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TEACHERS' COMPETENCE IN ICT USAGE IN PUBLIC AND PRIVATE SECONDARY SCHOOLS IN NSUKKA LOCAL GOVERNMENT AREA OF ENUGU STATE

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Abstract
The study examined teachers' competence in ICT usage in public and private secondary schools in Nsukka Local Government Area of Enugu State of Nigeria. The three research questions and one hypothesis guided the study. A descriptive survey design was adopted. A sample size of 320 participants consisting of teachers was drawn from both public and private secondary schools in Nsukka, Enugu State, using stratified sampling technique. The data for the study were gathered using a questionnaire titled "Teachers Competence in ICT Usage Questionnaire (TCIUQ)". A total of 320 questionnaires were returned which represents a 100% return rate. Subsequently, the data were collated and analyzed quantitatively using frequency using frequency counts, mean and percentages. T-test analysis was used to test the hypothesis. The results showed that teachers in private schools have higher ICT competence. It also showed that ICT gadgets were more available and more used in private schools than in public schools. It is recommended that, the government and all the stakeholders of education should organize ICT training for all teachers, procure computer gadgets and ensure usage in teaching-learning processes.

Keywords: ICT, Competence, Availability and Utilization.

Introduction

In the present era, the use of computers and information technology for overall effectiveness has become the global trend. The efficiency of information and communication technology (ICT) is no longer in doubt. Most developed nations had totally embraced ICT while the developing nations are still struggling to integrate ICT into their school systems. This may be due to poverty and lack of resources. People have to use their low resources to feed for survival before investing in technologies such as computers. This is the situation in most African countries such as Ghana, Mali, Cameroun, Republic of Benin, Uganda, South Africa and Nigeria.

Most sectors of the economy in Nigeria have embraced and are gradually integrating ICT usage into their systems to maximize effectiveness. The education sector is not left behind in this struggle. The need to fully integrate ICT in the school system (tertiary, secondary and primary) has become overwhelming. Nevertheless, the growing concern is hinged on the integration processes and bottlenecks. These may include teacher competence, ICT availability and usage among a host of others.

Furthermore, there is this assumed disparity in teacher ICT competence, computer availability and usage between the public and private schools. Equity in ICT integration at each level of education is of utmost importance. It has become imperative to ensure fairness and equity at all levels of education as regards teaching-learning processes enhanced with ICT usage. Graduates from both public and private schools are meant to be admitted into universities to face the same viable and challenging future. It will

then be very unfair and unacceptable if their exposures to ICT instructions are unequal.

The study examines the levels of teachers' competence, ICT gadgets availability and its usage in secondary schools. The study further attempts to compare these factors or indicators between public and private secondary schools. Information from the survey will most likely assist administrators, technology leaders and all the other education stakeholders to better comprehend the teacher perceptions on their ICT competence, gadgets availability and usage in both public and private secondary schools. Consequently, this will help to bridge the inequality gaps in the area of teacher competence, availability and usage of ICT in Lagos State Secondary Schools.

Teacher ICT Competence

Teachers' competence is fundamental to computer usage in classrooms. Gajendron (2007) reiterated that, ICT is not really well integrated into the curriculum on daily teaching, particularly in Africa. A study by Tella and Adu (2009) posited that, many teachers still adopt a 'teacher-centered approach' and do not know how to apply information technology into the teaching of their subjects. ICT integration is made more challenging as children of the 'digital age' have different needs than previous learners, hence, the need to retain teachers on current trends in ICT usage (Brown, 2002; Schrum and Solomon, 2007; Hannon, 2007).

ICT Availability

It is pertinent to note that in every educational system, the level of availability of resources (such as ICT gadgets and other facilities) places a restriction on the degree to which each subject can be taught with ease and maximum productivity. Earle (2004) confirmed that, availability of resources among other factors is highly influential. In an empirical analysis of a study on the relationship between teaching resources and students' academic performance in public secondary schools in Lagos State, it was found that, there are significant relationships between teaching resources and students' academic performance (Olisaemeka, 2007). Availability of computers has become inevitable and fundamental to good academic performance.

ICT Usage

The education system being the fulcrum or key to achieving sustainable developments needs to have its traditional methodologies re-oriented and re-engineered, such as to suit the globalization trend (Huckle & Sterling, 1996; Tilbury, Stevenson, Fien & Schreuder, 2002, UNESCO, 2003). There are many challenges confronting the introduction of ICT into the curriculum in many developing countries, particularly Africa and their usages. These include among others: human resources, lack of policies, poor information management, language, information filtering and reliability, plagiarism, etc (Tella & Adu, 2009). There are concerns among educators that computers are still underutilized by a large segment of the teachers (Bagwell & Stetson, 1999). A review focusing on barriers to use of ICT in schools listed among others: access, school culture, teacher beliefs and skills (Becta, 2003).

Purpose of Study

The aim of this study is to examine teachers' competence in ICT usage in public and private secondary schools in Nsukka Local Government Area of Enugu State. Specifically, the objectives are to:

1. Ascertain the level of ICT competence of secondary school teachers in Enugu State;
2. Find out the levlel of ICT usage among teachers in secondary schools in Enugu State;
3. Ascertain the extent ICT gadgets are available in secondary schools in Enugu State

Research Questions

1. What is the level of ICT competence of secondary school teachers in Enugu State?
2. What is the level of ICT usage among teachers in secondary schools in Enugu State?
3. To what extent is ICT gadgets available in secondary schools in Enugu State

Hypothesis 1.

There is no significant difference between the mean ratings of teachers of public and private secondary schools on the level of ICT usage in Enugu State.

Methodology

This study adopted a descriptive survey design. The population comprised all the 124 public and private secondary schools in Nsukka Local Government Area of Enugu State having 1,960 teachers. There are 1,120 teachers in public secondary schools and 840 teachers

in private secondary schools from which a sample of 320 participants consisting of public (223) and private (97) teachers drawn using proportionate stratified sampling technique. This represented 16 % of the population. The instrument used in collecting data was questionnaire titled "Teachers Competence in ICT Usage Questionnaire (TCICTUQ)" developed by the researchers. The instrument was validated and reliability carried out and result calculated using Chronbach Alpha, yielded an index of 0.84. A total of 320 questionnaires were distributed to the respondents and returned for data analysis, which represents 100% return rate. Subsequently, the data were collated and analyzed quantitatively using frequency counts, mean and percentages.

Results

Table 1: Summary of Research questions 1, 2, & 3 on public and private school teacher's ICT competence, availability and usage

ICT COMPETENCE	PUBLIC SCHOOL No 223	PRIVATE SCHOOL No 97	ICT AVAILABILITY	PUBLIC SCHOOL No 223	PRIVATE SCHOOL No 97	ICT USAGE	PUBLIC SCHOOL No 223	PRIVATE SCHOOL No 97
High Competence	16%	16%	High Availability	5%	34%	High Usage	9%	26%
Moderate Competence	12%	23%	Moderate Availability	5%	34%	Moderate Usage	9%	26%
Low Competence	41%	41%	Low Availability	86%	13%	Low Usage	67%	15%
Zero Competence	60%	21%	Zero Availability	67 %	15%	Zero Usage	67%	15%

Table 1, showed the general ICT competence of the secondary school teachers. An average of only 16% of the secondary school teachers is highly competent in ICT while 41% have low ICT competence (average of both public and private schools). About 12% of the public school teachers are moderately as against the 23% ICT competent teachers in private schools. Quite unfortunately, 60% of public school teachers confessed to zero ICT competence as against the 21% in private schools.

On computer availability, only 5% of teachers in public schools affirmed to either high or moderate availability as against 34% in private schools. Shocking though, 86% confessed to low computer availability in public schools as against 13% in private schools. An average of 9% of public school teachers used ICT either highly or moderately while 26% used it in private schools. Furthermore, 67% of public school teachers perceived zero ICT usage as against 15% in private schools.

Table 2: t-test analysis of difference of mean ratings of Public teachers and Private teachers on level of ICT utilization.

CATEGORY	NUMBER	MEAN	SD	DF	T-CAL	T-CRIT	DECISION
Public teachers	223	2.80	0.72	318	2.46	1.96	There is significance
Private teachers	97	2.73	0.76				

The data from table 2 shows that there is significant difference in the level of ICT utilization between the public and private secondary school teachers. This is because the t-calculated, which is 2.46, is more than the t-critical, which is 1.96 at 318 degrees of freedom. Therefore the null hypothesis is not accepted, indicating that there is significant difference in the level of ICT utilization between the public and private secondary school teachers

Discussion of Findings

This study revealed a very low level of teacher ICT competence in both public and private secondary schools. If a teacher does not have adequate ICT skills, how then can he/she instruct students using these inevitable innovations? Why must there be a wide disparity in the levels of ICT competence in teachers in public and private schools? Why must the ICT competence level of private school teachers double that of the public teachers? Is it lack of training or non-challant attitude? This disparity will of course pay back in the teachers (the secondary school graduates). Does this not directly or indirectly imply less quality graduates from public secondary schools? These findings corroborates the findings of Logan and Schellffer (1999) who stated that, teacher training has fallen behind; and also to the findings of Pelton and Pelton (1996) that teachers lack of ICT knowledge and experience leading to lack of confidence to introduce their instruction. The study further reveals low computer availability in secondary schools. Comparatively, the private schools stocked more ICT gadgets and facilities unlike the public schools with almost zero availability. This of course is a terrible and deplorable situation in the Nigeria education system. When there are no computers, how then can teachers acquire the ICT skills and how can they use computers to teach? This study's finding is in congruent with that of Hardy (1998); Adeogun and Olisaemeka (2009), that there is unavailability and lack of hardware and software in schools.

On the usage, the study found out a general low ICT usage. When there is low ICT competence and nearly zero computer availability, the usage consequently will be almost zero. Nevertheless, the ICT usage in private schools is almost triple of that of public secondary schools. Why this disparity? Is it not unfair to those students in the public schools whose parents cannot afford to pay the exorbitant fees charged by the private schools. An empirical study by Challo, Marshall and Marshall (2005) on the availability, effectiveness and utilization of computer technology among high school mathematics teachers in instructional process, in agreement with this study revealed that, teachers are not using software to create lessons or to create and score exams. Data from the study does not indicate that teachers are interested in learning new ways to integrate technology into their classes.

Conclusion

In conclusion, the inequality gap in computer availability, teacher ICT competence and ICT usage between private and public secondary schools as revealed by the study is quite alarming. Equity, justice and fairness pre-suppose that all students and teachers have equal trainings, privileges, provisions and exposure to ICT. The implication therefore is that this divide, if unattended to, continues to widen. This is a very dangerous situation. The government through the ministry of education and all stakeholders of education must join efforts to ensure adequate provision of ICT gadgets in secondary schools, especially the public schools that are presently lacking most computer facilities. In computer parlance, it is garbage in, garbage out. When a teacher or school has zero or low ICT competence, he/she or the school can only display and teach with zero or low

ICT competence. They may produce half baked graduates who consequently will have zero or low ICT competence. The overall result is inefficiency within the school system.

Recommendations

Consequent upon the findings of this study, it is hereby recommended that:

1. Several and continuous computer training sections by organized for all teachers by the governments, private bodies and by school heads.
2. Promotions and special awards be given to teachers who records a steady growth in computer competency.
3. Practical computer exercise and courses be made an integral part of teacher training and curriculum studies.
4. Computer examinations to be given to secondary school teachers on the job for retention and before recruitments.
5. Governments, school heads and school owners as a matter of urgency to procure all the ICT gadgets and facilities necessary for standard secondary school teaching and learning.
6. ICT gadgets procurement,, maintenance and usage policies to be made for use in secondary schools.
7. Government to employ and post computer experts to each secondary school to ensure proper and faster ICT integration into school teaching and learning processes.
8. Education stakeholders to outline and enforce the strategic usage of computers in teaching-learning in classrooms. For instance, use of multimedia and interactive white boards to teach large classes (normally seen in public schools) and getting all classrooms connected to the internet via computers. This will ensure easy access to global information by both teachers and students.

References

Adeogun, A.A. & Olisaemeka, B.U. (2009). Promoting teaching effectiveness using information and communication technology (ICT) in Colleges of Education in Lagos State, Nigeria. International Journal of Higher Education Research (IJHER), 4(2), 22-32.

Bagwell, T. and Stetson, R. (1998). Technology and Teacher Preparation: oxymoron? Journal of Technology and Teacher Education, 7(2), 145-152.

Becta, C (2003). What the research says about barriers to the use of ICT in teaching. (Coventry: British Educational Communications and Technology Agency).

Challo, L.B.; Marshall, R.L. & Marshal, I.L. (2005). Availability, effectiveness and utilization of computer among high school mathematic teachers in the instructional process. Natiional Forum of Teacher Educatiion Journal, 14(3).

Gajendran, N. (2007). The third eye of the teacher. Indian Journal of Science and Technology, 1 (2),1-2. Retrieved from http://www.injst.org.

Green, H. & Hannon, C. (2007). Their space: education for a digital generation. Demos: Tooley street, London. Retrieved from http://www.demos.co.uk/files/their%20space%20%20web.pdf.

Hardy, J.V. (1998). Teacher attitude towards and knowledge of computer technology. Computers in the schools. 14(3/4), 119-136.

Huckle, J. & Sterling S. (1996). Education for sustainability: London: Earthscan.

Logan, J.P. & Scheffler, F.L. (1999). Computer technology in schools: What teachers should be able to do. Journal of Research on computing in Education, 3(3), 305-326.

Olisaemeka, B. U. (2007). Relationship between teaching resources and students' academic performance in public secondary school in Lagos State. Nigerian Journal of Teacher

Education and Teaching, 3(1), 70-78.

Pelton, L. & Pelton, T.W. (1996). Building attitudes: How a technology course affects pre-service teachers' attitudes about technology. Retrieved from http://www.coe.uh.edu/insite/elec-pub/html1996/04math.htm.

Schrum, L. & Solomon G. (2007) Web 2.0 and you: starting the conversion. International society for technology in education (ISTE). Retrieved from http://www.coe.uh.edu/insite/elec-pub/html 1996/o4 math.htm.

Seely, B. J. (2002). Growing up Digital: How the web changes work education and ways people learn. United States Distance Learning Association (USDLA) Journal. 16(2, 42-48.

Tearle, P. (2004). Implementation of ICT in UK secondary schools. Presentation at Becta Research Conference (Coventry).

Tella, A. & Adu, E. O. (2009). Information communication technology (ICT) and curriculum development: the challenges for education for sustainable development. Indian Journal of Science and Technology, 2(3), 55-59.

Tilbury, D., Stevenson, R.B., Fien, J. & Schreuder, D. (2002). Education for sustainable development: Dimensions of work. IUCN communication – the world conservation union.

UNESCO (2003). Rewarding literacy: A study of the history and impact of the international literacy. Paris: Prices.