

ICT Integration for Effective Curriculum and Instructional Delivery in Secondary Education in Nigeria

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ABSTRACT

A nation's development and technology know how deeply depend on her educational structuring and planning. Teaching and learning is the driving tools of any educational enterprise throughout human history irrespective of the level of attainment of a country whether developed, developing or under-developed. The high trend of technological development especially in information and communications technology (ICT) is no means very useful in the teaching and learning environment globally. The urgent need to fully integrate ICT in the curriculum and instruction at various school levels has become necessary in view of the demand and adaption of the ICT literate in an emerging world that is ICT driven. The integration of ICT into the educational system plays a competitive global village where knowledge is created and distributed using ICT. The core of ICT integration in schools focuses on policy and strategy, how essential are ICTs to national goals and for what educational purpose? This paper views and discuss the need to achieve effective instructional delivery in secondary education through the use of ICT and the concepts of effective instructional delivery. What ICTs to use and ways of integration of ICT.

Keyword:- Effective Curriculum and Instructional Delivery; Secondary Education; ICT Integration.

I. INTRODUCTION

Information and communication technology holds a centre focus for education and industrial development. The integration of ICTs in education in Nigeria has not been fully sensitise and passionately uphold as necessary for rapid growth in the educational system and nation building. In respond, the Federal Republic of Nigeria is not ignorant of this modern trend and seriously recognizes the role of ICT in the advancement of knowledge at every level of education (FRN, 2004). It followed the launching in 2004 through the Federal Ministry of Education of the ministerial initiative making e-education one of the initiatives for the attainment of Education for All (EFA) and the Millennium Development Goal (MDG) was a practical demonstration of this fact. ICTs were meant to be used as the mode for instructional delivery which is achievable through adequate provision of needed ICTs, availability of technical support staff and infrastructure such as uninterrupted electricity, Adegbija (2011, p560).

Many educationist and teachers have been using ICTs as productivity tools, but have never really authentically integrated these technologies into subject teaching (UNESCO, 2005). There is a strong need to learn from concepts, principles, strategies and experiences on what would and would not make the integration of ICTs within education successful. ICTs concept and strategies will help educators and others to use ICTs to better their teaching practice, which also extend to school administrators, local educational leaders and government stakeholders with case studies describing educational policy reforms that explicit ICT components as

well as to government bodies developing ICT-based resources on the national curriculum.

II. STRATEGIES FOR ICTS INTEGRATION (CURRICULUM)

The integration of ICTs concepts and values into the curriculum requires adequate planning reforms. The planning stage is noted as particularly important for effective introduction of ICTs into the curriculum and a stand point where teachers and the students stand in terms of ability and ICT skills. A key question is considering the school administrators and school learning goals and how these will be met in trend with the societal demands. ICTs developmental facilities for instructions requires responses as such, as viewed by UNESCO 2005 as followed;

- Does the product meet national and/or institutional objectives?
- Does the product contribute to the aim and objectives of the course?
- Is the content current, unbiased and politically and socially sensitive?
- Is the use of target and media appropriate for the needs and objectives of the course?
- Can the ICTs product be used with locally available resources ?

It is true that many cases, ICT-based lessons and materials are developed in line with the national curricula as stated by ministries of education and local governments. However

technological and social trends should be flexible to shape the ICT-based curricula structure. A case studies from UK and Australia illustrate how education software and ICT-focused lesson plans can be integrated into standard-based lessons, becoming part and parcel of curricular reforms. The reforms facilitated the importance of ICTs in education system (technology education) and developing it as a discrete subject in its used by teachers of all subjects, This high is achievable through a key players in the technological world to disseminating guidelines and materials for the integration of ICTs into subject teaching.

Notably, practical skills use of computers for instruction by the teachers is a key issues whether are the computers located in classroom or ICT laboratories. The location of the computer systems highlights consequences and merits of each location considering on the context of the class and subject being taught. Teachers still find it harder to fully integrate the use of computer for effective instruction. UNESCO (2005), report indicate that strategically organized computers in the classroom, the teacher often is able to set up independent learning projects and this facilitate students taking greater responsibility for their learning. The general principles and strategies pinpoint to the fact that the teacher is often trained in basic computer skills, often for administration purposes and simple presentations, but they require greater training to be able to connect the potential of ICTs to the subject matter in the classroom. The report further state thus; for real integration of ICTs into the teaching and learning process, teachers must be helped to understand how educational technology can inform and enhance pedagogy and, thus contribute to greater student performance.

III. INTEGRATING ICT INTO THE CURRICULUM /CLASSROOM

The emergence of ICT is transforming the way curriculum is being structured and its outlook. The need for classroom instructors to reshape and re-think the traditional pedagogies due to the number of ways and the kind of activities that are incurred by using ICTs, like promoting higher order thinking skills with the use of different software and online project. These resources seek for a deep impact and understanding on who and how our curriculum should be structured. What are the ways ICTs can help students develop more critical responses to the information they access. A school of thought is of the opinion that the curriculum be design with the sole responsibility of the individual schools or local government or the national ministries of education in order to set standards for both teachers and students. These options is that the curriculum is becoming more dynamic and interactive due to the many kinds of ICT-based learning resources available. The traditional classroom is now shifting to a more student centred learning activities engaging in independent learning, collaborative activities with diverse learning community on project covering multiple curricula activities respectively. The need to facilitate curriculum

developer to consider it from alternative perspectives. Implying that subjects need not be kept discrete, using ICT to facilitate a cross-curricular, multi-disciplinary approach.

IV. REQUIREMENT FOR EFFECTIVE ICT INTEGRATION

There are a number of barriers hampering effective ICT integration in mostly secondary schools curriculum in Nigeria. The core issue in this theme is teacher professional ICT development. Teachers with effective use of ICTs tend to demonstrate ability to set high target for their students and the way ICTs will facilitate the achievement of such goals; adapt ranges of technological and assessment tools. Teachers with effective ICTs skills as noted by Adegbija (2011) that they promote an effective learning environment that extends beyond the classroom to home-based study. Technological education curricula implementation requires foremost well-trained teacher in the practical integration of technology into classroom activities and not only hand on basic computer functions. However, the teacher's professionalism requires a supportive infrastructure; quality contents and materials; enhancing policies and strategies that are student-centred and the relevant assessment tools.

V. BARRIERS TO EFFECTIVE ICT INTEGRATION

Research world over indicate similar barriers to effective teaching with ICT. The British Educational Technology and Communication Agency (ETCA, 2003) identify four types of barriers;

- Professional training requirements of ICT
- Knowledge and computer experience
- Attitudinal and personality factors
- Institutional factors

These factors are further divided into two broader categories; teacher-level barriers and school -level barriers with an interrelationship between the two barriers. However, lack of equipment rank the most refer to barrier for technology implementation in the school system. More so epileptic supply of electricity throughout the country, limited and inadequate ICT facilities (Abolade & Yusuf, 2005; Ajayi, 2008; Issa et al. 2011; Oye et al. 2011, Onwuagboke, Singh & Onwuagboke, 2014). Lack of technically experienced teachers, inadequate course content and lack of access to ICTs in trainee teachers' field experience (Abolade & Yusuf, 2005). Ajayi (2008) identified lack of support for the integration of ICT in teaching, lack of internet out lets in the classrooms (Onwuagboke, Singh & Onwuagboke, 2014) and expensive nature of ICT resources (Issa, et al. 2011; Oye et al. 2011).

VI. RECOMMENDATIONS

The teacher training institutions should be a launching pad for effective instructional delivery at all levels of Nigerian educational system.

- ICT teaching methodology should be integrated to enable the teacher trainee to acquire the ICT skills of teaching alongside the methods of teaching through modelled examples by teacher educators.
- The effective implementation of the ICT policies as stated in the Federal Government of Nigeria ICT in Section 11 subsection 102 (d) of the National Policy on Education that “Government shall provide facilities and necessary infrastructure for the promotion of Information and Communication Technology at all levels of education” (FRN, 2004:53).
- The complains of time factor by teachers can be effectively managed by Teachers need to be able to know when to intervene in classes where students are using computers. Timely intervention can help maintain pace, for example, students need help with problem solving or need (UNESCO 2005).

VII. CONCLUSION

The role of ICT in nations development in the 21st century cannot be overlooked not to restructure our learning outcomes in terms of this information age for efficient and effective instructional delivery. The benefits accruable to the education industry if ICT is effectively integrated in instruction at all levels are enormous and yet to be realized. Flawless integration of ICT in instructional delivery has the potential of facilitating instruction while at the same time enhancing learning amidst other benefits. Wealth of paper recommendations regarding ICT implementation on paper if executed the educational system of the Nigeria will definite take a new dimension and rank among the technological growing nations of the world.

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