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ADMINISTRATORS' ASSESSMENT OF ICT SKILLS POSSESSED BY AACADEMIC STAFF OF COLLEGES OF EDUCATION IN SOUTH WESTERN NIGERIA

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Abstract

The low ICT literacy level of NCE graduates in Nigeria was attributed to the level of ICT skills possessed by lecturers in colleges of education. This study was aimed at investigating the ICT skills possessed by academic staff of colleges of education in south western Nigeria. Three research questions guided the conduct of the study. Survey design was adopted for the study. The population of the study consisted of 379 programme administrators. 229 programme administrators constituted the sample used for the study. A questionnaire titled 'Teacher ICT Skills Assessment Questionnaire (TICTSAQ)' was developed by the researcher on a 4-point response scale and used for the collection of data. The instrument was validated by four experts. The reliability coefficient of the instrument was 0.76 using the Cronbach Alpha. The analysis of data was done using arithmetic mean. The results revealed that lecturers did not possess all ICT skills assessed in the study. It was recommended among others that teacher education curricula should be reviewed by the government to include ICT skills not possessed by lecturers.

Introduction

Technology brings about better ways of doing things. Computer, which is a product of technology, came into being since the 19th century. The result of the various improvements to the development of the computer had brought innovation into all areas of human endeavour including teaching and learning processes. The current wave of technology in education today is information and communication technology which according to Butcher, (2003) is an electronic technology for collecting, storing, processing and communicating information. ICT includes any device that can collect, edit and transmit information from one end to another. It is an innovation, which has been found to make teaching and learning more interesting and effective than ever before.

With the emerging technologies, the teaching profession is evolving from an emphasis on teacher centered, lecture-based instruction to student-centered and interactive learning environments. Fisher (2000) posited that with numerous global advancements in ICT, it is essential that teachers have a thorough working knowledge of modern technologies

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and their influence on the performance and engagement of their students. Thus, teachers in institutions of higher learning are expected to possess ICT proficiency in three major areas, namely: cognitive, technical and social.

Kiadese (2012) affirmed that lecturers in colleges of education must possess certain ICT skills in order to produce competent NCE graduates that would fit into the world of work and meet the global challenges. These skills include computer application usage, computer operations and computer software development and usage among others. Computer application usage skills are essential in order to make the best use of computer in everyday activities. The computer applications include word processing, spreadsheet, desktop publishing and graphics. Lecturers in colleges of education that possess these skills will be able to use computer for processing documents, forecasting, planning, preparing budget and presenting financial statements. FME (2007) recommended that teachers need to possess the knowledge of computer operations to enable them use computer for delivering instruction through the use of computer assisted instruction.

Dede (2003) conducted a study on computer skills of teachers and noted that teachers possessed computer operations at average level. Furthermore, Olatoye (2005) carried out a study on the use of ICT devices among teachers in Lagos State and reported that the teachers lacked basic computer skills such as computer operations and management. The learning environment such as college of education in the current digital age required lecturers to possess computer software development and usage skills. Computer software and usage skills afford lecturers to use software to perform various activities via computer (Adeyeye, 2008). The knowledge of computer software development and usage skills by lecturers would enhance students' learning outcomes and positive attitude towards learning (Agbatogun, 2007). Thus, Lawal (2011) stated that NCE teachers lacked the required competencies in computer software development and usage. The computer software development and usage skills include: drills and practice, tutorials and simulations.

Although, it had not been established in recent time whether lecturers in colleges of education possessed these ICT skills or not. In order to determine the ICT skills possessed by lecturers in colleges of education, there is need for an assessment either through experts or individuals concerned (self assessment). It is often good to use experts in assessment in order to produce objective results. Assessment plays an important role in education system. Nitko in Kolawole (2014) defined assessment as a process for obtaining information that can be used for making decisions about students, curricula, programme, educational policy and teachers. Decisions about teachers show whether a teacher possessed the required skills that qualify him to teach effectively in a particular field of study. The assessment procedures include formal and informal assessment techniques, observation, rating scale and records (Kolawole, 2014). For the purpose of this study, programme administrators (Deans and Heads of Departments) in colleges of education were used to assess three ICT skills possessed

by academic staff of colleges of education in south western Nigeria.

Literature is replete with low level of ICT literacy and computer skills among teachers in Nigeria (Bilesanmi, 2006 & Yusuf, 2009). Yusuf reported that many teachers in Nigeria cannot operate the computer and other data communication facilities for teaching and learning processes. It has been observed that some lecturers who are currently teaching in colleges of education in Nigeria were trained when technology was still far away from the country, that is when ICT had not been integrated into the teacher education curricula. Therefore there is need to determine the ICT skills possessed by lecturers in colleges of education in view of variations in the computer programmes which they enrolled for in order to acquire ICT skills.

Statement of the Problem

The importance of ICT in education system has been stressed by scholars in recent times as its usage can improve the teaching methods of teachers and students learning. Available evidence, suggests that vast majority of teachers do not possess the required knowledge, competence and technique to harness ICT into the teaching and learning process (Yusuf, 2009). Also, there seems to be a gap between the actual ICT skills possessed by lecturers in colleges of education and ICT skills expected of them. In addition, previous studies revealed that the existing teacher education curricula are deficient in such ICT skills required of teachers to function effectively in the modern society. Unfortunately, there is no compendium of the relevant skills in the curricula which requires an assessment of what lecturers must have in order to determine what is lacking hence, the need to assess the ICT skills possessed by lecturers in colleges of education.

Purpose of the Study

The purpose of this study was to assess the ICT skills possessed by academic staff of colleges of education in south western Nigeria. Specifically, the study assessed:

1. Computer application usage skills possessed by lecturers in colleges of education in south western Nigeria.
2. Computer operations skills possessed by lecturers in colleges of education in south western Nigeria.
3. Computer software development and usage skills possessed by lecturers in colleges of education in south western Nigeria.

Research Questions

The following research questions guided the study.

1. To what extent do lecturers in colleges of education in south western Nigeria possess computer application usage skills?

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2. To what extent do lecturers in colleges of education in south western Nigeria possess computer operations skills?
3. To what extent do lecturers in colleges of education in south western Nigeria possess computer software development and usage skills?

Method

The study adopted survey research design. The questionnaire was used to elicit the opinions of programme administrators in colleges of education. The study covered south west Nigeria comprising of eleven public owned colleges of education. The population of the study comprised all Heads of Departments and Deans of schools of Art and Social Sciences, Languages, Education, Science and Vocational and Technical Education. Thus, 379 programme administrators formed the population of the study. A sample of 229 programme administrators was selected by purposive sampling technique. The instrument for the study was a structured questionnaire developed by the researcher on a 4-point response scale of Highly Possessed (HP) 4, Moderately Possessed (MP) 3, Fairly Possessed (FP) 2 and Not Possessed (NP) 1. The instrument was validated by four experts, two in computer science, one in business education and measurement and evaluation respectively. The reliability of the instrument was established using Cronbach Alpha and yielded a reliability coefficient of 0.76. Data collected for the study were analyzed with the arithmetic mean to answer the research questions. The decision rule was as follows: item with the mean between 3.50-4.49 was regarded as HP, 2.50-3.49 as MP, 1.50-2.49 as FP and 0.50-1.49 as NP.

Results

Research Question 1

To what extent do lecturers in colleges of education in south western Nigeria possess computer application usage skills?

Table 1: Mean ratings of the respondents on computer application usage skills possessed by lecturers in colleges of education in south western Nigeria

S/N	Computer Application Usage Skills	Mean	Remarks
1	Ability to open a Microsoft Word application	3.48	MP
2	Ability to type on Microsoft Word application	3.52	HP
3	Ability to introduce tables, bullets, number lists and paging	3.65	HP
4	Ability to check spelling and editing documents	3.30	MP
5	Justifying text and changing line spacing in document	3.52	HP
6	Create a new document	3.44	MP
7	Ability to change format of a word document	3.50	HP
8	Running headers/footers in document	3.57	HP
9	Ability to print a document	3.64	HP
10	Save documents in different formats (RTF, PDF)	3.64	HP
11	Ability to create a news letter	3.61	HP
12	Ability to draw auto shapes	2.91	MP
13	Ability to create new spreadsheets	3.49	MP
14	Create graph for spreadsheets data	3.52	HP
15	Using desktop publishing programme	3.48	MP
16	Ability to upload and insert graphic files	3.42	MP
17	Format data in a cell	3.55	HP
18	Ability to crop selected objects	3.53	HP
	Total mean	**62.77**	
	Group mean	**3.49**	**Possessed**

Results in Table 1 reveal that out of 18 items, 11 items were assessed to be highly possessed while seven were assessed to be moderately possessed. With group mean of 3.49, the programme administrators assessed computer application usage skills as being possessed by lecturers in colleges of education in south western Nigeria.

Research Question 2

To what extent do lecturers in colleges of education in south western Nigeria possess computer operations skills?

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Table 2: Mean ratings of the respondents on computer operations skills possessed by lecturers in colleges of education.

S/N	Computer operations skills	Mean	Remarks
1	Ability to power on computer, monitor and printer.	3.60	HP
2	Ability to use mouse and keyboard successfully	3.58	HP
3	Ability to network computer to exchange file and information	3.44	MP
4	Ability to create folder and sub-folders	3.65	HP
5	Ability to save on computer system and external devices	3.56	HP
6	Ability to open new computer environment	3.65	HP
7	Ability to scan the computer system and external devices to detect virus	3.55	HP
8	Ability to retrieve work from computer system and external device	3.58	HP
9	Set up a computer network using either wireless LAN network	3.48	MP
10	Ability to format a computer system and external devices	3.41	MP
11	Use window operating system	3.66	HP
12	Set up a new personal computer	3.27	MP
13	Use computer to deliver instruction	2.78	MP
	Total mean	**45.21**	
	Group mean	**3.48**	**Possessed**

The results in Table 2 show that lecturers possessed eight out of the 13 items highly, while five of them were moderately possessed. In all, programme administrators indicated that lecturers in colleges of education moderately possessed computer operations skills. This finding was confirmed by the group mean of 3.48.

Research Question 3

To what extent do lecturers in colleges of education in south western Nigeria possess computer software development and usage skills?

Table 3: Mean ratings of the respondents on computer software development and usage skills possessed by lecturers in colleges of education.

S/N	Computer software development and usage skills	Mean	Remarks
1	Ability to write educational programmes	1.06	NP
2	Select and evaluate subject specific educational software	1.68	FP
3	Develop computer assisted instruction software package	1.32	NP
4	Ability to develop software to teach a subject	1.08	NP
5	Ability to use different instruction software	1.02	NP
6	Ability to develop software to evaluate instruction	1.09	NP
7	Develop presentation package software	1.16	NP
8	Develop software to compute results and keep student records	1.70	FP
9	Use subject specific software to give instruction	1.04	NP
	Total mean	**11.15**	
	Group mean	**1.24**	**Not possessed**

The results in Table 3 show that the respondents assessed two of the items as fairly possessed by lecturers while others were not possessed. In general, none of the ICT skills assessed by programme administrators in this category was possessed by lecturers in colleges of education in south western Nigeria. In summary, the group mean of 1.24 is an indication that lecturers in colleges of education did not possess computer software development and usage skills.

Discussion

One of the findings of the study is that lecturers in colleges of education possessed computer application and usage skills. The possession of computer application and usage skills by lecturers is essential in order to make the best use of computers in everyday activities. Omoniyi (2005) reported that teachers could find computer application useful in the production of instructional materials, lesson plan and instructional activities. The outcome of this study is in line with the views of Ogunyemi (2011) who reported that although there were variations in the ICT skills possessed by teachers, majority of them possessed ICT skills in the area of word processing and spreadsheet.

Another finding of the study indicated that lecturers in colleges of education possessed computer operation skills. This finding showed that the knowledge of computer operations is essential for effective performance of every lecturer in teaching and mentoring students and giving assignments. The possession of these skills would enable lecturers in colleges of education to perform such operations as opening new computer environment, networking computers to exchange files among others. This finding supports the views of Dede (2003) who reported that teachers averagely possessed skills in computer operations among other

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ICT skills required of a teacher. Dede noted that knowledge of computer operations would afford teachers opportunities of setting up new personal computers. The finding, however, contradicted the views of Olatoye (2005) who stated that teachers lacked basic ICT skills such as computer operations and management.

The finding of the study revealed that lecturers in colleges of education did not possess computer software development and usage skills. The use of software in education guarantees teachers effectiveness and enhances student learning outcomes and positive attitude towards learning. It was noted from the study that several lecturers in colleges of education cannot write educational programmes and develop software to evaluate instruction. These outcomes supported the stand of Lawal (2011) who reported that NCE teachers did not possess required ICT skills in computer software development and usage. Lawal observed that a vast majority of NCE teachers lacked the basic skills that involve the use of computer assisted instructional package.

Conclusion

Based on the findings of this study, it was established that lecturers in colleges of education did not possess all ICT skills in which they were assessed by the programme administrators. It was noted that out of three ICT skills assessed in the study, lecturers possessed only two namely: computer application usage and computer operations. It was also observed that lecturers in colleges of education in south western Nigeria did not possess computer software development and usage skills. However, it is necessary to organize series of training programmes for lecturers especially, in the area of ICT skills that are not possessed coupled with provision of relevant infrastructure in colleges of education to promote acquisition of ICT skills. This is to reduce to the barest minimum deficiency in ICT skills required of lecturers to function effectively in the college.

Recommendations

Based on the findings of this study, the following recommendations were made.

1. The regulatory agency, National Commission for Colleges of Education should initiate a curriculum review that would include ICT skills not possessed by lecturers such as computer software development and usage into the minimum standards of teacher education programme.
2. The National Commission for Colleges of Education (NCCE) and college authorities should, as a matter of policy make regular training in ICT compulsory for all academic staff to enable them update and acquire necessary skills

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