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Education Technology: assessing university student's preparedness in Liberia

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A DISSERTATION

Presented to the Department of
Higher Education and Technology
program at Selinus University

Faculty of Art & Humanities
in fulfillment of the requirements
for the accelerated degree of
Philosophy Doctor

2018

Chapter One: Introduction

University students of Liberia like many underdeveloped countries in the world suffer from poor educational system due to the absence of advanced technical knowledge to provide quality education. This study will focus the use of technology in higher education institutions to enhance teaching and learning.

1.1 Background of the Study

Education has been in the world for several years. It started with very primitive methods and gradually moved to the most modern methods where learners and teachers have the opportunity to share knowledge. For many years, educators and school administrators have improved on the training of their students. Most institutions have had the traditional methods students must meet their teachers in specified locations before getting lesson. The use of chalk and the “Black Board” has got to be the means by which millions of persons obtained education.

It is now clear that there are many other ways in which students can get taught without physically meeting the teacher.

The use of technology is facilitating this process. Most developed countries and some developing nations are now using technology to teach their students. Learners can now remain in the residential localities around the globe and get the level of education they need with the use of technology.

This paper will therefore be assessing the preparedness of university students in Liberia to use technology for educational purposes.

1.2 Statement of the Problem

The use of technology, if not absent, is at a very low and unnoticeable level in Higher education institutions in Liberia. Liberian university students are observed not to have interest in using technology for education. Learning is therefore very difficult to take place at the highest level since the professors at the university still need to write the notes on the board. Also many students still seem to lack computer knowledge to enable them understand how most programs work. It is also likely that the students are not familiar with most of the different programs that are available for learning. It is not also clear if their instructors or professors in the various schools have been able to introduce them to various learning applications and instruments.

1.3 Rationale of the Study

It is also globally known that the use of technology facilitates learning at all levels. It has the ability to aid the learners to be up to speed and aids the teacher to manage the learning properly and efficiently. This study is therefore necessary in that it will provide a body of information that will help us understanding the shortcomings of Liberia students in the various universities when it comes to using technology. It will also help lecturers and school administrators to design programs that will improve the abilities of students to efficiently use technology. With regards to socio-economic issues, the research will help us find a way the students could be able to access the available technologies for advancement of learning.

1.4 Research Hypotheses

Based on the nature of this research, the following hypotheses have been developed to be tested for their reliability and contribution to the body of knowledge.

- 70% or more of the university student population of Liberia are not prepared to use technology.
- At least 60% of universities in Liberia have not been able to prepare their learners to use technology at an appreciable for learning purposes.

1.5 Research Questions

- How many Liberian students have been introduced to the use technology in higher education institutions?
- Are the university students in Liberia willing to use technology?
- What proportion of the student population of Liberia can afford to use technology outside of their campuses?
- Which technologies are feasible for use in Liberia based on the current state of affairs?

1.6 General Objective:

The main objective for this study is to assess and analyze the preparedness of Liberian students to use technology. In order to get an understanding of this, the following specific objectives will be considered.

- Estimate the percentage of Liberia students that have been introduced to the use f technology in Colleges and universities

- Determine the number of universities and colleges in Liberia that have already started using technology and determine the level at which technology is used.
- Determine the proportion of Liberian students that can afford using technology at the level of their home to enhance their learning.
- Identify the technologies that can be readily used in Liberia to enhance teaching and learning in universities and colleges.

Chapter Two: Review of Related Literature

2.1 Introduction

2.1 INTRODUCTION

In this chapter, the researcher attempts to review related literature to help in the understanding of poor Higher Education Technology. The researcher acknowledges the fact that there is some literature on in Towns of Uganda and in other countries of the world. Most of the literature reviewed will be from the different sources like text books, websites, Newspapers and journals. In this section, the main purpose is to review issues related to Higher Education Technology that has been investigated by other researchers, in order to gain more insights into the subject under the study and avoid duplications of efforts in this area.

The long distance between institutions and learners around the world has been bridged by the use of modern technologies such as computers, smart phones, video conferencing, computer games, blogs, video-sharing Web sites and online courses, more than ever.

This has increased our opportunities to learn from each other: to see new places, meet new people, explore other cultures, learn new languages, and share and develop ideas. It has now become very faster, easier, more entertaining and motivational for learners and teachers to bring the world into the classroom.

Educators agree on two key points. First, technology provides vital tools for 21st-century learning. Also, today's students are indisputably motivated by technology. Digital devices are already familiar gateways to the world for today's students. Used thoughtfully, these

technologies can give students meaningful connections to people, places, and issues far beyond their own neighborhood.

The different digital tools and formats can be used to promote global learning within content standards as well as for accountability. It is not wise not to view these technologies as an add-on for existing syllabuses, nor should we limit them to technology training courses. As an alternative, they can be used to help teachers meet their global learning goals across multiple curricular areas.

Improving the abilities our students in therefore very important at this when the world has shifted from the traditional way of life to technology. This literature review therefore considers looking at the use of all forms of technologies including the ones physically used in the classroom and those that enhance learning from any location.

2.2 Why Technology in Education?

"For students to participate effectively in the global community, they will need to develop global competence: the attitudes, knowledge, and skills needed to live and work in today's interconnected world and to build a sustainable, peaceful, inclusive world for the future. Global competence is often, and rightly, labeled a "21st century skill" needed for employment in today's global economy. Yet global competence is so much more than a ticket to a competitive job. Students also need global competence to participate as empathetic, engaged, and effective citizens of the world.

What exactly does global competence entail? Many organizations have devised specific frameworks that define the term" (Ariel Tichnor-Wagner, 2016).

Yes. Many students in the developing countries are finding it difficult to meet up with the challenges that avail themselves. Millions of jobs are available on the internet that could pay students while they study in their countries of residence. Millions of learning opportunities, including short courses, webinars, online conferences, workshops, certificate and diploma trainings as well as degree programs are available free of charge or at very low and affordable costs. We are missing these opportunities because we do not know how to effective use technology. Millions of professors who studied before this age are also unable to get the latest updates in their fields due to their inaptitude to effectively and efficiently use technology.

2.3 Global Linking

Connecting Educators across the World

Just as teachers of algebra know how to solve equations and music teachers know how to play scales, educators should also strive to develop these global competencies in themselves so that they can foster them in their students.

Engaging with the world is one way educators can develop global competence. Traditionally in the United States, educators as a whole have experienced limited training around global diversity. For example, very few teacher-preparation programs provide opportunities for preservice teachers to study abroad or require coursework in global topics. Therefore, connecting practicing teachers, principals, and district leaders across communities and continents through summits, conferences, exchanges, and virtual meetings geared towards common professional learning needs can provide experiences that help develop a globally oriented mindset, knowledge base, and skill set. Furthermore, when provided a platform to network, educators can lead the

way in changing the broader education system locally and globally to better support the whole child and elevate the teaching profession.

A number of opportunities already exist for teachers to connect with one another across the world (**Ariel Tichnor-Wagner, 2016)**.

Chapter Three: Methods

3.1 Study Design

For this study, the researcher will use cross-sectional study design. A population-based investigation in which the study of the causes and hindrances, to technology and in the student population will be studied followed by application of suitable statistical techniques which may pave the way for generalization of results. Additionally, comparative analysis of the different types of technologies that are suitable for the Liberian community will be identified by applying the basic knowledge of sciences toward the development of procedures and strategies to understand the usefulness of the different equipment and software.

3.2 Data Collection Techniques and Tools

The researcher will use primary data which will be collected from the field using questionnaires, which are designed to obtain both qualitative and quantitative data. Available data on the use of technology in Liberia and other parts of the world will be reviewed to support the research. Special interviews may be conducted where certain authority may need to clarify information to help the study and such data will aid with the qualitative aspect of the study.

3.3 Profile of the Study Area (Monrovia)

Montserrado the most populated county of Liberia and hosts the capital Monrovia, the largest city, chief port and National capital of Liberia. The City is located on Bushrod Island and Cape Mesurado at the Atlantic coast, at the estuary of the Mesurado River. Monrovia is the cultural, political and financial center of the country and main hub of the commerce and transportation.

Montserrado has a population of 1,118,241 people. Absolute Location of Montserrado is 6° 30' 00" N, 10° 30' 00" W (National Geospatial-Intelligence Agency, Bethesda, MD, USA). The staple food for inhabitants of Montserrado is rice. Many other soup kinds including cassava leaves, potato greens, and palm butter are blended with rice. Alcohol consumption is presently on the increase with majority of the consumers in the age group of 15 years and above. A very tiny portion of the population is involved with physical activity.

3.4 Study Population

The research will focus on College and university students in Monsterrado County, the county hosting the capitol city of Liberia, Monrovia. It has an area of 1,908 km^2 and a total population of 1,118,241 of which 549,733 are males and 568,508 are females (2008 population and Housing Census)

3.5 Study Variables and Definition

3.6 Sampling Techniques and Sample Size

For the purpose of this research, and to allow for the respondents to have an equal chance to be selected, the simple random sampling method will be employed. Since the number of university students in Liberia is infinite (unknown) due to the lack of published data on same , the research will use the following sample size formula for infinite population (more than 50,000) to arrive at a representative number of respondents since the population estimate is known (Godden, 2004):

$$n = \frac{Z^2 \times p\,(1-p)}{M^2}$$

Where:

n = Sample Size for infinite population

Z = Z value (e.g. 1.96 for 95% confidence level)

P = population proportion (expressed as decimal) (assumed to be 0.5 (50%)

M = Margin of Error at 5% (0.05)

Considering that the standard population proportion of 50% (0.5) which is the maximum sample size one can select from a population, the researcher will be comfortable with this standard.

Thus: $n = [(1.96)^2 \times 0.5\ (1\text{-}0.5)]/\ (0.05)^2 = [3.8416 \times (0.5)\ (0.5)]/0.0025 = 0.9604/0.0025 = 384.16 = 385$ respondents.

3.7 Pretesting

In order for the questionnaires to be proven reliable and dependable, a pilot testing of the research questionnaires will be carried out and analyzed to identify any potential problems which in turn will be corrected before the full research begins. A total of one hundred (100) questionnaires will be administered to randomly selected participants to serve this purpose.

3.8 Ethical Consideration

Ethical Clarence for conducting this research will be obtained from the Ethical Review Committee of Silenus University of Science and Literature of Science and Technology in the Commonwealth of Dominica and the National Commission on Higher Education in Liberia. A

written informed consent will be asked for the participation of interviewees in activities that will lead to collecting information .The researcher will register the outcome of the consent procedure for the participant.

3.9 Limitation of the Study

This research, like other studies will be faced with challenges which may include but not restricted to the following:

a. **Computer virus threats**

   The research may experience virus threats on the computer that might delete the entire work without considering time, money, distance and scarce resources during the research process.

b. **Distance**- The researcher will have to travel to Liberia from one university to another to collect information for analysis.

c. **Absence of Key Figures at various Institutions-** This research will also depend on the participation of Stakeholders such as the staff of major institutions. Would there be instances where these key players are absent; the researcher will have to spend extra time to await them to participate in the Process.

3.10 Assumptions

- The result of this research may be helpful to the development of policies to introduce Technology in Liberian schools beginning with the secondary schools in order to prepare secondary school graduates for advanced university studies;

- The results of the interview may indicate that Liberia lacks the required preparation for advanced technical education I tertiary institutions..
- There may be alternatives for the use of Technology discovered during the study.

Chapter Four: Data Analysis Plan

4.1 Statistical Methods

Data will be analyzed using STATA, version 12 (StataCorp LP, Texas, USA). The level of preparedness of college and university students to use technology in Liberia will be determined using descriptive statistics.)

Multivariable linear regression analyses will be done to assess the association of well-known predictors for poor technology. Variables that will be included in the analysis are financial Status, Access to gadgets, training program availability, National educational policies on education and technology, Science and technology advancement, Age, socioeconomic status (measured as total annual expenditure), regardless of statistical significance, etc.

A sensitivity analysis will be performed to estimate the bias due to non-random missing data. During the analysis, regression models that will include financial Status, Access to gadgets, training program availability, National educational policies on education and technology, Science and technology advancement, Age, socioeconomic status.

4.2 Data Analysis

It should be noted that, data obtained from the field in raw form is difficult to interpret. The initial data collected will be subjected to quality checks, to ensure that the recordings are appropriately done with minimal errors. This will entail editing, repeating interviews where necessary, coding, summarizing, categorizing and grouping similar information, analyzing according to the theme of the study. It is important to note quotations and observations made

during the interviews and their sources or the name of the interviewee. All the questionnaires will be analyzed whether completed or not. Data analysis and processing and statistical analysis will be done using Microsoft Excel Spreadsheets, and STATA. Frequencies distributions of the emerging issues will then be established and this will be presented in a tabular or graphic form like pie-chats, bar graph, frequency polygons. Care will be taken to avoid discarding any data, as this could be reverted to in later analysis.

At the end of it all, it will be from the results of analysis that the researcher will be able to make logic of the data and gave his interpretation and discussion of the data obtained in relation to phenomenon Higher Education Technology.

References: