



Digital Learning: Challenges faced by the Learners of Rural and Remote Areas of Cooch Behar District, West Bengal

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ABSTRACT: *Digital learning or e-learning is any type of learning that is accompanied by technology or by instructional practice that makes effective use of technology. It simply means learning based on information and communication technology. This paper discusses the challenges faced by the learners of rural and remote areas and creating digital divide. For the purpose of the paper primary and secondary data has been used. For primary data researcher has collected through survey schedule and secondary data has been collected through various articles, journals and research papers by using content analysis. A digital divide refers to an economic inequality regarding access to information and communication technologies (ICT) or the gap between those who are able to access the ICT and those who are not. It has become more popular since Mid-March of 2020 due to the outbreak of the COVID-19 pandemic. This study attempts to analyse the perception of digital learning among rural and remote areas learners and the challenges faced by them. It is found from the study that digital learning is challenging due to multiple factors such as lack of technical gadgets, poor network connectivity, and electricity problems, parental literacy and student interest are other hindrances.*

Keywords: Digital Learning, Digital Divide, Rural Learners, Challenges, ICT.

Introduction:

Digital learning is made possible by the quick development of Information and Communication Technology. It is a form of distance education which has long been a part of the American education system, and it has become the largest sector of distance learning in recent years. Digital learning become most popular form of distance education today. Digital learning provided an excellent method of material delivery unbound by time or location allowing for accessibility the instruction at anytime from anywhere. This method of learning requires access to digital devices along with Internet connectivity. Video conferencing, PDFs, educational videos, and audio clipping are the tools, which are used in this method. Various apps like Zoom, Google Meet, Jio Meet, etc. are used for video conferencing. WhatsApp and Telegram are used for sharing study materials with the students.

Due to poor network connectivity in the rural and remote areas learners are facing difficulties in learning activities. Digital learning is also likely to broaden the learning gap between children from lower- income and higher-income families. Children from below poverty line households live in conditions that are not conducive to online learning. The biggest hurdles to moving to online education in India have been insufficient digital gadgets for students and a lack of internet connection at home owing to poverty. Children from lower-income households are struggling to complete digital learning homework because of the unpleasant atmosphere at home. Recently news came that a father committed as he could not provide smartphones to his children for study. So, digital learning has provided a lot of opportunities to the learners but some of them facing various challenges as well.

Significance of The Study:

All of a sudden, traditional education switched to an internet delivery system. The impacts of this switch from traditional to digital instruction in schools, colleges have not yet been fully understood. Teachers and students must work together to overcome the difficulties of transitioning from a known to a new teaching-learning model. Teachers struggle to connect

with almost all of their students, whether through distant learning or virtual learning. The students who were placed in social exclusion and solitude had to master new skills suited for online learning.

The learning gap between learners from lower-income homes and those from higher-income families is anticipated to widen as a result of online schooling. Children who come from low-income families live in environments that make online learning difficult. The major barriers to switching to online education in India have been a lack of student access to digital devices and a lack of internet at home due to poverty in rural and remote areas. Due to the unfriendly environment at home, learners from lower-income families have trouble finishing their online schoolwork.

Objectives of The Study:

- To identify the various challenges faced by the rural learners especially those who are from remote areas.
- To examine various advantages and disadvantages of e-learning for rural learners and how e-learning creates a digital divide.
- To give suggestions to minimize the digital gap created by the e-learning system.

Research Questions:

Based on the objectives, the following are the research questions used to conduct this investigation.

- i) What are the experiences and challenges faced by the learners with online learning from remote areas of the study area?
- ii) What are the advantages and disadvantages of e-learning for rural learners of the study area?
- iii) What are the possible ways to minimize the digital gap?

Research Methodology:

This descriptive and explanatory research qualitative study focuses on the perception of changes in instructional practices from traditional classroom practices to online mode by students from remote areas of Cooch Behar district, West Bengal. The secondary data sources primarily include existing literature published in journals, magazines, newspapers, textbooks, private reports, government reports, etc. The secondary data used in this research are related to the existing literature concerned with this research problem. These sources of information have been used to establish a good understanding of the problem and to determine the required data and suitable methods for collecting it. The information collected through the educational institutions is used as the secondary data source for this study. In order to learn about the e-learning practices, factors, attitudes, and several reviews were collected in different ways. Primary data has been collected through the case study method. The study explored the learner's voice in-depth, the student's attitudes and views, and the problems using varied methods of data collection. Data was collected by direct and participant observations during the online classes of learners, semi-structured interviews, open-ended questions, and telephonic conversation.

Participants:

The study included 50 students, 25 boys, and 25 girls (age group between (18-25 years, those who are preparing for competitive exams) all from a rural areas of Cooch Bihar district of West Bengal.

Data Collection:

Descriptive data about the student's perceptions and challenges faced by all the participants while adopting online learning were collected over two weeks from multiple sources. The semi-structured interview questions that included both open-ended and closed questions and daily discussion over the topic of social media were conducted and recorded. Interviews and discussions focused on the overall respondent observation of the effectiveness of an online learning method, the problems and challenges of online learning, and suggestions from all the participants about its implementation in the future as an alternative method. Open-ended questions were designed with a focus on content, clarity, and sequencing. All the discussions were held through a personal interview maintaining physical distance via face-to-face interaction, telephonic conversation, and WhatsApp chats.

Literature Review:

In the article "The Death of the University" from 1997, **Peter Drucker** stated the following: "The large university campuses will be history in thirty years. Universities will not endure "so that institutions of higher learning overcome their complacency and make the most use of ICTs. The higher education institutions in India should critically assess what it means to be educational institutions in the West and consider how to use ICTs most effectively for their respective institutions (Bhattacharya & Sharma, 2007). Universities must take advantage of their competitive edge in the ICT revolution and rely on the new e-education model going forward (Bhattacharya & Sharma, 2007). Our educational system must make use of a number of modern technologies to replace or enhance traditional classroom instruction if it is to meet the goals set forth by the Planning Commission and the Knowledge Commission in 2007.

Fischer et al. (2014) found that analyzing conference proceedings can reveal trends in e-learning in Germany, Switzerland, and Austria. Their study showed that learning management, mobile learning, virtual worlds, e-portfolios, social media, and Massive Open Online Courses have the potential to advance e-learning in higher education.

Moravec et al. (2015) showed how e-learning tools impact students' achievement. Nearly 2000 pupils took part in the study. Moravec et al. (2015) state that the study contrasts the answers to questions from the area of law where the e-learning tool was offered in a pilot

form with the answers to questions from the domain of law where it was not. The findings of the students were impacted, according to the researchers, by the e-learning tools. However, it was proven false the theory that the e-learning tool might harm pupils who rely on the materials provided. Education is presently seeing a rapid expansion of the e-learning trend as a learning and teaching instrument. Suri and Sharma (2014) looked at how students' academic fields affected how they responded to and perceived e-learning. By administering survey questions to 477 students participating in a variety of courses across six different disciplines at Panjab University in Chandigarh, India, researchers conducted a study using a computer and an e-learning attitude scale. The results emphasized the significance of academic departments in determining students' satisfaction levels and learning outcomes. The study revealed a strong correlation between students' disciplinary backgrounds and the components of the scale related to computer and e-learning attitudes.

Khare et al. (2007) conducted a survey to study the pattern of internet use of Ph.D. scholars of Dr. H.S. Gour University, Sagar, Madhya Pradesh. The study's goals were to identify the most popular search engines, learn why research scholars use the internet, find out how well-informed users are about online resources, and make improvements to how users can get better internet services. The study's sample included 100 Ph. D. candidates, one from each of the ten faculties. Data collection involved distributing questionnaires. The study revealed that just 66% of research researchers utilize the internet for business, communication, leisure, and instructional purposes. The most popular search engines were discovered to be Google, Yahoo, and Web crawler. The study found that when using the internet, research researchers encounter technical issues, language-related issues, and network-related issues. The study also made the following recommendations: adequate computer space must be provided in each department with internet access, short courses in English should be provided to address language barriers, and short internet awareness training should be provided, especially for female Ph. D scholars.

In the article "Distance Education to e-Learning: A Multiple Case Study on Instructional Design Problems," **Michael Power** (2007) claimed that the sudden emergence of a global knowledge industry, in which universities play a crucial role, is evidence that e-learning represents an important societal movement.

Advantages and Disadvantages of e-learning:

Digital learning has some advantages and disadvantages; these are mentioned below:

Advantages of digital learning for rural and remote learners:

Many benefits for e-learning technologies have been found by Callan et al. (2010) and Garrison (2011), including:

- ☞ Less expensive to deliver, affordable and time saving.

- ☞ Availability flexibility, at anytime and anywhere. In other words, e-learning makes it possible for the learner to access the resources whenever and from anywhere.
- ☞ Access to materials and resources on a global scale that fit students' interests and expertise levels.
- ☞ For fast or slow learners, self-pacing decreases stress and boosts satisfaction and retention.
- ☞ Through the use of emails, discussion boards, and chat rooms, e-learning enables stronger emotional engagement between the students and their teachers.
- ☞ Learners are able to monitor their development.
- ☞ Additionally, learners can learn by engaging in a wide range of activities that cater to their various learning preferences.
- ☞ It assists the students in learning how to use the Internet and cutting-edge technology.
- ☞ Due to its support for face-to-face teaching methods, e-learning could enhance the quality of teaching and learning.

Disadvantages of digital learning for rural and remote learners:

According to Bouhnik and Marcus (2006), the following factors contributed to students' dissatisfaction with e-learning:

- ☞ Lack of a solid foundation to motivate children to learn.
- ☞ It takes a lot of self-discipline or self-direction; students who lack motivation or have poor study habits risk falling behind.
- ☞ In e-learning systems, there is no learning environment.
- ☞ E-learning lacks interpersonal and direct interaction between students and teachers, and distance learning reduces the level of contact.
- ☞ The learning process is less effective than face-to-face instruction

Challenges Faced by The Rural and Remote Areas Learners:

1. Insufficient Hardware and Software:

Software and hardware issues have become a major barrier to the expansion of digital learning. Students need the essential hardware for digital learning, such as desktop or notebook computers and printers. Therefore, the requirement of computer hardware and pertinent resources is one of the main technological limits of online learning. According to Sambrook (2003), one of the reasons why small and medium Enterprises are unable to engage in e-learning to educate their staff is the lack of hardware to enable it in organizations. A variety of challenges prevent digital learning efforts from taking off in India. First and foremost, the cost of entry-level technology is a problem. Before the promise of digital technology can be realized, hardware, software, and expertise are all required; however, given current trends in technology development and the significance of India's own high-tech industry Poor Internet connectivity or insufficient bandwidth.

The capacity of a communication channel to convey information is referred to as its bandwidth... Another problem is a lack of infrastructure in terms of connectivity, Internet accessibility, etc. The government is implementing a number of initiatives to enhance communication infrastructure, and the implementation of new technologies like 3G in the telecom sector has already begun. The widespread use of e-learning systems is also hampered by severe infrastructural technology restrictions. These limitations range from inadequate network bandwidth capacity and speed to incompatibility with various platforms and content types.

2. A lack of technical assistance

Support, Flexibility, Teaching and Learning Activities, Access, Academic Confidence, Localization, and Attitudes were considered to be the main issues by the learners from remote areas. These considerations center on how a student's prior academic experience could provide a problem if it is out of alignment with the demands of the course and the assistance offered. Researcher asserts that there is a dearth of teacher presence, face-to-face engagement, and technical support in contemporary online classrooms.

3. Non-supportive Organizational policies

The direction of every project, including the development of digital learning environments in higher education institutions, is determined by the organizational policies, structures, authority and responsibility, rules of business, and most importantly, its culture. An important barrier to the development and application of digital learning is the organizational environment of ICT integration. Researcher has also shown that as the corporate setting changes, so do people's views of, and uses for digital Learning.

4. Cost and Integration:

Cost, curriculum integration, and infrastructure setup at traditional academic institutions of higher learning are the key obstacles to the broad adoption of digital learning. Additionally, there is some pushback from professors and administrators who are intimidated by the idea of digital learning and lack computer literacy. Students are hesitant to enroll in digital learning courses without the right accreditation or recognition. Although international programmes have the option to charge more for their courses—and often do—the decision will always come down to price vs. quantity.

5. Social Problems:

Today's culture should be supported by science and technology as well as literature and the arts. ICT sits on the nexus of these two ideas. Refusing to accept the stigma of illiteracy and struggling to fit in with modern society. The incorporation of ICTs in Higher Education Institutions necessitates a re-definition and re-evaluation of the role in education and societal development in light of the rapidly evolving social context, where knowledge is becoming the primary driving force and communication networks are undergoing radical change, demonstrating that "learning cannot be separated from its social context"

6. Lack of Satisfaction:

According to the research, users are rarely happy with new digital learning systems' functions and are concerned about the system's integration issues with other organizational systems. Users' discontent with recently implemented systems, incompatibilities between new technology and current work habits, employees' underestimation of technological complexity, and ineffective end-user support are all ongoing issues that the HEIs must deal with. The commitment of the individual to engage and contribute is highly correlated with their level of satisfaction.

7. Not Suitable for all Teaching Learning Styles:

E-learning systems that take into account individual characteristics like cognitive learning style are one of the issues facing instructional designers. Although research suggests that teachers do not find electronic learning environments that are compatible with their teaching methods, web-based learning is accessible to all people worldwide, requires little upkeep, is secure, is platform independent, is always current, and can accommodate different learning styles.

8. Emotional Obstacles:

Another major issue hindering the development of e-learning is emotional barriers. Thus, when we consider the emotional barriers to digital learning, the issues of emotional engagement play a crucial role. Additionally, empirical study reveals that emotions play a significant part in digital-learning. Sometimes learners have all the facility available but due to emotional obstacles. They can't control themselves to wasting time in social media , watching movies and web series. Digital learning where one way enforcement is necessary. These are the emotional obstacle.

9. Lack of Suitable Government Policy:

In E-Learning projects, the professors and students are important, but government organizations are in charge of goal-setting, project management, working conditions, evaluation, and resource allocation for projects. The governments have created 89 committees and taskforces and committed enormous resources to improve computer-based pedagogy. The Government's coordinated efforts laid the groundwork for the development of a strong Indian ICT industry.

10. Restrictions on Flexibility and Content Quality:

Another significant issue in ICT-enabled open education is the construction of the curriculum. Technology for developing course materials, quality control, and the applicability of the contents for an open and flexible learning environment are pertinent challenges. Many institutions have started developing web-based courseware.

11. Expensive and hence Unaffordable:

Study shows that barriers to e-learning include the availability of opportunities for the creation and use of courseware, the high cost of digital libraries, the cost of internet access, the price of a computer and its accessories, the lack of multimedia systems, an unstable or epileptic power supply, technophobia, and resistance.

12. Insufficient Training Necessary:

The study highlighted teachers and students need to have particular skills to use different e-learning tools effectively. Since e-learning cannot develop without adequate training, extensive training is needed.

13. Difficult to Use and Complicated:

Research has demonstrated that using e-learning systems can lead to users being frustrated, perplexed, and losing interest in learning. A Likert-type instrument 20 (questionnaire) was designed on the basis of the aforementioned issues found in the literature and data was gathered from the respondents in order to validate and support the findings of the prior researchers from the perspective of higher education in India. In total, 16 problem statements addressing various issues and difficulties related to the condition of e-learning in education were completed. Study shows that e-learning is much more complicated than traditional learning method.

14. Language of the Course:

India is a multi-linguistic country, and a vast majority of the population comes from rural areas. The content offered by most of the online courses is in English. Hence, those students who are not able to speak English struggle with the availability of language content. So, especially from the remote areas of Cooch Behar district learners are struggling with this particular problem.

Findings and Analysis:

Table 1:
Study of The Internet Usage Profile of The Respondents

Number of Smart Device have	Percentage	Types of Networks Used	Percentage
0	50% (25)	Cellular data	40% (20)
1	20% (10)	Wi-fi	10% (5)
2	16% (8)	None	50% (25)
More than 2	14% (7)		
Total	100% (50)	Total	100% (50)

Source: Field Study

The above table-1 depicts that out of 50 respondents 50% (25) respondents don't have any smart devices. Only 20% respondents have one smart device and 16% have two devices and only 14% respondents have more than two devices. 40% of them are using cellular data to run their device. Only 10% respondents have wi-fi connection.

From the above table it is clear that everyone do not have smart devices due to poor economic condition. Even those who have devices are not availability of internet connection to run the devices. Those who are running with cellular data many times they face connection issues. Those who have wi-fi connection they are happy with their digital learning by online platform. They are preparing for government jobs.

Table 2:
Study on The Basis of Used Devices to Access Internet

Frequently Used Device to access Internet	Percentage	Strength of Internet (Average)	Percentage
Desktop	14% 7	Moderate	18% (9)
Laptop	12% 6	Good	12% (6)
Tablet Kindle	0% (0)	Excellent	14% (7)
Smartphone	24% (12)	Very poor	24% (12)
None	50% (25)	No Signal Most of The Time	32% (16)
Total	(100%) 50	Total	(100%) 50

Source: Field Study

The above table depicts that out of 50 respondents 50% of them don't have smartphone, some of them have mobile phone but do not have facility to access internet. Only 24% of them have smartphone, 14% have desktop facility and 12% of them have laptop. Internet strength accessibility is not that good. Only 14% of them have strong connection and 32% of respondents are facing internet connection issues.

Table 3:
Average Time Spend on Internet Daily (in hours)

Most time spent on the internet	Percentage	Most referred source for educational purpose	Percentage
Entertainments (movies, songs and web series)	18% (9)	You Tube videos	14% (7)
Educational Purpose	14% (7)	PDF'S	8% (4)
Social media	6% (3)	Online PPT slide	6% (3)
News	2% (1)	Websites	4% (2)
Online gaming	2% (1)	Online encyclopedia	4% (2)
Online shopping	8% (4)	Online coaching apps	14% (7)
Total	100% (25)	total	100% (25)

Source: Field Study

The above table are based on the respondents who have smart devices. This table depicts how they are using their smart devices and internet access. Out of 25 respondents 18% off them are using their device for entertainment purpose like watching movies, songs and web series. 14% of them are using their devices for the educational purpose. Only 2% of them uses their internet for watching news. 6% of them are very much active in social media. 14% of them are using you tube as a tool of digital learning. They are studying from You Tube free videos. And only 14% of them are able to access online coaching.

Case Studies

Case Study-1

Dipankar Barman (23)

He is a graduate student of the Falimari Gram Panchayet of Cooch Behar- I, West Bengal, and preparing for the WBP (West Bengal Police) exam. He is from a very poor background. His father the sole breadwinner of the family, earns a meager income as a rickshaw puller. He is running out of money and time because he has to work as wage labour in the field to run their family. He has various problems with online learning such as language barrier, internet issues, time management, how to access online techniques, no money to purchase a smartphone, etc. However, he has expressed interest in taking online coaching so that he could fulfill his dream. He also mentioned that he is saving money to purchase recognizing the importance of technology in accessing educational materials.

Case Study- 2

Mamoni Dakua (21)

She is a graduate from the MAHISKUCHI – I under Tufanganj- ii Gram Panchayet, Cooch Behar, West Bengal. She is from very poor background but she is struggling with her dreams and ambitions. She does not have any smart devices but she is very much interested to learn digital learning tools and technique. Even till now she does not know how to use free platform to gather knowledge from Internet. She is going to buy smartphone very soon. Then she expressed she has not enough money to go outside the home and take admission in any renowned coaching institution. Online learning will be the best for her. But the problem is the internet connectivity and language barriers. They have only one key pad mobile phone, but if they keep it in their room, they can't access network connectivity. If someone they have to call, have to go outside from the room and then they can access the network connectivity.

Discussion:

Digital lessons are now available in the various online platform, and teachers are still receiving training on how to run them. There are not many advantages to holding classes online in rural and isolated places. Despite the fact that communications and the internet are accessible in rural areas of India. Everywhere has a reliable network and access to the Internet. As a result, pupils are unable to participate in lectures or take online exams. All of the educational institutions abruptly closed as the lockdown began. Due to the lack of regular classes and fees, students became reckless and impulsive. The effectiveness of

instruction was hampered by the lack of teacher- student, student-student, and chalkboard interactions.

Students' mental health is also impacted by their home environment, family disputes, and lack of nutrition, which keeps them from studying. In rural areas, a large number of people are poor. Therefore, families cannot afford such expensive equipment for the education of their children when getting a healthy meal is challenging for these people.

Due to their parents' lack of knowledge, they have a very tough time raising their kids. They are anxious and upset because they are unable to give their kids the essentials for an online education. This study's findings regarding the difficulties of online education are supported by past research. If anyone in rural schools is suffering more than the pupils, it is the instructors. Teachers and students in rural schools are accustomed to the conventional teaching-learning approach. According to this study, teachers lacked proper knowledge of online classes and had not received any training. Older or middle-aged professors frequently lack the technical skills necessary to run online courses on computers or smartphones. They can be seen accepting assistance from their kids or grandkids. Some teachers reported poorer self-worth, decreased productivity, and diminished motivation as a result of teaching online. Because of all these difficulties, teachers said they were stressed.

Conclusion:

We couldn't deny the fact that teaching methods are changing more quickly. Although we believed that conventional teaching and learning were superior, technology has changed both of these. Teachers should always be ready to adapt to new teaching methods. They must be creative in order to find an effective method of teaching their students. Digital learning for learners is difficult because of a variety of issues, including network unavailability, a lack of funds to purchase the necessary equipment and data, electricity issues, a lack of expertise, an unfavourable home environment, and a lack of direct student-teacher contact. The study suggests that the government and the Department of Basic Education should ensure that the global division between the rich and the poor, or between rural areas and the urban should take initiatives to empower the Indian rural and remote areas.

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