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Teachers Perception on the Usage and Challenges of ICT Tools in Teaching-Learning Activities in Secondary Schools in Ikere Local Government Area, Ekiti States

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Abstract

Countries must devote involve a certain percentage of their annual budget to education to further improve the education system and the quality of education process. The use of ICT in the classroom is important in order to give students opportunities to learn and apply the required skill needed in the 21st century. Hence, this paper tends to study the issues and challenges related to ICT use in teaching and learning and how it can assist teachers in overcoming the obstacles and later become successful technology users. This study therefore, analyzes teachers' perceptions of the challenges faced in using ICT tools in classrooms. A descriptive research design was used to collect the data randomly from a sample of 100 secondary school teachers in Ikere Ekiti, Ekiti State. Evidence has been collected through distribution of a modified adopted survey questionnaire. The study discovered that there were limited technical support, poor network connection, lack of trained technical staff, lack of teacher's competency and limited time. The paper therefore recommends that schools should be adequately equipped with new technologies to further improve teaching and learning process of students.

Keywords: Information and Communication Technology tools, Teaching-learning, Secondary school teachers

Introduction

Organization cannot survive without Information and communications technology (Zhang & Aikman, 2007). Information and communications technology (or technologies), is the infrastructure and components that enable modern computing.

Although there is no single, universal definition of ICT, the term is generally accepted to mean all devices, networking components, applications and systems combined to allow people and organizations (that is, businesses, nonprofit agencies, governments and criminal enterprises) to interact in the digital world. Wikipedia 2018. In order to improve the education system and its quality, countries should assign a significant portion of their annual budget to education. In teaching and learning the use of ICT has been acknowledged to have greater benefits and positive impact on the quality of education.

Several scholars suggest that ICT will be an important part of education for the next generation unborn because of its advantages. ICT helps in facilitating the communication between teachers and students by keeping the students updated and enhancing teachers capacity and ability fostering a good interaction between the teacher and the student through the use of e-learning, e-mail, web-based learning including internet, intranet, extranet, CD-ROM, TV audio-videotape. ICT has become very powerful media for interactive participation of experts and learners and it reaches the unreachable. These new technologies have the potential to improve education across the curriculum and deliver opportunities for efficient student teacher communication in ways that are not possible before. Involvement of proper ICT in education has the ability to transform teaching. However, this potential may not easily be realized, as Glennan, & Melmad (1996) underlined when he stated, "problems arise when teachers are expected to implement changes in what may well be adverse circumstances" (p. 61). Due to ICT's importance in society as well as in the future of education, identifying the possible challenges to integrating these technologies in schools would be an important step in improving the quality of teaching and learning. He argue that although teachers appear to acknowledge the value of ICT in schools, they continue encountering obstacles during the processes of adopting these technologies into their teaching and learning.

Appropriate use of ICT can transform the whole teaching-learning processes leading to paradigm shift in both content and teaching methodology. ICT has the potential to transcend the barrier and space. ICT integration in the field of education has impacted hugely in improving the quality of education. It is widely believed that ICT integration will help us in making education more accessible and affordable. Increasing role of ICT will make education more democratic that is improving the quality of education services available to reach students that are far from the normal classroom setting.

ICT has not been fully adopted in the teaching and learning process in most schools in the research area. Only a few teachers are using ICT as teaching and learning tools. Therefore, this study is expected to generate information on the teachers' perceptions and challenges of integrating ICT tools in the teaching and learning process. Learners need to be equipped with updated knowledge with changes in modern technologies, this will help them adapt to the changing world. Through this knowledge there will be better communication, increase 21st century skills as a result of e Commerce and be self employed in the ICT sector. Gomes, 2005.

One of the most important trends in the present education system is the change and restructuring in the teaching/learning process.

Hargreaves, A. (1994) supported the idea that curriculum needs to be reformed for students to develop competencies that will help them survive in this 21st century. What we may consider as an important ICT learning tool today, might be seen as outdated in some few years to come. Consequently, we have to open our minds and move along with the technological changes the world is currently experiencing. In most cases it is difficult for teachers to change according to the requirements of the policy i.e. teachers should know and be able to use models of ICT skill acquisition, teacher should be acquainted with virtual environments, he/she should be able to integrate ICT in the curriculum, and know main functions of operation systems. This study found out teachers do not have enough ICT competency, therefore, trying to resist to changes that may occur through the use of ICT. ICT integration in the teaching and learning process pose a barriers to its integration into

the teaching/learning process. The following were therefore considered as challenges to ICT integration into teaching and learning.

Challenges in using ICT in teaching and learning

1. **Lack of qualified teachers to teach ICT in schools:** The demand for ICT learning has been tremendous and the number of teachers who are trained to teach ICT cannot meet the demand. There are more students willing to be taught computing skills than there are teaches to transfer the skills.
2. **Lack of computers:** Computers are very expensive and despite spirited efforts by the government agencies, NGO, corporate organizations and individuals to donate computers to as many schools as possible, there still remains a big percentage of the schools unable to purchase computers for use by their students.
3. **Lack of electricity:** Many schools are not connected to electricity; thus restricting students and teachers from the use of ICT. The government has not been able to connect all parts of the country to the national electricity grid. Consequently those schools that fall under such areas are left handicapped and may not be able to offer computer studies.
4. **Broken down computers:** While a good number of schools have benefited from donated used computers, they have not been adequately equipped with the same on maintenance and repair, hence its very common to see a schools computer laboratory full of broken down computers, some repairable and some not. This has actually been a major problem in some schools.
5. **Burglary:** The fact that computers are still very expensive, makes them a target for thieves who usually have ready markets to another party at a much less figure. This has made many schools to incur extra expenses trying to burglar proof the computer rooms. This extra expense makes some schools shy away from purchasing computers for their students.
6. **Fear by the administration:** There is still a strong perception especially by the older generation that computers require highly skilled personnel to operate them, while this may not be the case,

some school administrators also fear that their students will be exposed to adult sites and other undesired sites, through the use of the internet. Some also fear the infection of viruses to their computers leading to data loss, while this may be true to some extent, proper education on the safe use of computers and help alleviate some of this fears.

7. **Fear by the teacher:** The teacher may fear being rendered irrelevant by the introduction of computers in his/her class. The 'feel' that the teacher still remains an authority and a 'know it all' in class is something that most teachers cherish, and anything that makes them otherwise is deemed an enemy of the classroom.
8. **Limited accessibility and network connection:** Several research studies indicate that lack of access to resources, including home access, is another complex challenge that prevent teachers from integrating new technologies into education. Having no access to the Internet during the school day and lack of hardware were hampering technology integration in most schools.
9. **Lack of initiative by the community leaders:** The community leaders who are charged with looking at the interests of a given community do not see the need to purchase and subsequent installations of computers to their schools as a priority. They consider health care, provision of water and other amenities as more important than buying computers for their schools.
10. **Obsolete computers:** Lower the morale of both the teacher and the student; it is very common to find some schools using very old computers running on win98 or win 95.
11. **Increased moral degradation:** Internet pornography, cyber bullying and other anti-social behaviors is a worrying emerging problem.
12. **Lack of software problem:** This is one of the major factors that made difficulties in use of ICT. There were unreliable and pirated software that had been frequently changed in the computer labs which were difficult to use properly in teaching-learning process. In majority of the cases it had been found that the ICT facilities were limited for both the teachers and students and they had to share with other teachers. According to Becta 2007, the inaccessibility

of ICT resources is not always merely due to the non-availability of the hardware and software or other ICT materials within the institution. It may be the result of one of a number of factors such as poor organization of resources, poor quality hardware, inappropriate software, or lack of personal access for teachers. The limitations on access to hardware and software resources influenced teachers motivation to use ICT in the classroom.

Advantages of Integrating ICT tools in teaching and learning

It is important to acknowledge that students are already interested and engaged in using technology, this creates many amazing opportunities for schools and teachers to benefit from integrating some forms of technology in the classroom and to make teaching and learning more effective. Here are some of the main benefits of using technology in the classroom.

Improves engagement

When technology is integrated into lessons, students are expected to be more interested in the subjects they are studying. Technology provides different opportunities to make learning more fun and enjoyable in terms of teaching same things in new ways. For instance, delivering teaching through application of elements of game, taking students on virtual field trips and using other online learning resources. Also, technology can encourage a more active participation in the learning process which can be hard to achieve through a traditional lecture environment.

Improves knowledge retention

Students who are engaged and interested in things they are studying, are expected to have a better knowledge retention. As mentioned before, technology can help to encourage active participation in the classroom which also is a very important factor for increased knowledge retention. Different forms of technology can be used to experiment with and decide what works best for students in terms of retaining their knowledge.

Encourages individual learning

No one learns in the same way because of different learning styles and different abilities. Technology provides great opportunities for making learning more effective for everyone with different needs. For example, students can learn at their own speed, review difficult concepts or skip ahead if they need to. Furthermore, technology can provide more opportunities for struggling or disabled students. Access to the Internet gives students access to a broad range of resources to conduct research in different ways, which in turn can increase the engagement.

Encourages collaboration

Students can practice collaboration skills by getting involved in different online activities. For instance, working on different projects by collaborating with others on forums or by sharing documents on their virtual learning environments. Technology can encourage collaboration with students in the same classroom, same school and even with other classrooms around the world.

Students can learn useful life skills through technology

By using technology in the classroom, both teachers and students can develop skills essential for the 21st century. Students can gain the skills they will need to be successful in the future. Modern learning is about collaborating with others, solving complex problems, critical thinking, developing different forms of communication and leadership skills, and improving motivation and productivity. In addition, technology can help develop many practical skills, including creating presentations, learning to differentiate reliable from unreliable sources on the Internet, maintaining proper online etiquette, and writing emails. These are very important skills that can be developed in the classroom.

Benefits for teachers

With countless online resources, technology can help improve teaching. Teachers can use different apps or trusted online resources to enhance the traditional ways of teaching and to keep students more engaged. Virtual lesson plans, grading software and online assessments can help teachers save a lot time. This valuable time can be used for working

with students who are struggling. Also, having virtual learning environments in schools enhances collaboration and knowledge sharing between teachers.

ICT allow for a higher quality lessons through collaboration with teachers in planning and preparing resources (Ofsted, 2002). Students learn new skills: analytical, including improvements in reading comprehension (Lewin et al, 2000). ICT also develop some writing skills: spelling, grammar, punctuation, editing and re-drafting (Lewin et al, 2000). Still new technologies encourage independent and active learning, and students' responsibility for their own learning (Passey, 1999) ICT proves that students who used educational technology felt more successful in school they are more motivated to learn more and have increased self-confidence and self-esteem. It is also confirmed that many students found learning in a technology-enhanced setting more stimulating and much better than in a traditional classroom environment (Pedretti and Mayer-Smith 1998).

Research Questions

1. What is the extent of the implementation and the usage of ICT tools in teaching and learning?
2. What are the challenges hindering the use of ICT in teaching and learning in classroom?

Methodology

Descriptive design was used to collect and analyze the data obtained from all the respondents.

The instrument was given to research experts for the purpose of validating the instruments for face and content validities. After the instruments was scrutinized all suggestions and amendments were incorporated before the production of the final copy.

Reliability is finding out the extent to which a research instrument would bring out the same result when administered at different times. The instrument was subjected to test-re-test method.

The population for this study consists of 100 teachers selected from public secondary schools in Ikere - Ekiti.

A well-structured questionnaire consisting of 7 sections and 10 items was tested among respondents. The questionnaire was based on 5 point Likert Scale ranging from: 5 = always, 4 = often, 3 = sometimes, 2 = rarely and 1 = never. The sample responded to the statements given and chose their answers based on their perceptions. The questionnaire was distributed by hand to the respondents.

Data collection defines the procedure for collecting data by the researcher. The questionnaire has been distributed to 100 teachers randomly. They were given one week to fill in the questionnaire and return it to the researcher. All of the participants volunteered themselves in the research. Finally 100 questionnaires were returned to the researchers for data analysis.

The data collected from the respondents were gathered together to be analyzed using the Statistical Packages for the Social Sciences (SPSS) version 22. The analysis includes both descriptive and inferential analysis. It is also used to determine the mean, standard deviation, frequency and percentage. Inferential statistics (*t* test) were also used to analyze the research findings.

Results

Table 1: Teachers' Perceptions on utilization of ICT tools in teaching and learning

S/N	Items	Always	Often	Sometimes	Rarely	Never	Mean	SD
1	Students understand more easily what they learn	38 30%	27 20%	30 25%	5 5%	0 0%	2.02	.943
2	Students try harder in what they are learning	40	29	26	5	0	1.96	.931
3.	ICT facilitates collaborative work between students	32	41	25	2	0	1.97	.810
4.	ICT improves class participation and less disturbing	32	41	25	2	0	1.97	.810
5.	Students remember more easily what they have learnt	38 30%	27 20%	30 25%	5 5%	0 0%	2.02	.943

Survey, 2017

From the table it was revealed that ICT has a great influence on the students, as it enhances their understanding of the subject matter and also serve as retentive memory for all the topics learnt with ICT because of its audio visual characteristics

Table 2: Challenges of utilizing ICT tools in teaching and learning in the classroom among school teachers?

S/N	Items	Always	Often	Sometimes	Rarely	Never	Mean	SD
1	Insufficient number of Computers	36 36%	30 30%	29 29%	5 5%	0 0%	2.03	.926
2	Insufficient number of internet-connected computers	35 (35%)	33 (33%)	26 (26%)	6 (6%)	0 0%	2.03	.926
3.	Insufficient number of interactive whiteboards	30 (30%)	32 (32%)	21 (21%)	9 (9%)	8 (8%)	2.33	1.223
4.	Lack of adequate skills of Teachers	1 (1%)	10 (10%)	14 (14%)	43 (43%)	32 (32%)	3.95	.978
5.	Using ICT in teaching and learning not being a goal in our school	24 30%	50 20%	23 25%	2 5%	1 0%	2.06	.802

Survey, 2017

Table 2 revealed that the number of computers that are available for teaching and learning in the classroom are not sufficient. For a few that are available there are no internet services to connect them for use. It was also discovered that there are no sufficient interactive white boards for teaching, inadequate skills of teachers and not using ICT as a pre-requisite for teaching also pose challenges on the implementation of ICT tools.

Discussion and Conclusion

The integration of ICT use in education is a main way in facing globalization and it would respond to the 21st century society that we are living in. ICT integration in education is a broad process of applying technology to the curriculum to improve teaching and learning process. The use of ICT can play a number of roles in education by changing the teaching and learning process. However ICT integration is not an easy task. There

are significant challenges in integrating ICTs use in education rising from environmental, cultural and educational faced by policy makers, educators, educational administrators and students in secondary schools. Thus there is a need of government authority to support the schools in making the integration of ICT in education a successful process.

With the advent of Information and Communications Technologies (ICT) in education, teachers form their own beliefs about the role of ICT as a teaching tool, the value of ICT for student learning outcomes and their own personal confidence and competency (Prestridge, 2007). The barriers are extrinsic to the teacher and include lack of resources, time, access and technical support. Findings of this research revealed that teachers were still giving comment on the barriers in implementing ICT tools at school in teaching and learning. The study also showed that teachers do combine different resources in their teaching, as well as utilizing various modes of ICT. Despite the current efforts in ICT integration in schools, many families specifically in rural areas still do not know how to use ICT tools in their daily life. They even did not know how to check their children's results in the existing systems. Not all houses have computers and Internet facilities to use daily. In this regard, the main challenge is to provide appropriate ICT tools to both urban and rural areas efficiently. Since the attitude and perceptions of the teachers are critical to how effectively an innovation is implemented, it is important to gauge how teachers perceive this innovation and its efficacy as a tool for enhanced teaching and learning. It is also hoped that this study will contribute to the growing knowledge base and 21st century generation regarding the use of ICT in education.

In future studies more focus should be given on management strategies and policies to address the barriers faced by teachers in using ICT tools in teaching and learning. If the barriers faced by teachers can be overcome, it is a step forward to enhance our students' learning outcome. The studies done with the same gender distribution could give more appropriate analysis whereby the gender perceptions could be analyzed.

Recommendations

This study recommends that government should encourage the use of ICT in schools, colleges, universities and other educational institutions in the country so as to improve the quality of teaching and learning.

Teachers' professional development should have five foci:

i skills with particular applications;
ii integration into existing curricula;
iii curricular changes related to the use of IT (including changes in instructional design);
iv changes in teacher role
v underpinning educational theories.

Ideally, these should be addressed in pre-service teacher training and built on and enhanced in-service training in ICT use. ICTs are swiftly evolving technologies, however, the most ICT fluent teachers need to continuously upgrade their skills and keep abreast of the latest developments and best practices.

While the first focus—skills with particular applications—is self-evident, the four other foci are of equal, if not ultimately greater, importance. Research on the use of ICTs in different educational settings over the years invariably identify as a barrier to success the inability of teachers to understand why they should use ICTs and how exactly they can use ICTs to help them teach better. Unfortunately, most teacher professional development in ICTs are heavy on "teaching the tools" and light on "using the tools to teach."

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