

Digital Divide in Primary Schools of Bangladesh

Rowshon Ara Romke*

Abstract

To build up a digital Bangladesh, there is no alternative to emphasize digital based education. The advent of computers, the internet and other Information and Communication Technologies (ICT) has brought significant changes to individuals and communities across the world. Inequalities in ICT access create digital divide and social stratification in societies. Use of Information and Communication Technologies (ICT) in education has been an important mission and vision in Bangladesh. In this sense, the purpose of this research is to assess the digital divide conditions in primary schools (Government and private). This research was carried out in four primary schools of Bangladesh. In Bangladesh about 22,000 primary and secondary school's students are taught through projector and multimedia in the classroom and the teachers also download pictures, videos from internet to prepare their class lecture. From a case study method it is seen that most of the students, who are digitally and economically wealthy, got admitted them in private and digitally equipped primary schools. Those who are digitally and economically poor, become the students of government primary schools. When it is examined thoroughly, there is a digital divide between those primary school students. It is believed that, this situation goes in parallel with the socio-economic status of the families.

Introduction

The digital divide has become an important topic of research because it involves more than simply documenting the characteristics of people who own computers. This new technology is being incorporated into the public school curriculum and is transforming the way information is being created and distributed. Communities that wish to keep or recruit new high-paying jobs need to provide businesses with high-speed access. Individuals must learn to use this new technology to have any chance of being successful in the emerging knowledge economy (Wilson, et al, 2003). The emergence of Information and Communication Technology (ICT) has provided faster and better communication, efficient storage, retrieval and processing of data and exchange and utilization of information to its users (Planning Commission, 2001). E-governance or 'electronic governance' is basically the application of Information and Communication Technology to the process of government functioning in order to bring about 'Simple, Moral, Accountable, Responsive and Transparent (SMART) governance (Rahman & Naz, 2006). The increasing popularity and economic utility of computers and the internet have brought changes in the way societies and their individuals interact, the way we shop, attain college degrees, pay taxes use the library and even find a job (Wilson, Wallin, & Reiser, 2003). This new technology is being incorporated into the public school curriculum and is transforming the way information is being created and distributed. Communities that wish to keep or recruit new high-paying jobs need to provide businesses with high-speed access. Individuals must learn to use this new

*Lecturer, Department of Applied Sociology, ASA University Bangladesh.

technology to have any chance of being successful in the emerging knowledge economy (Wilson, et al, 2003). The use of Information and Communication Technologies (ICT) are seen by many commentators as underpinning the social and economic progression of nation-states throughout the first stages of the 21st century (Livingstone & Helsper, 2007; Selwyn, 2004). ICT itself is a revolution. Whole world is connected to each other through virtual world. The revolution in information and communication technologies (ICTs) has transformed both the economy and society (Castells 2000; Kotkin 2000). The ICT revolution has created new tools, such as, personal computers (PCs) and the Internet, which have reinvented and in many instances, improved the ways all societies communicate, learn and earn a living today (Chakraborty and Bosman, 2005). So from the very beginning the journey of education should be based on digital technology in order to catch the world wave. But educational institutions are also the victim of digital divide. Many schools have provided digital facilities but usability divide is one of the major problems. The transformative nature of ICT has been welcomed also as offering an unprecedented opportunity to overcome existing social divisions and inequalities. It is assumed by many academic commentators that ICT can ‘empower’ individuals, increase levels of social interaction and civic involvement as well as facilitate easy and widespread access to education and other public and government services (Selwyn, 2002; 2004).

Issues of unequal access and use of technology and information have begun to prompt concern about emerging ‘digital divides’ between social groups. If individuals or groups of individuals are excluded from using ICT, it is argued, then they will be excluded from many of the benefits that ICT can bring (Selwyn, 2002; 2004). There is a great disparity between government and private primary schools using ICT. Two problems arise: Lack of government budget and mismanagement, unfavorable economic condition of the guardians. As a sample two government primary schools and two private primary schools are selected to compare the whole condition of digital divide. Education and digital divide is correlated.

Objectives of the study

The main objectives of the study are to:

- 1) Compare between government and private primary schools on the basis of digital facilities.
- 2) Find out the reasons of digital discrimination of those schools.
- 3) Recommend some suggestions in order to overcome this digital divide.

Methodology of the study

The study dealt with both primary and secondary sources of data. It is qualitative in nature. Two government and two private primary schools are selected to observe the entire environment of these schools. In this connection discussion is conducted among students, parents and teachers. To understand the psychology and trend of the parents to choose a school their socio-economic phenomena is considered.

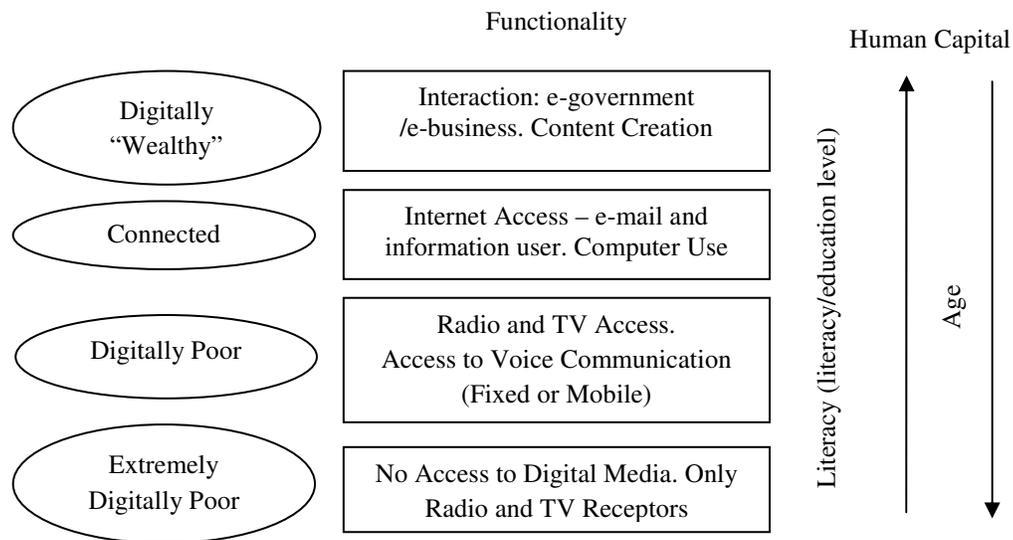
Analysis of the Concept of ‘Digital Divide’

It is very difficult to say when the concept of digital divide has been originated (Gunkel, 2003). However, literature on this subject generalizes that the term emerged in the mid-1990s by the former Assistant Secretary for Communications and Information of the United States (US) Department of Commerce, Larry Irving Junior (Dragulanescu, 2002). As far as the connotation is concerned, a number of connotations of digital divide are available (Rao, 2005). OECD (2001) referred the term ‘digital divide’ as the gap between individuals, households, businesses and geographic areas at different socio-economic levels with regard to both the opportunities to access to information and communication technologies and to their use of the internet for a wide variety activities.

ICTs are not equally or universally accessible to all individuals and communities and disparities in ICT access exist. In particular gaps currently exist between those people considered to have access to ICT services and those who do not. These gaps are commonly referred to as the digital divide. A range of factors have been identified to help explain the digital divide including income, educational level, age and location. The term Digital divide is used as digital poverty, Information poverty, and digital gap. Digital poverty is defined as a lack of ICT with regards to access and use of the information and communications allowed by the technology. Warschauer, (2003) argues that the term should not be used at all, instead it should be replaced by ‘social inclusion’ which sounds more positive and does not presuppose that there is a separation between those who are ‘inside’ or ‘outside’ or on ‘this side’ or ‘that side’ of the divide.

Levels of Digital Divide

Figure 3: Levels of digital divide



From the figure it can be said that, it is the few who have access to ICTs, to digital information and knowledge. There are three stages of digital divide: 1. Economic divide, 2. Usability divide, and 3. Empowerments divide.

The United Nations *Human Development Report* observed the following about Internet use worldwide: The typical Internet user worldwide is male, under 35 years old, with a college education and high income, urban-based and English-speaking—a member of a very elite minority worldwide. The network society is creating parallel communications systems: one for those with income, education and—literally—connections, giving plentiful information at low cost and high speed; the other for those without connections, blocked by high barriers of time, cost and uncertainty and dependent on outdated information. With people in these two systems living and competing side by side, the advantages of connection are overpowering. The voices and concerns of people already living in human poverty—lacking incomes, education and access to public institutions—are being increasingly marginalized (UNHDR, 1999).

Digital Divide in Education

The digital divide particularly affects students who are far less likely to have computers or Internet connections at home. For those students without a connection at home, schools are the primary source of computer access and often the only place they can go online (Kaiser 2004). Information and communication technology (ICT) in the past decade has added an important new element to the issue of education inequality. New technologies are widely viewed as having the potential to either alleviate or exacerbate existing inequalities (Warschauer, 2003). On the other hand, many fear that unequal access to new technologies, both at school and at home, will serve to heighten educational and social stratification, thereby creating a new digital divide (Bolt & Crawford, 2000). Many educators and researchers maintain that computers, educational software, and the internet offer a number of educational advantages (Lepper & Gurtner, 1989; Ross, Smith, & Morrison, 1991; Tezci, & Dikici, 2006; Yalçınalp & Aşkar, 2003).

Digital divide is one the factors that affect equity of opportunity in education along with other factors such as structure of education systems, socio-economic level of families, sex and location and others. In fact, none of these factors are independent from others. For example, while socio-economic level affects the education of individuals, the education level of individuals will inevitably affects their social status in the future. ICT can provide students and teachers with a large body of easily accessible information; create opportunities to reinforce learning basic, new, and higher-order cognitive skills; and increase student interest and motivation, parent-school communication, and parent involvement. These advantages, in turn, are expected to produce positive educational outcomes such as increased student success and school retention (U.S. Department of Education, 1999; Wenglinsky, 1998). Research tends to support these expectations, generally finding positive relations between school, home, and community uses of ICT and a variety of academic outcomes both for socio-economically disadvantaged and other children and youth (Ross et al., 1991; Sutton, 1991). Education is the backbone of a nation. So digital divide in education is of course is a curse for a country.

Case study 1: (Government primary schools)

The name of the government primary school is 'Pisci Culture Housing Public School'. It seems that it is three storied building but actually it is only one storied building and other floors are being used for the orphan and poor students of Madrasha. It has a small playground. It has about 300 students and 12 teachers. No computer facilities and no digital or well equipped materials. Students are not regular and serious in their classroom. The teachers are not also serious about their lessons and students. Cows and goats are grazing in the playground all day long. In front of the school a mosque's expanding work is going on. Labors and other peoples are gathering in that place. Cement, brick, sand, iron and other materials are thrown for the mosques purpose. To observe the total scenery it is found out that the educational environment of the school is not good and healthy. Even there is not a single computer for the headmaster. Students are very much interested to use computer, because their parent's income is not so high. So their families are not able to buy a computer for their children. At present those families socio-economic level is low, only their children read in the school.

Case study 2: (Government primary schools)

The name of the government school is 'Begum Nurjahan Memorial Girls High School'. The school is established on the main road (Ring Road). It is tin-shed and has about 20 class rooms. Primary level classes are held in morning shift and secondary classes are held in day shift. It has a big play ground. Big shopping mall's gathering, vehicle's noise etc are all times disturbing factors for the students. In the school there is no modern educational technology. Some teachers said that where some benches, water supply facilities, toilets etc are poorly managed, there the availability or accessibility to computer and internet is very ridiculous mater. Maximum students come from lower middle class and lower class. Even no students have any computer at their home.

Case study 3: (Private primary schools)

The name of the private primary school is 'Mac Master' English medium school. It is two storied building, has no playground but has a little space which is equipped by some toys and play materials. The school has undertaken an honest initiative in imparting most modern and well-balanced system of education under the direct guidance, control and supervision of highly qualified, trained and experienced teachers with Canadian education. Students are learning through audio-visual aid and computer facilities, individual care is given for every student from play group onwards, especially to the weak and inattentive students. The school provides modern and easy method of teaching to make the lessons easy to understand and education software. In play group their admission fees is Tk. 15,000. To observe the condition it is understood that the school is digitally wealthy. So it can be easily said that if the income of the guardians is not enough they would not be able to admit their children in the school.

Case study 4: (Private primary schools)

The name of the private primary school is 'Southeast Bank Green School'. It is an English medium school. It is rented from the ground floor to the 6th floor of an apartment. In the ground floor some play equipment are arranged. Internally every class room is well furnished and there is a big computer lab room for the students. About 40% students like to play computer games,

drawing etc. in Tiffin period. About 95% students have a computer at their home. Every student comes from higher class, higher middle class and middle class. To provide modern education CD player, DVD player, projector and other digital technologies are used in the class. Teachers said that without using digital technologies students will not be able to learn English properly.

Findings of the study

The study has highlighted several interesting findings:

1. To assess these case studies it is seen that socio-economic level of the students closely depend on the availability of higher computer and internet adoption rate. Parents consider two factors to provide computer to their children: firstly, some families may regard computer more important than internet connection. Secondly, they may want to protect their children from the harmful effects of internet.
2. Maximum students use computer for games and education purpose. It can be seen that the rate of use varies in parallel with their socio-economic levels when the rate of those who state that they use computer for educational purposes. Even the rates of use reduce, same situation may be monitored for those who state that they use computer for game.
3. It is found that average grade of students who have computer at home is of higher standard than those who do not have computer at home. Similarly, at the end of the case study it is found that the relation between the academic success of students and their internet adoption at home is closely interrelated.
5. The socio-economic status of the students was assessed. The place where students live, education status of parents, professions of mother and father, their income levels, having their own home property, and social security were the main causal factors of the socio-economic level.
6. Computer use hours according to the socio-economic levels of students are assessed. It is found that most of the students that come from middle and higher level families (parents are engaged in job) are using most of the time in playing computer games, drawing etc. On the other hand most of the lower level family's students (having no computer) are passing their time with their friends and neighbors.
7. When computer and internet adoption of students with regard to their success rank is examined, it has been observed that while most of the students, who have been successful in their city center and who ranked in top ten, have computers and internet at home, those who ranked "last ten" do not have computers and internet at home.
8. There exists an acute digital divide in government primary schools. While private primary schools are digitally wealthy.
9. Parents' culture like prestige, status, competition etc. is the important factors to choose a government school or private school.

Recommendations

Digital divide is not a positive term. So it is not desirable. To reduce the divide some points are recommended: From the very primary stage, especially from primary schools digital based education should be initiated. If computers and internet are distributed equally to all government owned primary schools in Bangladesh, they are viewed as powerful tools to increase learning among marginalized students and provide greater access to a broader information society. Government primary schools have administrative red tape, complex and long time procedure. Government has to take proper step to bridge the divide. Government can provide computer and internet facilities in primary schools so that the students are able to get the opportunity of digital facilities. ICT training should be given to all school students and teachers. To reduce digital divide and to produce qualified future generations there is no alternative to digital based education and training. So, in order to prevent the digital divide arising from economical effects, digital instruments must be available for each class of the society. It is also suggested that these technologies must be made more available for those who have even poorer opportunities.

Conclusion

Bridging digital divide is not possible overnight. It is not possible for any government to give one computer with internet connection to each family living in Bangladesh to make their children competent in ICT. It needs strong, dedicated, long term and goal oriented government and non-government initiatives. As part of the study it is found acute digital divide in government primary schools. The education systems of government primary schools are all most computer and internet less. The students of government primary schools are facing digital divide as these are no electric or solar connection for computers, internet or ICT based education in their class room. It is believed that economical and social factors are the main of digital divide for among students. Competition among parents is one of the main reasons to enrol their children in private primary schools. In this sense, assessing the effect of ICT on academic success and its factors starting from primary schools to secondary schools will contribute in acquiring the related literature. Moreover, it is important to go for undertaking policies that will be developed in order to remove inequities and to give an idea about impacts of digital divide among primary schools in Bangladesh.

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