The Influence of ICT for Sustaining Teachers Effectiveness in Secondary Schools in Kano State, Nigeria

Dr. Adams Attarh Ibrahim
Management Science Department, Azman University, Kano

Dr. Alhassan Abubakar Musa
General Studies Department, Azman University, Kano

ABSTRACT: *This study investigated the Impact of ICT and Teachers Effectiveness in Secondary schools in Kano State Nigeria. The aim was to determine the impact of ICT for the sustainable development of teachers' effectiveness in the study area. Descriptive research design of the survey type was used to carry out this study. A sample of 150 teaches and 50 principals were selected, using purposive random sampling technique. The data collected were analyzed using Mean, Standard deviation, Pearson Product Moment correlation. All the hypotheses were tested at 0.05 level of significance. The population consisted of 152 students and 7031 teachers in public secondary schools in Kano State, Nigeria. The researcher utilized two sets of instruments, designated ICT Questionnaire (ICTQ) and Teachers Effectiveness Questionnaire respectively. The study revealed that there was significant relationship between ICT and teacher's effectiveness in secondary schools in Kano State, Nigeria. Based on the findings, it was concluded that ICT was a critical variable in teachers' effectiveness. It was therefore recommended that the school management should pay adequate attention to the teachers and allow greater access to ICT which will make the teachers' administration more effective. It was recommended that government should provide adequate supply of electricity in order to enhance the efficacy of computer gadgets and infrastructural materials which will facilitate the teaching and learning processes.*

KEYWORDS: effectiveness, teacher, ICT, technology, skills, teaching, administration, learning.

INTRODUCTION

Information and Communication Technology In education is basically our society fuzzy and emerging citizens valuable knowledge and skills around computing and communications devices, software that operates them, applications that run on them and systems that are built with them. According to (Rose, 2007), information technology means a set of tools that helps with information and perform tasks related to information processing

The increasing interconnectivity of communication technologies now allows to actively take decision in the creation and management of knowledge [Martine, 2010). It is so pervasive in the modem work that everyone has some understanding of ICT, but those understandings are often wildly divergent. In the beginning of the implementation of ICT there were optimistic beliefs about profound changes in teaching and learning practices, among both educational researchers and policy-makers. It was then that the concept transformed to Information and Communication Technology (Wielicki& Arendt, 2010). ICT has quickly, within the last ten years, become a part of ordinary life. Research data inevitably describe a past situation. This has increased the use of ICT dramatically. Similarly, the access to ICT has increased among students and teachers, and both at home and at school. 0ne of the consequences is the change in how ICT skills are understood. They were first defined as merely technical skills, e.g., the use a word processing application or database application.

The effects of ICT have regarded as a positive change, and as if change always means improvement. However, 'change' and 'improvement' are not synonyms, and the changes, when using ICT, are not merely beneficial or expected. The factors which were found to be most important to teachers in their teaching were: making the lessons more interesting, easier, more fun for them and their pupils, more diverse, more motivating for the pupils and more enjoyable. Teachers' skills are more heterogeneous. (Cox, 1994) opined that majority Of teachers have sufficient skills for everyday and routine working practices, but many of them still have difficulties in finding a meaningful pedagogical use for technology which have shown that the majority of courses offered in the UK to train teachers in the uses of ICT have focused on the technical aspects of ICT with little training about the pedagogical practices. It also requires how to incorporate ICT in the curriculum. Educational software to be integrated with their curriculum, and teachers to be ready to use and teach with technology, (Cuban& Peck, 20011). In this study, information and communication technology' (ICT and 'information technology' are used as synonyms. These are both commonly used concepts referring to computers, the Internet and the digital network, as well as other digital devices and various digital applications used with these tools. 'Information technology was commonly used before the extensive development of the Internet, but recently it also includes Internet applications that support the creation, storage, manipulation and communication of information (Madon, 2000). The concept 'technology' refers to a more general idea of all possible tools and applications, not even existing yet. As computers and information and communication technology became more user-friendly, more efficient and cheaper which develop interest among educators to pass on theoretical ideas by using ICT in the classroom. Thus, the teacher using ICT in his class will be able to present a well-planned set of lessons and the students will experience these lessons in an exciting environment. (Ojo, 2015) asserted that the misconception that the computer will replace the teacher and thus render him redundant does not arise to reinforce and enhance the teacher's lessons.

Technology was taught to serve a dual function: it was taught to provide the tools for the realization of learning, construction, as well as for the social process of meaning appropriation, and it was

thought to offer novel opportunities for novel learning activities and ways of teaching, which, in turn, would require novel psychological insights (Salomon, 2006). To compare teaching with computers and then analyze the learning outcomes, Computers were taught to take the role of a teacher as an instructor. There are also studies in which teachers have evaluated whether the learning outcomes are better with ICT. These studies can give information about general attitudes or expectations, but show less about the effects of ICT on learning outcomes. Some "snapshot" studies may also show effects on learning, but the results reflect the time when ICT was still quite new in the classroom and the benefits reflect the novelty of the intervention (Condie, 2007). ICT is not just a tool to be adopted as such in the prevailing situation, but it has effects on several factors, like teachers' role, teaching practices, students' collaboration, and learning tasks.

Teachers who intensively used information technology emphasized the importance of using ICT for facilitating students' participation in progressive inquiry, collaborative learning, and the learners' active engagement in the knowledge formation process, but as (Lin, 2001) posited that the relationship between teachers' conceptions and practice, is complex, not clear or simple.Teachers with good ICT skills used ICT more, and more often in a student-centered way (Moseley, 1999), and they appeared to have adequate pedagogical means for pursuing new pedagogical practices .There are also findings regarding teachers who do not use ICF in teaching. (Cooper, 2000) found that teachers did not use ICT in teaching because of a teacher-centered view of teaching as a transmission / absorption image because the non-use was essentially based on such beliefs, teachers did not take any actions to increase their [CT-related access. (Seluyn, 1999) wrote about 'computer identity' in terms of the subjects and courses teachers teach. These computer identities are shaped by many influencing factors, including an individual's own personal interests, and crucially his or her identity as a teacher, including his or her identity as a teacher of a particular subject. In some subjects, teachers have a stronger congruence with ICT than in others, and the teaching practices are more closely related to ICT, e.g. music teachers were positive about the potential of new technologies both in performance and composition (John, 2005).

In general, probably for the time being, for a teacher identity it is not yet necessary to have a strong ICT competence and to use ICT, although ICT has spread widely to schools. The use of the Internet helped to give a much wider coverage of topics and it gave access to authentic sources and materials, which helped to establish a sense of contact between the classroom and the wider world (Ruthven, 2005).The computer was more frequently used as a learning tool rather than to deliver instruction. The working atmosphere became free than in a traditionalclassroom without ICT, and the relationship between teacher and students was more open and free; because teachers had fewer rules (Schonfield, 1995). Students are motivated to work with computers because the activites were more challenging than ordinary task. In the applying approach, teachers use ICT for instructional purposes, focusing on improving their subject teaching in order to enrich their teaching with a range of ICT applications. This approach often involves teachers in integrating ICT to teach specific subject skills and knowledge beginning to change their methodology in the classroom and using ICT to support their training and professional development. Teachers gain

confidence in a number of generic and specialized ICF tools that can be applied to the teaching of their subject area.

Importance of ICT

There are many important dimensions to ICT education, which are:

(i)   ICT/DigitaI Literacy. Information and communication technology is becoming as essential to education, life and workplace success as "reading, writing and arithmetic". ICT Digital Literacy should be considered a basic skill by educational systems, something taught to and assessed for all students. Teaching people how to be competent basic users of ICE technologies is an important role of ICT education, so they can efficiently participate in the modem technical society.

(ii)   ICT Infrastructure and Support Applied Technologists: Our society needs more knowledgeable and capable technical people to deploy, manage and maintain ICT equipment, software and systems, so they work well for users. In all industries, these people manage computer and communication hardware, software and applications, networked systems, online information sharing, communication and commerce systems, and user support.

(iii)   ICT Research and Development Scientists: ICT fields themselves are under constant pressure to evolve and improve. In virtually all modem businesses and industries and in modem society in general, ICT has key strategic roles. It is strategically important to develop citizens and workers who can competently and efficiently operate and add in these systems and environments. However, if teachers perceive ICF to be useful, they are more likely to have a positive attitude to the use of ICT in the classroom. (Preston, 1999) asserted that it is on this note that the researchers raised the question. The purpose of the study was to investigate how teachers adopt information and communication technology (ICT) as a pedagogical tool, what consequences the intensive use of ICT has for teaching practices, and how the use of ICT diffuses in a teacher.

Research Hypotheses

1.   There is no significant relationship between ICT and teachers' knowledge of ICT in secondary schools in Kano State.
2.   There is no significant relationship between teachers' attitude and the utilization of ICT in secondary schools in Kano State.
3.   There is no significant relationship between ICT and teachers' effectiveness in secondary schools in Kano State.

METHODOLOGY

The descriptive research design of the survey type was adopted in the <udy. The total population of the study comprised 152 principals and 7031 teachers in Ekiti state secondary schools. The population of the study consisted of 152 principals and 7,031 teachers in Kano State Secondary Schools. The sample for this study was 200 respondents consisting of 50 principals and 150 teachers of the secondary schools in Kano state. The sample was selected using simple random and purposive sampling techniques. Two self-designed instruments tagged ICT Questionnaire

(ICQ) and Teachers Effectiveness Questionnaire (TEQ- The reliability of the instruments was determined through test-retest procedure and reliability coefficients of 0.67 and 0.68 were obtained. The data collected were analyzed using mean, standard deviation and Pearson Product Moment Correlation. The hypotheses formulated were tested at 0.05 level of significance.

RESULTS

Hypothesis 1 :
There is no significant relationship between ICF and teachers' knowledge of ICT in secondary schools in Kano State.

State.
Table 3: There is no relationship between ICT and teachers' effectiveness in secondary schools in Kano State.

Variable	N	Mean	SD	rcd	rub	Remark
ICT	200	12.0000	2.30940	0.577	0.195	Significant
Teachers' Effectiveness	200	6.6000	2.45855			

Signifkant P<O.05

Table 3 above shows that rcal(0.577) is greater frian
r_{tab}(O. 195) at 0.05 level of significance. The null hypothesis is rejected, therefore, there is a significant relationship between [CT and teachers' effectiveness in secondary schools in Kano State.

DISCUSSION

This study revealed that there was a significant relationship between ICT and teacher knowledge in secondary schools in Kano State. The finding suggests that the higher the frequency of ICT among teachers in the schools, the lower the teachers' knowledge of using ICT in teaching in the classroom. The findings were in agreement with the findings of Cooper (2000) and Ojo (2005) while it contradicts that of Ruthven (2005) and Preston (2005) who asserted that the use of the ICT helped to access sources and materials for teachers to use in the classroom and as a learning tool to deliver instructions to the students. The study also revealed that there was a significant relationship between teachers' attitude and the utilization of ICT in secondary schools in Kano State.

It could be inferred that the higher the teachers' attitude in the utilization of ICT helps to build good relationship between teachers and the students to present a well-planned set of lesson s in an exciting environment. This finding is in line with Schonfield (1995) and Moseley (1999) who submitted that teachers with good ICT skill ICT more often in a student centered way.

It-was also revealed that there was a significant relationship between ICT and teachers' effectiveness in secondary schools in Kano State. It could be inferred that teachers' effectiveness in the use of ICT integrates the teaching and learning process in education. The finding of this study supports Cuban and Peck (2001) and John (2005) while it also agrees with that of Salomon (2006) which revealed that leaming activities requires novel psychological insights which teachers have evaluated that the leaming outcomes are better with ICT.

CONCLUSION AND RECOMMENDATIONS

Based on the findings of this study, one major conclusion that could be drawn is that ICT has contributed to the positive attitude of the teachers effectively for teaching the students in the classroom and ICT facilities need to be adequately available for cordial relationship among the students and school administrators. Therefore, from the study, it is recommended that; there should be more access points in the schools where students can browse and there should also be free internet wireless in the schools which make students browse easily. The school management should encourage their staff in participating in seminars that are beneficiary and notable in enhancing their teaching skills and knowledge of ICT and the school should be equipped with internet facilities and other instructional packages like computer. The government should also provide a good supply of electricity in order to enhance the effective utilization of computer gadgets and instructional materials which will facilitate the teaching — learning process among them.

REFERENCES

Cegarra-Navarro, J-G. Wensley, A.K.P., and Martinez-Conesa, E-A. (2010). A multi-sector comparison of relational learning and information and communication technologies adoption. The Service IndusfriesJounal, 30(6), 991-1005.

Condie, R. , Munro, B, Seagraves L. , &Kenesson, S. (2007).The impact of ICT in Schools — a landscape. Retrieved December13, 2007 fromhttp://publications.becta.org.uk/display.cfm

Cooper, P. (2000) 'Pattems of Interaction between Teachers' and Student' Classroom thinking and their implications for the Provision of learning Opportunities.' in Teaching and Teacher Education, London, UK: Routledge

Cox, M.J. (1994) an oveniew of the Problems and Issues associated with the Uptake of Computers in the United Kingdom Education Institutions-..in Visions for Teaching andLeaming.Educomp'94 Proceedings. Malaysian Council for Computers in Education. June pp. 233 - 247.

Cuban, L., KirkpaYick, H., & Peck, C. (2001). High access and low use of Technologies in high school classrooms: explaining an apparent paradox. American Educational Research Jounal, 38, 813—834.

John, P. (2005). The sacred and the profane: subject sub-culture, pedagogical Practice and teachers' Perceptions of the classroom uses of cr. Educational Review, 57, 471—490.

Lin, X. (2001). Reflective adaptation of a technology artifact: A case <udy of classroom change. Cognition and instruction, 19, 397-440.

Madon, S. (2000). The intemet and socioeconomic development: Exploring the interaction. Information Technology and People, 13(2), 85101.

Moseley D. (1999).Ways forward with ICT: Effective pedagogy using information and communications technology for literacy and numeracy in primary Schools. Newcasde University and narham University, CEM Cenfre.

Ojo, M. O. (2005). Normation and Communication Technology (ICT) and teacher preparation for basic education. Journal of Teacher Educaåon.

Preston, (1999). What Motivates Teachers to use ICT? Paper presented at the British Educational Research Association Confera-ce Brighton.

Rose; M. (2007). The transmission of culture in a globalized world: The challenge of new technologies. Canadian Issues, winter 2007, (5557).

Ruthven, K. (2005). Incorporating Intemet resources into classroom practice: Pedagogical perspectives and strategies of secondary-school subject teachers. Computer and Education, 44, 1—34.

Salomon, G. (2006). Difficult marriage between education and technology: The marriage Doomed? In L. Verschaffel, F. Dochy, M. Boekaerts& S. Vosniadou (Eds.) Insfructimal Psychology: Past, present and future trends (209—222). Amsterdam: Elsevier.

Schofield, J. W. (1995). Computers and classroom culture. New York: Cambridge University Press.

Selwyn, N. (1999). Differences in educational computer use: the influence of Subject cultures. The Curriculum Joumal, 10, 29-48.

Wielicki, T. and Arendt, L. (2010). A knowledgedriven shift in perception of ICT implementation barriers: Comparative study of US and European SMEs- Journal of Infonnaffon .%iæce,• 36(2), 162-174.