

INFORMATION AND COMMUNICATIONS TECHNOLOGIES AVAILABLE FOR SKILLS ACQUISITION IN SELECTED TECHNICAL COLLEGES IN SOUTHWESTERN NIGERIA

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Pages 185 - 190

ABSTRACT

This study examined the Information and Communications Technology (ICT) devices used for skills acquisition in selected Technical colleges in Southwestern Nigeria, these was with a view to access Information and Communications Technology Integration for Skills Acquisition. The study was carried out in three southwestern states of Nigeria namely Ekiti, Lagos, and Ondo states. Primary data were collected using 156 copies of structured questionnaire, administered among tutors and students of the following vocational skills: Fabrication and Welding, Electrical Installation, Auto-Mechanic Works and Furniture design-construction. Ten (10) and three (3) tutors from each department were selected totaling 156 respondents. The results showed that the social media platforms (100%) and internet (100%) were most common for skills acquisition, while tablets (0%), interactive whiteboards (0%) and scanners (0%) were the least. The study concluded that teaching and learning in Technical and vocational schools could be improved by making these information and communication technologies available.

Keywords: *Information and Communications Technology, Skills acquisition, Technical Colleges, Southwestern Nigeria.*

1.0 Introduction

Education is a process that aims to provide learning, improve skills, and build capacities that can lead to the development of mental readiness and a positive attitude toward life (Walter, 2015). This implies that if education is provided in a satisfactory manner, people would be able to support themselves and contribute significantly to the growth and welfare of their society. Essentially, education is the only aspect that ensures both individual and community success (Ragnard, 2010). As a result, if a person acquires skills and a positive mindset, and then uses those skills and mentality to support his community, is an indication that education has changed (transformed) the person for the better and scientifically (knowledge) as well.

Technical Vocational Education Training (TVET) offers basic skills and aptitude that are combined with advanced expertise in different TVET programmes. According to the United Nations Scientific and Cultural Organization (UNESCO, 2013), TVET covers the research of different technologies and associated fields to advance economic sectors. Various institutes of technology, such as polytechnics, colleges, and vocational schools, offer these education and training. Technical education, with its characteristic breadth and responsiveness to emerging technologies, continues to be a vital tool for preparing the workforce needed for national growth (Hunt, 2011). It is concerned with the techniques for preparing materials using apparatuses and hardware, into results of economic value as a workshop-based instruction (Omar *et al.*, 2015). It is also involved in providing services such as in-home economics, health professions, and other administrative fields. In view of the above, vocational education is the key to national progress.

According to a World Bank survey (2013), middle-income in East Asian countries that

have developed into industrial giants, such as China and Korea, have over 50% of their tertiary students enrolled in TVET programmes (World Bank, 2013).

Information and communications technology (ICT) is the processing and use of data through the use of computer hardware and software, telecommunications, and advanced electronics (Mairaj, 2012). ICT, in other words, refers to the use of electronic devices for data processing in a more scientific context. ICT has been given significance by researchers in relation to its usage. According to Akindolu (2012), Information and Communication Technology (ICT) encompasses all forms of hardware used in television, telecommunications, and computer-mediated communication. Eze (2014) took it a step further by including the microelectronic collection, processing, storage, and distribution of vocal, pictorial, textual, and numerical data.

Developed countries in Europe and America are known for their use of ICT in a variety of sectors to increase efficiency and benefit, and this has ushered in a digital revolution in these developed countries (Farhadi *et al.*, 2012). ICTs have aided the educational, manufacturing, social, and professional growth of sectors for many years. Rapid developments in the use of computers and computer-based technologies have had an impact on educational systems all over the world over the last two decades (Minuandy *et al.*, 2010). This includes, among other items, online assessments, online admissions forms, online registration, and online result viewing. When it comes to teaching and learning, however, there is no doubt that ICT has improved or strengthened the areas. Tutors have improved their teaching techniques, students have also improved their learning ability by using the internet to search for information; both have seen positive results as the medium's effectiveness has skyrocketed.

Educationists from developed countries are well ahead of their counterparts from developing countries like Nigeria, this is because developed countries see science and technology as growth resources, and thus integrated ICT into their educational system. Therefore, there is not a single educational field or area, where ICT doesn't have a positive effect on both tutors and students, because the use of modern ICT technologies in all fields of learning is dominated by science, innovation, and technology.

2.0 Statement of the Problem

It has been claimed that countries compete to build and upgrade their educational systems because education is a tool that improves useful and logical capacity, allowing individuals and groups to gain more prominent access to labour markets and vocations (Vijay, 2017). According to a World Bank survey, more than half of tertiary students in middle-income East Asian countries that have grown into industrial giants, such as China and Korea, are enrolled in TVET programmes (World Bank, 2013)

Several literatures (e.g. Adelekan *et al.*, 2014) have confirmed that Nigerian Technical College students and graduates have low information and communication technology (ICT) skills. Therefore, there is a need to investigate the Information and Communication technologies that the students and their tutors are exposed to, in the course of skills acquisition (learning and teaching) in TVET.

3.0 Purpose of the Study

Adequate information on the Information and Communications Technologies for skills acquisition (teaching and learning) in Technical Colleges in Nigeria is needed, so as to guide decision making and policy formulation in Nigerian educational sector.

4.0 Research Questions

This paper seeks to answer the research question: What are the Information and Communications Technologies (ICTs) available for skills acquisition in the selected Technical Colleges in Southwestern Nigeria? Therefore, the objective of the study was to examine the Information and Communications Technologies (ICTs) available for skills acquisition in selected Technical Colleges in Southwestern Nigeria.

5.0 Methodology

Study Area

The study was conducted in Southwestern Nigeria. The study focused on all NBTE (National Board for Technical Education) approved Technical Colleges in Southwest Nigeria. The Colleges are Government Technical College, Ado-Ekiti, Ekiti State; Federal Science Technical College, Yaba, Lagos State; and Don Bosco Training Centre, Ondo, Ondo State offering these selected vocational skills: Fabrication and Welding; Electrical Installation; Auto-Mechanic works; and Furniture design-construction. States to be covered are Lagos, Ekiti and Ondo state, so as to have three (3) Technical Colleges evenly distributed among the Federal, State and Private owned Technical Colleges.

Population and Sampling

The research was conducted among 156 members of tutors and students purposively selected from four different departments namely: Fabrication and Welding, Electrical Installation, Auto-Mechanic works, and Furniture design-construction. This selection was based on the departments that ICT could easily be integrated. The tutors and students were selected randomly from each of the departments based on their availability.

Research Design: Research instrument for collecting primary data

Primary data were collected through structured questionnaire from the selected accredited Technical Colleges in the study area. Therefore, the study area was Technical Colleges located in Southwestern Nigeria offering these courses: Fabrication and Welding, Electrical Installation, Auto-Mechanic works and Furniture design-construction. Using random sampling and based on availability, questionnaire was administered to Ten (10) students; 1 Technical/Laboratory Technician; and 2 Academic tutors in each of the departments of the selected skills, making a total of 156 respondents for the questionnaire administration. The questionnaire elicited information on the available Information and Communications Technologies in selected colleges (e.g. Interactive boards, Desktop and laptops, Computer aided Design (CAD), Computer aided Engineering (CAE) among others).

6.0. Results and Discussion of Findings

Statistical Package for Social Sciences, SPSS, was used to analyse the data collected through structured questionnaire administered in the selected Technical colleges in Southwestern Nigeria. Frequency analysis was run to know the most ICT devices used for skills acquisition in Technical Colleges in the study area.

Table 1.0 reveals the available ICT devices used for teaching in the selected Technical Colleges in Southwestern Nigeria. Obviously as in the table, all (100%) the tutors ranked pen drives, social media platforms and internet to be the mostly- used ICT devices for teaching in the Technical Colleges. The high ranking might be because pen drives are now common for data storage recently among both tutors and students,

because of its portability and high capacity of storage.

Table 1.0: Available ICT Devices for Teaching in Selected Technical Colleges

	ICT Device	Frequency N=36	Percentage (%)
iv.	Desktops and Laptops	27	75.0
vii.	Computer aided instruction(i.e. CAD, CAE,CAM)	16	44.4
xiii.	Interactive whiteboard	0	0.0
xiv.	Scanners	0	0.0

Also, 75% of the tutors felt that desktops and laptops were also being used, while 66.7% were in support of projectors and printers to also be among the ICTs also being used. These devices are recently being used by tutors and students because of their uses in doing assignments, typing thesis, and surfing the internets, which are some of the things mobile phones may not conveniently perform. However, none of the tutors (0%) supported that tablets, interactive whiteboards and scanners were in use, which could be because of their high costs of acquisition, so these are the lowest ranked ICT devices indicated.

Similarly, Table 2.0 reveals the available ICT devices used for learning in selected Technical Colleges. Frequency analysis was also run to know the available ICT devices in the study area. Clearly as in Table 2.0, all the students (100%) ranked social media platforms and internet to be the mostly used ICT devices for learning in the Technical Colleges. Social media platforms (such as Whatsapp, Facebook among others) are very useful in learning because of the high rate at which information is shared and so on. Internet is a tool that without it, some Information and Communication Technologies cannot be utilized (such as

opening of websites and social media platforms etc).

interactive whiteboards, scanners and DVDs/CDs are the lowest ranked ICT devices.

Table 2.0: Available ICT devices for Learning in Selected Technical Colleges

	ICT Device	Frequency	Percentage
i.	Social Media Platform(i.e Facebook, Twitter, WhatsApp)	94	100.0
vii.	Computer aided instruction(i.e CAD, CAE,CAM)	26	27.7
xii.	Interactive whiteboard	0	0.0
xiii.	Scanners	0	0.0
xiv.	DVDs and CDs	0	0.0

More than half of the respondents (57.4%) ranked projectors and printers to be the ICT devices next in use, while digital cameras, tablets, interactive whiteboards, scanners and DVDs/CDs are the lowest ranked (0%) ICT devices.

a. Conclusions

The tutors in the selected technical colleges ranked pen drives, social media platforms and internet to be the mostly- used ICT devices for teaching in the Technical Colleges, while none of the tutors supported that tablets, interactive whiteboards and scanners were in use, so these are the lowest ranked ICT devices for teaching in the study area.

Similarly, all the students ranked social media platforms and internet to be the mostly used ICT devices for learning in the Technical Colleges, while digital cameras, tablets,

Drawing from all the ICTs being in use for both teaching and learning in technical colleges as revealed by this study, social media platforms and internet were most common for skills acquisition, while tablets, interactive whiteboards and scanners were the least. The findings showed that adequate measures of using ICT for skills acquisition (both teaching and learning) have not been put in place in the selected Technical Colleges as it ought to be, especially in the state and Federal owned Colleges.

The study therefore found out that the Technical Colleges make use of ICT, though the level of integration of ICTs into their teaching and learning is very low, because many ICTs that are very beneficial to educational sector, is still not in use at all, or lower in use. Thus, the study concluded that teaching and learning in Technical and vocational schools could be improved by making these information and communication technologies available.

8.0 Recommendations

The study recommends that the government/management should ensure that more attention is being paid to the integration of ICT devices in the teaching and learning process for skills acquisition.

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[Back to the CONTENTS](#)

[Top of the Article](#)