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Integration of ICT in the Teaching Profession in Nigeria

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Abstract

Information and Communication Technology (ICT) has revolutionized various aspects of life, including education. This paper examines the integration of ICT in the teaching profession in Nigeria. It begins by looking at the ICT in the teaching profession alongside the policy in relation to it in Nigerian context. It also explores the potential benefits of ICT for teachers, including enhanced lesson delivery, improved student engagement, and access to a wider range of learning materials. The paper also acknowledges the challenges faced by Nigerian teachers in ICT integration. Finally, it proposes recommendations for overcoming these challenges and maximizing the positive impact of ICT on Nigerian education. The recommendation among others include: the government and educational institutions should invest in expanding internet access, providing schools with adequate equipment, and ensuring proper maintenance.

Kata Kunci: *Integrasi, TIK, Profesi Guru*

Abstrak

Teknologi Informasi dan Komunikasi (TIK) telah merevolusi berbagai aspek kehidupan, termasuk pendidikan. Makalah ini mengkaji integrasi TIK dalam profesi guru di Nigeria. Diawali dengan melihat TIK dalam profesi guru beserta kebijakan yang terkait dengannya dalam konteks Nigeria. Makalah ini juga mengeksplorasi potensi manfaat TIK bagi guru, termasuk penyampaian pelajaran yang lebih baik, peningkatan keterlibatan siswa, dan

akses ke materi pembelajaran yang lebih beragam. Makalah ini juga mengakui tantangan yang dihadapi guru Nigeria dalam integrasi TIK. Terakhir, makalah ini mengusulkan rekomendasi untuk mengatasi tantangan ini dan memaksimalkan dampak positif TIK pada pendidikan Nigeria. Rekomendasi tersebut antara lain: pemerintah dan lembaga pendidikan harus berinvestasi dalam memperluas akses internet, menyediakan sekolah dengan peralatan yang memadai, dan memastikan pemeliharaan yang tepat..

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Introduction

The role Information communication technology plays in human life particularly in this era of 21st century, cannot be overemphasized. This is to the extent that whatever is to be carried out easily in any field, education inclusive has to be in agreement with the information communication technology. In the teaching profession technology really brings so many developments to both teachers and the learners not only in the teaching process but also when it comes to evaluation. It is through technology that computer Based Test (CBT) came to existence. It is also through technology that makes the teaching and learning possible with no face-to-face interaction (Distance learning). This paper therefore is going talk about how technology is integrated in the teaching and learning profession in Nigerian context.

Being in an era of Information Communication Technology (ICT), new possibilities were initiated into the classrooms where teaching and learning take place. The marriage between education and Internet technology has made a deep impact on perspectives about teaching and learning. Technology, today, has revolutionized in such a way that the methodology used by educators to teach a foreign or secondary language has changed. In fact, the relationships between teachers and students have undergone a phenomenal change. (Barad, 2009).

Nigeria, as a nation, has recognized the potentials of information and that of information and communication technology in the school system. This is evidenced in the educational reform policies aimed at integrating the use of ICT, particularly the computer, in the Nigerian school system. The first national programme was the Federal Government 1988 policy document, National Policy on Computer education (FME, 1988).

The document emphasized the need for primary school pupils to be introduced into basic computer skill, the use of the computer to facilitate learning, and rudimentary use for text writing, computation and data entry. For secondary schools the goals were as identified for primary schools, but to be pursued at a higher level. The additions were the organization of curriculum for secondary school students on computer education, and the decision to use the unity schools as the pilot institutions for computer education. The tertiary institutions were also required to teach computer science as a subject discipline, and also integrate it in school administration and instructions. Other components of the document include; equipment requirement, teacher training, and specific recommendation on different tertiary institutions. However, as noted earlier, the implementation was not effective.

The national policy on education (NPE), as revised in 1988 and 2004, re-emphasized the need for the integration of ICT in the Nigerian education system. For instance, the 2004, 4th edition, again emphasized the need for the introduction of information and communication technology into the school system. This is an acceptance of the need to go beyond computer to the level o ICT, and also the need for infrastructure.

The first holistic attempt at introducing ICT in all facets of the country's life was the approval by the federal Government of a national policy on ICT. The Nigerian national policy for information technology (FRN, 2001), recognized the need for ICT to be used for education, and three major objectives among several objectives emphasized the need to empower youths with ICT skills to prepare them for competitiveness in a global environment, integrate ICT into the

mainstream of education and training, and establishment of multifaceted ICT institutions as centres of excellence on ICT. The documents specifically noted the need for "Restructuring the education system at all levels to respond effectively to the challenges and imagined impact of the information age and in particular, the allocation of a special IT development fund for educationat all levels" (p.4).

To achieve these objectives, nine major strategies were outlined, these include: making the use of ICT compulsory at all educational institutions, developing of ICT curricular for all levels of education, using ICT in distance education, and ICT companies" investment in education, Others include giving study grant and scholarship on ICT, training the trainers" scheme for Youth Corp members in ICT, ICT capacity building at the zonal, state, and local government levels, establishing private and public dedicated ICT institutions, and working with international and domestic initiatives to transfer ICT knowledge.

It should be noted that none of the policy documents, national policy on computer education (FME, 1988), national policy on education (2004, 4th ed.) and the Nigerian national policy for information technology (FRN, 2001), recognized the need to use the computer or ICT to provide access to education for people with disability. This underscores a major inadequacy in the policy document. In addition, strategies outlined in the documents were not followed.

Another significant document on ICT was the Federal Ministry of Education (FME, 2004) Ministerial Initiative on e-Education for Nigerian Education System. Unlike the previous documents, the initiative was drawn based on input from major educational and human development commissions and board (National Universities Commissions, National Colleges of Education, Education for All, Universal Basic Education, etc).

Also, for the first time, the need to integrate ICT in special education, particularly for people with disability was emphasized. However, the document could not be implemented because the minister who initiated the document was removed. Thus signaling the death of eth document which was meant to leapfrog the Nigerian educational institutions into ICT complaint ones. Since then, no

national documents had been developed on the integration of ICT in Nigerian educational institutions.

Method

This research is descriptive qualitative research used to answer questions such as what, who, where, and when, obtained from sources who know about certain phenomena. Descriptive qualitative research can be obtained by collecting information from secondary sources such as books, articles, newspapers, magazines, and others

Result and Discussion

The integration of technology in learning is actually an inevitability that we cannot avoid, Smart Teachers. However, we cannot close our eyes to the fact that technological developments are so rapid. For us as educators, technology can provide access to a variety of educational resources, enable learning to be adapted to students' pace and learning styles, and enable collaboration between teachers and students in various locations.

Meanwhile, for students, technology facilitates the development of critical skills, creativity and problem solving needed to face the demands of the increasingly digital world of work. If we don't support students' digital abilities and skills, then who else, Smart Teachers? For this reason, we need to integrate technology in teaching as much as possible.

Technology integration is the conscious and planned combination or use of technology in the learning process in the classroom. Technology integration in learning can take the form of using software, hardware and various other digital tools.

By integrating technology into classroom teaching, we can improve learning efficiency, encourage active student participation, and create more engaging and relevant learning experiences. In essence, the role of technology in education is to improve the quality of teaching and learning and prepare students to face the challenges of the ever-growing digital world.

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How is Technology Integration in Learning Done?

One of the roles of technology in teaching is to facilitate teacher and student access to various educational resources. For this reason, the integration of technology in learning can be done using applications and online platforms such as Aku Pintar, for example, so that collaboration between teachers and students can run better. Here are some strategic steps that we can take, Smart Teacher.

Careful Planning, Before using new technology in teaching and learning, we must first have a thorough plan. What are the learning objectives? What technology is appropriate for the learning objectives? How do we integrate technology into lesson plans? As far as developing materials and evaluating learning, we must pay attention to all of this.

Training and Developmen, Don't hesitate to take part in training in using the latest technological tools so that we can maximize their benefits in the learning process, Smart Teacher. Technology, Information and Communication (ICT) equipment such as laptops and computers should not be new in teaching and learning activities in the classroom. The use of ICT by teachers can facilitate access to learning content, facilitate more interesting learning, while improving the skills of teachers and students in using technology.

Use of Appropriate Technology, The use of smart whiteboards is an example of technology integration in the classroom that is not exactly new. Different brands of smart whiteboards may require different operating methods, but in essence teachers don't have to leave the whiteboard while teaching. Smart Teacher wants to explain, add, or delete material? All can be done without having to leave the whiteboard. But can this smart whiteboard be used all the time? Of course not, Smart Teacher. There are many other technology options that can be integrated into classroom learning. Interactive learning videos, for example, are also an example of the use of technology-based learning media. Videos like this can be accessed online or via CD/DVD. We can always explore options regarding

software, hardware, or applications that can be used in the classroom to suit the learning material and student needs.

Collaboration and Student Involvement, Apart from the use of ICT by teachers, another principle of 21st century learning is "anyone is a teacher, anyone is a student, and anywhere is a class." The learning model that is relevant in today's digital era is no longer teacher-centered. Therefore, we must be able to encourage students to be actively involved in the learning process.

There are many ways we can do it, Smart Teacher. For example, we can provide collaborative projects that require students to work together, share ideas, and provide feedback to each other online. In this project, students can also share documents, make presentations, make videos, or others. Another, more complex example of technology integration is the creation of multimedia content such as learning videos, podcasts, or animated presentations that require students to combine creative skills with the use of technology.

We can determine the extent to which technology integration in learning can be done, Smart Teacher. Instead of focusing on the complexity of integration, what we cannot ignore is the value of collaboration and student engagement through this technology in the classroom. Our role is to facilitate more interactive learning, strengthen students' collaborative skills, and prepare students for an increasingly digitally connected work environment.

Benefits of ICT Integration in the Teaching profession

Improved Student Engagement: Technology can cater to various learning styles, allowing students to learn at their own pace and through activities they find stimulating (WebManager.NG, 2023).

It promotes student flexibility and autonomy. New technologies promote autonomous learning for students. With the incorporation of digital alternatives such as online courses, each student can learn at their own pace, optimising time and resources thanks to the flexibility provided by digitalisation and connectivity.

It encourages critical thinking. The diverse sources of information that technologies provide bring new points of view to students. In this way, information and communication technologies encourage debate and the acceptance of other people's opinions. In addition, the exchange of thoughts allows students to learn about different cultures.

It stimulates motivation. The incorporation of technologies in the classroom improves the motivation of students; it is a quick and practical technique to stimulate the study of new concepts. Digital tools are the daily communicative support of the new generations, therefore, they are easily handled in this environment.

It incorporates new learning methods. Another of the advantages of ICT in education is that teaching professionals can incorporate new teaching methodologies, thus improving academic results and encouraging dynamism in the classroom. Moreover, their use implies the development of the digital skills needed to avoid the digital divide

Continuous Professional Development: Online courses, webinars, and virtual workshops allow teachers to stay updated on the latest pedagogical approaches and best practices (WebManager.NG, 2023).

Sometimes it is difficult to describe how technology can impact learning because the term "technology integration" is a broad term that encompasses so many varied tools and practices. There are many ways technology can become an integral part of the learning process. Only a few of these ways are listed below, but new technology tools and ideas emerge every day to improve things.

Aspects in Technology Integration

Technology integration in education involves several aspects, including: 1) Hardware: This includes the use of physical devices such as computers, tablets, smartphones, projectors, and other devices used in learning, 2) Software: This includes applications, programs, e-learning platforms and other software resources used in learning contexts, 3) Internet Connection: Fast and stable internet access allows access to online resources, online collaboration and

distance learning, 4) Learning Methods: In this case it involves changes or adjustments in teaching methods, which can be used to support active, collaborative and personalized learning, 5) Digital Content: This includes the use of digital learning materials such as e-books, learning videos, simulations and other interactive content, 6) Evaluation and Measurement: Can be applied to measure student progress, carry out formative and summative assessments, and provide faster feedback.

Learning technology is increasingly being used in teaching and learning activities. As in 2023, AI will become one that is widely used and discussed for use in education. Technology is used to support teachers to provide a variety of materials and teaching. With appropriate learning technology, it is hoped that teaching and learning activities will become more interesting and efficient. Apart from that, students can use learning technology to make it easier to receive lessons and make their assignments more efficient. So, in 2024, what will be the trends in learning technology?

Here are five learning technologies that will become trends in 2024.

Use of Artificial Intelligence

AI is used to help students who have learning difficulties. For example, to learn a language or help with writing. Students can also understand reading better using artificial intelligence. Learning technology in the form of AI provides a personalized learning experience and offers additional support for students with special needs. In addition, AI can increase efficiency and effectiveness in teaching and assessment. Education becomes more adaptive and responsive to the individual needs of each student.

AI technology helps educators in a variety of ways, including as a solution to repetitive administrative tasks. For example, AI can help analyze attendance data, manage value data, and so on. This technology also allows teachers to analyze student data more efficiently so they can adjust their content or implement personalized learning models as needed.

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Cloud Based Learning Technology

Cloud computing is having a significant impact in the education sector, especially in terms of accessibility and efficiency. First, cloud computing makes it easier to access learning materials. Students and teachers can access learning resources and materials from anywhere and at any time, as long as they are connected to the internet. This opens up opportunities for more flexible and inclusive learning, allowing students who are in remote locations or have physical limitations to still be able to participate in education.

Second, cloud computing increases collaboration and resource sharing among educators and students. The cloud-based platform enables real-time document storage, sharing and collaboration, facilitating a more dynamic and interactive teaching and learning process. Teachers can easily update learning materials and resources, while students can collaborate on group projects more effectively.

Third, cloud computing provides an efficient and cost-effective solution for educational data management. Educational institutions can reduce IT infrastructure and maintenance costs by using cloud services, which also offer scalability according to needs. In addition, cloud computing also supports better data security and privacy, with cloud service providers generally offering advanced data security and encryption features.

Every educational institution is now increasingly trying to compete to digitize every activity carried out between students and teachers as well as school operational activities.

Challenges of ICT Integration in Nigeria

Despite the numerous benefits, integrating ICT into Nigerian classrooms faces several hurdles:

1. Limited Access to Technology: Unequal distribution of technology resources creates disparities between schools in urban and rural areas (Owuamanam, 2014).

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2. Infrastructure Issues: Unreliable internet connectivity and lack of proper equipment maintenance can hinder effective ICT use (WebManager.NG, 2023).
3. Distractions and lack of attention. Digitalisation means opening up unlimited access to multiple resources and sources of information, such as web pages, social networks or chats, and therefore, they take attention away from the subject matter.
4. It reduces the development of other skills. Practices such as writing, public speaking and reasoning may be nullified by the widespread adoption of digitisation in academic institutions.

Recommendations

To overcome these challenges and maximize the positive impact of ICT on Nigerian education, several recommendations can be made:

1. The government and educational institutions should invest in expanding internet access, providing schools with adequate equipment, and ensuring proper maintenance.
2. Teacher Training Programs: Comprehensive training programs focusing on developing teachers' ICT skills and pedagogical approaches for technology integration are crucial.
3. Public-Private Partnerships: Collaboration between the government, private sector, and NGOs can facilitate the development of affordable and accessible ICT resources for Nigerian schools.
4. The use of technology especially by the learners should be monitored regularly to avoid being taken attention by other social network that irrelevant to the objectives of the teaching and learning.

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Conclusion

ICT holds immense potential to transform the Nigerian education landscape. By addressing the existing challenges and implementing the proposed recommendations, teachers can leverage technology to create a more engaging and effective learning environment for their students. This, in turn, will contribute to a more skilled and competitive Nigerian workforce in the globalized world.

In the end, the use of technology as a teaching medium still requires evaluation and adjustment. Don't forget, Smart Teacher. We must also be able to measure the impact of using technology in the learning that has been carried out. We must be able to evaluate the effectiveness of the technology and make ongoing adjustments. In this way, we have certainty that technology integration truly provides maximum benefits for learning.

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