

Digital Literacy in Developing A Study with Reference to India

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Abstract

At present the world is in the midst of a knowledge revolution, complemented by opening up of entirely new vistas in communication technologies . Since ICT is meant for everyone and doesn't discriminate between rural and urban, man and woman, both can take equal benefits offered by it. Information technology has the potential to reach and empower the marginalized and the disadvantaged. India is committed to the task of promoting the spread of Information and Communication Technology(ICT). The key role of ICT as an important element of national development is also well recognized. Digital literacy improves employability because it is a *gate skill*, demanded by many employers when they first evaluate a job application. It also works as a catalyst because it enables the acquisition of other important life skills. Digital Literacy is the backbone of E-Governance. Here the literate and the illiterate have the same significance for enabling the Information Technology.

The present research study is the outcome of a presentation in a State level Seminar conducted in our College as part of the International Literacy Day. The paper begins with a conceptual framework . The rationale for this study has also been examined. On this backdrop, the study attempts to examine the following.

The main *objectives of this paper* are:

- a) To examine the concept digital literacy and in specific the concept of *digital divide*;
- b) To study the *challenges facing developing societies in gaining digital literacy*; and
- c) To give *suggestions* for improvement.

The study specifically examines the concept of Digital divide and its reasons. Challenges facing developing countries in the attaining digital literacy has also been included in the study. In addition to all these, the paper especially focuses on the Digital India Initiative of Government of India which aims at transforming India into a digitally empowered society and knowledge economy. The study concludes with suggestions to improve the position of digital literacy especially in developing countries like India.

KEYWORDS: Developing Societies, digital divide, Digital India, e- Governance , literacy, ICT.

Prelude and Rationale

Now world is in the midst of a knowledge revolution, complemented by opening up of entirely new vistas in communication technologies and recent development in the field of information and communication technology (ICT). Since ICT is meant for

everyone and doesn't discriminate between rural and urban, man and woman, both can take the equal benefits offered by it. It has the potential to reach and empower women and encourage them to participate in economic and social progress and help them make informed decisions about issues that affect them. The governments of developing nations have attempted to involve, encourage and empower the citizens of their country in the decision making process to ensure their participation at local and district levels of governance.

Governments in many parts of the world have made huge ICT investments aimed at improving governance processes. The use and implementation of Information Technology (IT) and Digital Technologies (DT) has improved people's day-to-day life all over the world. The Communication Technology also had a great influence on the socio-economic factors and geographic factors and living styles of the people across the world.

Some 775 million adults lack minimum literacy skills; one in five adults are still not literate and two-thirds of them are women 60.7 million children are out-of-school and many more attend irregularly or drop out. According to UNESCO's "Global Monitoring Report on Education for All (2006)", South and West Asia has the lowest regional adult literacy rate (58.6%), followed by sub-Saharan Africa (59.7%), and the Arab States (62.7%). Countries with the lowest literacy rates in the world are Burkina Faso (12.8%), Niger (14.4%) and Mali (19%). The report shows a clear connection between illiteracy and countries in severe poverty, and between illiteracy and prejudice against women. For over 40 years now, UNESCO has been celebrating International Literacy Day by reminding the international community that literacy is a human right and the foundation of all learning.

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Conceptual Framework

Digital literacy is an umbrella concept for important skill clusters whose names are often used as synonyms; their content, however, is not exactly the same. *ICT literacy* refers to a set of user skills that enable active participation in a society where services and cultural offerings are computer-supported and distributed on the internet. *Technological literacy* (previously called *computer literacy*) entails a deeper understanding of digital technology and comprises both user and technical computing skills. *Information literacy* focuses on one of the key aspects of our Knowledge Society: the ability to locate, identify, retrieve, process and use digital information optimally.¹ In this paper, we will employ the term

digital literacy because it retains a close connection with other basic literacies (e.g. reading and writing, mathematical competence) that are integral parts of education.

UNESCO's *Information for All Programme3* (IFAP) recognizes the considerable effort being invested by many international organizations in "measuring the information society", defining **digital literacy as a life skill**. UNESCO identifies indicators for the development of knowledge societies and integrates them with more established milestone systems for other important skill areas. In May 2007, the Education Council adopted conclusions on a coherent framework of 16 core indicators for monitoring progress towards the Lisbon objectives in education and training. There are many of them with direct relevance to digital literacy – *ICT skills, civic skills, learning to learn skills, participation of adults in lifelong learning*. High values in these targeted areas certainly require the development of digital competence. Other indicators also may involve ICT skills. For example, *cross-national mobility of students in higher education* is made possible through blended learning courses that involve travelling students staying in touch with the learning process of their peers at home. Professional development of teachers and trainers, another key indicator, is mostly achieved through blended or e-learning courses in which new methodological skills are acquired and then applied in the workplace. These examples illustrate the importance of digital literacy for the achievement of Information Society goals. *Digital literacy is a life skill because it targets all areas of contemporary existence.*

Let us examine the definition of the concept Digital Literacy, beginning with computer literacy.

Computer Literacy is defined as a knowledge and ability to use computers and related technology efficiently, with a range of skills covering levels from elementary use to programming and advanced problem solving. "Digital Literacy" is defined simply as the awareness, skills, understandings etc. to operate comfortably in Information Technology (IT) enabled environments. A person who wants to be a Digital Literate, must be able or prepare to face the above IT environments. Here it doesn't mean the awareness of computer or computer literacy, but the knowledge of handling any instrument or media to access the information he wanted for him or others.

Digital Literacy is considered to be a very important skill to use the E-technologies used for E-Governance. Another valuable component of computer literacy is, knowing how computers work and operate. Having basic computer skills is a significant asset in the developed countries. Digital literacy improves employability because it is a *gate skill*, demanded by many employers when they first evaluate a job application. It also works as a catalyst because it enables the acquisition of other important life skills.

Digital Literacy is the backbone of E-Governance. Here the literate and the illiterate have the same significance for enabling the Information Technology. There must be enough ICT projects at State and Centre level spread Digital Literacy among the common. Even though various governments are trying to increase the Digital Literacy rate, it could not get the expected result through these projects .

In many countries, educational policies for the development of digital literacy first focused on the development of infrastructure, without training or motivating teachers to use it effectively. Thus the *digital pedagogy revolution* came decades after the first computerisation boom of the 1980s. At the end of the 20th century, ICTs became standard in most American and European countries for teaching, learning, assessment, management, and communication in schools. Computers have ultimately fulfilled their promise: they became catalysts of innovation processes in education.

The UNESCO's Annual World Report 2009, *Information Society Policies* highlights the major challenge policy makers face: the widening of the digital divide, or the lack of improvement in the area of digital literacy in developing countries. In a growing number of developing countries, digital literacy has become a national priority. General benchmarks to evaluate results of education almost always target ICT-related issues by educational activities where ICT-supported methodology is widely employed. For example, the contribution of digital literacy to general reading literacy and lifelong learning skills is unquestioned. The quality of this contribution, however, has to be further clarified. Some researchers emphasize the importance of computer-supported reading and writing, while others see the "consumption" of digital texts as an obstacle for reading books. In the area of lifelong learning, however, the role of e-learning in providing access for a wide adult audience is worthwhile .

Digital Divide

The digital divide is one major cause of the failure of the E-Governance in India. The digital divide refers to the gap between people who possess regular access to technology, (such as computers and their related functions like ability to get on the Internet), and those who do not have this access [Tricia Ellis-Christensen, 2013]. The digital divide also exists between the educated and the uneducated, between economic classes, and, globally, between the more and less industrially developed nations. Let us examine the *reasons* for digital divide.

1. Economic status
2. Technology and resources in digital environment
3. Lack of appropriate ICT infrastructure
4. Lack of political will in governments to do what is needed to enable the integration of technology throughout society;
5. Lack of awareness and literacy of technology
6. Lack of interest and aspirations of individuals
7. Lack of confidence and skills necessary, fear of technology and fear of change in technologies .
8. Lack of training and orientation for use and access the online resources;
9. Lack of intellectual capital having appropriate skills.

And, the above reasons may lead to:

- a) Social exclusion
- b) Economic Stagnation

c) Technological isolation

The plan to achieve the 8 Millennium Development Goals (MDGs) by 2015 was also be affected. Academic community will have to recognize and play their leading role and responsibility as strong pillars in establishing the building of all academic affairs and achieving the set goals.

Indian Scenario

For the last three decades, India is committed to the task of promoting the spread of Information and Communication Technology. The ICT system needs to be infused with new vitality if it has to play a crucial and beneficial role in advancing the well being of all sections of our society.. It recognizes ICT's central role in raising the quality of life of the people of the country, particularly the vulnerable section of society including rural masses and women community in creating wealth for all, in making India globally competitive, in utilizing natural resources in a sustainable manner, in protecting the environment and ensuring the national security. IT has enabled citizen participation in governance.

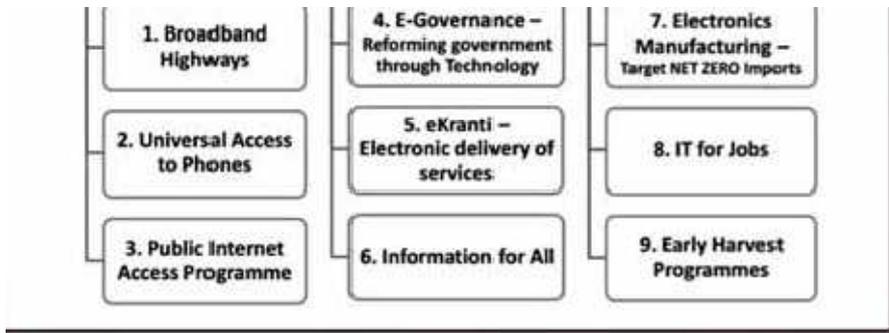
The "Digital India" initiative aims at availing digitizing of various individual projects of all central government and ministries like education, health services and other services, that can be delivered to citizens using Information and Communication Technology (ICT) by joining all the areas of India including the Gram Panchayats at high speed internet through broadband connectivity, in order to focus on the e-governance till 2019. It can also be viewed as the next step of already running National e-Governance Plan. In this program government will prefer to adopt Public Private Partnerships (PPP) wherever feasible for execution of this initiative.

Digital India is an initiative of Government of India for transforming India into a digitally empowered society and knowledge economy. The three core components of this project that are:

- a) digital infrastructure as a utility to every citizen,
- b) delivering services digitally in governance and service on demand; and
- c) digital empowerment of citizens with digital literacy (by various digital literacy programmes)

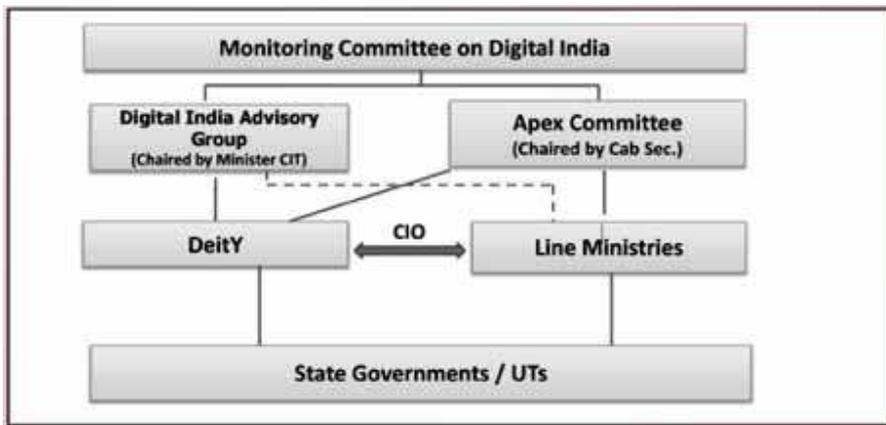
These visions are supported by the nine pillars of this program, shown in Fig.1:

FIGURE 1- Nine Pillars of Digital India



This initiative will be executed by the DeitY, and is been implemented in phases from the year 2014 till 2019. It would also provide a “cradle to grave digital identity” that is “unique, lifelong and online”. [2] The draft of Internet of Things (IoT) Policy of India should be read along with Digital India initiative for the better understanding. [3] The monitoring committee is the highest level committee of this initiative chaired by the hon’ble Prime Minister. Other committees under this monitoring committee are illustrated in Fig.2:

FIGURE 2 - Institutional Mechanism of National Level



The Govt. of India organisation Bharat Broadband Network Limited which executes the National Optical Fibre Network Project shall be the custodian of digital India project and it has ordered United Telecoms Ltd. to connect 250000 villages in the first phase and it is expected to be completed by 2017.

The implementation of any project for Digital Literacy must be from the grass root level. To reach the grass root level, the beginning should be from rural areas. For this, there must be computer centres at rural areas like E-District in Madhya Pradesh, Akshaya in Kerala etc. These centres can, not only bring computer facilities to rural areas, but also helps to provide e-education and training to the rural citizens, until they are able to use these facilities by themselves.

Challenges

- 1.Literate as well as illiterate people are reluctant to learn anything new. They simply don't want to learn anything.
- 2.Many old people, even educated are not interested in Digital Literacy because they feel that they are too old to learn any new things
- 3.Fear is one of the major barriers in the Digital Learning process. The fear of an illiterate can be reasonable. But even the literate persons, even the highly literate people are afraid of using the computer.
- 4.Many people simply do not know the advantages of Digital Literacy and e-Governance. They, therefore, need to be better informed. One way of doing this might be to implement a targeted marketing campaign by the Government.
- 5.One of the main reasons for the failure of Digital Literacy is the non-availability of Computer and proper infrastructure to the common man. Even if both are made available, the Electricity problem in rural area was persisting. Government should take some initiative to solve this problem.

Suggestions

To increase and make the people Digital Literate, at least the following steps are very much necessary.

1. The citizens should make *aware of the relevance of Digital Literacy* and its benefits. They should know how they are benefited with Digital Literacy.
2. The general public should also be aware of the manner in which Digital Literacy *will help in E-Governance*.
3. In the universities, a provision in the curriculum itself may be made to learn about information literacy by the students to *become lifelong learners and also to fulfill the specific needs*, both professional and personal.
- 4.For strengthening information literacy in digital era, *training programmes, courses, workshops and tutorials need to be designed and implemented by the experts*, including-librarians and subject specialists, faculty. This would be a major step in providing information literacy education in digital environment .
- 5.Information literacy education based on *faculty-library collaboration* will also help students to access the information intellectually and use it critically, creatively and ethically. It can reduce the faculty's burden of having to deal with issues such as plagiarism, referencing and critical evaluation of information .
- 6.As far as the students are concerned , they should also *collaborate in the design, application, and maintenance of information access systems*.

Concluding Observations

Creating and communicating information are skills of growing importance . Collaborative applications increase the importance of social skills in the learning process at all levels: young learners, adult learners, and teachers. In the new digital literacy framework of the 21st century, communication and creation in the digital media will take centre stage.

In order to develop adequate 21st century skills among students, educators should be authentic ICT users and integrate digital literacy with other core competences in their professional and private lives. Young teachers born in the digital age may be good models of diverse, enjoyable, and empowering ICT use, but are not necessarily literate in the educational utilisation of ICTs. Teachers' digital literacy must involve knowledge and skills about educational policy and ethical use of ICTs, and they must keep in touch with innovation in digital pedagogy. Teachers' digital literacy must incorporate the ability to use ICTs effectively in teaching, learning, professional development, and school organisation – different sets of skills are required in each of those areas

Our 20th century frameworks describe basic computer skills that have become everyday activities for many and will be for more. Digital literacy education also has to prepare for new challenges of the 21st century: the use of Social Web applications, ecosystems of participation that enable **collaborative knowledge construction and creativity**. These two concepts are likely to be in the centre of our discussions about the digital literacy of the future. Digital literacy may foster creative expression only if education embraces the wide variety of creative options ICTs may offer.

In the Indian context, the digital literate and trained persons may be employed to convert all records of village level or panchayat level government records to digital data. Many employment projects like NREGA will certainly be useful to the Government, as well as the general people. Thus the opportunity of employment also opened to the citizens. This will encourage the people to spread the digital literacy program and will motivate others to become digital literate.

Creativity as a major component of digital literacy will probably characterize ICT use in the 21st century, just as consuming information was relevant in the last decades of the 20th century. If digital literacy will involve the development of creativity, educational methods are bound to change.

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