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## Emerging and Digital Technologies Enhancing Teaching and Learning at Kwame Nkrumah University

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### Abstract

This manuscript is about the emerging and digital technologies enhancing teaching and learning. Teaching is a process of imparting knowledge in learners while learning is a process of acquiring academic knowledge and skills. In the process of teaching and learning technologies are highly valued. This study was administered to establish how the technology was used in teaching and learning for sustainable development. The findings were that the emerging technologies such as the use of information and communication technology were used by students to learn effectively and lecturers to teach effectively. Another finding was that digital technology such as the use of computers, cell phones; Ipads were used during the lectures for easy and effective teaching. The study site was Kwame Nkrumah University. It was chosen because ODL is being offered. The instruments used for data collection were the interview schedule and observation checklist. Population comprised of all the students doing ODL and lecturers at Kwame Nkrumah University. The total sample was 55. Students were 50 and 5 were lecturers. Data was analyzed manually.

**Keywords:** emerging technology, digital technology, sustainable, learning and teaching

### Introduction

#### Background

This study includes the abstract, back ground, literature review, problem statement, aims, objectives, research questions, methodology, research design, findings, discussions and references.

At Kwame Nkrumah University Open distance learning started in 1997 with the offering of diploma courses then in 2009 the programme changed to the offering of first degree. In the past when diploma was being offered the use of modern technology like computers and cellphones were not mostly used for academic purposes as compared to the time when first degree programme started to be offered to date. The emerging and digital technology has been now utilized by lecturers and learners during teaching and learning periods. This study aim at establishing how the technology was used in teaching and learning for sustainable development at Kwame Nkrumah University

#### Literature review

This section is looking at improvements which are brought about by the emerging and digital technology. To start with a study was conducted by Massy and Zemsky, (1995) on the use of information technology to enhance academic productivity in Washington. The finding was that, the use of emerging technology brought the change of printing technology from hand written and it lasted for long period of time. In other words the technology brought about sustainable development of using printing technology.

Another study was conducted by Gui-Rosenblit, (2009) on distance education on digital age. The finding was that, the use of digital technology improved both teaching and learning due to the easy retrieval of the available material resources in the cases where text books were not available or proof to be very expensive. The sustainable improvement was easy access to resources.

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The other study focused on the use of technology for enhancing teaching and learning in Bangladesh by Taylor, (2012) the finding was that, use of digital and emerging technology enrich and support lectures, seminars, meetings and face to face tutorials. The sustainable improvement was the additional supplement to the teaching and learning fraternity.

### **Problem statement**

For a long period from 1997 to 2008 the use of technology for teaching and learning purposes was rare at Kwame Nkrumah University when ODL was established as compared to the current scenario from 2009 to date. There is need to establish the long term improvement experienced in teaching and learning with the use of the emerging and digital technology under ODL.

### **Aim**

The aim of the study was to ascertain the sustainable improvement emerging and digital technology has on teaching and learning under ODL.

### **Research Objectives**

The study was guided by the following objectives

- To establish the emerging and digital technology being used during teaching and learning under ODL.
- To establish the sustainable improvement brought about by the emerging and digital technology being used during teaching and learning under ODL.

### **Research Questions**

- What was the emerging and digital technology being used during teaching and learning under ODL?
- What were the sustainable improvements brought about by the emerging and digital technology being used during teaching and learning under ODL?

### **Methodology**

#### **Research design**

Since the study sought to ascertain the sustainable improvement emerging and digital technology has on teaching and learning under ODL a descriptive research design was used. According to Mukul and Deepa (2013) descriptive research deals with the description of the state of affairs as it exists at present. The study used descriptive research design and fitted well the study because it describes the study of particular situation at particular time.

#### **Population, sample and instrument**

The population comprised of all students under ODL and their lecturers. The total sample was 55 of 50 were students and 5 were lecturers. The instrument used was the interview guide and observation schedule.

#### **Findings**

This section presents the finding of this study. It was reported that, Information and communication technology as emerging technology was used while teaching and learning at Kwame Nkrumah University under ODL. The digital technology that was used by students included cellphones, laptops, television, internet, video charting, Ipad and Skype. It was also found that majority of students used all that is listed except for Ipad and Skype. Another group of the students used the cellphone and internet only,

while a small group of students used video charting and Skype. All the lecturers used all that is listed above with an exception of one lecturer who did not use the Skype.

The sustainable improvement which were reported were as follows; it was easy to access information, individual learning was promoted, it promotes constant communication with students and lecturers, provision of most needed resources and acquisition of technological skills by using the tool for technology.

### **Discussions of findings**

This section presents the discussion of the findings. The emerging and digital technology being used during teaching and learning under ODL were established. The finding was in line with what was discovered by Gui-Rosenblit, (2009) who stated that digital technology involves the use of the mobile, watching video, use of Ipad, email, photographs and computers. While the use of emerging involves the use of information and communication technology.

It was further discovered by Gui-Rosenblit, (2009) that emerging and digital technology improved both teaching and learning due to the easy retrieval of the available material resources in the cases where text books were not available or proof to be very expensive. This was similar to the current finding that of finding it easy to access information. However, Gui-Rosenblit did not discover other improvement discovered by this study such as individual learning was promoted, the promotion of constant communication with students and lecturers, provision of most needed resources and acquisition of technological skills by using the tool for technology.

The other study by Taylor, (2012) found that, the use of digital and emerging technology enrich and support lectures, seminars, meetings and face to face tutorials. This was also discovered by the current study. Although the current study discovered further that, emerging and digital technology brought about improvement which was sustainable such as finding it easy to access information, promotion of individual learning, provision of most needed resources and acquisition of technological skills by using the tool for technology.

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