

Utilization of information and communication technologies (ICT) in education

Maryam Khodamoradi¹, Mehran Bozorgmanesh² and³ Esmael Ghorbani^{1,2,3}
 Marvdasht Branch, Islamic Azad University, Marvdasht, Iran

*Corresponding author: mehran11070@yahoo.com

Abstract: Policy makers and service providers have increasingly come to view information and communication technologies (ICT), and particularly the Internet, as an important tool in providing disadvantaged groups and areas with access to information, services and markets that would otherwise be inaccessible. The concept of development of the rural, today, is not just project initiatives and governance; it is much more beyond that. This paper uncovers a whole plethora of ICT emergence as a technology of the new millennium. Against the backdrop of the ongoing ICT boom, this paper makes an attempt towards studying its applications and usage planning process and policy making for the rural communities focusing on how it helps in aligning the key factors and reduce the problems of alienation, fragmentation and dislocation of knowledge.

[Maryam Khodamoradi, Mehran Bozorgmanesh and Esmael Ghorbani. **Utilization of information and communication technologies (ICT) in education.** Life Science Journal. 2011;8(4):11-15] (ISSN:1097-8135). <http://www.lifesciencesite.com>.

Keywords information and communication technologies (ICT), education

Introduction:

Information and Communication technologies (ICT) have a potential for economic growth and social empowerment (Nandi, 2002). Direct or indirect application of ICT, in rural development sector has also been referred to as "Rural Informatics". Rural economies can be benefited from ICT by focusing on social production, social consumption and social services in the rural areas (Malhotra, 2001). The inculcation of a Citizen-to-Government (C2G) and Citizen-to-Citizen (C2C) interface would provide this link that would also lead to community participation in design and implementation of ICT interventions. This in return could promise better economic opportunities as well as social inclusion of rural people in the processes of governance. Such attributes in the social set up are essential prerequisites for good governance and rural development.

Concerns about educational quality and educational opportunities with the necessity of developing those most vulnerable are the accumulation of globalization is symbiotic. Generally, "the changes of globalization in developing countries, on low-income groups, especially women and girls and" low skill workers, as well as all groups applying for and obtaining new skills to press. (Bellamy and Taylor, 1998).

Technologies (ICT) during the past two decades have had many points of contact with education and training. The development of technology is placing new demands on expertise, and it is also leading to the increased use of information technology (IT) in instruction and learning. As early as in the 1970s discussions of the future of school

systems started to pay attention to the opportunities provided by ICT.

Now with the approach of the new millennium, IT is playing an increasingly central role in almost all future planning of schools and instruction. (World Bank, 1999).

The process of development in a country is to be aided by its governance. The goal of governance "should be to develop capacities that are needed to realize development that gives priority to the poor, and creates needed opportunities for employment and other livelihoods" (The World Bank, 1992, UNDP, 1994). Increased number of poor, hungry or marginalized people in a country represents decrease in its quality of governance. To promote development, various studies have proposed governance in the contextual realities of each country, including veritable participation of citizens in the governmental decision-making process (Grindle, 2004; Evans and David, 2006). Several

Institutions and experts accept Governance as a reflexive process, wherein policies, institutions, outcomes and analysis interact, to maximize the process of participatory development (UNDP, 1997; Ludden, 2005; Mehta, 2006).

Information and communication technologies (ICT), including radio and television and the newer digital technologies like computers and the Internet as potentially are introduced powerful tools and activators of educational reform and changes. different ICT, when properly applied can be developed to help access to education and the relationship between training and workshops to strengthen the increasingly digital, the quality of education also helped to create teaching and learning

in an active process connected to real life high take. However, the experience of being raised by ICT in the classroom and other educational sites around the world during the last few decades proves that is not automatic fully realize the potential benefits of ICT training. (Guptaand et al, 2004)

But nowadays, ICT is more than a technology. Although the old technologies such as telephone, radio and television, will be less attention in the past but were used as educational tools. For example, "radio and television are used for over forty years to open and distance education. In this regard, although print remains the most expensive method and therefore available, but in developed and developing countries is provided the most prominent mechanism. Internet and computer use in developing countries still in early stages are spent and if they used are limited due to is expensive infrastructure and access to them.

1- The challenges to educational policy and planning:

To achieve promotion and reform in education through ICT, should be considered explicit and clear objectives, guidelines, mobilize the required resources and political requirements for understanding the primary goal in all levels. Some essential elements in planning for ICT are listed below:

1-1-A correct analysis of the current state of education system. ICT impacts should be considered institutionalized as current methods, respectively, and especially "those ICT to drive forward and the barriers should be recognized, as well as those related to education and training programs, infrastructure, capacity building, language and content and finance.(Collis, 2004).

1-2-Educational objectives at different levels of education, as well as various aspects of ICT applications that can best meet these goals in the state be used. Policymakers must understand the potential of ICT in various different goals when the concepts are used.

As well as may alert best practices around the world, about the priority educational needs, financial and

Human resources and capacity bottlenecks the country and how these experiences can be adapted to the specific needs of the country (Hakkarainen, 2000).

1-3- Identifying stakeholders and coordinating actions among different interest groups.

1-4- Conducting chosen model based on ICT, should are tested on a small scale, best design models or

those who proved they can be used in other areas. Such guidance is essential for identifying, correcting, feasibility, etc.

1-5- Preparation of available financial resources and identify strategies to generate financial resources for strengthening the application of ICT in the long run. (Harris, 1999).

2- Infrastructural challenges in education of based on ICT:

Before any program of based on ICT to run, an Educational technology infrastructure is placed above infrastructure of information and telecommunications. Policy makers and planners should carefully take into account the following:

2-1- At first, is there suitable rooms and buildings for placing technology? Building schools in countries that they are too old, is required to ensure an extensive repair of electrical wiring system, building, cooling and heating, ventilation and safety.(Swaminathan, 2002).

2-2- are there electricity and phone? Developing countries, vast areas still lack adequate power and several miles away their nearest phone station. In some African countries are using wireless technology, although expensive approach, but other developing countries with poor telecommunications can try this solution.

2-3- Policy makers must be examined also attending a variety of ICT in the country in general and the educational system (all levels) in particular. For example, "a primary need in education of based on ICT (using a computer and via online) access to computer and Internet services at the community level, especially schools and host families (Virgo, 2008).

3- Challenges of Capacity building:

Various attempts should be occur throughout the educational system integration for success of ICT.

3-1- professional development of teachers should be have five-axis: (Dadgaran, 2002)

- Skills in specific applications
- merging in existing curriculum
- curriculum changes regarding the application of IT (including changes in instructional design)
- Changes in the teacher's role
- to support educational theories

Ideally these should be served in pre-service training of teachers and be upgraded in in-service. In

some countries, like Singapore, Malaysia and England, is required to recognize the application of ICT training courses. ICT will change speedily technologies and in this regard even the most elite teachers need to promote ICT skills and are welcome the latest developments and best practices.

Although the first focus is skills with specific applications but other four focus is importance. Research on ICT application in different fields as education and uniform over the years show disability as a barrier to teachers successfully plan, understand why they should use ICT and how to properly get the best teaching aid. (Falk and Wolfmayr, 2008).

Unfortunately, most teacher professional development in ICT has been the emphasis on teaching tools and their application in education. If learning process being Student centered, anxiety of teachers from being struck by the technology or the loss of authority in the classroom, can be prevented and as a deep understanding and feeling a severe change in their role than do not have to be raised.

Whether ICT will replace teachers? Answer is "no". In fact, with promoting ICT in the classroom, teacher's role in learning process is even more important. What can and should change is the role of teacher. Likewise the role of students "developed since the ICT can be opened classroom doors to the outside world, the community could be a new role in class. (Mohseni, 2003).

Since education is transferred in model centered- teacher to centered-student model, the unique authority of teachers was low and are known more than as facilitators, observers and trainers (of the absolute ruler to guide the way).

Primary task of the teacher is teaching students how to ask questions and to discuss the issue, make hypotheses, and then if necessary to reach Information about finding the issues raised in relation to the assessment. (FAO, 2000).

Because of improved ICT training a new experience, even for teachers, teachers learn educational process and new things are discovered among the students.

Plus this is not unusual to see students in a class based on ICT undertake formal and informal roles of teacher to younger friends and students and sometimes even for teachers. (Saadan, 2001).

Teachers and students from different schools, experts, parents, community and business leaders, politicians and other stakeholders are involved in the educational process areas as resource persons, critic, observer and encouraging.

They also are essential and general customers for student published work on the Web or other media. Not many teachers reluctant to use ICT are especially "computer and internet usage. Hannafin

and Savenye were found several reasons for this reluctance:

- Poor design of software,
- pessimism towards Computer effects of increasing efficiency in teaching,
- lack of managerial support,
- the time and efforts to increase technology and learn how to use for training
- Fear of losing authority in the classroom, as class is centered student.

These are points that should be served in pre-service training and professional development programs in in-service training of teachers. In in-service training about professional development of ICT teachers, should in the long run, be flexible and possible. (Cecchini and talat, 2002).

For many teachers lack the necessary conditions, and with less rights in developing countries, adaptation of ICT effectively subject to granting the necessary opportunities for learning things that they need to learn according to their own experience. Motivation of teachers and supporting teachers to pursue professional development plan is necessary. That can be promoted as with ICT initiatives for teachers who are classroom teachers or ensure adequate access to technology is after training.

Results:

This paper is a multidisciplinary study of ICT initiatives for rural development. It emphasizes adoption of a more systematic approach for integrating Traditional Knowledge Systems (TKS) and ICT inputs to ensure sustainability of rural e-governance projects. The study of literature related to rural development and e-governance has indicated various issues impeding success of such initiatives. The main issues are lack of localization of content for rural communities and inadequate participation of rural communities in design of rural ICT initiatives. The study therefore suggests the use the systems-approach to integrate the relevant TKS along with ICT initiatives in the design of e-governance systems for rural development. This participatory approach can lead to creation of more acceptable and sustainable e-governance projects.

Regardless of the wide differences in ICT access between rich and poor countries and between different groups in the country, there are concerns that challenge the application of ICT in education with the existing differences among the lines of economic, social, cultural, geographic and gender will be broader. Everyone equal opportunities in terms of suitability for participation are necessary, but access to various factors, either as users or as producers through their sources is difficult and

heavy. Therefore, the primary differences enhance and even grow. Consequently, programmers' international education is faced with a difficult challenge and how to help solve the problem and its development.

Promoting ICT in education, when done without careful study, can lead to the marginalization of those with more favorable conditions are unknown. For example, "women compared with men, because of illiteracy, lack of higher education, lack of time and mobility and poverty, controlling access to ICT and fewer opportunities for training are relevant. Also, more boys than girls' access to computers at home and school are not strange to say that if more boys than girls are willing to work with computers. The report of the University Association of American Women is that "Although some girls have an important gender gap have been limited, but today's technology, technology club, and boys in public schools while its own problems and programs are settled girls use computers for word processing the brand". In an assessment in four African countries, the activities organized by World links remote international cooperation on projects between teachers and students in developing countries will promote, despite creating programs without regard to sex contacts, sexual inequalities remain Uganda and Ghana. In addition, while more girls than boys in relation to academic performance and advanced communication skills program will enjoy more than boys, but they were unable to perform their technological skills were. A set of economic factors, organizational and cultural differences involved in the social.

"The high ratio of students to computers and politics, whoever came first, the first is used in accordance with the girls wanted it." Girls travel restrictions in the early hours of daily work and home responsibilities are that this will limit their access. Also because local patriarchal beliefs dominate the boys are in the computer lab environment. Including proposed measures to address this discrimination, strategies to encourage schools to create "fair use" in the computer labs and the holding of meetings and sexual sensibilities conductivity decreased defense duties after school girls. ICT provides access to only a small part of the action is created equal. Equal attention should also be applied to ensure the technology really "is used by learners and ways of how well their needs will cure.

An educational program that reinforced this approach shows the overall program is bilingual. The program seeks to establish technology learning centers for bilingual teachers, students, teachers, parents and community members. Technical teams from each center three students, two teachers and the

director of the Center with at least one female student and a teacher are female.

Another example of a general approach to the application of ICT in education, radio education project Gobi Women of Mongolia, which seeks to provide professional and educational structure of women's favorite courses around the nomads and their opportunities for income generation.

It contains topics such as livestock rearing, family support (family planning, health, nutrition and health) to create income in the application of local raw materials and basic skills for the job is a new market.

***Corresponding Author:**

Mehran Bozorgmanesh
Marvdasht Branch, Islamic Azad University,
Marvdasht, Iran
E-mail: mehran11070@yahoo.com

References

1. Andersen, K.V. and H.Z. Henriksen. (2006). E-Government maturity models: Extension of the Layne and Lee model" Government Information Quarterly, Volume 23, Issue 2 (2006): 236-248.
2. Bellamy, Christine and A. Taylor. (1998). Contexts for Governing in the Information age, In Governing in the Information Age, Christine Bellamy and A. Taylor, 1-2. Buckingham, Philadelphia: Open University Press, 1998.
3. Burkey, Stan. (2000). People First: A Guide to Self-reliant, Participatory Rural Development, Stan Burkey, 29-39. London and New-Jersey: Zed Books Ltd, 2000.
4. Cecchini, Simone and Christopher Scott. (2003). Can information and communications technology applications contribute to poverty reduction? Lessons from rural India, Information Technology for Development, Vol. 10, Issue 2 (2003): 73 – 84.
5. Chambers, Robert. (1983). Rural Development: Putting the Last First, Robert Chambers, 147. London: Longman, 1983. Chariar, V.M. (2005). Rejuvenating Traditional Knowledge Systems of India" (unpublished).
6. Evans, Donna and David C. Yen. (2006). E-Government: Evolving relationship of Citizens and Government, Domestic, and International Development, Government Information Quarterly, Volume 23, Issue 2 (2006): 207-235.
7. Grindle, Merilee S. (2004). Good Enough Governance: Poverty Reduction and Reform in Developing Countries, Governance An International Journal of Policy, Administrators

- & Institutions, Vol. 15, No. 4, (October, 2004), Blackwell Publishing, USA/UK: 525-548. 3/5/2011
8. Gupta, M.P., Prabhat Kumar and Jaijit Bhattacharya. (2004). New Paradigms and Value Propositions in e-Governance In Government Online: Opportunities and Challenges. M.P. Gupta, Prabhat Kumar and Jaijit Bhattacharya, 77. New-Delhi, India: Tata McGraw Hill 2004.
 9. Jauhari, Vinnie. (2004). Information Technology, Corporate Business Firms and Sustainable Development: Lessons from Cases of Success from India, Presented in International Seminar on “e-Commerce and Economic Development” by Foundation for Public Economics and Policy Research, December 11, 2004.
 10. Ludden, David. (2005), Development Regimes in South Asia: History and the Governance Conundrum, Economic and Political Weekly, September 10, 2005: 4042.
 11. Malhotra, Charru. (2001). Rural Informatics and Information Technology Policies for Rural Development in India in emerging institutions, In Proceedings of NIRD Foundation Day Seminar for Decentralized Rural Development, edited by S.P. Jain, 223-250, Hyderabad: NIRD, Hyderabad, India, January 7-8, 2001.
 12. Mehta, Dinesh. (2006). Urban Governance: Lessons from Best Practices in Asia” In New Public Management, edited by Shah and J. Parth, 11. New Delhi, India: Centre for Civil Society, 2006.
 13. Nandi, B. (2002). Role of Telecommunications in Developing Countries in the 21st century, 14th Biennial Conference Seoul: International Telecommunications Society (ITS), 2002.
 14. Rogers, E. and P. Shukla. (2001). The Role of Telecasters in Development and the Digital Divide, Journal of Development Communication, 12(2): 26-31.
 15. Singh, Katar. (1999). Rural Development: Principles, Policies and Management, Katar Singh (Second Edition), 21. New-Delhi, India: Sage Publications.
 16. UNDP. (1994). Initiatives for Change <http://www.mirror.undp.org/magnet/policy/chapter1.htm>, accessed on May 25, 2007.
 17. UNDP. (1997). UNDP Policy Document on Governance for Sustainable Human Development.
 18. The World Bank Report. (1992). Governance and Development. Washington D.C.
 19. The World Bank Report. (1997). Rural Development: From Vision to Action – A Sector Strategy. Washington D.C.