

STRATEGIES AND APPROACHES TO ICT INSTRUCTIONAL DELIVERY IN TEACHERS & TRAINING INSTITUTIONS

BY

Dr. Adamu Zubairu Evuti
Department of Educational Technology
Federal University Of Technology, Minna.
Email – adamuzubairu@futminna.edu.ng
PHONE: 08036328687

DR. ISMAILA I. KUTA
Department of Educational Technology
Federal University of Technology, Minna.

ABSTRACT

There has been increased interest in the use of ICT for instructional delivery, the approach being used since inception of computers to Nigeria has failed to help teacher educators and teachers employ ICT tools for their lessons. This paper highlights some strategies and approaches which have helped some developed nations to meet their educational challenges. The author believes that the new approaches being suggested would help teachers particularly teacher educators to use the hardware and software to enhance teaching and learning.

INTRODUCTION

In the modern era, information and communication technology (ICTS) play a crucial role in the way that society functions.

Information and communication technology is drastically altering the ways things are done in nearly every field of human activity

ICT has taken over the operation of every

facet of life such as Banking, Agriculture, Law, Medicine, Communication, Sports and Games. Teaching is one of the most challenging and crucial professions in the World. Teachers are critical in facilitating learning and in making it more efficient and effective, and they will continue to be in future. Though the chalkboard, textbooks,

radio/televisions and film have been used for instructional purpose over the years, none has quite impacted on educational process like the computer. While television and film impact only on the audio visual facilities of users, the computer is capable of activating the sense of sight, hearing and touch of the users. ICT has the capacity to provide higher interactive potential for users to develop their individual intellectual and creative ability. (Aduwa and Iyamu 2005).

Research and experiences have shown that ICTS used well in classrooms, enhance the learning process in many ways. According to Haddad and Draxler (2009), ICTS have the potential to :

1. Allow materials to be presented in multimedia for multichannel learning.
2. Motivate and engage students in the learning process.
3. Bring abstracts concepts of life.

4. Enhance critical thinking and other higher level of cognitive skills and process.

Looking at the current widespread diffusion and use of ICT in modern societies, especially by the young, it is difficult and may be even impossible to imagine learning environments that are not supported in one way or the other, by information and communication technologies, Yves et, al,(2006), remarks that ICT will affect the complete learning process today and in the future. Today, Nigeria certificate in education (NCE) is the required minimum qualification.

However, the review of the NCE curriculum has designated computer education as compulsory. In the new curriculum that was launched in October 2010, all the students in the colleges of education are required to achieve minimum technology standards as a mandatory component in pre-service programs.

Teacher training institutions are saddled with the responsibility of training qualitative teachers in all fields of learning for primary and post-primary schools. The prospective teachers would be required to employ ICT tools in their future teaching activities. Oliver (1994) identified the needs for students teachers to experience models of ICT use in their own learning before they can go ahead to implement same in their later profession. Student teachers that will use computer in later teaching practice must have observed their teachers using computers (Jegede, 2006, Jegede & Adelodun, 2003).

CONCEPT OF ICT

ICT is an accepted acronym of the word information communication technology, it is a diverse set of technological tools and resources used to communicate and to create, disseminate, store and manage information. (Blurton, 1999) This means that ICT helps in the storage and management of

information. The Federal Ministry of Education, Nigeria, (2010) describes ICT as encompassing all equipment and tools (inclusive of traditional technologies of radio, video and television to the newer technologies of computers, hardware, firmware etc) as well as the methods, practices, processes, procedures, concepts and principles that come into play in the conduct of the information and communications activities.

Nawosu and Ogbonno (n.d) outline the following as the benefits derived when ICT is used in instruction:

22. **Active learning:** ICT enhanced learning mobilizes tools for examinations, calculation and analysis of information, thus providing construction of new information. Learners therefore learn as they do and whenever appropriate work on real life problems in-depth, making

learning less abstract and more relevant to the learner's life situation. In this way and in contrast to memorization-based or rote learning ICT enhanced learning promotes increased learner engagement.

23. Collaborative learning: ICT-supported learning encourages cooperation among students, teachers and experts regardless of where they are, apart from modeling real-world interactions, ICT-supported learning provides learners the opportunity to work with people from different cultures thereby helping to enhance learners teaming and communicative skills as well as their global awareness.

24. Creative learning: ICT-supported promotes the manipulation of existing

information and the creation of real world products rather than the regurgitation of received information.

25. Integrative learning: ICT-enhanced learning promotes thematic, integrative approach to teaching and learning. This approach to teaching and learning. This approach eliminates the artificial separation between the different disciplines and between theory and practice that characterizes the traditional classroom approach.

26. Evaluative learning: ICT-enhanced learning is student-directed and diagnostic. Unlike static, text or print-based educational technologies, ICT enhanced learning recognizes that there are many different

learning pathways and many different articulations of knowledge, ICT allows learners to explore and discover rather than merely listen and remember. There is no gain saying that ICT use has impacted instructional activities in the developed countries. Developing countries often find themselves in situations where there is pressure to acquire and adopt new technologies because of the claims of what these technologies could do to aid and leapfrog their development, without really understanding the reach of the technologies, or without having analyzed their environments and contexts for appropriateness, applicability and impact (Swartz, n.d). Therefore, there is need for strategies and systematic

approach for ICT instructional delivery in teacher training institutions, Approaches to ICT integration in teacher education.

Use of ICT within teacher training programmes around the world is being approached in a number of different ways with varying degrees of success. These approaches were subsequently refined and merged by Khirwadkar into following approaches:

10. ICT skills development approach:

The emphasis here is given to providing training in use of ICT in general. Student teachers are expected to be skilled users of ICT for their daily activities. Knowledge about software, hardware and their use in educational process is provided.

11. ICT pedagogy approach: Here importance is given to integrating ICT skills in a respective subject,

learning path ways and many different articulations of knowledge, ICT allows learners to explore and discover rather than merely listen and remember.

There is no gain saying that ICT use has impacted instructional activities in the developed countries. Developing countries often find themselves in situations where there is pressure to acquire and adopt new technologies because of the claims of what these technologies could do to aid and leapfrog their development, without really understanding the reach of the technologies, or without having analyzed their environments and contexts for appropriateness, applicability and impact (Swartz, n.d). Therefore, there is need for strategies and systematic

approach for ICT instructional delivery in teacher training institutions, Approaches to ICT integration in teacher education.

Use of ICT within teacher training programmes around the world is being approached in a number of different ways with varying degrees of success. These approaches were subsequently refined and merged by Khirwadkar into following approaches:

10. ICT skills development approach:

The emphasis here is given to providing training in use of ICT in general. Student teachers are expected to be skilled users of ICT for their daily activities. Knowledge about software, hardware and their use in educational process is provided.

11. ICT pedagogy approach: Here importance is given to integrating ICT skills in a respective subject,

There has been much discussion on the need to use ICT in instructional delivery, yet research and experience have shown that lectures in teachers colleges are lagging behind ~~in the use of~~ technology for instructional purposes. New strategies and approaches to ICT integration into education are urgently needed if Nigerian educational system will strive for international best practices few approaches toward ensuring effective ICT instructional delivery include as suggested by (Crawford 2001).

1. Setting standards for procurement of hardware, courseware and consultancy services, procedures for identifying evaluating, selecting and purchasing goods and services should be reviewed to meet international procurement standards.
2. Employing a continuous survey mechanism that identifies current status, needs and trends, Survey and Evaluation instruments are completed by teachers,

laboratory technicians, principal, school technology leaders, and subsequent collected, ensuring relevant and accurate data are available to uniform planning on a timely basis.

3. Providing for community access and integration where schools and school communities are encouraged develop partnerships that result in community and business involvement in the building laboratories, using the laboratories as adult learning centers as well as internet access points and providing mentorship, curriculum guidance with respect to the requirements of the economic activities in the area.
4. Using cluster approach, which sees school in close geographical proximity working with each other, sharing and collaborating, thereby accelerating the process.
5. Technology in education policy and strategic planning. All technology in

educational initiatives should fit into an overall national strategic plan.

6. Development of indigenous educational software, educational software and courseware is extremely expensive and suffers from cultural differences inherent to the fact that countries in which it is used are not necessarily the same as those from which the developers hail.
7. Training in-service teachers/trainers thereby using the multiplier effect & reach all teachers in Nigerian school system. This training should include training in the delivery of online learning. Lecturers should be taught how to moderate on-line courses.

REFERENCES

- Aduwa - Ogiegbaen, S.E. (2005), using information and communications technology in secondary schools in Nigerian: problems and prospects educational technology & society, 8(1), 104-112
- Blurtoni, C. (1999), new diversion in education: UNESCO, 41-61
- Collis B. (2003), Uses of information and communication technologies in teachers education. In B. Robinson & C. Latchem (Eds), teachers' education through open and distance learning London: Routledge Falmer, 171-192
- Crawford, A. (2001), advancing the policy and paradigm of capacity building in international development corporation.
- Federal Republic of Nigeria (2010a), national policy on information and communication technologies (ICT) in educational, Abuja: MFE
- VVES, P. Dieter, Z. Marcelino, C. (2006), A Review of the impact of ICT and learning working paper prepared for DG. EAC, October 2006, pg. 4 Jegede, P.O & Adedun, O.A (2003), The status of computer education in Nigerian secondary schools. The African symposium and African educational research journal, 3(3) retrieved from <http://www.nesu.edu/nesu/acro/sept03.html>:
- Jegede P.O & Adedun, O.A (2003), The status of computer education in Nigerian secondary schools. The African symposium and online African Educational research journal, 3(3) retrieval from <http://www.Nesu.edu/nesu/acro/sept03.htm>.
- ~~Jegede - P.O. (2009), Assessment of Nigerian educators ICT Training issues in information science and information technology, 6, 415-420~~
- Khirwadkar, A. (2007) integration of ICT in education pedagogical issues. Retrieved from

http://www.journals.a.u.edu.journal/JAN2007/article_D6
VOL.1 NO 1 PDF

Nwosu, O. & Ogbomo, E.F (n.d) ICT in educational A catalyst for effective use of information retrieved from http://Unilibium/edu/lpp/pnla.quarterly/nwosu_ogbomo_75_75.htm Oliver R. (1994) Information technology causes in teacher education.

The need for integration journal information technology for teacher education 3(3). 395-399

Otuka, J.O.E (2002), Enhancing the status of ICT knowledge and skills of teachers at the basic and post basic education levels in Nigeria paper delivered at the 53rd annual conference of the science teachers association of Nigeria (STAN), Held between August 6-11-2012.

Swarts, p. (n.d). Perspective an ICT 4E in the developing world retrieved from

<http://www.gcsei.org/old/files/decman/perspectives-developingworld.pdf>