Learning of Rural Children and Deprived Digital Infrastructure

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ABSTRACT

India has a population of around 1.3billion, in that nearing to sixty-eight percentage of the population lives in the rural regions. It is clear that digital learning can bring down the gap in the prevailing education system. Through this mode of learning rural students are able to receive quality delivery and overcome inadequacy of teachers. There are tremendous changes happening in the usage of internet among the rural people. The usage of it utilized for education purpose will help the rural students to improve their knowledge. The initiatives taken by government to bridge the gaps in the digital learning is getting accomplished due to the Covid-19 pandemic. Providing all digital amenities to the rural students through different schemes and programs improve their standard of learning.

Keywords: Learning, Digital Infrastructure, Teachers, Technological.

I. INTRODUCTION

India has a population of around 1.3billion, in that nearing to sixty-eight percentage of the population lives in the rural regions. (U-DISE, 15-16). The enrolment in the school, especially elementary school has improved tremendously to ninety-five percentage in rural area (ASER, 2018). The kids in the rural areas face various challenges during their journey of education. Most of them study in government or government aided schools. There are many developmental changes happening in many of the government schools but it is far too inferior compared to the private schools. This situation still become worst when it come to the rural areas. The poor foundation skill is one of the major issues faced by the rural children. The basic skills like reading, writing, grammar and basic mathematics are poor among the rural children. The statistics show that only seventy-three percentage of eighth standard

students can read second standard level text books and only forty-four percentage of students can solve basic mathematics problems. The quality of education is also meagre. Some of the qualified teachers who are appointed in different government schools hardly report due to distance or poor infrastructure and facilities in the rural schools. A dedicated qualified teacher alone can bring quality to education. Without basic necessities and competencies, access to advanced learning opportunities is a distant dream for many children in most of the rural schools. According to a report (ASER 2018) about fifty-six percentage of students have not got an opportunity to use computers. Limited number of computers and less availability of the infrastructure for digital literacy is a major challenge in the rural areas. The scanty broadband internet connection is the major hassle to digital literacy. Teachers find difficulty to provide videos for further understanding the concepts explained in the class. Availability of learning management system is almost impossible in most schools. Introduction of online assignment and tests are not possible due to poor internet connections. The students in the rural areas are not privileged to read e-books. The chances to connect with internet open the doors of knowledge. This is a major inadequacy that the students in rural areas face due to the weak internet connection. Digital connection increase the access to the many students from other schools and increase their network and collaboration. Such interactions help in self-development. There is difficulty for rural students to access even the basic soft wares like Google docs. This reveals the disadvantages rural students encounter related to the online learning.

It is clear that digital learning can bring down the gap in the prevailing education system. Through this mode of learning rural students are able to receive quality delivery and overcome inadequacy of teachers. Introduction of online teaching along with the traditional mode can reduce the drop-out of students and reduce the insufficiency of study materials. This new mode of innovative teaching with visual representation create interest among the students and attract more students to the schools. The National Education Policy (2020) is focusing on online teaching as a new mode of teaching to increase the contact between students and teachers. The impact of the Covid-19 pandemic clearly revealed the importance of digital learning and exposed the shortage of digital infrastructure. Due to lack of digital setup the rural students are facing major challenges associated with education.

Inadequate digital literacy

Majority of the rural population is in short of knowledge related to digital jargons and in understanding the digital devices. The major hurdle is the unavailability of necessitated bandwidth and other infrastructural facilities. The frequent power supply failure and lack of high-speed internet make the digital mode of teaching-learning to stand still. Another issue is the availability of computers or any other digital devices. The poor financial condition of the students prevents them from procuring these devices. The low-cost phones that are being used are not supportive for digital

learning. The data package is not affordable for most of the students to continue online classes.

Another challenge is the inadequate training programs for the teacher to use digital platforms and conduct classes for the students. When the teacher lacks the competencies to utilize the digital platform to add value to her students, she or he finds this space irrelevant. A trained teacher encourages the students to use the internet facilities in appropriate manner for the students to understand the concepts rightly. As long as they are untrained or ignorant to digital knowledge they oppose and try to find the negativity in it. This attitude does not result in the progression of digital learning.

Yet another reason for poor digital literacy is the usage of English language in the digital world. Lack of English knowledge creates inhibition to adopt online classes. The rural schools focus more on the regional languages as the medium of learning. The teachers also find difficulty to understand and teach students in this language resulting in less usage of online platform for learning.

Gender inequality is noticed in the usage of these facility. The facility is more available to men compared to female. The use of mobile phone and computers are more among men. The inequality that is visible in education and employment is reflected in availability of these gadgets. The domination of males in some of the rural areas is still strong that females are barred from education itself. As per the survey conducted by NSSO (2018) household social consumption on education indicator revealed that less than fifteen percentage of rural population in India have internet access. But this number has changed is recorded by the study conducted by IAMAI (2020). It shows that internet users in rural population have increased to thirty-one percentage, depicting a thirteen-percentage growth.

Table 1 Internet usage among genders across different areas

	2019		2020	
Gender	**Urban**	**Rural**	**Urban**	**Rural**
Male	62	72	60	69
Female	38	28	40	31

Source: Nielsen and IAMAI

Though there is an increase in internet usage by females, still the number is less than half compared to males. The lack of access to technology to females can be due to the importance to the male child. Girls are given priority to take care of household duties and access to digital learning is secondary in many families in rural areas. The exclusion of females to internet access is like closing the doors of knowledge about their surroundings. The insufficient understanding about the present

situation results in exploitation and harassment. Many of the molestations towards women is due to their ignorance.

Recent study by Nielsen and IAMAI demonstrate the high usage of mobile in the rural areas. The availability of cheap phones and affordable data plans have provided access to internet through mobile phones for the rural population. The usage of desktop and laptops are still very less compared to the urban population.

Table 2 Usage of different Technological Devices in Rural and Urban Areas

Usage	Device Usage			
	Mobile	Laptop	Desktop	Tablet
Urban (%)	99	6	4	1
Rural (%)	99	2	1	0

Source: Nielsen and IAMAI

Another interesting fact is usage of internet. It is found that internet is used less for studying purpose. This study has been done in 2019, before the advent of the pandemic.

Table 3 Internet Usage by Urban and Rural Population for Different Purpose

Internet Access		
Usable	Urban (%)	Rural (%)
Home	94	90
Work	32	25
Travelling	30	20
Studying	10	7
Internet Café	2	1

Source: Nielsen and IAMAI

The recent study by IAMAI illustrate that rural population has exceeded the urban counterpart in usage of internet. But it is used mainly for watching video and for searching some information in Google. Their interest in online shopping is very bleak. They are still not adapted to online shopping. The connectivity issues, service quality and the power supply to charge the phones are still a major issue faced by the rural population.

Data Consumption on Mobile Device		
Data Plans	Urban	Rural
2G	4	5
3G	13	13
4G	86	84
Wi-Fi	9	3

The usage of 2G is higher in rural areas where as 4G usage is less compared to urban. The wi-fi connectivity is very less in rural areas.

The survey by the Ministry of Rural Development reveals that only forty-seven percentage of the rural population twelve hours of electricity. It is found that around thirty-six percentage of Indian schools function without electricity. These statistics uncover the underprivileged situation of the schools and the students.

Prevailing Remedies

There are tremendous changes happening in the usage of internet among the rural people. The usage of it utilized for education purpose will help the rural students to improve their knowledge. The initiatives taken by government to bridge the gaps in the digital learning is getting accomplished due to the Covid-19 pandemic. The availability of e-books also help students where there is dearth of physical books. National Mission on Education has made e-learning possible in many rural areas of the country. There are many digital portals initiated by premium colleges and universities to learn the subjects of their interest and update students on latest information. Swayam, National Digital Library and MOOC are some examples students in the rural areas has to focus on. Teachers have to be trained the usage of these portals which help them to improve their knowledge and encourage students to use these online resources for their improvement. The access of these e-study materials is possible only through high-speed internet connections. The initiative of government through 'Digital India' is improving the connectivity of the internet speed. The directives to the gram panchayat to utilize Gram Panchayat Nidhi for the development of rural education is another progress towards it. Some of the states have initiated to make the best use of corporate social responsibility funds for improving the infrastructure of digital education. Apart from these, many states are working hard to provide quality education to the students in the rural areas.

Future Optimisms

Implementation of the schemes and providing infra structure to the all the rural areas is possible but requires time and equal effort from all the states and the political parties. The support and cooperation from all stakeholders are required for the goal to achieve. The backing by tech companies related to education can provide different language online platform for the students from different rural areas throughout the country. This could solve problems related to language. Another issue is the internet connectivity. Companies can provide infrastructural benefits in less cost due to economics of scale. Government can encourage companies to invest in the rural technological development by providing tax concession. This two-way assistance and collaboration between them would improve the online teaching-learning mode for the students in the rural areas. The penetration of digital education will be a significant advancement in the education field. The blended mode of learning is found to be an

effective way of learning in urban schools and colleges. Public -private partnership is another option available to increase the infrastructure.

Teachers can be trained using the online mode to improve their knowledge and delivery skill. Teachers can bring creativity in the teaching using both online and offline delivery systems. This increases the scope of bringing the capabilities of rural students to that of the students in the urban areas.

The corporate social responsibility initiatives of companies have to be extended to these areas for the benefits of the future of the country. Adopting schools by different corporates can improve the levels of standards of rural schools by incorporating digital learning systems. Government can encourage companies to include digital education as one of the important focus under corporate social responsibility. Through NGOs, public private partnership or as part of corporate social responsibility students can be provided with laptops or tablets and schools with desktops.

The power supply is a major issue in the rural areas. This can be solved by introducing renewable source of energies like solar or wind. The power failure for long hours disrupts the operations of the technological devices. The power cuts in rural areas are severe compared to the urban so without a backup the online classes will be difficult.

II. CONCLUSION

There are many problems for the smooth conduct of online learning and teaching. But there are solutions also to make it available to the millions of school and college students in the rural areas. The growth of a country lies in the hands of the young generation. Their intellectual and skilful development is highly essential. Digital education is the requirement of the hour. Efforts have to be taken for the availability of digital learning to the majority of the population that live in the rural areas. The gap in the present education system in the rural areas can be bridged using the online education. Providing all digital amenities to the rural students through different schemes and programs improve their standard of learning. Teachers' online training and blended learning for students will open new doors for both the learners and the learnt. A proper collaboration of all the stakeholders, availability of technological devices, trained teachers, and infrastructure makes the digital teaching – learning a smooth act.

IV. REFERENCE

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