical considerations such as voluntary participation, informed consent and confidentiality issues were observed. The participants were informed on the audio recordings of the interview sessions and reasons why it was being done. After the interview sessions were over, the researcher played back what was recorded to get confirmation of the responses from the participants after which the data were transcribed and thereafter the themes and subthemes generated.

#### *Ethical considerations*

The authors observed principles of informed consent, confidentiality and voluntary participation. Permission was sought from the lecturers whose students were interviewed. Accordingly, the benefits of carrying out the research were stated in order to give the prospective participants insights into why the research was being conducted. Participants were informed about voluntary participation and that they had the option to take part in the study or opt out without facing any sanctions from the researchers. In other words they were given consent forms, which explained the processes involved in

the study. Additionally, the participants' consent was sought for the audio recording of their responses and were assured that the transcribed data would be saved with a password for the sake of confidentiality.

### *Data Analysis*

The data were analysed using content analysis where emerging themes on the experiences of the students upon the usage of ICT devices for learning were identified. The researchers transcribed the data after which themes and sub themes were developed. The transcribed data and the themes were given to an expert in qualitative research for examination. Following the development of the themes, the authors realized that the students had interesting views to share on the matter. In respect of this, the authors formulated meanings and reviewed literature to support the themes identified.

### *Trustworthiness of the Results*

In following the steps listed for the production of trustworthy results, the authors obtained the exact and complete representation of respondent's experiences by repeating the audio recordings on several occasions and reading through the transcribed data concurrently for accurate representations. To ensure reliability, an effective tape recorder to aid a detailed transcription of interview data was used. The authors examined the interview data to ensure credibility. In addition, the data were given to an expert in qualitative techniques to do same.

### *Results and Discussion*

The study identified themes such as portability, access to information, technology advancement, marketing strategies, mixed coping strategies and entertainment whilst for the challenges with the use of ICT devices in three major themes emerged. These themes were technical challenges, health challenges and educational problems.

With respect to the benefits, the participants expressed their thoughts in themes such as portability, access to information, technology advancement and marketing strategies. These themes are supported with excerpts of the interview in the following statements:

*"... Okay the gadget is easy to carry around. For example in a taxi, church or when you are walking around and you need to peep something you can do so easily." (female student, 1).*

*"... ICT tools make research work very easy ...sometimes too information about lecture times are communicated with ease..." (male student, 2).*

*"...When I entered into the distance learning program and we were told that we will be given I pads and tablets, I told my friends and we were happy and so marketing wise it will help recruit more students for the school..." (female student, 2).*

Additionally some participants said they adopted different coping strategies as they used the ICT tools for educational purposes. They expressed frustrations when using the applications on the device and developed coping strategies to put themselves in moods

to accept the situation. An excerpt is stated below:

*"...Sometimes too I find it difficult to navigate the various apps on the tablet and it makes me uncomfortable. When class is going on, I search the net to look for things and though it disturbs me, I am alright (female student, 3).*

The use of ICT tools also brought to the fore entertainment purposes as participants explained the occasional usage of the device for engaging in extra-curricular activities such as watching videos, games etc. The statement below captures the respondent's experiences.

*"...the gadgets are helping me in so many ways. I can watch movies, play games with it and even download songs. I can use it anywhere like church or when walking (male student, 2).*

The present study also identified themes on the challenges in the use of ICT Tools. Three major themes were identified which are as follows; technical challenges, educational problems and health challenges.

With respect to educational problems, the participants recounted their experiences of feeling uneasiness and inattentiveness to the extent that they periodically made attempts to check information from the gadgets. This experience came at times when they were addicted to social media and used it for communication with peers. The occasional signals of messages on the ICT device also created distractions for the participants. Extracts of a respondent's experience is as follows:

*"...when you want to study, you will be disrupted by apps or functions on the phone or tablet. For example if you are a social media freak and are learning you might have the feeling of checking Facebook, Twitter to know what is up which makes you have divided attention when learning.."* (male student 1).

*"....Any time we have tutorials going on then Whatsapp and Facebook keep distracting you (female student, 2).*

Technical challenges were also reported by some participants as they complained of problems with the battery system and broadband width of the internet which some believed was as a result of their geographical locations.

*"sometimes it may be the network maybe you have been given assignment and the network is very slow. Sometimes too the battery is not strong to help complete assignment.... (female student, 1).*

*"...The battery system is bad as sometimes it overheats the gadgets and for the network your geographical location can impede learning on the tablet especially where the network is bad (male student, 2).*

A participant complained of health problem upon the usage of the tablet as this situation

compelled her to make frequent visits to the hospital.

*“It has given me eye problems as a result of this I go to the hospital often to check my eyes.... (female student, 3).*

## Discussion

The present study sought to explain and explore the usage of ICT tools amongst distance education learners and the findings are revealing. The results show that students use the ICT tools for entertainment purposes such as listening to music and watching movies. In addition, the study brought to the fore, portability, access to information and technological advances as crucial in the use of gadgets in learning. These findings are consistent with Venkataraman and Sivakumar (2015), Onwuagboke and Singh (2016), Kimiloglu et al (2017) and Khasawneh (2015) who discovered similar findings. The findings are as a result of the fact that, students are technologically savvy and that the ICT tools help in searching for information. In the wake of social media buzz, contents are spilled all over and this pushes students to read or get engaged in trending stories. This however, might impede learning outcomes as well. Moreover, lecture notes are sent to students via their tablets or mobile phones and that helps to facilitate learning.

Furthermore, the study revealed technical problems as a hindrance in teaching and learning using ICT tools. The study goes on to suggest that, the problems that arise as a result of learning is purely technical such as lack or low internet coverage, lack of requisite skills; and these are consistent with studies such as Andrews and Tynan (2012), Bennick (2014), Ohene and Essuman (2014), Gudanescu (2010), Edumadze et al (2017) and Rankapola (2017) who reported that technical issues inhibits teaching and learning in distance education centers. These issues that confront distance learners are very endemic due to the low internet penetration in some rural areas where most of the students reside. The technical challenge with regard to gadgets also exists and this is as a result of low or lack of expertise in repairs. Most students on distance programmes, according to the study, have average knowledge in ICT skills and thus hampers learning as well. One of the participants made it known that the gadgets are complex, and that sometimes assistance is sought to aid in the usage of the gadgets.

Besides the technical challenges, educational problems also exist and persist as reported in the study. The continuous distractions of apps on gadgets in the lecture hall pose great risks in pedagogy and students tend to lose concentration, which impedes academic performance. This is also consistent with previous studies such as Benninck (2004), Gudanescu (2010), Singh (2013), Badu-Nyarko and Amponsah (2016) who found that, issues exist with distance learners and this ultimately can affect overall output.

It is worthy to note that health problem emerged as one of the themes, which makes this study unique. A scan through literature suggests lack of attention to health issues associated with the use of ICT tools in teaching and learning; and this is what the study lays bare. These problems enumerated, despite the enormous benefits of the usage of

gadgets in distance learning, have dire consequences. For example, one participant has eye problem and needs to visit the hospital frequently obviously due to excessive use of the gadget. This suggests that quality gadgets ought to be given to students by the institution and again, moderation of the usage by students is strongly advised.

### Contribution to Knowledge

The social cognitive theory (Bandura, 1989) has been used to underpin the environmental factors that culminate in teaching and learning. Distance learners are plagued with numerous challenges ranging from quality of teaching, delay in course materials, average ICT tools amongst others. These issues according to Bandura (1989), affect the output of the facilitator and the learner. The study throws more light on the theory used to explain reasons that account for either success or failure of the learning environment. The findings of the study are linked with Badu-Nyarko and Amponsah (2016) and Edumadze et al (2017) who share similar problems in learning outcomes. More importantly, a scan through the literature does not report on adverse effects of the usage of ICT tools especially on health, and this study seeks to increase the knowledge in that regard.

The self-determination theory by Ryan and Deci (2000) has also been used to explain the motivation that helps students to achieve educational goals. Distance students often learn without supervision compared to the face-to-face teaching and learning in regular students. More often than not, career goals are seen to aid distance learners in achieving academic objective and thus the usage of the self-determination theory. Motivation is primarily in two folds; intrinsic and extrinsic. For the purposes of the current study, the intrinsic motivation is used to explain the rationale behind distance learning. The participants used for the study were workers who wanted to upgrade their academic credentials and that; motivation is seen as one of the primary considerations in enrolling in distance centres.

It must be noted that, the literature on distance education and ICT is still growing in developing countries like Ghana. This study will in this regard, help extend the frontiers of knowledge as well.

### Conclusions

The study explored the experiences of students' usage of ICT devices in distant education programs. In respect of the challenges the study reported three themes namely technical problems, educational problems and health problems whilst the benefits of ICT usage showed themes such as portability, access to information, technology advancement and entertainment. In addition, distance learners are seen to be frustrated in getting information due to the poor structures that exist and gleaned from the study, it impedes enrolment. For example, one of the participants made it clear that, course materials are sometimes delayed however, the situation changes when inspection from parent university is imminent.

## Recommendations for Practice and Future Research

Practically, the study recommends that distance institutions should have a flexible payment option for students who engage in part-time studies to ensure effective participation by all and sundry. Again, internet access should be of major concern to address similar challenges that might occur and by this, all distance centres must be well equipped to have an effective pedagogy. In addition, lecture notes should be sent to students early in order for them to prepare and by extension, lecture notes have to be up-to-date with parent institutions.

Furthermore, ICT tools bought for students should be of good quality. They should be of strong battery life and friendly to the eyes in order to ensure good health and longevity to the gadgets.

Additionally, the study makes it empirically clear that, ICT tools are helping students to learn at ease and in comfort. The merits are enormous and the current study opines that strongly and as a result a lot needs to be done in order to make distance education an option and not a curse.

Future studies should consider the academic performance of both regular and distance learning centres to ascertain the effectiveness of the two systems of teaching and learning. Lastly, investigation should be made into the low patronage of distance centres to unravel the causes of this phenomenon.

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