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Computer Awareness and Classroom Application Amongst Lagos State Primary School Teachers (A Case Study of Lasu Training Centre)

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Abstract

The purpose of the study was to find out the extent to which public primary school teachers in Lagos State were aware of the use of computer to teach and their applicability level. To achieve this, three research questions were raised with questionnaire administered on 69 public primary school teachers sent for computer training at the Lagos State University in July 2016, making the study a case study research. All the public primary school teachers therefore represented the population of the study. The Cronbach's reliability coefficient stood at 0.78. The design adopted was a descriptive one and analysis was done by the use of descriptive (Tables, means and percentages) and inferential (Mann-Whitney U-test) statistics. Findings indicated that public primary school teachers are aware of the use of computer in a classroom setting; there is a statistically significant difference between the male and female teachers on the computer awareness and application with the men having an upper hand; and that there is no significant difference between the younger and older teachers on the subject matter of computer awareness and application in Lagos State. Based on these findings, recommendations were made some of which are: that all public primary schools in Lagos State must be equipped with computer systems and accessories; and more attention should be given to female teachers as far as computer training is concerned.

Keywords

Computer, Awareness, Classroom application, ICT, Methodology, Computer application

Introduction

Information and communication (ICT) is an umbrella name that covers electronic gadgets in the forms of hardware, software and their applications. Within this umbrella are therefore computer and its accessories, computer application, internet service provision, telecommunications equipment and services, information technology equipment and services, media and broadcasting, commercial information providers, and network-based information services to mention a few. UNESCO (2002) regards the term as "the combination of informatics technology with other related technology, specifically communication technology".

At the heart of this important tool are the computer and its accessories. Computer is so useful in a man's life to the extent that the concept of ICT is erroneously taken to mean computer and its application. According to Pelgrum and Law (2003), "near the end of the 1980s, the term computers was replaced by Information Technology signifying a shift of focus from computing technology to the capacity to store and retrieve information. In a related manner,Girasoli (2008) asserts that "there appears to be a misconception that ICTs generally refers to computers and computing related activities". There is hardly any sector in the world today that is not affected by ICT. It is so essential that ICT is a leading feature among the family of features of modern societies. Indeed, it seems there cannot be any meaningful development today without ICT. It is a building block of modern societies.

Surprisingly, many successes recorded by criminals in their heinous activities have been traced to the use of ICT, especially the computer system, hence the concept of cyber-crime or e-crime. Still, tracking down these illicit activities by the Nigerian police has its success traceable to the ICT.

Given this background, won't it be surprising not to have the presence of ICT especially the computer system in classrooms for effective teaching/learning exercise? Even children nowadays make good use of the computer system to download information, exchange ideas, make friends, and learn academic activities through this medium. Effective teachers therefore supplement their teaching methods with this approach. By Girasoli's (2008) explanation, "many countries now regard understanding ICT and mastering the basic skills and concepts of ICT as part of the core of education, alongside reading, writing and numeracy".

A bad teacher will be good at his job while a good teacher will be better at his job with the application of computer in the classroom. The ease with which teachers can teach with the use of computers and learn without stress on their own make the inapplicability of computers and their accessories in classrooms a serious issue. There is the news being spread that primary school teachers cannot use computer in Nigeria which makes this study essential. If this is true, how can pupils fully enjoy and academic activities? The 2016 West African Examination Council's result put academic performance at over 53% including English and Mathematics. Prior to this time, performance has always been fluctuating between 20-30%, and in some cases less. This can be traced to the wide application of ICTs, especially the computer system in classroom and series of ICT trainings secondary school teachers were exposed to in Nigeria generally, and particularly, in Lagos State. It is therefore important to gauge the public primary school teachers' level of computer awareness and classroom application to guide policy formulation in an attempt to improve teaching/learning exercise, being the purpose of the study.

Literature Review

Classroom Application of ICT

Globally, ICT is a strong force in education due to its flexibility in use and numerous advantages it has added to classroom teaching bringing teachers and students to the same spot even though physically they are some distance apart. The various kinds of ICT products available and having relevance to education such as teleconferencing, e-mail, audio conferencing, television lessons, radio broadcasts, interactive radio counselling, interactive voice

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response system, audio cassettes and CD ROMs, etc, according to Bhattacharya and Sharma (2007) and Sanyal(2001) "have been used in education for different purposes".

The use of computer in education is so essential that hardly can students do anything today without recourse to the computer system any computer gadgets such as the i-pad, handset, tablet, etc. according to Yusuf (2005), the field of education "has been affected by computer, which undoubtedly has affected teaching, learning and research".

Conducting a study on the relevance of ICT to education, Al-Ansari (2006) conclude that ICTs have the potential "to innovate, accelerate, enrich and deepen skills, to motivate and engage students, to help relate school experience to work practices and strengthening and helping schools change".

A Brief History of Computer Application in Classroom

Quite a lot has been said and reported about classroom application in education. Initially though, computers according to Jhurree (2005) were used to teach computer programming but the development of the microprocessor in the early 1970s saw the introduction of affordable microcomputers into schools at a rapid rate. Computers and applications of technology became more pervasive in society which led to a concern about the need for computing skills in everyday life.

At what point was computer introduced into classroom setting? In their response, Hepp, Hinostrova, Laval and Rehbein (2004) claim that ICTs have been utilised in education ever since their inception, but they have not always been massively present. According to Pelgrum and Law (2003) at that time computers have not been fully integrated in the learning of traditional subject matter, the commonly accepted rhetoric that education systems would need to prepare citizens for lifelong learning in an information society boosted interest in ICTs.

The 1990s witnessed its own share of massive deployment of ICTs to classrooms. It was a decade of computer communications and information access, particularly with the popularity and accessibility of internet-based services such as e-mail and the World Wide Web. At the same time, the CD-ROM became the standard for distributing packaged software (replacing the floppy disk). As a result educators, according to Girasoli (2008), became more focused on the use of technology to improve student learning as a rationale for investment. Any discussion about the use of computer systems in schools is built upon an understanding of the link between schools, learning and computer technology. In Mevarech and Light's (1992) expression, "when the potential use of computers in schools was first mooted, the predominant conception was that students would be 'taught' by computers. In a sense, it was considered that the computer would 'take over' the teacher's job in much the same way as a robot computer may take over a welder's job.

Clarifying further the application of ICTs to teaching/learning exercise, Girasoli's (2008) divides the application into two categories: ICTs for education and ICTs in education. ICTs form education refers to the development of information and communications technology specifically for teaching/learning purposes, while the ICTs in education involves the adoption of general components of information and communication technologies in the teaching/learning process.

Conventional Teaching versus ICT Classroom Application

There is no denying the fact that conventional teaching led by lecture method, demonstration method, group method, to mention a few, largely emphasise contents. For many years, courses have been written around textbooks. Teachers have taught through lectures and presentations interspersed with tutorials and learning activities designed to consolidate and rehearse the contents. Contemporary settings are now favouring curricula that promote competency, individualized instruction and performance. Curricula, according to Oliver (2000) are now emphasising capabilities and more concerned with how information will be used than with what the information is. Contemporary ICTs are able to provide strong support for all these requirements and there are now many outstanding examples of world class settings for competency and performance-based curricula that make sound use of the affordances of these technologies.

There is no doubt that the integration of ICTs can help revitalise teachers and students. This can help to improve and develop the quality education by providing curricula support in difficult subject areas. To achieve these objectives, according to Girasoli's (2016), "teachers need to be involved in collaborative projects and development of intervention change strategies which would include teaching partnerships with ICT as a tool".

To be fully integrated into the use of computer and ICT generally, teachersmsut have flair for technology and believe in it. According to Zhao and Cziko (2001) three conditions are necessary for teachers to introduce ICT into their classrooms: teachers should believe in the effectiveness of technology; teachers should believe that the use of technology will not cause any disturbances; and finally teachers should believe that they have control over technology. However, research studies show that most teachers do not make use of the potential of ICT to contribute to the quality of learning environments, although they value this potential quite significantly (Smeets, 2005). Harris (2002) conducted case studies in three primary and three secondary schools, which focused on innovative pedagogical practices involving ICT. Harris (2002) concludes that the benefits of ICT will be gained "…when confident teachers are willing to explore new opportunities for changing their classroom practices by using ICT. As a consequence, the use of ICT will not only enhance learning environments but also prepare next generation for future lives and careers (Wheeler, 2001).

Research Questions

The study is guided by the following research questions.

1. What is the computer awareness and application level of public primary school teachers in Lagos State?
2. Will there be any significant difference between male and female teachers in their computer knowledge and application?
3. Will there be a significant difference between younger and older teachers with respect to computer awareness and classroom application?

Methodology

Presented in Table 1 is the tabular approach of the methodology adopted by the study.

Table 1: Tabular presentation of methodology

Research Design	Descriptive
Population	All the public primary school teachers in Lagos State
Sample	Being a case study, the sample size is the 69 public primary school teachers that were trained by the Lagos State University, Faculty of Education on the use of computer, sponsored by the Lagos State Government in July, 2016
Instrument	Questionnaire on a 2-point scale of Agree and Disagree
Reliability of Instrument	By Cronbach's alpha coefficient stood at 0.78
Data Analysis	Tables, percentages and Mann-Whitney U-test

Answers to Research Questions

S/N	Items	A	D
Knowledge about the computer system			
1	I can start the computer on my own	68 (98.6%)	1 (1.4%)
2	I can access any programme on the computer	59 (85.5%)	10 (14.5%)
3	I work on the computer system regularly	48 (69.6%)	21 (30.4%)
4	I can identify all the physical configuration of a computer system by their names	56 (81.2%)	13 (18.8%)
5	I type on the keyboard with ease	60 (87.0%)	9 (13.0%)
6	I can create a file on a computer	61 (88.4%)	8 (11.6%)
7	I can save any document I am working on in a file	65 (94.2%)	4 (5.8%)
Use of computer to teach			
1	I am aware computer can be used to teach or pass messages to a gathering	69 (100.0%)	0%
2	If provided with a computer system, I can use it to teach	63 (91.3%)	6 (8.7%)
3	Computer system does not require any other equipment to carry out effective teaching	12 (17.4%)	57 (82.6%)
4	I had attended (a) seminar(s) where computer system was used to deliver lectures	46 (66.7%)	23 (33.3%)
Knowledge about Powerpoint (PPT)			
1	I have heard about powerpoint before	64 (92.8%)	5 (7.2%)
2	Powerpoint is not useful in teaching	12 (17.4%)	57 (82.6%)
3	I can access powerpoint on any computer system	52 (75.4%)	17 (24.6%)
4	I had attended a gathering where powerpoint was used to deliver lectures	41 (59.4%)	28 (40.6%)
5	I had taught before using powerpointng	22 (31.9%)	47 68.1%)

1. What is the computer awareness and application level of public primary school teachers in Lagos State?

Table 2 has three areas that define computer awareness and application. As would be observed, most of the respondents (80.45% on the average) alluded to the fact that they have computer knowledge, and if given the chance, it will be applied to classroom setting. This is encouraging though, but getting 100% should not be a debatable idea.

2. Will there be any significant difference between male and female teachers in their computer knowledge and application?

Table 3: Mann-Whitney *U*-test presentation of male and female responses to items

Ranks

	sex	N	Mean Rank	Sum of Ranks
computer knowledge & application	male	30	40.53	1216.00
	female	39	30.74	1199.00
	Total	69		

Test Statistics[a]

	computer knowledge & application
Mann-Whitney U	419.000
Wilcoxon W	1199.000
Z	-2.034
Asymp. Sig. (2-tailed)	.042

There is statistically significant difference between male and female teachers on the subject matter of computer awareness and application ($U = 419.000$, $N_1 = 30$, $N_2 = 39$, $p = 0.042$, two-tailed)

From Table 3, there were 30 male and 39 female respondents to the instrument. The conclusion here has been given above with the male teachers having the upper hand with the mean rank of 40.53 while their female counterparts recorded 30.74 mean rank.

1. Will there be a significant difference between younger and older teachers with respect to computer awareness and

classroom application?

Table 4: Mann-Whitney *U*-test presentation of male and female responses to items
Younger teachers were classified by the study as those between the ages of 20 and 39 while the older ones were classified as those between the ages of 40-49 by rule of thumb. This question arose from the fact that younger people are more computer literate than older people, hence the classification as such.

Ranks

	age range	N	Mean Rank	Sum of Ranks
computer knowledge by age	20-39	46	32.59	1499.00
	40-49	23	39.83	916.00
	Total	69		

Test Statistics[a]

	computer knowledge by age
Mann-Whitney U	418.000
Wilcoxon W	1499.000
Z	-1.432
Asymp. Sig. (2-tailed)	.152
a. Grouping Variable: age range	

Ranks

	age range	N	Mean Rank	Sum of Ranks
computer knowledge by age	20-39	46	32.59	1499.00
	40-49	23	39.83	916.00

Going by the result of the Mann-Whitney *U*-test, there is no statistically significant difference between younger and older teachers on the subject matter of computer awareness and application ($U = 418.000, N_1 = 46, N_2 = 23, p = 0.152$, two-tailed). In other words, the difference in the mean ranks is not significant to warrant giving any of the two groups special preference.

Discussion

The use of computer to support teaching is increasing on a daily basis. Nigeria cannot sit on the fence as far as the application of computer (and indeed, ICTs) to education is concerned. Computer application to education has facilitated teaching/learning exercise, building both teachers' and students' confidence on teaching and learning.

The increasing awareness of teachers on computer application in Lagos State must be the end result of one of the objectives of the State's government to produce quality education as could noted from Sosan's (2010) remark that the Lagos State Government is "poised to create change in education. We are determined to provide a conducive learning environment and build young men and women with knowledge and skills that will make them economically productive and self-reliant".

In an attempt to update teachers' skill in the areas of Information and Communication Technology in Lagos state, Chibuike (2010) reports that Microsoft through its partners "have completed the first phase of the pilot training programme for teachers in one of the three selected secondary schools in Lagos". As explained, the training programme provides teachers with ICT education, as well as tools needed to effectively train students on IT using Microsoft technologies.

There is no gainsaying the fact that there has been a steady decline in the standard of education in the country. This is even more so when it is realized that the rest of the world has left the nation behind in embracing digital education, especially among instructors or teachers. Technology has been embraced by many countries, not just as a course but a tool for teaching all the courses or subjects.

Conclusion

The increasing awareness of the use and application of computer in teaching specifically and ICTs generally in education cannot be quantified. The result can be seen in the extent to which this wonderful machine has made teaching/learning exercise simple, flexible, interesting and individualised. Nigeria cannot afford to be a by-stander in this area otherwise she might be swept away by the ocean of development. Efforts must be intensified on in-service training of teachers on the use of computer in classrooms in Lagos State. This stems from the fact the study is a case study and its findings might be limited to the few teachers that constituted the sample size.

Recommendations

Based on the findings, the following are put forward as recommendations.

1. All public primary schools in Lagos State must be equipped with computer systems and accessories.
2. Power supply must be guaranteed, at least for the duration for which the computer systems are to be in use.
3. *Public primary school teachers must be engaged constantly on series of trainings to which ICTs can be put to in classrooms. This is because the rate at which knowledge is exploding is incredible.

4. Teachers should be exposed to software packages in teaching. There are many software packages for all subjects in schools at all levels now, with apparatuses that can make the students learn on their own.
5. More attention should be given to female teachers more considering the fact that men have an advantage over women on computer awareness and application.

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