

Digital divide and online learning: A study of school going students in Bolpur

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Abstract

In this paper the researchers have focused on the digital divide and online classes. In simple terms, digital divide is the gap between the privileged one who have access to the technology and the unprivileged one who don't have the access to the technology. Basically, it is the gap between "have" and "have not". In India the issue of digital divide is mainly highlighted during covid-19 pandemic. The research has been carried out on 40 school going students. Out of 40 students 70% students don't have proper access to technology, 20% students are attending online classes on their parent's mobile phones and rest 10% have their proper gadgets for their online classes. So, it can be concluded that the online classes are not that much effective due to digital divide among school going students.

Keywords: Digital divide, online classes, COVID-19

Introduction

The concept of online learning is the revolutionary step in the field of education. Online platform actually helps to reach the unreached. Education

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is the most revolutionary tool for any society. The increasing popularity and number of online programs and courses in higher education require continued attention to the design of instructional environments to enhance students' learning (Trespacios, & Rand, 2015). As there is a continuing debate about effective design of online learning environments (Azevedo, 2005) and effective teaching methods (Tsai, 2011), researchers in the field of online learning and online pedagogy suggest that educators could integrate other innovative teaching methods into online courses and examine their effects on improving students' learning in online learning environments (Tsai, 2011; Tsai, 2015). An ongoing and important debate in the education community questions whether online learning is as effective as traditional classroom learning. With the amount of time, money and other resources dedicated to online learning, the level of learning students reach is an important factor in judging online learning effectiveness. Tucker (2001) states that distance learning classes reach a broader student audience, better address student needs, save money (for both the school and student) and more importantly use the principles of modern learning pedagogy.

In this paper the researchers have focused on the digital divide and online classes. Digital divide is the gap between the privileged one who have access to the technology and the unprivileged one who don't have the access to the technology. Basically, it is the gap between "have" and "have not". In India the issue of digital divide is mainly highlighted during covid-19 pandemic. As we all know that due to this ongoing pandemic the entire academic institutions were closed. The Covid-19 pandemic has thrown the educational system of the country in disarray. The closure of schools and colleges began before the completion of the end-semester or annual exams and cast a blight on the entire academic cycle. A reinforcing web of issues, such as prolonged closure, uncertainty about the timing of reopening, likely constriction in the academic calendar and the resultant learning discontinuity among students, among others, has forced the states and educational institutions to find a feasible option to assuage the varied impacts. On the face of it, online education appears

as a safe interim bet. Yet, its scale, scope and reach raise serious issues, both on the process preceding it and the outcome proceeding from it. But most of the institutions have started their online classes in order to maintain the academic pace in the society. When we introduce online classes in our academic sector then it automatically excluding the major portion of the society who haven't access to the technology. It is necessary to evaluate and understand the disruption caused by this pandemic in the field of education. According to a UNESCO report, more than 32 crore students in India were affected by the closure of schools and colleges, caused by COVID-19. Moreover, students belonging to the marginalised sections of society were at a greater loss. COVID-19 has brought into focus gaps existing in the digitalization of education. India is amongst those countries whose educational institutions, including schools, have been shut down in light of the spread of COVID-19. It is important to understand the impact of COVID-19 on school education, with special focus on digitally deprived children garners importance. India's school educational system, which is constitutionally guaranteed alongside numerous Central and state schemes geared towards achieving universal education and primarily related to the country's economic, health and food security, has traditionally seen structural imbalances with respect to class, caste, language, region, developmental (urban and rural) and gender divides.

These fault lines continue to discriminate many students. Furthermore, the advances in technology and the growing interdependence between technological innovations and sectors including education in delivery of social services, has laid bare another category of divide, namely digital divide, between school students across India. Educational institutions are most vulnerable to spread of the disease due to mass gatherings in classrooms. According to the Internet and Mobile Association of India report, on the national level, fewer women (33 per cent) have access to internet compared to men (67 per cent), with rural areas experiencing more disparities (28-72) compared to urban areas (38-62). The current situation has also laid bare the language-divide prevalent across India with vernacular medium schools largely (though with

exceptions) catering to the poor whilst English medium schools cater to other sections of the society.

The literature reviewed is providing a solid background for a research study, investigation and comprehensive knowledge of the field are essential to all research. Hence, the researchers have presented that following review of literature to identify the problems to find previous research work related to the present study. The collection of literature relating to the study has helped researchers to probe the facts more effectively. The results are already conducted studies helped the researchers to analyse the problems from different dimensions apart from the existing one. The literature cites the various studies conducted in this area.

Concept of Online Learning

The online learning is one of the most revolutionary steps in the field of education in 21st century. The concept of online learning has consistently been a focus of education research over the decades.

Shu-Sheng Liaw(2008) in the research study on effectiveness of e-learning investigates the reason for dissatisfaction of some of the e-learning students. The research has been carried using survey of 424 university students for their feedback on effectiveness of e-learning for them. The findings of the research suggest that the intention and study focus are the main factors that influence the objectives and usefulness of e-learning. Personal efficiency for the coursework is also a determining factor for the outcomes. A study by Kai Ruggeri (2013) and others stress on the various forms in which e-learning has benefited in tele-health facilities and learning in the remote places. Digital literacy rate upliftment and need for infrastructure for e-learning has been cited as effective measures to fulfil the objectives of e-learning comprehensively. Miklian (2018) has carried out a research based on data mining for trends in e-learning establishes the fact that the researches on e-learning are moving their focus from effectiveness of the e-learning to the methods of teaching. Medical education and training have been identifying as the aggressive users

of e-learning and present a wide scope for induction of such practice in future. The study remarks that the scope, expectations and applicability for developing and developed countries differ significantly. The government policies have major role to play in growing the effectiveness of the e-learning for the students and businesses. However, the limitations of the studies include lack of empirical data to support the views expressed and corroborate the findings (Jui-long Hung, 2010).

Concept of Digital Divide

The digital divide is nothing but the gap between those able to benefit from the digital age and those who are not. The concern is that people without access to the Internet and other information and communication technologies will be disadvantaged, as they are unable or less able to obtain digital information, shop online, participate democratically, or learn skills and offer skills. This resulted in programs to give computers and related services to people without access. The notion of a digital divide gained attention in the 1990s with recognition that some people and institutions were not going online or were not going onto broadband. The concept of a “digital divide” between technological “haves” and “have-nots” has been a useful tool in efforts to bring greater, more equal access to powerful new information and communication technologies like the Internet. The term ‘Digital Divide’ is used to describe situations in which there is a market gap in access to the use of ICT devices. According to OECD (2001) the term ‘digital divide’ refers to “the gap between individuals, households, businesses and geographic areas at the different socio-economic levels with regard to their opportunities to access information and communication technologies (ICTs) and their use of Internet. It reflects differences among and within countries”. This definition is exclusively focused at national and international level. Nevertheless, digital divide exists in variety of other levels; sector, community, and individual level. (Barziliani and Barziliani, 2005).

Digital Divide in India

In India the digital divide mainly exists between those living in rural areas and those living in urban areas, between the educated and uneducated, between economic classes, and on a global scale between more and less industrially developed nations. As India is a multicultural, multi-language and multi-religion country with complex socio-economic conditions, there are six main difficulties in serving rural communities, each one of which has appeared insurmountable: poverty, unemployment, age and education.

- There is huge gap of digital divide between rural and urban India where growth is biased in favor of urban areas; according to statistics, more than 75 per cent of the broadband connections in the country are in the top 30 cities

- Some States are not able to adopt even one technology but others have adopted very efficiently.

- It is not just about people who have access and those that do not; it is not just about haves and have-nots especially those who can communicate with the rest of the world and those that cannot.

- Another important reason of digital divide in India is knowledge divide. Knowledge divide is directly related with digital divide.

- Internet use is primarily associated with a large section of the English-knowing urban population.

- Added to these, the growing population, insufficient funds, affordability, and delays in implementation of government policies and programmes have been some of the challenges that have led to unequal development in the society, which is responsible for digital divide.

In India another most important factor for digital divide is tele density divide. Tele density is low throughout the countries of the South Asia. Pakistan has highest tele density in Asia and Bangladesh has lowest. India is by far the largest South Asian country, in terms of population, economy and telecom-

munication network. However, there are huge disparities extant within the country, and there is evidence in the uneven distribution of access to telecommunication. The recent extraordinary growth in telecommunication connections in India, which topped 15 million per month in January 2009, has understandably grabbed the headlines. These huge numbers, however, disguise a disturbing reality, which is the enormous variation within India. Many of the less developed states have state-wise average penetration rates of below 20 per cent, including Bihar (12.13), Assam (13.67), Andaman & Nicobar Islands (17.94), Uttar Pradesh (15.58), West Bengal (13.78) Orissa (14.28), Madhya Pradesh (19.54) Uttrakhand(10.37) and Bihar (12.13). Tele density in some states like Jharkhand (3.49), Chhattisgarh (4.18) and North East-II (8.71) are less than 10 per cent (TRAI, 2009).

Thus, from the above literature reviews it can be concluded that the online learning is not very much effective in India as of now. It is same in the case of digital divide. Due to the higher rate of digital divide online learning is getting hampered.

Operational Definition

Digital divide: - The gulf between those who have ready access to computers and the internet, and those who do not.

Online classes: -Online learning is any form of learning conducted partly or wholly over the Internet.

Have: - In the present paper “have” indicates the respondents who have the roper access to the technology.

Have not: - In the present paper “have not” indicates the respondents who have the roper access to the technology.

COVID-19: -Coronavirus disease 2019 (COVID-19) is a contagious disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2).

Methodology

Research means searching again and it produces new findings. Research is actually a logical and systematic search for new and useful information on a particular topic. A research can lead to new contributions to the existing knowledge. Only through research it is possible to make progress in a field. Research is done with the help of study, experiment, observation, analysis, comparison and reasoning. In this section a detailed description on the objectives of the study, research design and the methodology have been outlined.

Aim of the study

The aim of the study is to explore the digital divide in school going students in Bolpur.

Objective of the study

The objective of the present study is to find out the digital divide in school going students in Bolpur.

The research has followed quantitative and qualitative approaches.

The researchers have considered the following sampling frame.

- Universe: - Bolpur
- Sample size: - 40
- Sampling method: - Random sampling
- Methods of data collection: - Case study and Interview schedule

Findings and Discussions

In this section the researchers have tried to interpret all the information collected during the research through statistical representation, graphs, pie charts etc. which will further help the researcher to analyse the data to have a clear-cut finding of the research. This section helps to understand the rate of digital divide in school going students in Bolpur.

Results

Table 1. Categorisation of the sample

Category	Strength	Percentage
Boys	24	60
Girls	16	40
Total	40	100

Source: Author`s compilation

From Table No.1, it can be clearly seen that the sample includes 24 boys i.e., 60% and 16 girls i.e., 40%. The researchers have focused to highlight the issue faced by both the group in online learning.

Mean age of the respondents = 14.5 years.

Median age of the respondents = 15 years

Mode age of the respondents = 14 years

Therefore, the mean, median and modal age of the respondents are 14.5, 15 and 14 years respectively.

Table- 2: Digital divide among school going students

Category	Strength	Percentage
Don`t have proper access to technology	28	70
Dependent on parents` mobile phones	8	20
Proper access to technology	4	10
Total	40	100

Source: Author`s compilation

From Table No.2 researchers have tried to figure out the rate of digital divide among school going students in Bolpur. It can be clearly seen that out of 40 students, 28 students i.e.,70% don't have proper access to technology, 8 students i.e., 20% actually depends on their parent's mobile phones for their online classes and rest have the proper access to technology for their online classes.

Thus, it can be concluded that online learning is a revolutionary step on the field of education. But in our country the online education is not very much effective due to various reasons i.e., low per capita income, poor internet connectivity, lack of proper access to technology etc.

In the next section the researchers have tried to find out the faced by the students during COVID – 19 through case studies. Due to the lockdown the most affected section of the society is the academic sector. Majority of the institutions have moved to the online platform to continue the academic sessions. But the major concern is that majority of the student don't have proper access to the technology

Table No.3 Socio demographic details of participants

Case no	Gender	Age (in yrs)	Education	Proper access to technology
Case 1	Female	14	10th standard	No
Case 2	Male	16	12th standard	No
Case 3	Female	14.5	10th standard	No
Case 4	Male	12	8th standard	Yes

Source: Author`s compilation

From Table No.3 the researchers could understand that most of the students have no proper access to technology as the researchers have taken 4 cases for study and 3 of them had no proper access of technology.

Table- 4: The key challenges identified in the cases

Case 1	<ul style="list-style-type: none"> • School closed for a long period • Online class • Joint family • Middle class family • Have no proper access to technology
Case 2	<ul style="list-style-type: none"> • School closed for a long period • Online class • Joint family • Poor family • Have no proper access to technology
Case 3	<ul style="list-style-type: none"> • School closed for a long period • Online class • Nuclear family • Poor family • Have no proper access to technology
Case 4	<ul style="list-style-type: none"> • School closed for a long time • Time management for online class • Eye sight problem • Joint family • Middle class family

Source: Author`s compilation

From tableNo.4, we can see the key challenges faced by the students in online learning and also can understand the digital divide may vary cases to cases.

Some of the statements from the participants (case 1 to 4) while interview-

ing is given below:

- Case 1 described that “The digital divide and online learning stopped the daily routine of studying along with the changing lifestyle. The only source of livelihood is the small grocery shop for my family. I have two younger sisters. I didn’t face this type of situation earlier so it is very difficult for me to face the reality and survive in this lifestyle. Online class concept is very new to me and as I have no smart phone in my family, I cannot attend class. My father arranged one old smart phone from his friend for my online class. But it also cannot help because of data connection.”

- Case 2 pointed out that “I have no access to the proper internet connection, lack of proper laptop, smartphone or computer. My father is farmer and hence we have no smartphone in my home. I have one elder sister and one younger brother. My mother is also working to earn some penny. It is not possible to my family to buy anything for the sake of my online classes, so I have to manage it by my own self. One of my friends helped me and gave me the notes and questions as he has proper access of internet and technology”.

- Case 3 mentioned that, “What I don’t like about this online learning is that it is very confusing when a teacher gives us work mostly since it is easier for me to do work with instructions that the teacher gives. Being in a physical classroom makes me only focus on my work, but online learning makes it harder to focus because I have to also focus on household stuff, and it throws me off. It is very difficult to me to concentrate on my work only. My father has a vegetable shop. I have no proper access of technology and that’s why I took all the notes and materials from one of my friends.”

- Case 4 said that “my online learning experience is kind of stressful; I am not really used to technology. I am learning how to use technology, especially because I need to do my homework somehow. I have eyesight problem that’s why it’s not easy for me to attend regular online classes. I have a problem of time management system also in this online learning process. I prefer physical class most as compare to the online class.”

Outcome from the interview

- This pandemic has stopped the life along with the regular education system.
- Most of the students want to join the physical classes in the school
- Everyone wishes to have a normal and happy life
- Students are facing many difficulties
- Divide the education system into two parts i.e., online and offline so that it can be managed by both the section of the society i.e., have and have not.
- Knowledge divide is very common in the society
- Stressed of thinking about the future
- Breakage of education system
- Resources are not available in this pandemic.

So, it can be seen that online learning has emerged as a successful phenomenon this year with continuous growth. As the students were not attending schools owing to COVID-19 and the damage it has caused to the economy and our general well-being. Despite uninterrupted learning, there appears to be a huge digital divide between online learners and children who are deprived of basic facilities – like the internet – to access online classes. Every segment of the population comprises of people who are at such a social and economic disadvantage that even affording miscellaneous tools like the internet becomes a financial issue. The digital media is considered more of a “luxury” for those who have no access it.

Discussion and Conclusion

In the face of the global COVID-19 pandemic, the entire academic sector has been paused. Majority of the institutions have shifted to online platform in order to carry forward the academic sessions. This entire online mode of learning brought a lot of challenges for the teachers as well as students. The academic institutions had to face a new reality post pandemic. This is also

provoking an unprecedented downturn in the global economy. Nevertheless, there are two positive thoughts we should always keep in mind: Academicians are fighters; by nature, optimistic and resilient. They will overcome this difficult period and bounce back. Every crisis has an end point. And this will be the cue for academicians to undertake something new. In the present study the researchers have focused on the challenges faced by the students due to digital divide.

This study has been carried out in Bolpur, West Bengal. The researchers have considered the school going students to study the effect of digital divide on online learning. The major finding of this study reveals that out of 40 students, 28 students i.e., 70% don't have the proper access to the technology, 8 students i.e., 20% depends on their parent's mobile phones to attend the online classes and rest of the students i.e., 10 % have proper access to the technology. In light of recent data, as many students lack access to the internet. With already such a huge gap in education, the unequal distribution of online learning speaks volumes of the many injustices that low – income families at large have to put up with. So many students have not been able to learn anything substantial since educational institutes shut down following the COVID-19 wave.

The future implication can be a lot direr if this gap is not addressed. The students in the rural area or from the poor population are having extreme difficulties in using such services and we don't have any policy in place to address that. Although smartphone remain popular, and can be useful when accessing online education, it is not always easily available for the family. These making access to online learning a challenge for the children. It is thus imperative for schools and educations institutions to work towards accelerated adoption of these solutions, so as to bridge the digital divide. The parents are also worried about what would happen if the pandemic continues and they cannot afford to provide technology to their children. To conclude, internet access at home is pitifully low in the study area. This is a combination of low internet coverage as well as the fact that many households do not own smartphones that can

get them on the internet. Nevertheless, the digital divide is a global problem that demands international solutions. The post pandemic world should act accordingly. Hence, the post pandemic education policy should prioritise and accentuate the need to bridge the digital divide in education when government press the reset button after the pandemic.

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