

INFORMATION AND COMMUNICATION TECHNOLOGY IN TEACHER EDUCATION: IMPLICATIONS FOR NIGERIAN SECONDARY SCHOOLS

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Abstract

The dynamism in the use of ICT in teacher education and secondary schools in Nigeria is reviewed. This paper looks at the educational policy with respect to the use ICT in improving the standard of Teacher Education programme and the associated drawbacks is reflected upon. The ensuring challenges facing use of ICT application in secondary schools and teacher training institution are discussed. Suggestions of models and principles for quality and effective ICT application are also addressed concisely.

Introduction

The applicants of Information and Communication Technology (ICT) in education have become a potent tool in global socio-economic transformations. ICT is a major factor in education, learning and research in general, agriculture, health, commerce and even poverty alleviation by generating or creating new jobs and investment opportunities.

Information and communication technology (ICT) is defined as the creation, collection, storage, processing, transmission, display and use of information by people and machines (Open University, 1990). The American National Council for Education technology (ANCET, 2005), in explaining the concept defined (ICT) as the handling and processing of information using electronic devices. The use of (ICT) in Nigerian education is at a dynamic stage with new trends and innovations.

The field of education has certainly been affected by the penetrating influence of ICT worldwide particularly in developed countries. ICT has resulted in very profound and remarkable changes on the quality and quantity of teaching, learning and research in the educational institutions. Accordingly, ICT applications has the potentials to accelerate, enrich and deepen skill, to motivate and engage students in learning to help relate school experiences to work practices, to help create economic viability for tomorrow's workers, contribute to radical changes in school, to strengthen teaching and

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to provide opportunities for connection between the school and the world (Ajayi, and Ekundayo, 2009). Olorunsola (2007) is of the opinion that through ICT, educational needs have been met and it that has changed the needs of education as well as the potential processes.

A careful consideration of the role of education in nation building and the population explosion facing our secondary schools will justify the application of ICT in teaching and learning. ICT can enhance and improve the teaching and learning processes making the educational process more interesting and effective for our secondary school students.

The issues of effective class management, content creation, self assessment, subject organization, self study and collaborative learning, task oriented activities and effective communication is greatly improved upon by the use of ICT based applications.

Educational Policy

Nigeria's objectives for primary education do not require the knowledge of ICT. Emphasis is placed on widening access to basic education, eliminating present inequalities in the enrolment between the urban and rural populations, ensuring greater retention in schools, ensuring long-term permanent literacy for those children who have completed the programme.

While ICT is not evoked in the vision set for primary school pupils, it is abundantly clear that government's new policies and programmes in the telecommunication and ICT policy sectors do address the Nigeria's education ministry is yet to design it's ICT policy for education. The ministry's ICT department was created in February 2007. However, several different initiatives by government agencies and the private sector to introduce and promote ICTs in education are underway. The drawback to these programmes is the generally sporadic and insufficient supply of electric power in the urban and rural areas, as well as low technological know-how among others.

ICT in Secondary School Level Education

A critical observation into secondary schools in Nigeria shows that many teachers in the system still rely much on the traditional "chalk and talk" method of teaching rather than embracing the use of ICT. Accordingly, computer is not part of classroom technology in over 90% of the public schools in Nigeria, thus the chalkboard and textbooks continue to dominant classroom activities. This is an indication that the students are still lagging behind in the trend of changes in the world. This presupposes that there is the tendency for the teachers and students to be denied the opportunities which ICT offers in the teaching and learning activities. There is the need to replace the traditional pedagogical practices that still underpin the educational system in the country by/through the application of ICT in Nigeria secondary schools. The various ICT facilities used in he teaching-learning process in school include; radio, television,

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computers, overhead projectors, optical fibres, fax machines, CD-Rom, internet, electronic notice boards, slides, digital multimedia, video/VCD machine and so on. A cursory look into our secondary schools clearly indicates the absence of ICTs facilities especially in public secondary schools. This suggests that fact behind teachers not making use of them.

According to Ajayi (2008), the use of these facilitate involves various methods which include systematized feedback system computer-based operation/network, video conferencing and audio conferencing, internet/worldwide websites and computer assisted instruction. Importantly, effective use of the various method of the ICT in teaching learning depends on the availability of these facilities and teacher's competence in using them. Observation has shown that there are no functional internet facilities in most of the secondary schools. This appears to hinder the extent of teacher exposure to the use of ICT in teaching.

Teachers are well as students appear not to be knowledgeable in the use of ICT because, there appears not to be any official training for both the teacher and the students in the school.

Challenges and Constraints Impacting the Progress of ICT in Secondary Schools

Existing literature on the relationship between teachers' preparation (pre-service, in-service) and the application of ICT in school classrooms is substantial. Most recent research questions are efficacy of teacher preparation for the successful application of ICT in school classroom (Barak, 2006). If the quantities of teaching depend, in some significant measure, on the way teacher were taught, it may reasonably be argued that teacher education programmes treating ICT as a separate phenomenon of study will probably result in the unimaginative subsequent integration of technology into the school curriculum.

Several studies address the question of school conditions that great emerging teachers as they transit from their programs of professional preparation to actual classroom teaching practice.

Particularly, an important analysis commissioned by the World Bank, Ottevanger et al (2007) suggested that a significant constraint to the productive infusion of ICTs into secondary sub-Saharan math and science curriculum tests with the relative unattractiveness of teacher training in comparison with other university level courses of study. As a result, according to this study, "teacher education programme attract the weakest students entering higher education that is students who cannot be admitted to medicine, engineering and other more attractive options".

Moreover, the World Bank study suggested that teacher education programmes are deemed excessively academic and remote from the real challenges confronting classrooms. In this context, ICT needs to be better developed as a vehicle for the ongoing development and support of production teachers. In other words, ICT

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techniques should be embedded into the education programmes that prepare teachers to integrate ICT into their classroom teaching.

Evolving Approaches in the Field

Qualitative and quantitative researches from Barak (2006) indicate strongly for teacher education programmes that embed replicable models for instructional design and teaching throughout the curricula that students experience.

Olakulehin (2007), from an African perspective, suggested the need to focus on sustainability, resource adequacy, and no-going professional development in order to assure effective development of ICTs in Nigeria schools.

Accordingly, teacher education should reflect these principles to ensure quality, effectiveness in the use of ICTs in the teaching and learning processes in Nigerian secondary schools.

Conclusion

The use of ICT is emphasized both with respect to teacher education and Nigerian secondary school. Associated challenges in the use of ICT secondary school and teacher education in consonance with recent approaches in the field have been discussed.

Recommendations

1. Government should ensure steady supply of electricity to School to boost the use of ICT application in Schools.
2. Government should ensure that teachers of secondary schools are given adequate training on the use of ICT application to boost the development of current technology in Schools.
3. Technology know-how and enabling environment should be created in our school environment to help Students see the need to embrace the development ICT application in Secondary Schools

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