



Uses of ICT tools in Education

KEYWORDS

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ABSTRACT *The learning takes place when there is a communication about knowledge between persons. The impact of learning is effectively imbibed in students when the flow of information or in interesting way. The above reasons make the education structure to introduce the information communication technology in the field of education. This paper emphasizes on the analysis of the integration, about the use of information communication technology. Also to verify what can develop the status of education sector by using ICT and helpful in anxiety reduction in various aspect among students and teachers. The contribution of ICT for the improvement of teaching learning process is higher in school those who have integrated ICT as an innovative factor. We focus through this paper on the acceptance and place of ICT tools in education.*

A Knowledge Map on Information & Communication Technologies in Education

Guiding questions:

What is known about which ICTs are most useful to benefit education? What do we know about the usefulness, appropriateness and efficacy of specific ICTs (including radio television, handheld devices, computers, networked computers and the Internet) for educational purposes? What do we know about the use of open source and free software in education?

Current knowledgebase

ICT (Information and Communication Technology – or technologies) is an umbrella term that includes any communication device or application, encompassing radio, television, cellular, computer and network hardware and software, satellite system and so on, as well as the various services and applications associated with them , such as videoconferencing and distance learning. There are so many uses through ICT. What we know, what we believe -- and what we don't

General

• **The Internet is not widely available in most LDCs; radio and TV are** Broadcast technologies such as radio and television have a much greater penetration than the Internet throughout much of the developing world, and the 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-centric learning models, unlike computers, which many see as important tools in fostering more learner-centric 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-) 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 have a greater flexibility to employ local languages.
- **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 the community, used to achieve various learning objectives.
- **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 effect incremental change by coordinating the various ways to connect learners with 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 (in-

cluding 802.11, and shortly WiMax), are thought to hold much promise for providing connectivity to remoter areas, but projects utilizing such technologies are for the most part in pilot or planning stages, and face many regulatory hurdles.

- **Mobile Internet centres (vans, etc.) are being deployed as a way to reach rural areas** A number of educational initiatives utilizing mobile Internet centres have been piloted in the past decade, but little cost and impact data has emerged from such projects.
- **Community tele centres are a hot topic, but successful, replicable models have not yet emerged** Community tele centres (sometimes based in schools) have been 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 advocacy in nature.

Comments

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 market such products and related services.

While it is clear that it is 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. Policymakers 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 existing 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?

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