

# The role of I.C.T in educational transformation.

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## Abstract

The integration of information and communication technologies (I.C.T) as taken the activities of our day to day learning and research, this paper examined the teachers' perceptions on how to improve teaching and learning model through the uses of I.C.T. A multiple case-study research methodology was employed from various sources, opinions shows, their were widespread views on I.C.T as a major factor in teaching and learning processes. In particular, it shows that the contribution of I.C.T to the improvement of teaching and learning processes is higher in schools that have integrated I.C.T as an innovation, to attain this highest level, it implies that schools must not only has to modernize the technological tools, but to change the teaching and learning methods:, such as, the teacher's role in issues regarding classroom organizational, the processes of teaching in formal and non formal settings , with the interaction mechanisms and several other factors relating to the uses of ICT in education for development.

Keywords: *e-education, ICT, Weblog, Technology, Integration, Methodology, Teachers and Learners. Mobile devices, education, formal and non formal educational.*

## 1. Introduction

The role of Information and Communication Technology (*e-education*), especially with innovation and technology into the educational activities. (merging technology innovation into education) Education sector can be the most effective sector to anticipate and eliminate the negative impact of ICT. Technology (*e-education*) in another way, it have improve the student's knowledge and self development toward there carrier in life.

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Being aware of the significant role of ICT (*e-education*) in our life, especially in the educational activities, education administrators should take a step toward a successful implementation and strategic approach to employ ICT in enhancing the process of teaching and learning in general. Arderson (2002),Postulated that, I.C.T is not just a tool in

educational sectors, but it's a back-born to improve effective and meaningful educational process.

The main purpose of the Strategy for Information and Communication Technology Implementation in Education is to provide the prospects and trends of integrating information and communication technology (ICT) into the general educational knowledge.

Here are some unavoidable facts in the modern education sectors;

1. improvement in I.C.T, in order to balance it, the whole educational system should be reformed and ICT should be integrated into all educational stages (level).

2. Influence of I.C.T, especially mobile devices (open source tool) cannot be ignored in our student's lives. So, the learning activities should be reoriented and reformulated, from the manual source centered to the open source ones. In this case the widely use of mobile devices access has been an unavoidable policy that should be anticipated and inculcated by schools (tertiary institutions) to their curriculum tools.

3. Inculcate a multimedia educational segment into learning activities, the presence of multimedia games and online games with mobile devices has been another serious problem that should be wisely handled by the educational institutions. The students cannot be

exempted from this case. They can have and do with it wherever and whenever they want. Schools, as a matter of fact, do not have enough power and time to prevent or stop it after school times. Meanwhile, most parents do not have enough times to accompany and control their children usage of mobile devices for simulations and games. So, the students have large opportunities to do with multimedia games or online games or browsing the negative and porn sites. Having been addicted, the students will have too little time to study, and even do not want to attend lectures.

In such scenario, education institutions play an important role to reduce these challenges. One of which is by facilitating the students to do edutainment or educational games. Schools can let their students be familiar with educational games adjusted by their teachers. Besides, they can also support and facilitate their students to have their own blogs in web. A lot of Weblog providers are free to the users; visit Google for more details on free weblog. In their blogs, the students can create and write something, like an article, poem, news, short stories, features, or they can also express their opinion by an online forum provided in the internet. By doing so, our young generation will get more and more information and knowledge by browsing in the internet. They can also create innovation in web design that it may be out of the formal curriculum content, but it will be useful for their future.

**4. Priority factors** , the implementation of ICT in education has not been a priority trend of educational reform and the government paid little attention to it. Therefore, there should be an active participation and involvement, initiative and good will of the schools with the government support and various institutions to enhance ICT implementation in school be among the major factors of educational improvement.

**5. Teachers as a catalyst** , the teachers should be the main motivator and initiator of the ICT implementation in all our institutions and arms of learning. The teachers should be aware of the social change in their teaching activities by participating in various training program relating to ICT development and innovations. They should be the agent of change from the analog system of teaching to the digital ways with the help of ICT. They must also be the part of the global change in learning and teaching modification.

## **2. Contributing of I.C.T to the development of teaching and learning processes?**

As previously pointed out, one of the main concerns of studies on educational technology has been to identify what uses of ICT are being applied in schools and how teaching and learning processes can be better developed through them. Keeping in mind this perspective, we considered it of interest to inquire into teachers' opinions about the teaching and learning processes will be encouraged to use when incorporating ICT in teaching and learning.

The teaching and learning processes we have highlighted are based on Bloom's taxonomy (Bloom 2013 review). Asserted that, despite the constructiveness ideas that have been disseminated and accepted in the Spanish educational area, Bloom's taxonomy is still respected and used, particularly as a reference in educational planning processes and to fix identifiable aims in educational settings. This is so perhaps because many teachers have been trained on this basis, and also because the taxonomy is useful when describing the students' learning levels and domains.

### **2.1 Guiding Questions:**

What are known on ICTs are mostly use to benefit education? What we know about the usefulness of I.C.T are benefit to the general populate, appropriateness and efficacy of specific ICTs (including radio television, handheld devices, computers, networked computers and the Internet) for educational purposes? What we know about the use of open source and free software in education? Balanskat, A., R. Blamire, and S. Kefala. 2006. explain further in their publication by placing ICTs as a linking bridge that conjoin messages and the user as a whole structure of development in our contemporary society.

This are major questions we need to ask our self before research into how and ways it can be integrated into educational system.

### **2.2 General opinion on the uses of ICT**

The Internet is not widely available in most LDCs; radio and TV we use in Africa and some part of the world, the most user are the broadcast technologies, such as radio and television which has greater penetration than the Internet, and this substantial gap is not expected to be closed soon. Radio and TV can have high start-up costs, and reinforce existing pedagogical styles Educational initiatives that utilize radio and television typically have quite high initial start-up/capital costs, but once they are up and running, on-going maintenance and upgrade costs are much lower (making initiatives utilizing radio and TV for distance learning in the education sector particularly appealing for donor support in many cases). One-to-many broadcast technologies like radio and television (as well as satellite distribution of electronic content) are seen as less 'revolutionary' ICTs in education, as their usage is seen as reinforcing of traditional instructor-centrist learning models, unlike computers, which many see as important tools in fostering more learner-centrist instructional models.

Radio instruction has been used widely and is reasonably well studied, Radio instruction in formal education has been well studied, especially the links between the use of radio in combination with school-based educational resources and a variety of pedagogical practices.

TV has been used with success in a few places, Television has been utilized successfully as a mechanism for reaching out-of-school youth in a number of countries,

especially in Latin America and China, and the results of such projects have been widely disseminated.

In some cases, where markets have been liberalized, ICTs are used to distribute educational content regionally within a country Market liberalization has in many countries allowed for the development of locally- (as opposed to centrally-) (Area m (2005) controlled distribution channels that utilize ICTs (like radio and the Internet, and to a lesser extent television) to create and broadcast educational content more targeted to the needs of specific communities, and as a result of that it give a greater flexibility to employ local languages.

CAI ( computer assisted instruction) is not highly regarded by experts and in OECD countries, but still receives much interest in LDCs The usefulness of computer-aided instruction (CAI), in which computers are seen as simple replacements for teachers, has been largely discredited, although there appears to still be great interest in CAI in many LDCs where computers are being introduced.

It is unclear where to place computers to make sure they are used most efficiently, There is very little research on the most appropriate placement of computers in schools, or in our community, Multi-channel learning is a useful concept, The emerging practice of 'multi-channel learning', which focuses on enriching the educational experience by engaging all resources that are available to help in effective incremental change by coordinating the various ways to connect learners with

useful information, knowledge, and stimulation, and to mediate those interactions, provides valuable insight into how blended learning approaches can be delivered and tailored in areas of great resource scarcity.

Satellite is much hyped, but under-studied while satellite broadcasting of electronic educational resources is thought to hold much promise, there are few case studies of successful implementation of satellite broadcasting to small LDCs.

New Internet technologies hold promise, but are not yet operational Emerging Internet technologies, especially recent and emerging wireless protocols (including 802.11, and shortly WiMax), are thought to hold much promise for providing connectivity to remote areas, but projects utilizing such technologies are for the most part in pilot or planning stages, and face many regulatory hurdles / or setback.

Mobile Internet center (vans, etc.) are being deployed as a way to reach rural areas, a number of educational initiatives utilizing mobile Internet center have been piloted in the past decade, but little cost and impact data has emerged from such projects.

Community tele-center are a hot topic, but successful, replaceable models have not yet emerged Community tele-center (sometimes based in schools) have be touted as important tools to provide access to learners (including teachers engaged in personal enrichment and professional development opportunities) to ICTs outside of formal school settings.

The use of handheld devices is just now receiving serious widespread attention little research has been done on uses of handheld devices (including personal digital assistants and mobile phones) in education.

'Free software' holds promise, but costs and impact are still not well documented, The uses of 'free' software is widely touted as a cost effective alternative to the uses of proprietary software (especially Microsoft products), but research in this area is largely advocate in nature.

### 3. General comments

We know that technology changes – rapidly – and newer, more cost effective and more powerful technologies will continue to emerge of potential use in education. At the same time, evidence shows that, once installed in schools, ICTs continue to be used for the life of the functioning life of the technology, whether or not newer, more cost effective and powerful technologies emerge (especially as upgrade paths are seldom part of initial planning).

Much of the publicly available information about the effectiveness of particular ICT tools is generated by the companies who's market such products and related services.

Applicability to LDC/EFA context.

While it is clear that it the application of various ICTs that are the most important determinants of the effectiveness of such tools in education, the choices of tools are quite varied and each has its own advantages

and disadvantages, better (2014). Policy makers and donor staff are often bombarded by information and studies from vendors on the suitability of their products or services, and there is a need for further, independent research on the appropriateness on specific tools with potential to help meet education-related MDGs.

Some areas for further investigation and research

What models exist for the effective utilization of ICTs to support on-going professional development for educators? What are the best practices for mainstreaming pilot projects involving interactive radio instruction (IRI) at the Ministry of Education, and how are such projects managed and maintained over time? Where should computers reside if they are to have the greatest learning impact in education? Is the use of ICTs as in-class presentation mechanisms a cost-effective use of technology? How have/can handheld devices (including SMS-enabled mobile phones) be used to support education (especially related to the professional development of teachers and school administration), and what are the emerging best practices? How can exist community and interactive radio networks outside the education sector be used to benefit education? What successful models exist for opening ICT facilities in schools to the wider community? Does the use of so-called "open source software" offer compelling benefits in education? What models exist on effective public-private-community partnerships in education for ICT equipment provision and maintenance?

(4). The aims and objectives of ICT implementation in education are as follow:

1. To motive students toward learning.
2. To reduced verbal illustrations and descriptive analysis of an ideal without a pictorial view.
3. To preserve learning and teaching period.
4. To update individual skills and knowledge.
5. To develop and improve distance educations and it awareness among others.

#### (5). Conclusions

From the teachers' answers, we can conclude there is a mainstream opinion that using ICT in teaching as favor several processes related to teaching and learning – in particular, those involving attention, perception, responding mechanisms, application of learning and understanding. Moreover, those related to information transmission and knowledge facilitation are well thought of. However, some of the proposed processes were more poorly valued: interaction processes and expression and communication skills were not held in high regard by the teachers, probably because they have considered ICT as being generally used in a one-way mode. On the other hand, there seems to be a relationship between teachers' perceptions and the three dimensions (equipment, use and innovation). While the student's aspect will not be overrule as well because it has also improved students

*mode of learning by making learning easier and convenient.*

#### **6. Recommendations**

*The following are recommended for improve system of education through the uses of ICT,*

- 1. Government should finance ICT utilization across schools and the outcome should be report to the government for appropriate evaluations*
- 2. Schools in should solicit for educational aid sponsorship from international and local body so as reduce the burden from the government and improved the learning system.*
- 3. Full adoption of ICT should be implemented in schools*
- 4. Training and update of skills should be made compulsory for teachers every six month interval.*
- 5. Mobile devices usage should be channel to educational goals and objective rather than game and social activities usage*



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