Digital Divide- the Trajectory of accessibility issues in the field of Education during Pandemic

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Abstract: **The paper attempts to navigate the issues prevalent in the Education sector of India due to the surfacing digital divide. With the advent of the global pandemic, most of the educational institutions have shifted online however, given the huge income disparities many students are not in a position to continue their education or are facing a partial disruption. In this paper, through the help of empirical data collected through on ground surveys is examined to analyse the conditions of school going students. in remote villages of India. Due to the extended lockdowns in most of the places in the country, major emphasis in being laid on tech-driven platforms or Information and Communications Technology based (ICT) facilities are being used for the teaching learning process, however, students who fall under the poverty stratas of the society or those living in remote areas have to bear the brunt of such digital gaps. Based on this idea, the paper will endeavour to identify the lacunas and also provide certain solutions to it.**

Keywords: **Digital divide, education, school students, technology, internet.**

I. INTRODUCTION

In order to understand the implications of digital divide on the education of students, there is a need to understand the basic concepts on which the research is based. Digital Divide council defines 'Digital Divide' as "the gap that exists between individuals who have access to modern information and communication technology and those who lack access...Digital inequality is evident between communities living in urban areas and those living in rural settlements; between socioeconomic groups; between less economically developed countries and more economically developed countries; between the educated and uneducated population. Individuals with access to a broadband connection can be digitally split."[1] It is important to understand that due to the Global Pandemic that the world is going through, all the educational institutions have shifted online. From online classes to online examinations, all the processes involved in learning are taking place digitally. Amidst this, many issues of digital disparities have come forward.

An article titled "How COVID-19 deepens the digital education divide in India"[2] by World Economic Forum states certain facts that are as follows:

● A total of 320 million learners in India have been adversely affected by the COVID-19 pandemic and have transitioned to e-learning;

● With huge regional and household disparities in access to the internet and technology, this transition has not been possible for all students and educators;

● The rapid shift to e-learning prompted by the pandemic has resurfaced long-standing issues of inequality and a digital divide in India that must be addressed by future economic, education and digitalization policies.

This helps us infer that there is a deep seated inequality in the society as far as technological accessibilities are concerned. As compared to the physical classroom training, students who belong to the economically weaker sections of the society are facing a larger amount of alienation. It is concerning that they are being denied their basic fundamental right of 'Right to Education' bestowed to all the citizens in our country.

Talking about the Internet accessibility and penetration of the country, Broadband penetration in India's rural areas continues to be poor at 29.1% against national average of 51% with 687 million subscribers as of March 2020, according to a report by Deloitte (economictimes.com)[3]. In terms of connection services there are yet severe backlogs in tier 1 and tier 2 cities. On an estimate, stable internet is required for 6-7 hours for enabling a student to attend online classes flawlessly. There is a digital divide occurring on every possible level: locally, nationally, and globally. Many people argue that the digital divide unfairly equips wealthy citizens and their children with more information and opportunities than those with lower incomes (Tarman, Bulent & Bulent,. 2003)[4].

There is a need to deeply understand that more than 50 percent of students in our country do not have access to enough resources such as smartphones, laptops, internet, network connection which hampers their overall educational development thus in turn causing an economic strain. Personal experiences say that given the enormous curriculum that a student has to cover in a class, the erratic internet connections make them overburdened thus, impacting their mental, emotional and physical well being. "Digital gaps in education, employment, race, and gender have already become worldwide issues and the educational divide is getting wider between developed countries and developing countries, between cities and rural areas, and between the rich and the poor." says Tarman.

In this paper, an attempt will be made to analyse and position the state of online education in India. Through empirical data collected from students residing in remote villages; pertinent results and solutions to ensure inclusive education shall be proposed.

II.   METHODOLOGY

The aim of the paper is to investigate whether students from remote villages/ economically weaker sections are able to adequately attend online classes during the pandemic. A quantitative research method was obtained wherein three youth ambassadors belonging to areas such as Bichagutu, Laduradi, Sariyapara in Jharkhand and Uttar Pradesh conducted surveys and responded to the Google form questions as per the responses given by the subjects. All these responses were collected without manipulating variables. All the questions were objective hence once collected they were tabulated to see the percentage of students who had enough resources and vice versa. For analysing the data, technological support was taken for calculating the percentages. The rationale is to do an in-depth research of the impact of digital divide on the education of students. This is a field of research with a wider scope as the pandemic has opened up new disparities prevalent in the society.

The limitations of the study were that due to the logistical restrictions, a direct structure of response collection could not be followed for collecting the data samples. Though the results of the research cannot be generalised beyond the sample group however, it does indicate a potential seriousness of the issue of digital divide that needs a much larger attention.

Sample Size and Survey:

Keeping in mind the Covid situation in the country, a limited sample group was taken. Fifteen students from remote villages in Jharkhand and Uttar Pradesh were surveyed. The age group falls within the range of 10-23 years. Questionnaires were prepared in the form of Google forms. Questions pertaining to the accessibility of Internet, conditions on online classes, their satisfaction out of it were gauged while also being sensitive to their socio-economic condition.

III.   RESULT AND DISCUSSION

The responses were used to determine the percentages for each question separately as mentioned below.

Q1
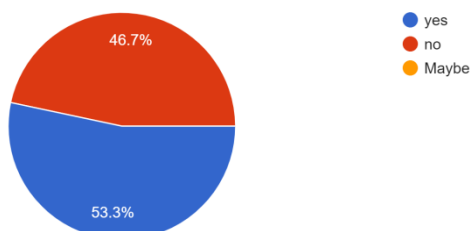

Fig. 1

Q2

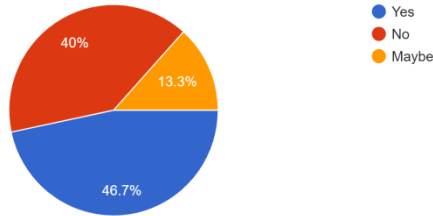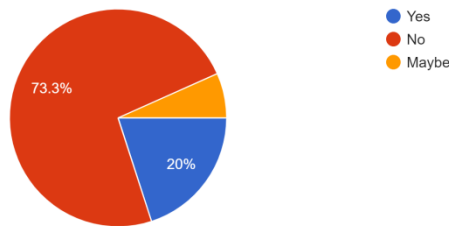**Fig. 2**

Q3
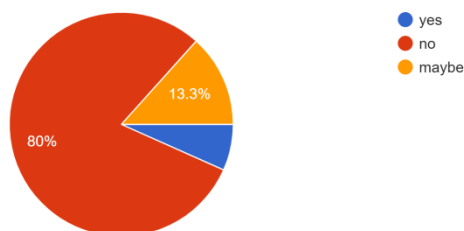
Fig. 3

Q4

Do you have good internet connection in your area? (क्या आपके क्षेत्र में अच्छा इंटरनेट कनेक्शन है?)
15 responses

Fig. 4

Q5

According to you, are you able to study adequately in the online classes? (आपके अनुसार, क्या आप ऑनलाइन कक्षाओं में पर्याप्त रूप से अध्ययन करने में सक्षम हैं?)
15 responses

Fig. 5

As can be seen in the aforementioned figures, the responses of the students have been largely negative when it comes to the proper accessibility of the internet or their ability to attend school regularly. Despite the fact that the villages where these students belong to have relatively low Covid cases, makes the issue much more concerning than it seems on the surface level. Given below is a tabulated form of percentages for each question that was asked under the survey.

TABLE I

Parameter	Yes (in %)	No (in %)	Maybe (in %)
Regularity in attending school	13.3	86.7	--
Ability to attend online classes	6.7	80	13.3
Access to adequate devices	53.3	46.7	--
Availability of Internet	46.7	40	13.3
Satisfaction out of online classes	20	73.3	6.7

The findings indicate a strong relationship between lack of adequate resources and the prevalent digital divide in the country. Given the pandemic situation, the only solution for continuation of the teaching learning process is that which is aided with ICT facilities; however, under such unprecedented circumstances students from the economically backward strata's of the society are facing a huge brunt. The sudden stagnation in their learning process has forced several to drop out and aid their families in earning money.

From the data received post the survey, one can clearly infer that less than 50% of students have access to stable internet connections. Only 6.7% of students are able to attend online classes. 46.7% of them do not have access to suitable devices such as mobile or internet for attending classes.

This study, though limited in its approach, draws our attention towards the significant lack of resources under the purview of young students belonging to underprivileged backgrounds. The larger aim of this study is to understand the kind of difficulties that various students are going through due to the Covid Pandemic. The mini-sample size taken for this research is not to be taken as an indicator of inadequate analysis but as a starting point in understanding the grave situation prevailing in our country. Hence, it is vital that more in-depth research needs to be done as far as digital divide in Education is concerned and concrete measures to bridge this gap must be adopted.

IV. CONCLUSION

In conclusion, it can be stated that the issue of Digital Divide- The Trajectory of accessibility issues in the field of Education during Pandemic was thoroughly analysed on the basis of the mini-survey conducted in various remote villages of Uttar Pradesh and Jharkhand. Students within the age group of 10-23 years were asked several questions pertaining to their experiences with online classes and the accessibility of the same. It has been found that approximately 47% of the students do not have access to the internet that is considered the foremost resource to attend online classes. Talking about the medium through which learning can take place is also limited since only 53.3% of students have access to devices in order to take their online lectures.

The overall responses and the subsequent analysis of the data indicates a negative result as far as the accessibility of resources are concerned. While the Government has come up with various schemes and policies to aid such students, it is important that students from poor socio-economic backgrounds are made aware about such schemes at the earliest so as to reduce the amount of loss they have had to incur due to the disruption in their schooling. Schemes like National Mission On Education Using ICT, Pradhan Mantri Gramin Digital Saksharta Abhiyaan (PMGDISHA) and more can prove to be beneficial for students across the country with limited digital accessibility. Apart from this, it is important that citizens of the country step-up and look for such students who are struggling to study in such dire circumstances. The unified support of the citizens can indeed help us bridge the gap.

ACKNOWLEDGEMENT

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