EDUCATION, THE DIGITAL DIVIDE, AND COVID-19 IN INDIA

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Prof. Thomas Varghese

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ABBREVIATIONS

ANOVA	Analysis of Variance
ASER	Annual Status of Education Report
CBSE	Central Board of Secondary Education
CPD	Continuous Professional Development
CSO	Civil Society Organization
CSR	Corporate Social Responsibility
DSL	Digital Subscriber Line
EL	Experiential Learning
LMS	Learning Management Systems
LSG	Local Self Government
MTA	Mathematics Teachers' Association
NEP	National Education Policy
NGO	Non-Governmental Organization
NISHTHA	National Initiative for School Heads' and Teachers' Holistic Advancement
NITI Aayog	National Institution for Transforming India
NSSO	National Sample Survey Organization
OBC	Other Backward Class
PRAGYATA	Plan – Review – Arrange – Guide – Yak (talk) – Assign – Track – Appreciate
PTA	Parent Teacher Association
SC	Scheduled Caste
SD	Standard Deviation
SPSS	Statistical Package for Social Sciences
ST	Scheduled Tribe
UDISE+	Unified District Information System for Education Plus
UGC	University Grants Commission
URL	Uniform Resource Locator
USB	Universal Serial Bus
VC	Vice Chancellor
Wi-Fi	Wireless Fidelity

EXECUTIVE SUMMARY

The COVID-19 pandemic has made 'online education' and 'digital divide' the buzzwords. Digital divide is the separation between those who have access to, and can effectively use technology and those who do not. In India, the digital divide is very much present and has further deepened because of conditions caused by the COVID-19 pandemic.

States across the country have been forced to jump onto the digital education bandwagon over more than a year due to the interruptions caused by the COVID-19 pandemic. Evidence of significant disparity in access to online schooling during COVID-19 is highly visible among the rural population. While the painstaking efforts of teachers and other stake-holders under the umbrella of the government and Civil Society Organizations (CSOs) did benefit those hailing from privileged backgrounds, it left behind the vulnerable sadly, the majority. For students who had to opt out because they were forced to partake in agricultural livelihoods to sustain their economically weaker families, the virtual world with the promise of a brighter future looks dimmer and their chances of being pulled out of poverty slimmer than before. Students from poverty-stricken families now have a much-widened gap to bridge before them — between the "essentials" and the luxury of accomplishing academic goals. The crisis has made an apparent disparity within the country and also compelled the state administration to devise an effective mechanism to mitigate the challenges created by the pandemic in rural as well as urban population.

The primary objective of the study was to understand and assess the impact of the deadly pandemic COVID- 19 on education in rural areas of India. As the study is very focused on digital divide aggravated by the COVID-19 pandemic in India, specific information from children, parents and schools/teachers were required. Hence, purposive sampling method was used.

In this study the investigator made use of a semi structured interview schedule to assess the unequal access to education due to different aspects among the target population. It employed both quantitative and qualitative methods. Qualitative approach was used for capturing behaviours, perceptions, experiences and suggestions of different groups especially children, parents, teachers and other stakeholders engaging in imparting education in these areas. The sample consists of 1255 students, 630 parents from 13 states in India. The data collection was done through Kobo Collect App and was uploaded in Excel sheets. The different statistical techniques used in analyzing the data were percentage analysis, 't'-test and ANOVA and Chi-square test.

The findings of the present study reveal that 76.7 percent of the students attended online classes. This is because most of the sample came from private and Jesuit run schools where facilities for conducting online classes were available. The government schools (36.97 percent) and rural schools did not have facilities like electricity, internet connectivity etc. to conduct online classes. The situation in rural areas was grimmer.

If we look at the economically and socially disadvantaged groups, there is a vast digital gap between SC/ST and other social categories with respect to access to online classes, support of parents and peers, support of teachers, assessment and learning outcome, impact of online learning, and perceptions on online learning. The digital attainment is low among the low-income groups, the agricultural laborers, and cultivators compared to the other high-income groups like those whose parents are in government service, private service and home-makers. This means that the economic factor plays a very important role in the digital divide in India.

Similarly, on the basis of parental educational level too there is a huge gap in the digital attainment between different pairs of groups with respect to access to online classes, support of parents and peers, support of teachers, assessment and learning outcome, impact of online learning, and perceptions on online learning. It is evident that children whose parents are graduate and above did better in online learning and digital attainment. This again points to how parents give importance to education and also to the economic factor. The low educated parents also form the bulk of agricultural laborers and cultivators.

There is also significant difference between government school children and private school children in digital divide and its dimensions: access to online classes, support of parents and peers, support of teachers, assessment and learning outcome, impact of online learning, and perceptions on online learning. The government school children perform very poorly with respect to digital learning due to the fact it is the children from the poor and disadvantaged families who mostly take admission in government schools. Besides, the government schools are known for poor infrastructural facilities, internet connectivity, and power supply.

The digital divide is also very much evident between rural and urban children with respect to access to online classes, internet connection, internet connectivity, uninterrupted power supply, computer availability, smartphone availability and comfortability of parents and family members with online platforms. Once again it is clear that financial constraints, engagement in domestic activities, engagement in economic activities and lack of interest are the main reasons leading to the digital divide in India. The education of the head of the household also matters in this regard.

CHAPTER I

INTRODUCTION AND CONCEPTUAL FRAMEWORK

1.0 INTRODUCTION

The COVID-19 pandemic has made 'online education' and 'digital divide' the buzzwords. The digital divide is the separation between those who have access to and can effectively use technology and those who do not. According to World Telecommunication Development Report (2002), the global digital divide is getting wider despite the sharp rise in telecommunication access in developing nations. In India, the digital divide is incredibly present and has further deepened because of conditions caused by the COVID-19 pandemic. According to the United Nations International Children's Emergency Fund (UNICEF), the COVID-19 pandemic has battered education systems worldwide, affecting nearly 90 per cent of the world's student population. In India, over 1.5 million schools closed due to the pandemic, affecting 286 million children from pre-primary to secondary levels.

India has the second-largest internet user base in the world, with more than 630 million subscribers. It also has the lowest mobile data prices offered anywhere[1]. Despite this, for every Indian citizen with an internet subscription, there is a citizen in a rural area who lacks one. Considering 66 per cent of the population lives in rural areas, a sizeable percentage of the country's people live in regions with minimal internet access. Before the pandemic, there was a preexisting digital divide in India. Only 23.8 per cent of households across the country had access to the Internet[2]. Additionally, there is a vast divide in access between urban and rural households. The COVID-19-induced lockdown ravaged the education system, with schools closing down and online learning nowhere near practical. Digital education can be applied in different ways at every level. The lack of expertise in online teaching, a new mode of assessment, the uncertainty over the bandwidth, and the inability to connect to the digital network have created a 'digital divide' among student communities.

The National Education Policy[3] , released by the Union government in July 2020, has also emphasized the importance of online education blended with the traditional mode. However, it cannot resist the ripples and trauma created due to the digital divide. Teachers are only sometimes trained and equipped to transition to online teaching. The emphasis on technology-driven education also alienates many underprivileged children, preventing them from continuing their studies. Even other stakeholders need help.

The COVID-19 pandemic forced close schools and colleges and disrobed the educational system. The uncertainty led to looking for alternative ways of teaching-learning. To fight back against the disruption and damage, educational institutions across the country embraced the digital mode of education as a solution to fill the void left by classroom teaching. With this, the hitherto peripheral digital education in India came centre-stage and is increasingly getting integrated into the mainstream.

As e-learning becomes the "new normal", the authorities have taken steps to make digitization of education accessible and affordable for all. On the face of it, online teaching-learning is a good option. Nevertheless, it has its limitations concerning its scale, scope and reaches.

1. India Inequality Report 2022: Digital Divide https://www.oxfamindia.org/knowledgehub/workingpaper/india-inequality-report-2022-digital-divide
2. Ibid
3. National Education Policy 2020 https://www.education.gov.in/sites/upload_files/mhrd/files/NEP_Final_English_0.pdf

India must be fully equipped to make education reach all corners of the nation via digital platforms. Students who are not privileged like others will suffer due to the present choice of digital platforms. As online practice is benefitting the students in urban areas immensely, we have to bridge the gap between the digital divide that has been born in the urban and rural areas to embrace justice within the system of education and also help the children from the rural areas to come out from the vicious cycle of poverty. For first and second-generation learners from rural areas, school education is the only way to give wings to their dreams and aspirations. The education sector has been fighting to survive the crisis with a different approach and digitizing the modalities. It is the need of the hour for educational institutions to strengthen their knowledge and Information Technology infrastructure to be ready to face COVID-19-like situations and give hope to the millions of children across the nation. This digital divide between rural and urban regions exacerbates many other social divides in Indian society. The COVID-19 pandemic has exposed how rooted structural imbalances are between rural and urban, male and female, rich and poor, and even in the digital world. India's digital divide due to the pandemic is likely to deepen the divide in educational attainment, 'learning loss', and higher dropout rates, aggravating existing equity gaps in education, among other consequences.

Table 1: Percentage Access of Infrastructure Availability in Select 12 States

State	Rural			Urban			Total		
	Comp With Internet	Comput-ers	Internet	Comput-ers with Internet	Comput-ers	Internet	Comput-ers with Internet	Comput-ers	Internet
Andhra Pd	1.5	1.5	10.4	9	11.6	29.5	4	4.8	16.6
Bihar	2.7	2.7	12.5	18	20	38.6	4	4.6	15.4
Chhattis-garh	2	3.2	10.6	14	22	34.6	5	6.9	15.2
Delhi	-	-	-	34.7	34.7	55.8	34.9	34.9	55.7
Jharkhand	1	1.3	11.9	13	15.6	40.2	4	4.4	18
Karnataka	1	2	8.3	16	22.9	33.5	6	10.7	18.8
Kerala	20	20.1	46.9	27	27.5	56.4	23.5	23.5	51.3
Madhya Pd	2.3	2.3	9.7	17.2	17.2	35.4	6.1	6.1	16.3
Maharashtra	3	3.3	18.5	25	27.4	52	12	14.3	33.7
Rajasthan	6.4	6.4	18.5	26.6	26.6	49.9	11.7	11.7	26.7
Tamil Nadu	11.6	11.6	14.4	24.7	24.7	24.8	118.1	18.1	19.6
W. Bengal	3	3.3	7.9	22	23	36	8	9.4	16.5

Source: NSSO 75th Round (July 2017-June 2018), MoSPI, National Statistical Office, Government of India

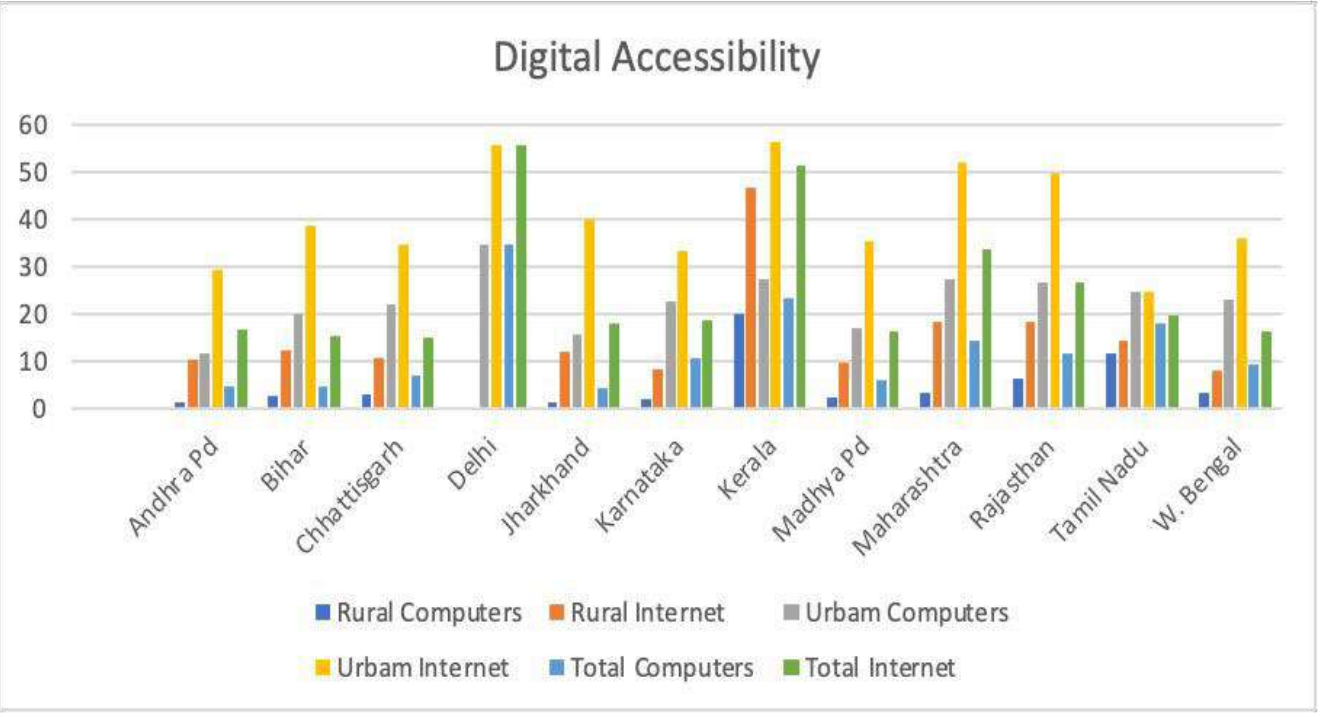

Fig.1.1 Digital Accessibility in different States

Now the question arises whether the students have access to digital infrastructure. Will all the students benefit from online education equally? Will some be left behind because of a lack of access to digital infrastructure?

From the above data, it is clear that massive online education cannot be equitable and most rural areas will be left behind. In these states, computer with internet access in rural areas is less than 4 per cent.

Therefore, the overall access to digital infrastructure in rural areas could be more significant and has severe implications for effective online education. This vast disparity in access to digital infrastructure among the socio-economically disadvantaged groups from rural areas needs to be addressed for a successful massive online education.

1.1 ACCESS TO DIGITAL INFRASTRUCTURE

According to National Sample Survey Office (NSSO) 2017-18, 66 per cent of India's population resides in rural areas. Among these, only 4 per cent of households have access to computers, while less than 15 per cent of households have internet access. In the case of urban areas, 42 per cent of households have access to internet facilities, while only 20 per cent have access to computers. Let us look at the percentage of currently enrolled students with access to digital infrastructure. We find that in rural areas, only 5 per cent have computers at home, and only 4 per cent have access to computers with internet facilities. In urban areas, 11 per cent have access to computers, and 9 per cent have access to computers with internet connectivity (NSSO, 2017-18). This disparity is mainly due to socio-economic and spatial disparities. As a result, making online education compulsory will leave the socio-economically disadvantaged groups far behind.

Digital Divide in Education

"The technology divide is a known fact facing school-aged children experiencing poverty". (Hozier, 2020)

The digital divide is the disparity in access to information technologies and digital services across different groups.

This divide is evident in the education sector as many students, especially from the underprivileged and rural areas, cannot afford computers, mobiles, and internet facilities. As the disparity increases, the most disadvantaged children fall behind in their education. Those from socio-economically impoverished backgrounds are the most affected.

India has the world's second-largest school system. The prolonged lockdown has negatively impacted the students in India. It has widened the gap in educational inequality too.

Some 32 crores of students have been negatively affected due to e-learning. Besides, 32 million children were out of school before COVID-19, and most were from the socially disadvantaged group (NSSO, 2014). If e-learning is the new normal, education providers should ensure equity and quality in education.

Digital Divide and Gender Bias

Most children drop out of school because of economic factors. (NSSO 2014-15). Ninety per cent of the population is engaged in unorganized work.

So, when the COVID-19 pandemic and lockdown forced migrant workers to go back home with their children or had no money to send home, many children were forced to drop out of school.

According to NSSO 2017-18, 15 per cent of rural households had internet access, and only 8.5 per cent of female students could use the Internet. Girls were forced to take on domestic duties as they could not access online education or prioritize the education of male children by their parents.

Online Learning Gaps

Online learning gaps are due mainly to differential access to technology. The poor and the marginalized remain inaccessible to technology. We know that only a select few have the privilege of having access to technology. Similarly, remote environments are also detrimental to online learning.

Since those in remote areas are not exposed to modern technologies, children from remote environments develop a differential ability to learn. Digital education is availed by only 23 per cent of all Indian households with an internet connection. This leads to pressure on children to make up for the lost education. This is over and above the five crore children who have not attained foundational literacy (NEP, 2020).

The longer children are unable to attend learning facilities, the more unlikely that they will return to school again, especially girls. Again, it will be all the more difficult to track, monitor and bring them back to the mainstream of formal education.

Impact of Digital Divide

The economically disadvantaged people are also disadvantaged in the social category and most of the rural population. They cannot afford to have digital devices because of poverty. Because of this digital divide, children from rural and disadvantaged groups get discouraged and participate very little in class.

Children from affluent families have added advantage over those from poorer families. They have access to whatever facilities they want. At the same time, poor children are deprived of such facilities and so lag far behind children from affluent families in their studies. There is a negative effect on equity in education

as children from economically better-off families have a better learning experience.

Technology today has become part and parcel of one's life. The Internet provides a vast ocean of knowledge. Children require technology at home to supplement their studies. The lack of technology leads to a negative impact on learning.

Today the divide between the rich and the poor is widening. The rich become more affluent, and the poor become poorer. This will lead to more social stratification and inequality in the future.

Operational Burden

Technology requires electricity.

This is a big problem in India, especially in rural India. Only 47 per cent of Indian households get more than 12 hours of electricity, and more than 36 per cent of schools in India run without electricity (Ministry of Rural Development Survey, 2017-18). A 2018 NITI Aayog report revealed that 55,000 villages in India did not have mobile network coverage. So, students from underprivileged backgrounds are affected by inefficiency and lack of adaptation due to the inaccessibility of technology.

Besides these, e-learning has no one-to-one interactions and problem-solving with tutors. It was also assumed that online education was no different from offline education, and education is primarily content-delivery. At the same time, the authorities were least bothered about teachers' willingness, their ease in technical skills and whether they were comfortable in online classes. Most teachers need to be more trained or equipped for online teaching using new technologies and interfaces. Another aspect ignored in this connection is the neglect that not all students have access to digital infrastructure: the computer or smartphone and internet connectivity. The neglect of this has an impact on the outcome.

Minimize Digital Divide

The scope of e-learning is enormous for the development of each student. Only the government and private sector must reach out to provide equal and adequate access to such educational platforms. The Indian education system must bring out policies to bridge the digital divide existing in the country.

Challenges

It is high time that we understand the challenges faced by children concerning digital learning. Children from low-income families face the problem of equity and inclusiveness. Children from socially disadvantaged groups, especially the scheduled castes, scheduled tribes, OBCs and Muslims, face discrimination from the upper caste children. Therefore, it is time to reimagine and realign education to meet children's challenges.

COVID-19 has impacted every realm of society. Our way of living and behaving has been affected by the pandemic. The economic life of the people has been negatively affected. We cannot expect that things will return to the old times. Instead, we need to adapt to the new normal and move on.

Another challenge facing students is adapting to online learning. COVID-19 has forced people to adapt to the online teaching-learning process.

There will be difficulties in the beginning. It is a big challenge to adapt to online learning at the earliest.

Measures taken

In order to meet the challenges impacted by the COVID-19 pandemic, the first thing that the educational

institutions did was postpone examinations. Due to the sudden lockdown, teachers could not complete the syllabus, and children were not ready for examinations.

In order to keep children engaged in their studies and learning process, many institutions started online classes. Those institutions that could not afford online learning made use of WhatsApp to circulate learning materials and assignments. Most teachers, too, benefitted from this approach as they learned new digital technology and its handling.

Again, with the intention of students not losing a year, they were all promoted to the next class. This has repercussions, too, as only some students have attained the required amount of learning to reach that particular class.

The government also initiated NISHTHA (National Initiative for School Heads' and Teachers' Holistic Advancement) and Mandarin programmes. NISHTHA is to motivate and empower teachers so that they can ensure the best possible future for our children and nation. Under this programme, every teacher and the head teacher is expected to participate in at least 50 hours of Continuous Professional Development (CPD) every year for their professional development, driven by their interests. Mandarin is an initiative of the Ministry of Education. It provides a platform for all to seek psychological support from experts in the mental health field, counsellors, psychologists and educationists.

The Ministry of Education (MoE) has given some guidelines concerning students' digital education in India.

These guidelines are called PRAGYATA guidelines for Digital Education. These guidelines are designed by the NCERT (National Council of Educational Research and Training). This has eight steps of online/ digital learning. They are: Plan – Review – Arrange – Guide – Yak (talk) – Assign – Track – Appreciate (PRAGYATA). Thus, the country can come closer to achieving Sustainable Development Goals.

1.2 REVIEW OF LITERATURE

Guppy et al (2022) in their study **'The post-COVID-19 future of digital learning in higher education: Views from educators, students, and other professionals in six countries'** reveals a high degree of congruency between respondent groups, with most envisioning more blended/hybrid instruction post-pandemic and some modest increases in fully online courses. Student opinion is more sceptical about future change than within the other groups. Among respondents in all groups, there is little expectation for a full-blown, revolutionary change in online or digital learning.

Vyasarajan (2021) in her article **"Shift the goal post to self-learning during the Pandemic"**, says that schools are no more the only places where learning takes place. Self-learning has helped to connect learning and living in the same space.

Self-learning is the way forward when faced with a situation where we cannot offer learning experiences a set rhythm, predictable outcomes pre-determined ways of learning. One must believe one can learn, resolve problems, and find solutions during difficult times.

Gandhi (2021) in his article **'Digitization is transforming the Education Sector'**, says that a lesson can begin anytime with headphones and laptops. Teaching methods can be adjusted to meet one's learning difficulty.

With internet connectivity, everything is available on smartphones, laptops, tablets, and desktops.

Examinations can be taken from homes. One can choose courses from various courses and earn right away depending on one's interests. Parents can personalize their child's education by incorporating real-world, hands-on activities.

Aggarwal (2021) in her article **'Community Learning- Open to all those who want to grow'**, says that community learning is a latent need in the education sector; the unimagined needs, when presented to people they are delighted to have. These hidden needs are brought out through innovations. One of these needs is a community learning through community-driven activities. This will help holistic growth, as it nourishes the community with values of togetherness, collectivity and collaboration. We learn from each other's strengths and weaknesses. The best of the other is brought out and communicated through emotions, belongingness and love. This help to develop a new person within us. This type of education is a dynamic one, open to every age. This will also create a congenial environment for generations to grow. Today the community needs to participate in innovating education to the next level.

Pandey (2021) in a recent study, **'How Schools Transformed into Virtual Platforms'** by Unified District Information System for Education Plus (UDISE+) in 2019-20, showed that 39 per cent of schools had computers and 22 per cent had internet connectivity, which is a big spurt compared to 6 per cent and 3.5 per cent respectively in the previous year. Though it reflects a stark shortage of technological progression in the country, the pandemic has forced a virtual transition across all schools. Today technology has been expedited like never before.

Raju (2021) in an article on **'Children are suffering more due to School Closure than the Virus'**, shows that being confined at home and glued to the screen in front takes a toll on the physical and mental health of the students. It is all the worse for underprivileged children and those from marginalized families since they have no educational opportunities away from school. Children need more opportunities for growth and development by not being in school.

Children from underprivileged families are deprived of the food and nutrition they are getting from school. This again affects their health. Children from distressed backgrounds drop out of school to generate income. This has put an extra burden on parents while facilitating learning at home. Many times teachers need better connectivity to connect with students during online classes. When schools are closed, a lack of interaction between children leads to a lack of social bonding, language and literacy. Evaluation and measurement take a back seat, and long breaks lead to learning loss.

Mahapatra (2021) in the article **'Digital Learning is not for the Underprivileged'**, says that all could not access education because of the pandemic. He suggests that open-source technologies should be free for poor students in villages. There is no education for all because 1.5 million schools have been closed, and only 24 per cent of households and 4 per cent of families have internet access (2018 survey). The budget for digital e-learning has been reduced from 604 crores to 469 crores in 2020-21. Government should provide information and facilities to those with limited resources.

Hemant (2021) in her article **'India is not ready for Blended Learning'**, says that the idea of UGC of blended learning is good. However, India still needs to be ready for massive blended learning, as many students live in rural areas and belong to low-income families. The required infrastructure needs to be there. Blended learning would enrich our education system.

K.N. Balasubramanya Murthy, VC, Dayanand Sagar University, Bangalore said, "People of certain focus groups, such as engineering students, can only appreciate blended learning. However, we cannot force

it on students in rural areas. The decision to adapt to the same has to be a joint one among the academic council, student body and administration of each higher education institution".

Wadhavan (2021) in his article **'Students feel low due to increased online learning'**, says that because of limited physical activity and increased online schooling for more than a year, the mental and physical health of the students has taken a toll. Findings show that 73.15 per cent of students showed irritable behaviour, 51.25 per cent suffered anger issues, 18.7 per cent showed signs of depression, and 17.6 per cent showed anxiety issues. They also suffered from changes in dietary habits, sleep, weight loss and abnormal use of electronic gadgets. The other problems are no outlet for physical energy and socializing, and class differential as less-resourced students were left out because of no access to digital learning. Students miss interacting with their peers, a crucial element in human development. Some students experienced insomnia and bed-wetting, while others lost interest in their studies. Connectivity with peers is lost due to online learning. As a result, students adopt a non-serious attitude towards studies, thinking they would pass anyway. Online education has put a setback to students' social and cultural lives.

Kumar (2021) in his article **'How Block Teaching can be an Immersive Option'**, says that in block teaching, the student focuses entirely on the subject being taught in the block before moving on to the next block. Here assessments take place while the knowledge is fresh and there are fewer distractions. In block, teaching courses are taken sequentially, with learners devoting themselves to one module for a short period before completing the assessment and moving on to the next block. The deep, immersive experience improves learning outcomes and enhances student satisfaction. This helps students delve deep and assimilate knowledge better. At the same time, institutions can maintain the required intensity of learning. It also creates flexibility for the faculty. This will help faculty by freeing up hours for their study. If professors can spend more time researching and learning, it further enriches the student experience.

Srivastava (2021) in her article **'How Pandemic forces Students to drop out of School'**, says that in rural areas, access to the Internet is sketchy, and as a result, one generation of students might suffer. The COVID-19-induced lockdowns forced many students to drop out of school. Because of the shift to the online mode of teaching-learning and students having no access to digital classrooms, the dropouts took place in many places (Mumbai, UP studies). In UP, one in every two girls still determines her return to school when schools reopen.

In Bihar, the dropout rate before the pandemic was over 30 per cent. With the return of migrant labourers to their villages, their children had no access to online learning because of no access to the Internet and no electricity.

Ghosh (2021) in her article' **CBSE Board in two Parts to address online learning gaps'**, says that the pandemic and extended school closures have worsened the deep-rooted educational inequalities in the students' differential access to technology and ability to earn in remote environments. Online cases are not the perfect mode of knowledge assimilation, and this might subject the students to undue stress.

Samuel and Saksena (2021) in the article **'Effect of COVID-19 Second Wave on Primary Education'**, say that the pandemic has increased the inequalities in accessing digital education having only 23.8 per cent of households with internet connectivity. This has also increased the pressure on children to compensate for lost education. More than a year of school closure has affected 32 crores of children from pre-primary to tertiary level. Though closure is vital to curtail the spread of COVID-19, evidence shows that the longer children are unable to attend learning facilities, the more likely that they will never return to school, especially for girls. With the second wave, many children are getting infected, and

many teachers also lose their lives. Many children are orphaned as they lose their parents. There is no sure future for these as it is difficult to track these children, monitor, and bring them back to mainstream formal education. Addressing these challenges would be an immediate need for India.

To adapt to the new normal, there is a need to reimagine and realign education to address these challenges faced by children. The government of India needs to take measures to ensure continuity of learning and build better educational systems. Continuity should be ensured through the development of low-tech or no-tech solutions in order to take learning to poor children. Adapt an easy-to-use curriculum which helps parents and children ensure continuity of education through regular calls, WhatsApp messages etc. Equitable penetration of cost-effective educational technology solutions is needed to bridge the digital divide in tier two and three towns and remote villages. Online education came to the spotlight in 2020. Since then, it has proved to be successful in varying degrees.

Parikh (2021) in **'E-learning Techniques can Inspire a New Era in Education'** talks about a thriving learning culture makes students feel involved. However, quality e-learning requires a more personalized learning experience. So, what is essential is to get students to participate in online classrooms because there are students either excited to participate or reluctant to participate. With the increased use of technology, teachers can become innovative and encourage student participation. They can transform dull subjects into fun activities using interactive software.

Teachers should provide opportunities for practice. This will help them consolidate their learning and identify areas they need to improve. Then provide timely feedback for a healthy learning environment. This will help students to reflect critically on their performance. Focusing on subjects like Maths, literature, and language is also essential, which helps develop cognitive and social skills. This way students can develop holistic learning solutions to influence their progress. Thus, technology can include different learning plans and provide a more tailored approach to learning.

Patman (2021) in his article **'Why Blended Learning is Gaining Acceptance in Overseas Education'**, explains how Blended learning can increase knowledge retention by a margin of 60 per cent. Blended learning is the delivery of instruction integrating classroom and online mediums, i.e. webinars followed by group discussion and self-helped activities with one-on-one tutoring. Recent researches show an upward trend towards blended learning. This happened due to the lockdown and ban on travel abroad. Advantages, according to him, are: 1) It helps save time and cost. 2) This model removes location constraints and saves on costs. This is a new path to growth. Blended learning has the benefit of both classroom teaching and virtual learning. In blended learning, there is a combination of dynamic content, effective pedagogies and optimally formulated dissemination channels, facilitated by Learning Management Systems (LMS). So, this is a new path to growth and development for educational institutions and students. With the advent of social media, the integration of virtual experience has become easy.

1. It has also brought new concepts like social learning, microlearning and gamification.
2. Increased engagement: There is scope for flexibility. Learners have complete control of their learning experience. Smartphones and tablets help students access their learning resources 24x7 from anywhere to help them acquire new skills on one's own terms (LinkedIn report, 2020).
3. Continuity of Learning. It removes the traditional geographical constraints by incorporating face-to-face virtual programmes. Thus, the learning process is facilitated seamlessly.

Hu *et al.* (2021) in their study **'Technology integration for young children during COVID-19: Towards**

future online teaching' found that more than half of the respondents (53 per cent) expected future online teaching to continue, and only 11 per cent of educators believed that parents would reject this form of delivery. Administrators and teaching assistants were more likely than teachers to expect online preschool teaching to continue in the future. In addition, respondents with existing online platform experience who taught the upper levels of preschool or incorporated specific teaching practices (e.g., after the online lesson, they assessed children and assigned homework tasks) were more likely than others to expect online teaching in the future. Many of these respondents also reported (a) difficulty with engaging their children when online and (b) inadequate support from parents for learning activities, which reduced the respondents' perceived likelihood of future online teaching. Administrators and teaching assistants were more likely than teachers to believe that parents would accept online teaching in the future. Respondents who felt they had inadequate training to teach online, children in families with inadequate technical skills and parents who believed that online lessons harmed children's well-being were less likely than others to believe that parents would accept online teaching in the future. These educators believed that online learning communities could connect parents and schools and foster interaction that could help align with educators' support for children's learning needs.

Maity, Sahu and Sen (2021) conducted a study on **'Panoramic view of digital education in COVID-19: A newly explored avenue'** based on primary data from 750 respondents in West Bengal, India, which includes teachers and students from school to university level. Their objective was to investigate the effectiveness, accessibility and quality of the virtual mode of education and to assess and understand the impact of COVID-19 on the teaching and learning process in developing countries. The study reveals that students from school to university level are significantly affected by the novel digital teaching and learning modes resorted to during this pandemic crisis.

Minkos and Gelbar (2021) in their study on **'Considerations for educators in supporting student learning amid COVID-19'**, suggest various ways and means for students to cope with their stressors. Regular education will have to adapt to the unique needs of this unprecedented return to school and provide more intensive social-emotional, behavioural, and academic support than is typical to all students. Additionally, more students may require targeted or intensive support to address increased social-emotional and academic needs adequately. Educators can use this time to examine and build upon existing systems and practices to address complex academic and behavioural needs more efficiently and effectively. Each school and classroom will face unique challenges, and school personnel must adapt flexibly to their students' needs.

Rajkumar (2021) in **'Hybrid Learning Essential for Education Sector'** says that after the onset of COVID-19, there was a sudden digital transformation in online learning. Though it was meant for a short-term response to the pandemic, it has resulted in better learning experiences for children. Technology in education all over the world has resulted in making education flexible, accessible and scalable. Thus, online learning has a positive impact. Post-pandemic, all universities must integrate online learning with campus learning. This mixed learning mode helps students engage in pre-class learning at their own pace. It makes learning content effective. This helps foreign university education to be cost-effective. One can have access to international opportunities without leaving one's country. Thus, more significant equity is created in international opportunities. Hybrid learning helps to improve Gross Enrollment Ratio with more and more student population enrolling for education. This helps adult learners who cannot attend classes due to personal or professional commitments, positively impacting the overall job-skill quotient across industries.

Jayaraman (2021) in **'Blended Learning is now a Staple for Higher Educational Institutions'** says that Blended learning is the integration of face-to-face learning with online activities. It is also known as flipped teaching or reverse teaching and instruction. While the teacher teaches in the classroom, students also use online resources for homework, group projects or individualized tutoring. Here is student engagement and personalization. In blended learning, students are introduced to all the basic concepts offline while they come to class and raise queries, work on cases and problem -solving exercises with support from the teacher. Students watch the pre-recorded learning materials at home and then come to school to learn advanced topics or raise queries on the topic. Teachers can also be in touch with students and track students' progress in real-time. This is a win-win situation with improved efficiency and efficacy of the learning process. ````Students have the flexibility to work from the comfort of their homes and can have one-to-one interaction with their teachers and gain a more profound understanding of their subject. Online teaching-learning can be more effective through virtual field trips and improved lessons. It reduces stress and increases student satisfaction.

Wyse *et al.* (2020) in their study on **'The Potential Impact of COVID-19 on Student Learning and How Schools Can Respond'** look at the potential impact of COVID-19 on student learning as schools abruptly morphed into virtual learning environments. Results suggested that assessment declined dramatically during COVID-19 and that there was the potential for achievement gaps to exist under several idealized scenarios compared to typical end-of-year performance. These achievement gaps are most significant for early grades where growth in math and reading ability tends to be highest. Instructional data on Focus Skills suggested that if learning were stopped or reduced, impacts on reading would appear to be most significant in early grades. In contrast, impacts in math appeared to be more evenly distributed across grades and may differ across states. Data from math and reading practice products suggested increased utilization during COVID-19 and that many students were still practising some essential skills even if assessment and instruction may have been reduced or stopped.

Vaidyanathan and Aghalayam (2021) in their article **'Why experiential Learning is the need of the hour'**, explain that Experiential learning is learning by doing, where the emphasis is more on application. This helps the students move Bloom's Taxonomy ladder faster to evaluate and create. The second aspect of E.L. is reflection, where critical analysis is very important. In this system, play and learning increase class engagement and provide every learner with a fail-safe environment. Teachers can also provide online games to students to practice concepts and learn facts on their own time, and class time can be used for in-depth explorations of students' ideas.

Chouhan (2021) in **'Tech-Enabled and Blended Learning Environments Can Revitalize the Joy of Learning'** explains that the traditional in-person classroom model cannot be translated across Zoom screen and expect the same results. However, the joy of learning can be revitalized by remodeling online education through blended immersive learning environments and efficient use of educational technology. All these require unlimited internet connectivity, data budget and electricity. However, the first two waves of the pandemic have brought about a vast digital divide. This can be bridged by switching to self-paced learning models. Teachers can create their video lectures through simple screencasting and editing tools. These lectures are then assigned to students as interactive video assignments with interleaved knowledge. This personalized flipped classroom model with interactive video material is shared in advance with the students, while live classrooms are utilized for interactions, problem-solving and hands-on exercises. There is a great promise of delivering future-driven education here.

Bose (2021) in **'On-campus plus online education, may soon become a reality'**, says that learning is

a social process and happens through interactions. The series of lockdowns and social distancing have substantially reduced this interaction-based learning. Moving to an online education mode has been stressful for students and teachers. The conduct of fair evaluation is another social challenge. So we need tech interventions to make personalized online learning more adaptive, interactive and immersive.

Barman (2021) in **'Pandemic Year sees the shift to govt schools, more children seeking tuitions'** says that according to ASER, the enrolment of children in government schools has gone up from 65.8 per cent to 70.3 per cent over the last year while there is a sharp drop in enrollment in private schools 28.8 per cent in 2020 to 24.4. per cent in 2021. During the same period, the share of students depending on tuition increased from 32.5 per cent to 39.2 per cent. This is because students need external support due to the prolonged closure of schools. This is also seen mainly among children from economically and educationally disadvantaged households. At the same time, 26.1 per cent of children at home with smartphones in rural areas have no access to the devices. In the case of more minor children, it is 40 per cent. This may be due to economic distress suffered by families during the pandemic and the shutting down of many affordable private schools. It could also be due to migrant families going back to villages. The rise in enrolment in government schools is seen as uniform across age groups, mainly in Southern and significant Northern States. At the same time, there is a dip in enrolment in North-eastern States and Odisha, Chhattisgarh and Uttarakhand.

Kunhaman (2021) in his article **'Left Out of Digital Future'**, says that there is a digital divide in Indian education mainly caused by socio-economic factors. The material poor are also digitally poor. This divide can be reduced only by guaranteeing economic security with assured basic income through universal property rights. The right to education should be extended to all sectors and levels of education. We need to ensure that no student drops out due to an inability to pay. Education should be put at the centre of economic /development policy formulation. It should involve the corporate sector to meet the demand for publicly funded education besides CSR. Since education is not a question of charity, but a matter of right, create endowment funds and diaspora contributions to reduce the digital divide.

1.3 CONCLUDING OBSERVATIONS

In India, numerous studies have been done to assess the impact of COVID-19. Very few have covered to analyze the outcome of the digital divide on education in India. We want to look into the issue through the prism of the underprivileged and the downtrodden communities and to be carried out pan India in many states through the operational area and coordination of Jesuit Provinces. The investigator intends to make this study a comparative one concerning the region, rural-urban area and also from the point of view of students, teachers, parents and management. Based on this study, we can make some policy interventions to reduce the digital divide existing in the country. It is also expected that the findings from this would be helpful for JEA and associated schools and networks to bring in the required changes.

CHAPTER II

SIGNIFICANCE AND OBJECTIVES

2.1 SIGNIFICANCE OF THE STUDY

In India, numerous studies have been done to assess the impact of COVID-19. Very few have covered to analyze the outcome of the digital divide on education in rural India. However, the urgent need to systematically examine the ill effects of the pandemic on schooling and learning opportunities of children across the country is apparent and inevitable. States across the country have been forced to jump onto the digital education bandwagon for more than a year due to the interruptions caused by the COVID-19 pandemic. A significant disparity in access to online schooling during COVID-19 is evident among the rural population. While the painstaking efforts of teachers and other stakeholders under the umbrella of the government and Civil Society Organizations (CSOs) did benefit those hailing from privileged backgrounds, it left behind the vulnerable, sadly, the majority. For students who had to opt out because they were forced to partake in agricultural livelihoods to sustain their economically weaker families, the virtual world with the promise of a brighter future looks dimmer and their chances of being pulled out of poverty slimmer than before. Students from poverty-stricken families now have a much-widened gap to bridge — between the "essentials" and the luxury of accomplishing academic goals. The crisis has made an apparent disparity within the country and compelled the state administration to devise an effective mechanism to mitigate the challenges created by the pandemic in rural and urban populations.

Thus, it is highly essential to conduct a study titled **'Education, the Digital Divide and COVID-19 in India: A study among children, and various stakeholders of learning'** to look at the issue through the prism of underprivileged and downtrodden communities and to be carried out in the states of Andhra Pradesh, Bihar, Chhattisgarh, Delhi, Jharkhand, Karnataka, Maharashtra, Kerala, Madhya Pradesh, Rajasthan, Tamil Nadu, and West Bengal.

2.2 RESEARCH OBJECTIVES

The study's primary objective is to understand and assess the impact of the deadly pandemic COVID- 19 on education in rural areas of India.

1.4.1 The Specific Objectives of the study are as follows:

- To analyze the outcome of the digital divide on education due to the unprecedented COVID-19 pandemic in rural India, especially in underprivileged and downtrodden communities
- To examine the effect of the rapid transition from conventional learning to e-learning prompted by the pandemic.
- To explore how children, their families and communities are coping with rapid changes due to e-learning and helping children with learning activities.
- To identify the challenges faced by various stakeholders due to the effect of the rapid transition from conventional learning to e-learning
- To identify regional and household disparities in Internet access and technology access.
  - To find the extent of disparity in education between rural and urban students due to the digital

divide.

- To find the extent of disparity in education between male and female students in rural and urban areas due to the digital divide.
- To find the extent of disparity in education between the economically rich and the poor students due to the digital divide.
- To assess the causes of disparity in access to education, especially in rural areas due to the digital divide.
- To suggest various ways of reducing disparity in education due to the digital divide.

2.3 RESEARCH QUESTIONS

1. How does COVID-19 affect rural education in India?
2. What are the challenges faced by rural children because of online teaching-learning?
3. What are the opportunities for rural children because of the COVID-19 pandemic?
4. What are the policy parameters before the educational administrators and policymakers?
5. Can online education enable all students to participate and benefit from it equally?

2.4 DELIMITATIONS

1. This study is limited to only 13 States of India.
2. This study is limited to 1255 students, 631 parents and 600 teachers.
3. This study is limited to data collection through the Kobo Collect app.

CHAPTER III

RESEARCH METHODOLOGY

3.0 INTRODUCTION

The study has used a semi-structured interview schedule to assess the profound impact of COVID-19 on education due to the digital divide among the target population. It employed quantitative and qualitative methods; although the predominant method was Quantitative data, primarily relating to the objectives were collected using a semi-structured schedule and official secondary data. Although the predominant method is quantitative, qualitative approaches to capturing behaviours, perceptions, experiences and suggestions of different groups, especially children, parents, teachers and other stakeholders engaging in education in rural areas, were deployed using case studies. The study aims to cover the target population with a predefined sampling frame and sample size to know how rural India was devastated by the second wave of COVID-19.

3.1 AREA OF THE STUDY

The study has been carried out in 16 Jesuit Provinces across 13 States in India. They are Delhi, Rajasthan, Maharashtra, Kerala, Tamil Nadu, Karnataka, Goa, Telangana, Andhra Pradesh, Chhattisgarh, Jharkhand, Bihar and West Bengal. All these States have presence of Jesuit Schools.

3.2 SAMPLE

The present sample consists of a total of 1255 students from 60 schools, 631 parents and 600 teachers from the elite schools of the 13 states and 16 Jesuit Provinces.

Table 3.1 State wise distribution

State	Frequency	Percentage
Jharkhand	462	36.81
West Bengal	214	17.05
Rajasthan	102	8.13
Maharashtra	92	7.33
Karnataka	82	6.53
Delhi	52	4.14
Tamil Nadu	48	3.82
Bihar	42	3.35
Odisha	40	3.19
Kerala	40	3.19
Madhya Pradesh	40	3.19
Andhra Pradesh	21	1.67
Telangana	20	1.59
Total	**1255**	**100**

Distribution of the Sample

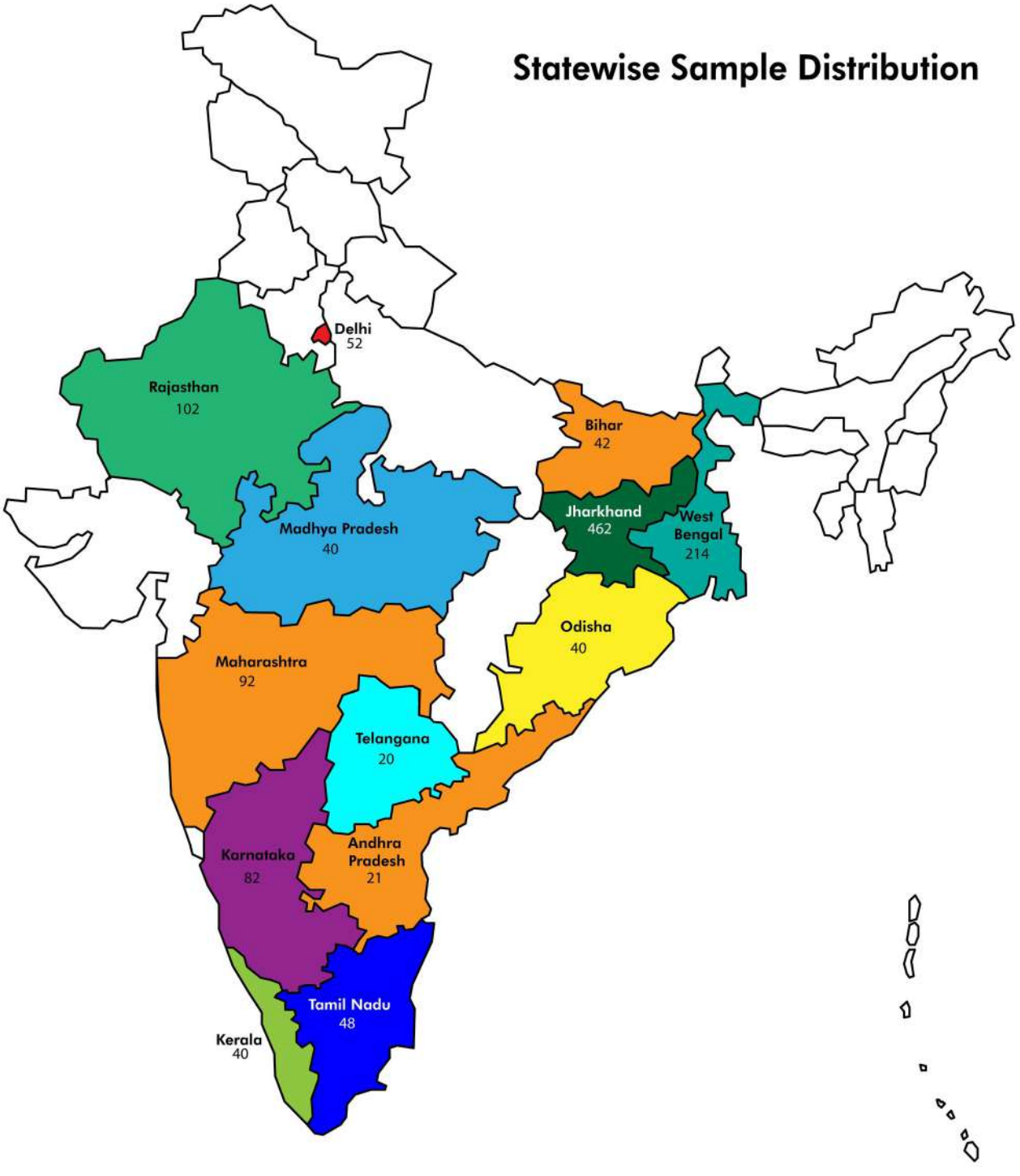

Fig. 3.1 Study area in the map of India

It is clear from the above table that of the 1255 respondents, 36.81 percent belong to Jharkhand, 17.05 percent belong to West Bengal, 8.13 percent belong to Rajasthan, 7.33 percent belong to Maharashtra, 6.53 percent belong to Karnataka, 4.14 percent belong to Delhi, 3.82 percent belong to Tamil Nadu, 3.35 percent belong to Bihar, 3.19 percent belong to Odisha, Kerala and Madhya Pradesh each, 1.67 percent belong to Andhra Pradesh and 1.59 percent belong to Telangana State.

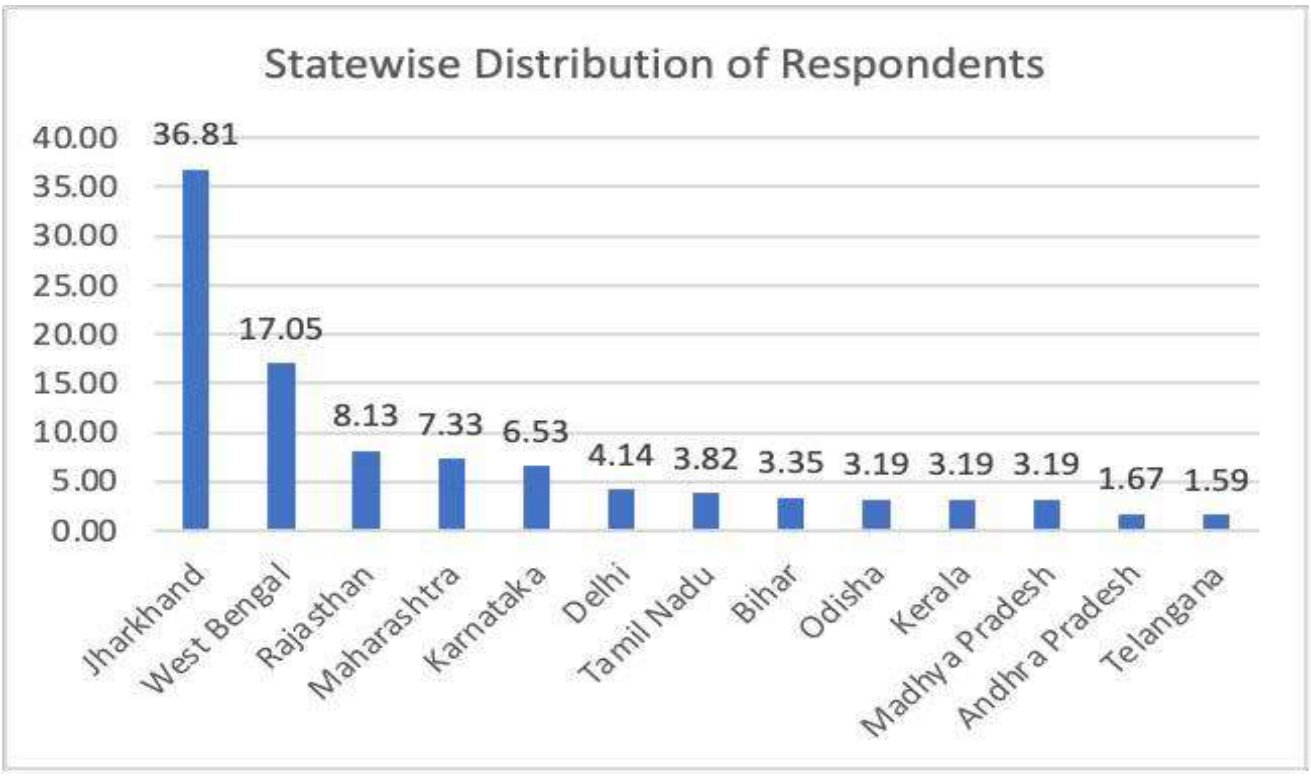

Fig.3.2 State wise distribution of respondents

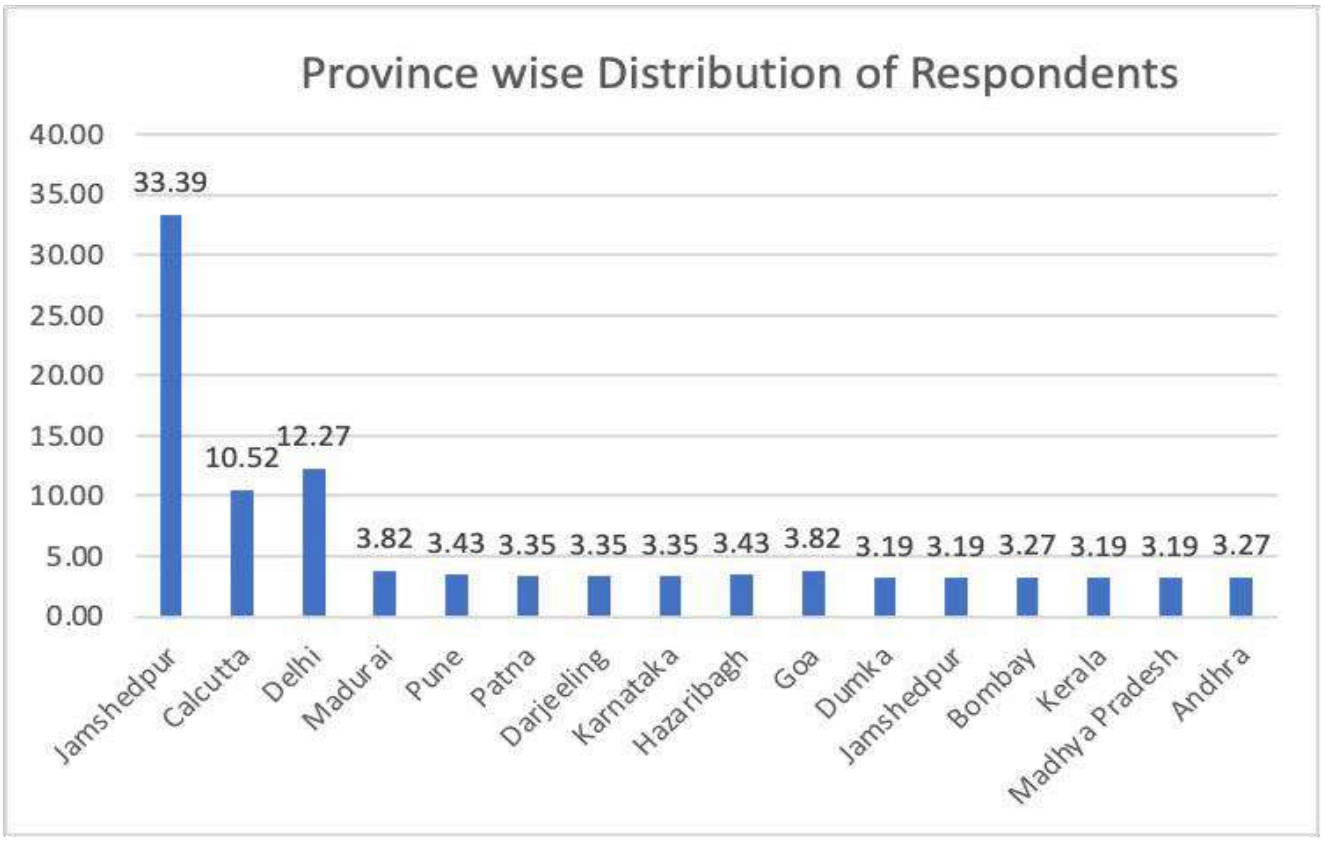

Fig.3.3 Province wise distribution

It is clear from the above chart that out of the 1255 respondents, 33.39 percent came from Jamshedpur Province followed by 10.52 percent from Calcutta Province and 12.27 percent from Delhi Province. The other Provinces were far below expectations.

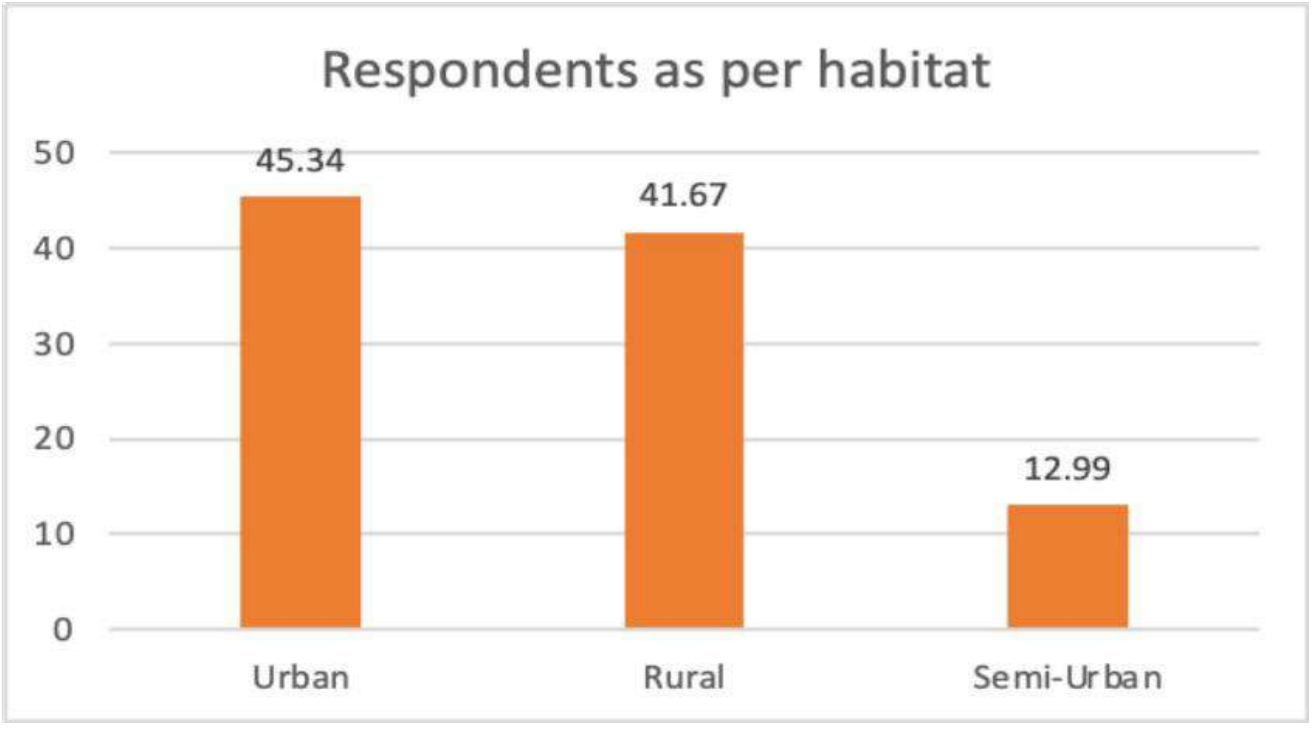

Fig.3.4 Respondent students as per habitat

It is clear from the above chart that 45.34 percent of respondent students were from Urban schools, while 41.67 percent of respondents were from Rural areas and 12.99 percent respondents were from Semi-urban areas.

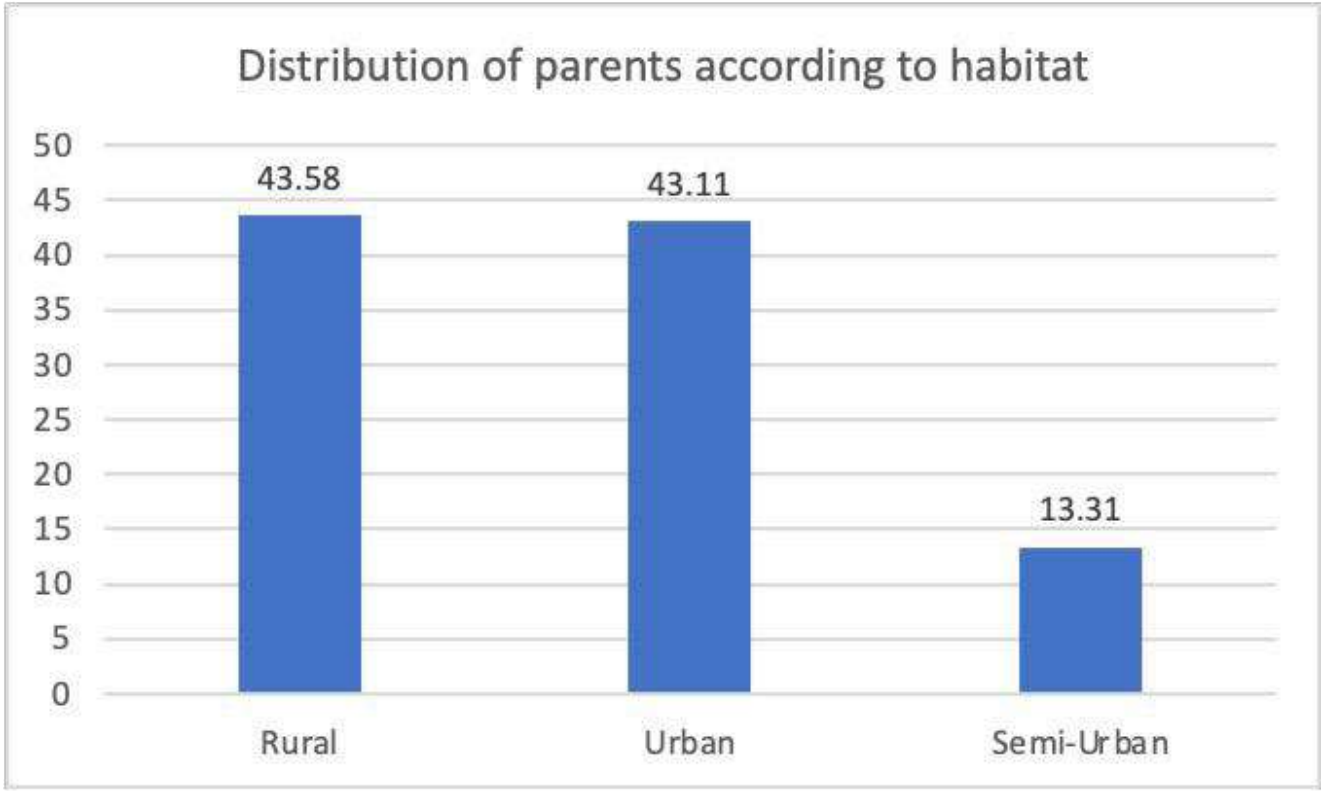

Fig. 3.5 Distribution of parents according to habitat

The above figure shows that 43.58 percent of respondent parents were from Urban schools, while 43.11 percent of parents were from Rural areas and 13.31 percent parents were from Semi-urban areas.

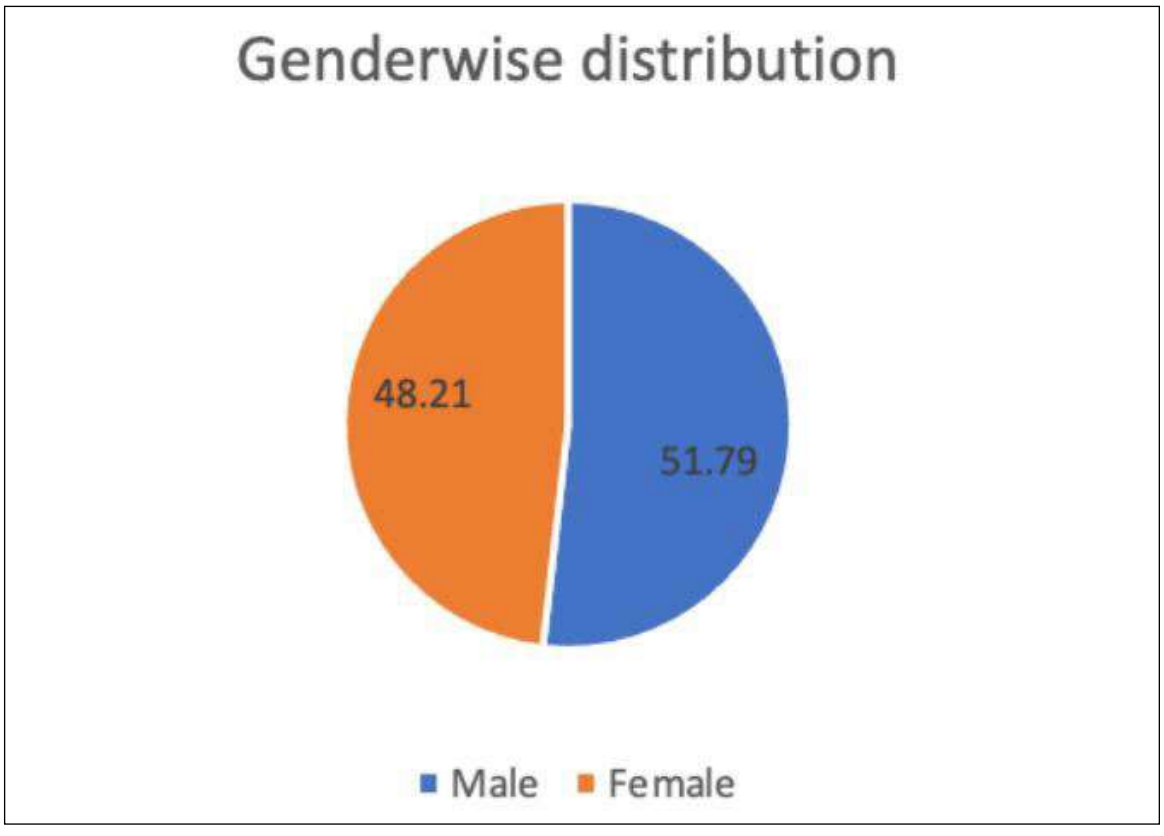

Fig. 3.6 Gender wise distribution of Children

The above figure shows that 51.79 percent of the respondents were boys while 48.21 percent respondents were girls.

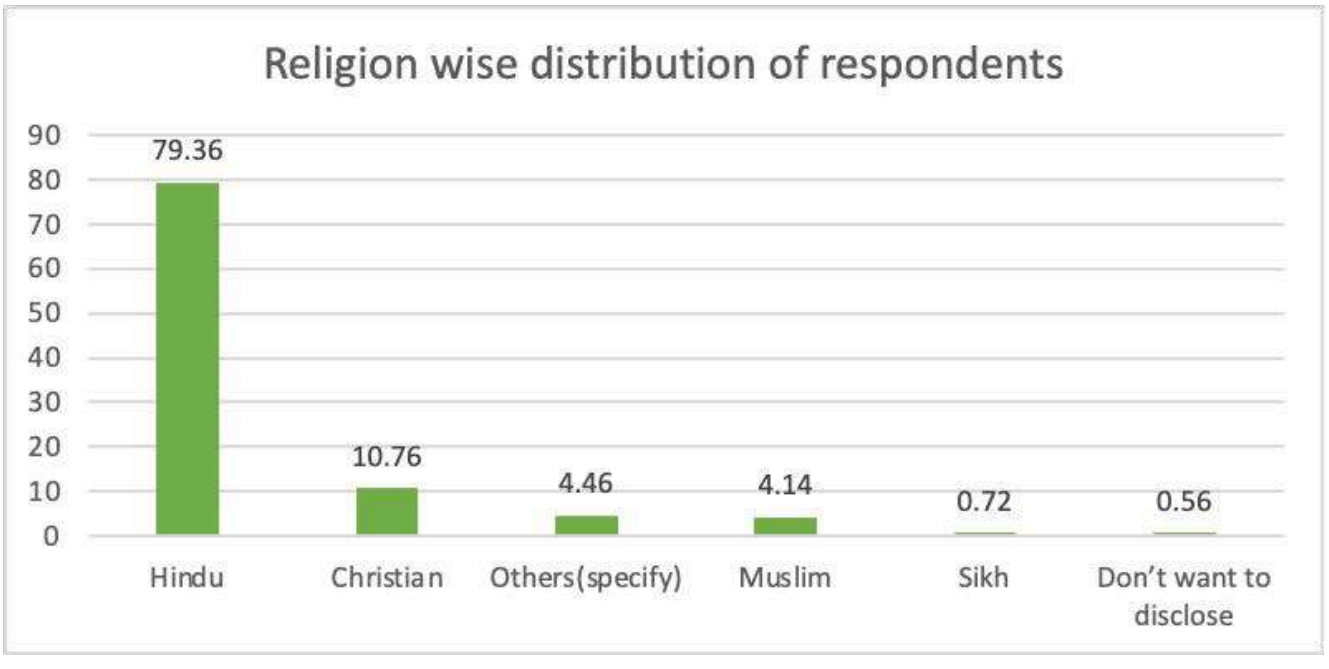

Fig. 3.7 Religion wise Distribution

The above figure shows that 79.36 percent of the respondents belong to Hindu religion while 10.76 percent were Christians, 4.14 percent were from Muslim community, 0.72 percent were from Sikh community and the rest did not want to disclose their religion.

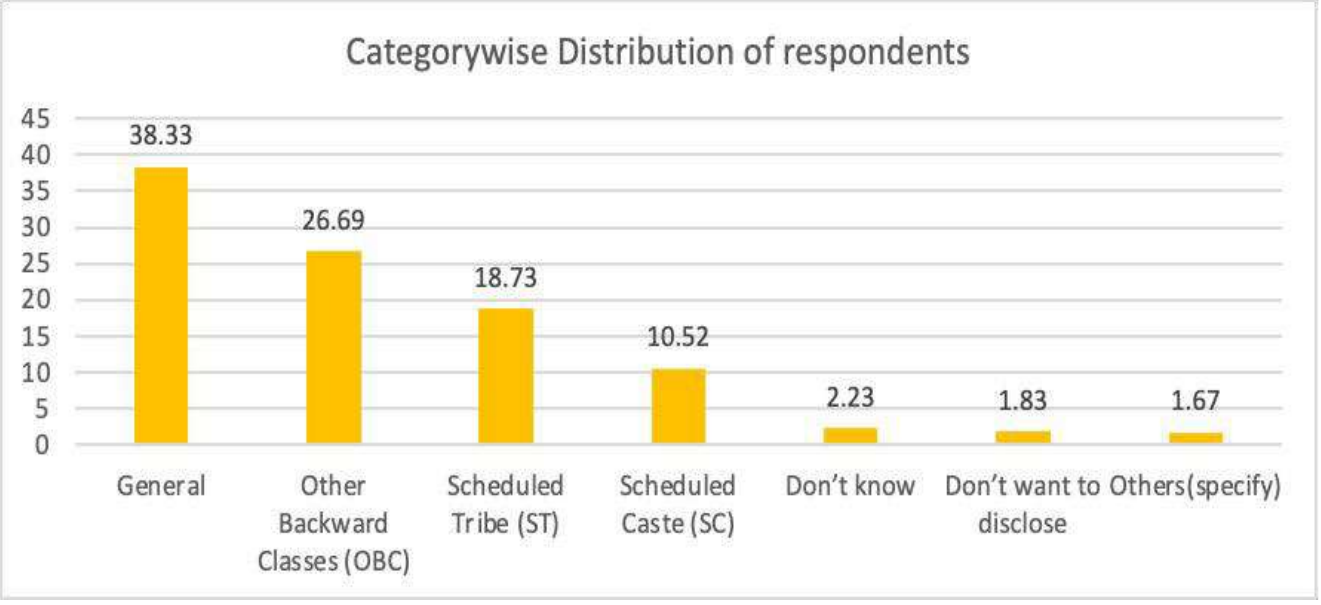

Fig. 3.8 Social Category wise Distribution

The above chart shows that 38.33 percent respondents belong to General Category, while 26.69 percent belong to OBC category,18.73 percent belong to ST, 10.52 percent belong to SC Category and the rest did not know or did not want to disclose their religion.

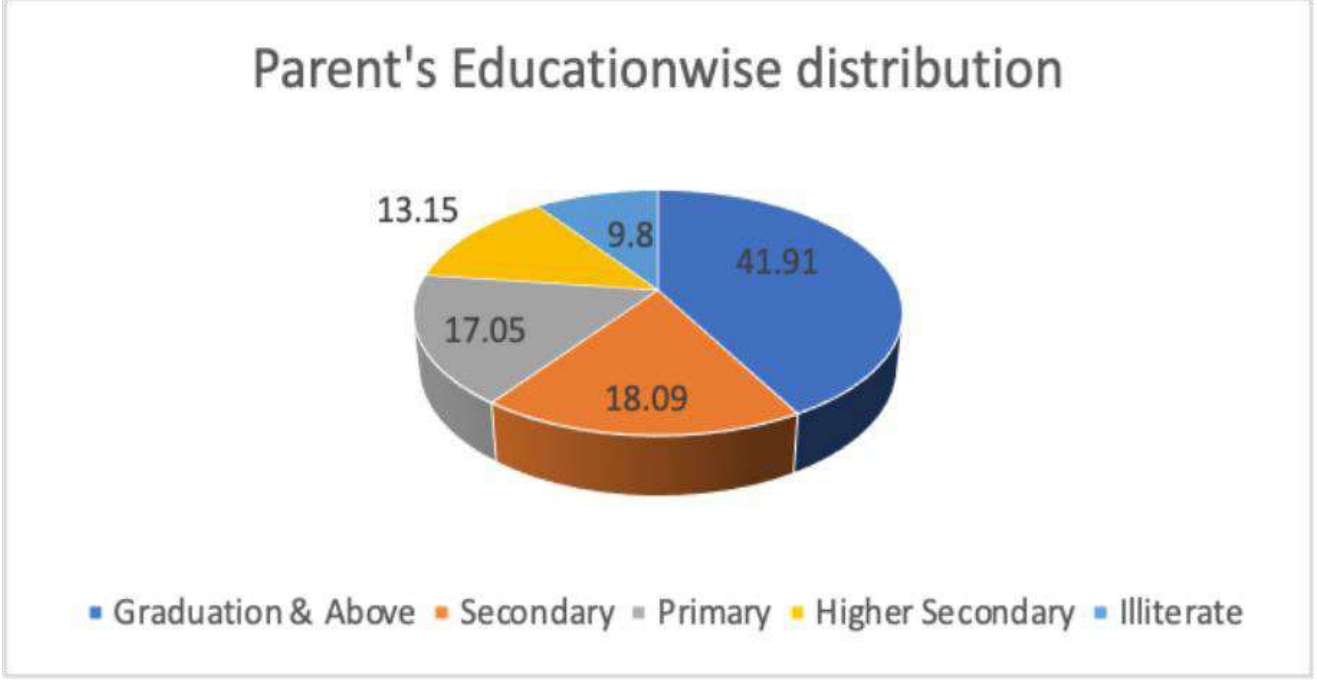

Fig. 3.9 Distribution according to Parents' Education

It is clear from the chart above that 41.91 percent of the respondent parents had an education of graduation and above while 13.15 percent of parents had higher secondary education, 18.09 percent parents had secondary,17.05 percent of parents had primary education and 9.8 percent respondent parents were illiterate.

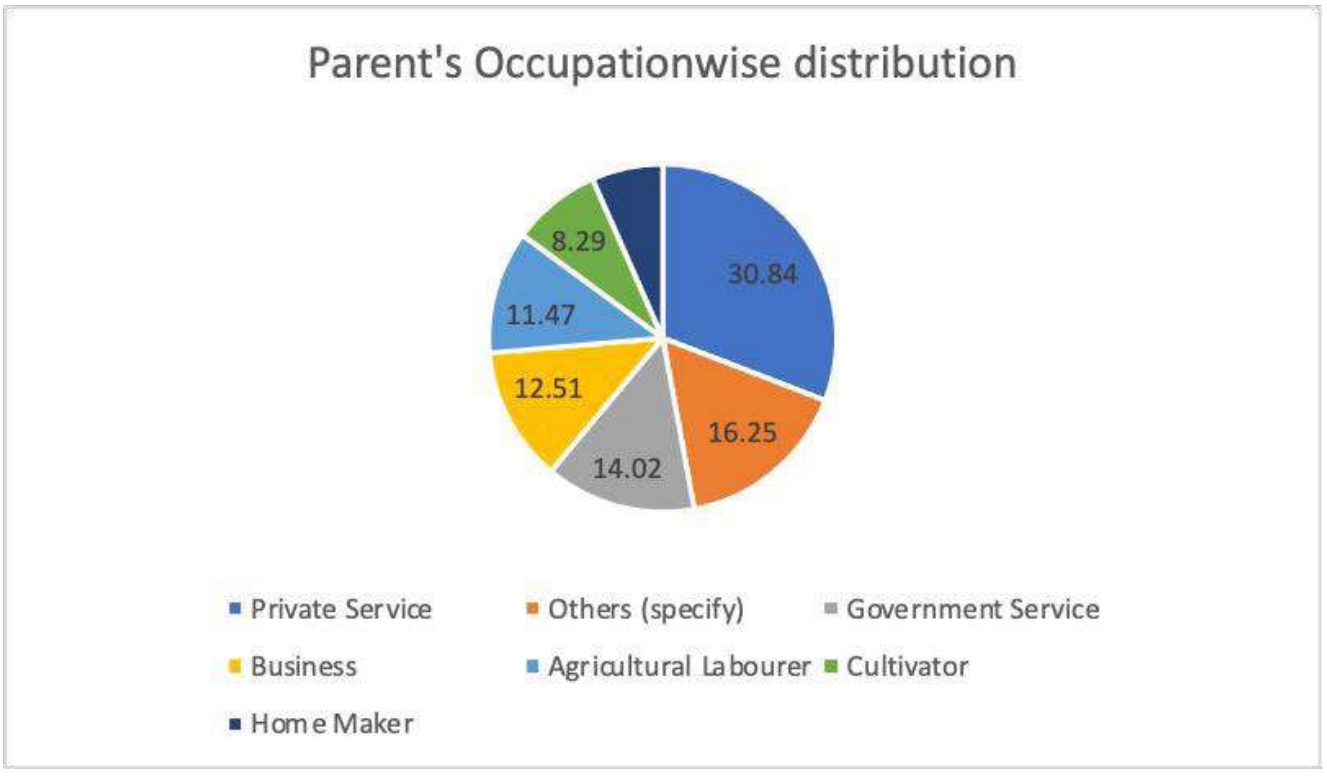

Fig. 3.10 Distribution according to Parent's occupation

The above figure illustrates that 47.09 percent of the respondents have their parents in private service, while 14.02 percent have their parents in government service, 12.51 percent have their parents in business, 11.47 percent have their parents as agricultural labourers, 8.29 percent were cultivators, and 6.61 percent of the respondent parents were home makers.

Fig. 3.11 Management wise Distribution

It is clear from the above chart that 49.24 percent of the respondent students were studying in private schools while 36.97 percent of respondents are in government schools, and 13.78 percent are in private aided schools.

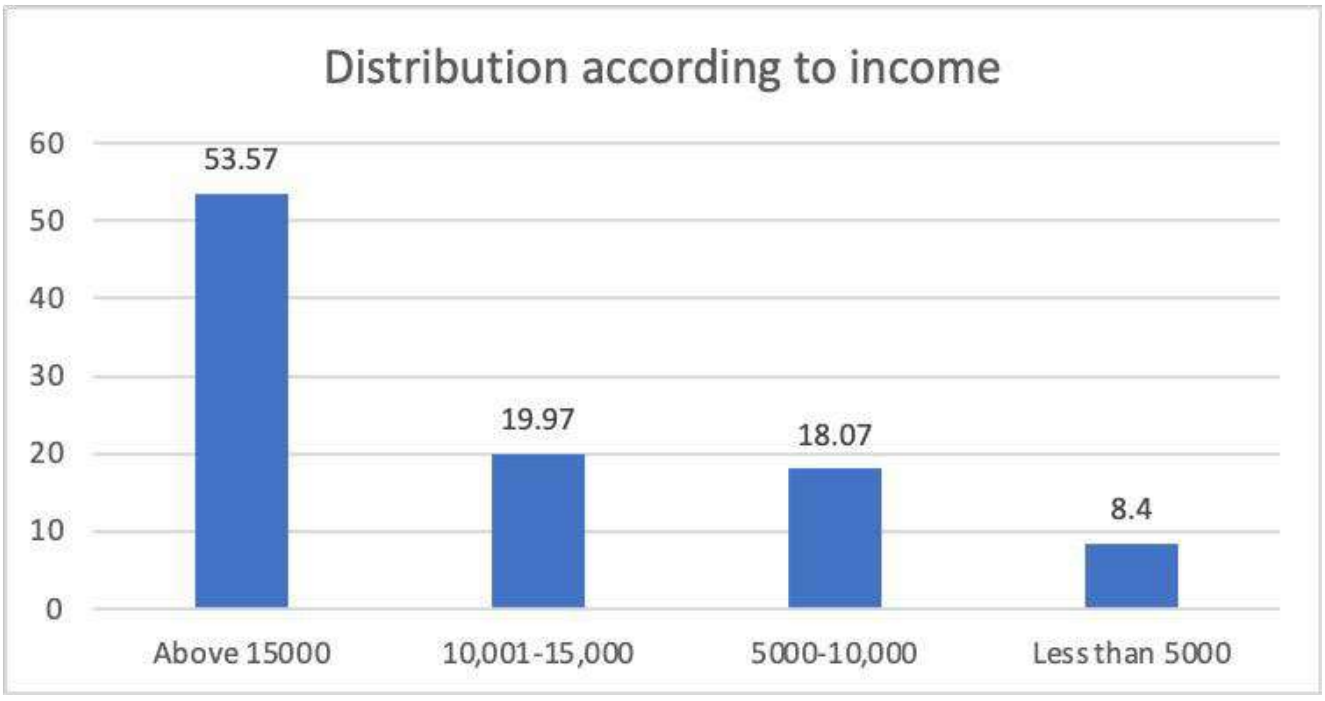

Fig 3.12 Distribution according to household income.

From the above chart it is clear that 53.57 percent of households had a monthly income of more than Rs. 15,000, 19.97 percent households had an income of Rs. 10,001 – 15,000 per month, 18.07 percent households had an income of Rs. 5,000 – Rs. 10,000 per month, and 8.4 percent had an income of less than Rs. 5,000 per month.

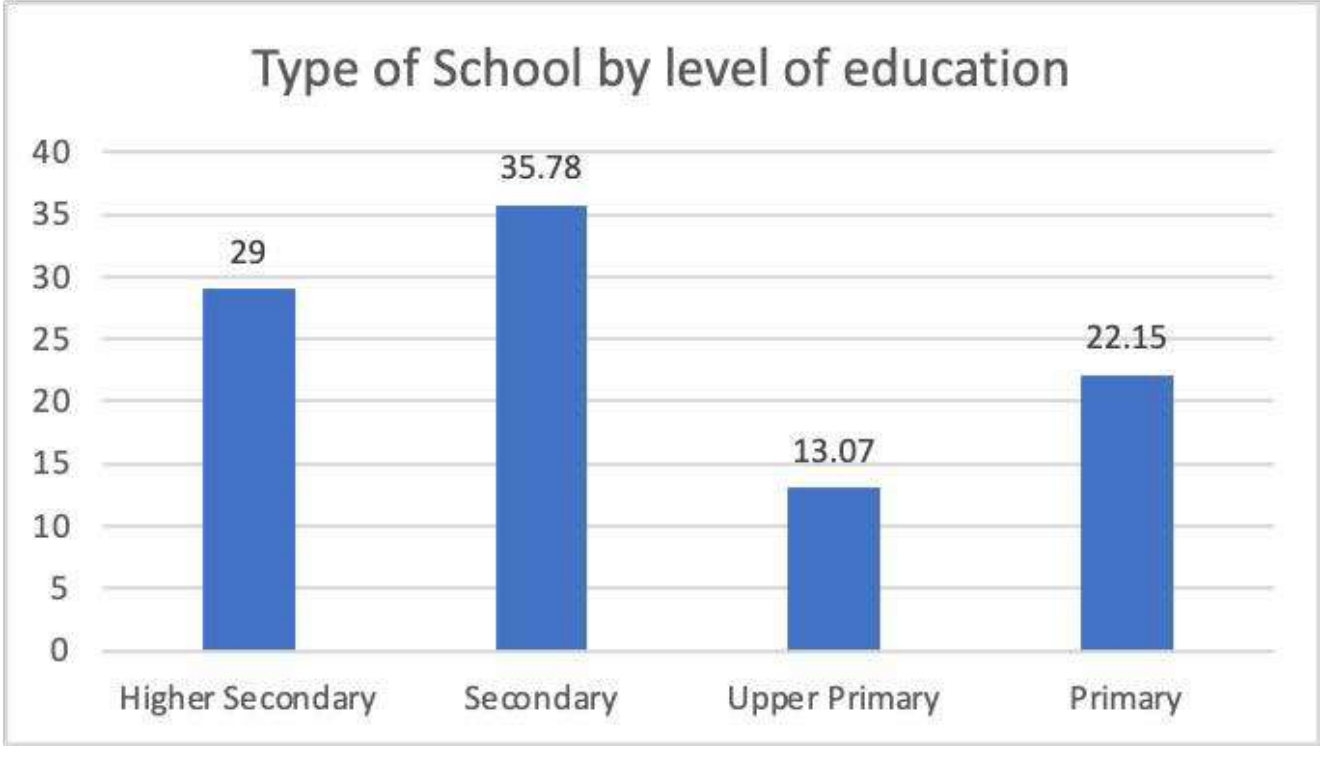

Fig. 3.13 Distribution of Schools according to the Level of Education

It is clear from the figure above that 29 percent are from higher secondary schools, 35.78 percent of respondent students were from secondary schools, 13.07 percent are from upper primary schools, and 22.16 percent are from primary schools.

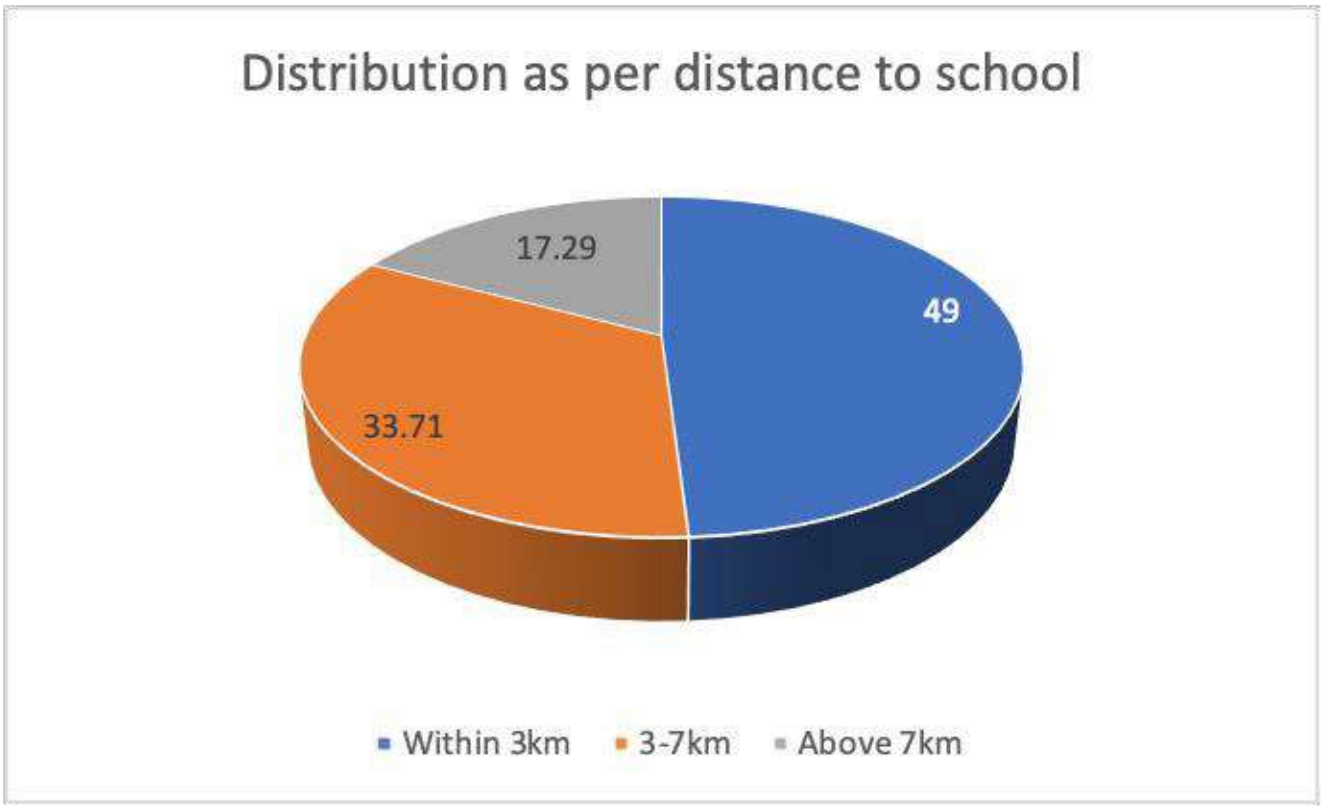

Fig. 3.14 Distribution as per distance to school

The above figure illustrates that 49 percent of respondents live within 3 kilometers from their school, 33.71 percent live within 3-7 kilometres from school and 17.29 percent live more than 7 kilometres away from school.

3.3 DATA COLLECTION TOOLS

As the study focuses on the digital divide aggravated by the COVID-19 pandemic in India, specific information from children, parents and schools/teachers was required. Hence, the purposive sampling method was used. Purposive sampling is a form of non-probability sampling in which the researcher relies on his judgement when choosing members of the population to participate in the surveys. These surveys would help the investigator to gather qualitative responses, which would lead to better insights and more precise research results. Because the investigator collects information from the best-fit participants, the results are relevant to the research context.

In this study, the investigator used a semi structured questionnaire/interview schedule to assess the unequal access to education due to different aspects among the target population. The study explicitly aimed to cover the target population with a predefined sampling frame and sample size to know the gravity of the digital divide existing in India, especially the digital divide between rural areas and urban areas, boys and girls and the rich and the poor. It employed both quantitative and qualitative methods. A qualitative approach was used for capturing behaviours, perceptions, experiences and suggestions of different groups, especially children, parents, teachers and other stakeholders engaging in imparting education in these areas.

3.4 PREPARATION OF THE TOOL AND PILOT STUDY

The investigator prepared four different interview schedules for the stakeholders' semi-structured interviews based on the research objectives. These questionnaires were for parents, students, school teachers, and management/government officials. Another set of questions was also prepared for the case study. All these questionnaires were shown to four experts in the field for their comments and suggestions. Based on the suggestions given by the experts, some irrelevant questions were removed, and some questions were reformulated and refined. After this, these research tools were translated into Hindi to be administered in the field. After this, 164 selected teachers from the elite Jesuit schools were given training in Kobo Collect for collecting data. After the training, the teachers were asked to administer the tools to a few students, parents and teachers to validate the tools. Based on their responses, a few modifications were made, and the research tools were finalized. The students' research tool had 50 statements on six dimensions of the digital divide on a five-point scale. These statements were tested for their reliability or internal consistency through Cronbach alpha. The coefficient of Cronbach's alpha was 0.77, which is an acceptable measure. Thus the inventory on the digital divide was found to be reliable.

3.5 ADMINISTRATION OF THE TOOLS

In order to administer the tools to parents, students and teachers, the trained teachers, mainly from village schools, were given a specific Kobo Collect URL, ID and password for them to collect data.

Personal data of the respondents, including name, gender, type of school, religion, caste, father's education, mothers' education and parents' annual income, were also collected. All the respondents were frank and open in their sharing of information.

3.6 SCORING AND TABULATION

Since all the questions in the interview schedule were coded for the different responses, it was easy to administer to the subjects through Kobo Collect. As soon as the information was collected through the Kobo Collect App and submitted, the data would reflect on our Server in Excel format. Thus, the data tabulation is done automatically to be uploaded to SPSS for data analysis.

3.7 STATISTICAL TECHNIQUES USED

i) Arithmetic Mean

The investigator has used the following formula for calculating arithmetic mean.

$$\bar{X} = \frac{\sum x}{n}$$

where,

$\bar{X}$ = Arithmetic mean

x = Individual score

$\sum$ = Sign of Summation

N = Number of scores

ii) Standard Deviation (SD)

The investigator has used the following formula for calculating standard deviation.

$$\textbf{S.D.} = \frac{1}{N}\sqrt{N(\sum x^2) - (\sum x^2)}$$

where,

S.D. = Standard deviation of the score

$\sum x$ = Sum of Score

$\sum x^2$ = Sum of squared score

N = Number of scores

iii) Percentage Analysis

Percentage = (Value/Total Value) x 100

iv) 't'-test

t – test is used to determine the significance difference between two independent means. In this study, the investigator used t – test to find the significant difference in digital divide and its dimensions with respect to gender, and type of schools.

$$t = \frac{M_1 - M_2}{\sqrt{\frac{S_1^2}{N_1} - \frac{S_2^2}{N_2}}}$$

where,

M_1 = Mean of sample group I

M_2 = Mean of sample group II

S_1 = Standard deviation of the group I

S_2 = Standard deviation of the group II

N_1 = Size of the group I

N_2 = Size of the group II

v) ANOVA

Analysis of variance is an effective way to determine the significance difference of more than two groups in different categories. In this study the investigator used ANOVA to find the significant difference in digital divide and its dimensions with respect to age, religion, social category, parental education, and parental occupations.

$$F = \frac{\text{Mean Squire Variance between the group}}{\text{Mean Squire Variance within the group}}$$

vi) Chi-squared test

$$\chi^2 = \sum \frac{(O - E)^2}{E}$$

Where

χ^2 = Chi-squared

O = Observed value

E = Expected value

3.8 LIMITATIONS

1. The data collection period was at the beginning of the academic year, and the teachers were busy with their classes.
2. Since most of the schools had not been opened yet, the collection of data from students was rather difficult
3. The Principals of most schools were not very cooperative and did not encourage the teachers to collect the data.
4. The training of teachers in Kobo Collect was done online. Initially, 164 teachers from 82 schools across 16 states were identified for training and data collection. However, the number of teachers who turned up for training was less than half, and many needed help understanding and utilizing the Kobo Collect app. As a result, the response from the teachers could have been better.

CHAPTER IV

DATA ANALYSIS AND RESULTS

4.0 INTRODUCTION

Analysis of data is one of the processes of any research. It is one of the processes of collecting, analyzing and interpreting of the data. It is studying the tabulate material in order to interpret it and come to some conclusions. It includes breaking down of the whole mass of data into small parts and make new arrangements to bring meaning out of it. In this chapter we analyse the data with reference to the objectives proposed. The main objective was to find out the digital divide caused by the lockdown during the COVID-19 pandemic.

4.1 PERCENTAGE ANALYSIS

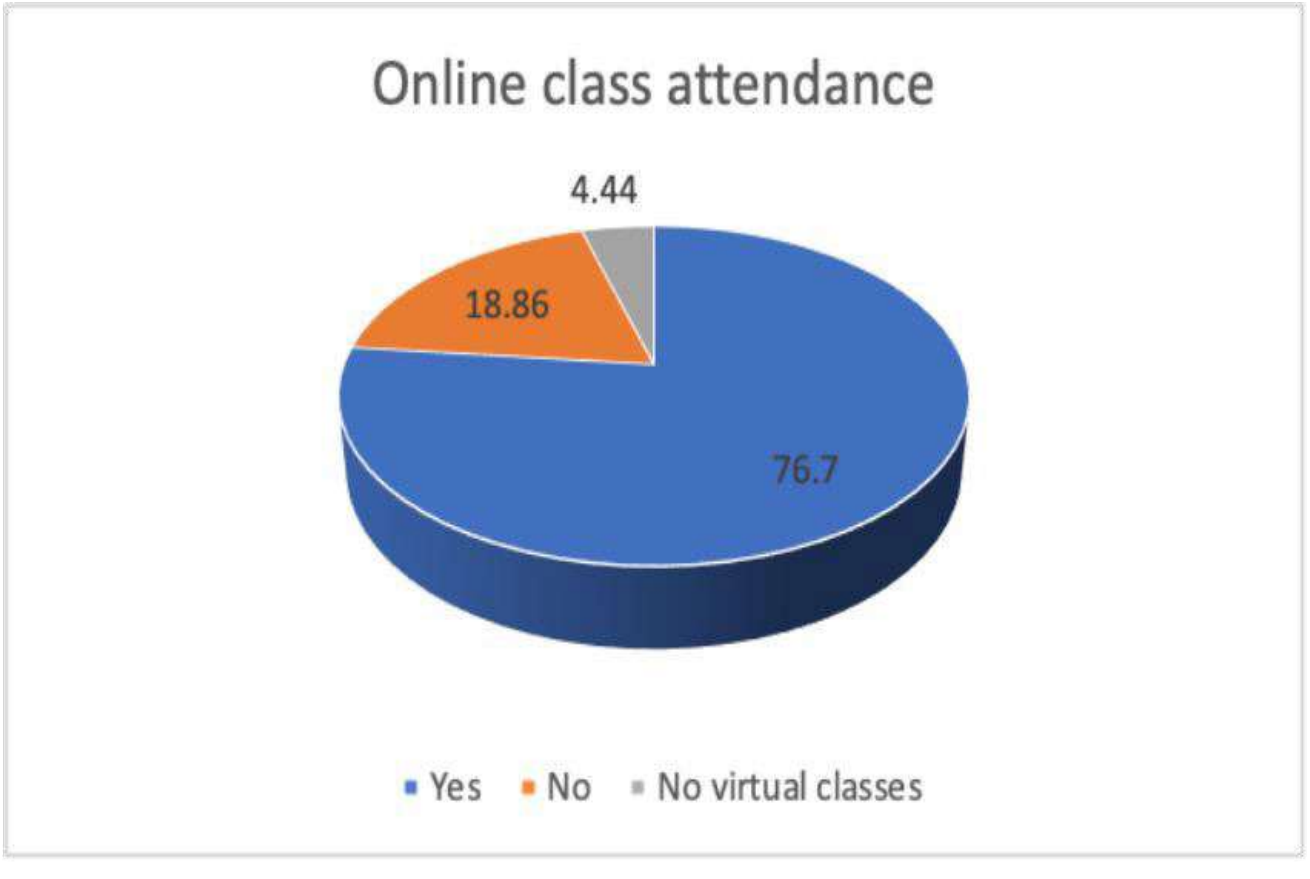

Fig. 4.1 Percentage of children attending online classes

From the above chart it is clear that 76.7 percent of the students attended online classes during the COVID-19 pandemic period while 4.44 percent had no virtual classes, and 18.86 percent of students had no online classes at all.

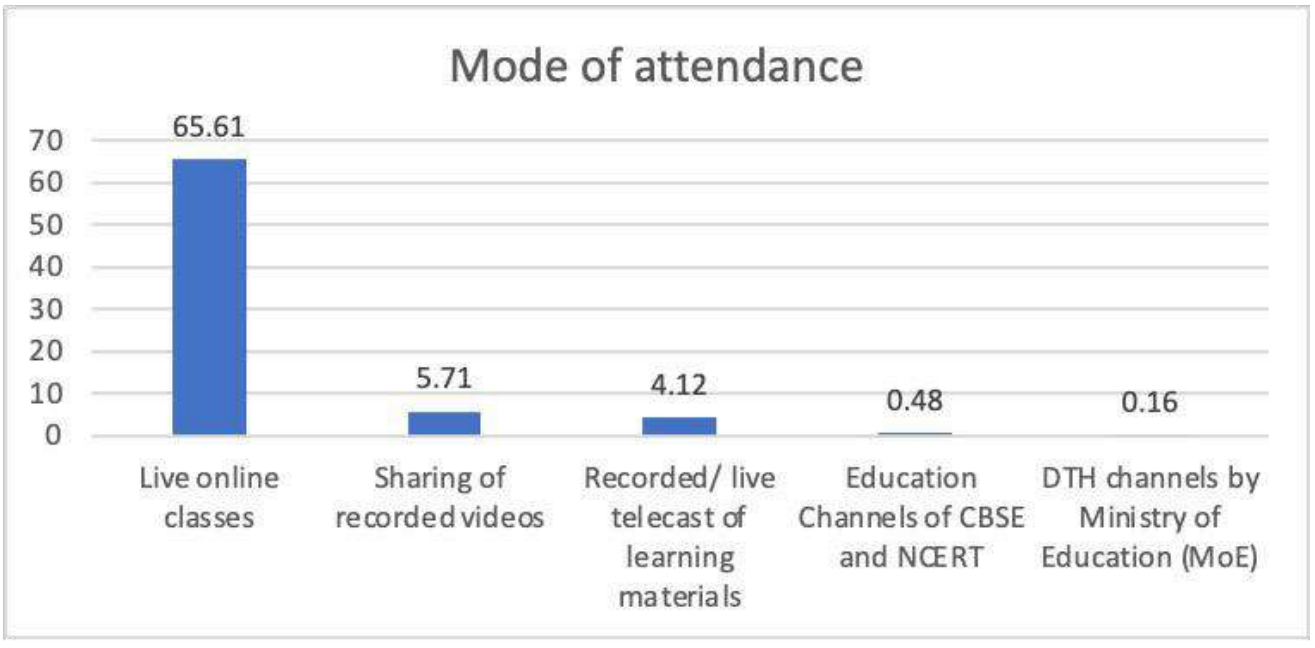

Fig. 4.2 Mode of attendance of online classes (904/1255)

The mode of attending the online classes were mostly live streaming on some digital platform. The above chart shows that 65.61 percent of students attended live online classes, while 5.71 percent of students made use of recorded videos and 4.12 percent of students attended recorded or live telecast of learning materials. The other ways of online classes like DTH or education channels comprise of 0.64 percent of the students.

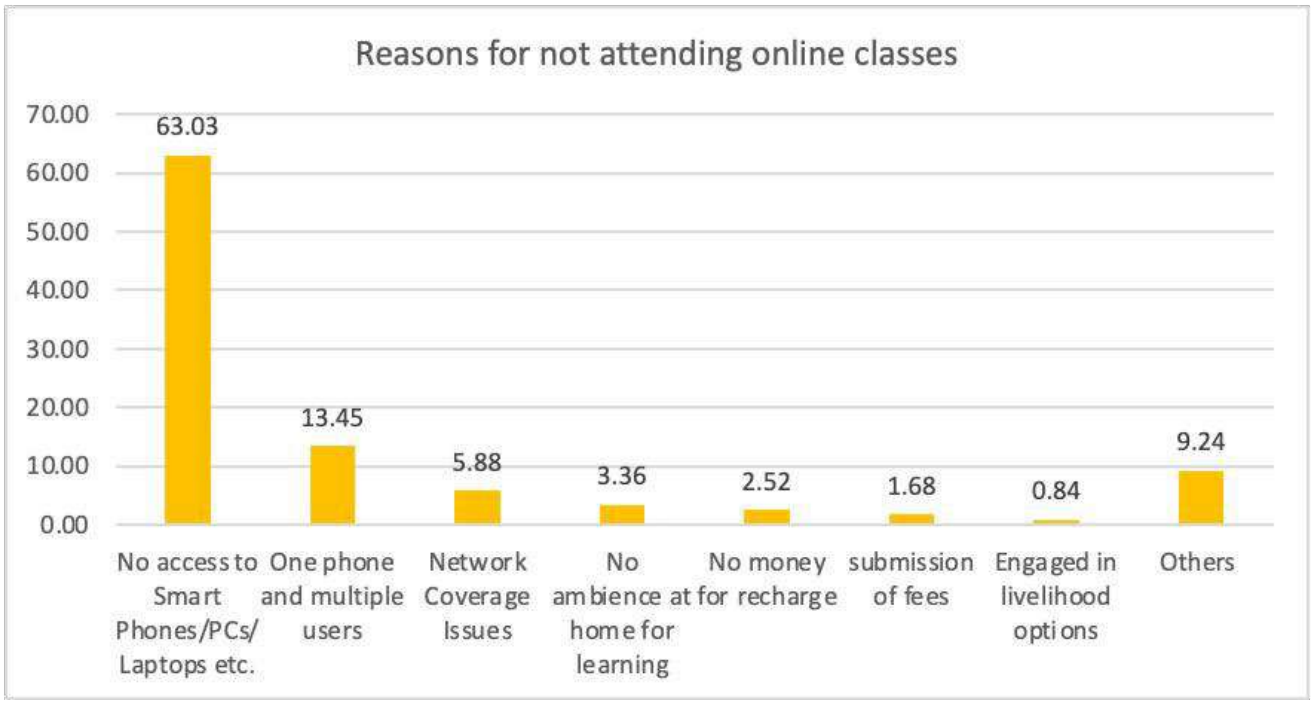

Fig. 4.3 Reason for those not attending online classes

Among the 119 students who did not attend online classes 76.48 percent of them did not have access to smartphones, or had only one smartphone at home and had multiple users. Other reasons for not attending online classes were, network coverage issues or poor ambience at home for studies or no money for recharge of the mobile phone or due to non-submission of fees or engaged in livelihood options at home.

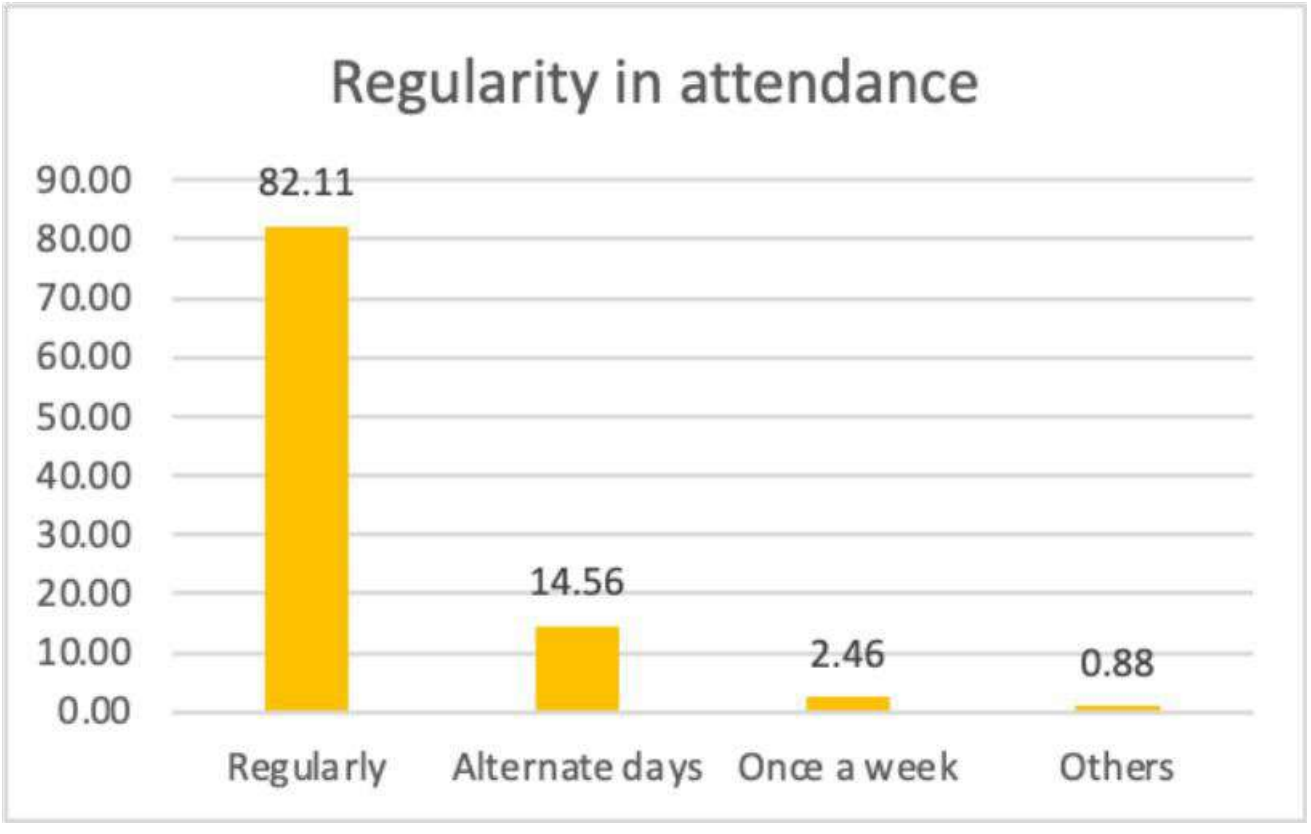

Fig. 4.4 Regularity of online attendance

The above figure shows the students were quite regular in attending online classes. Some 82.11 percent of the students were regular while 14.56 percent attended online classes on alternate days, 2.46 percent attended online classes once a week.

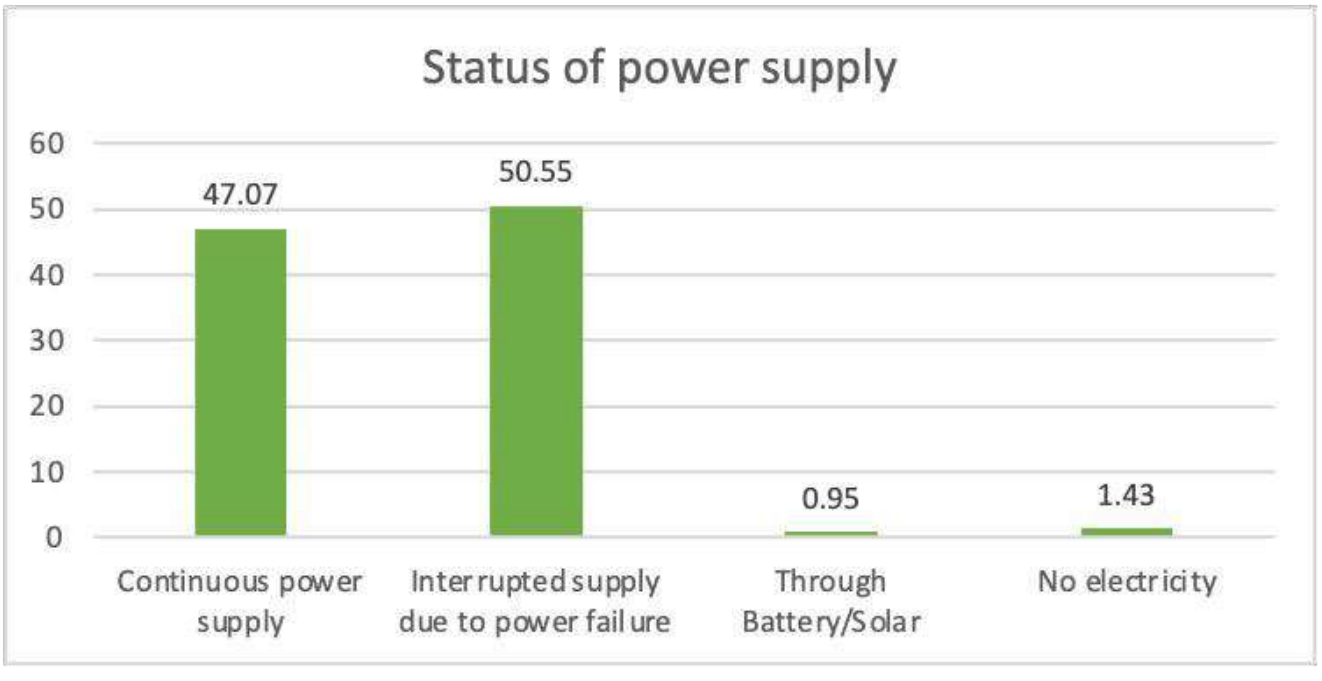

Fig. 4.5 Status of power supply

The above data shows that 47.07 percent of the students had continuous power supply to attend online classes while 50.55 percent students felt interrupted power supply due to power failure. 1.43 percent students had no electricity and 0.95 percent students used battery or solar power for their online classes.

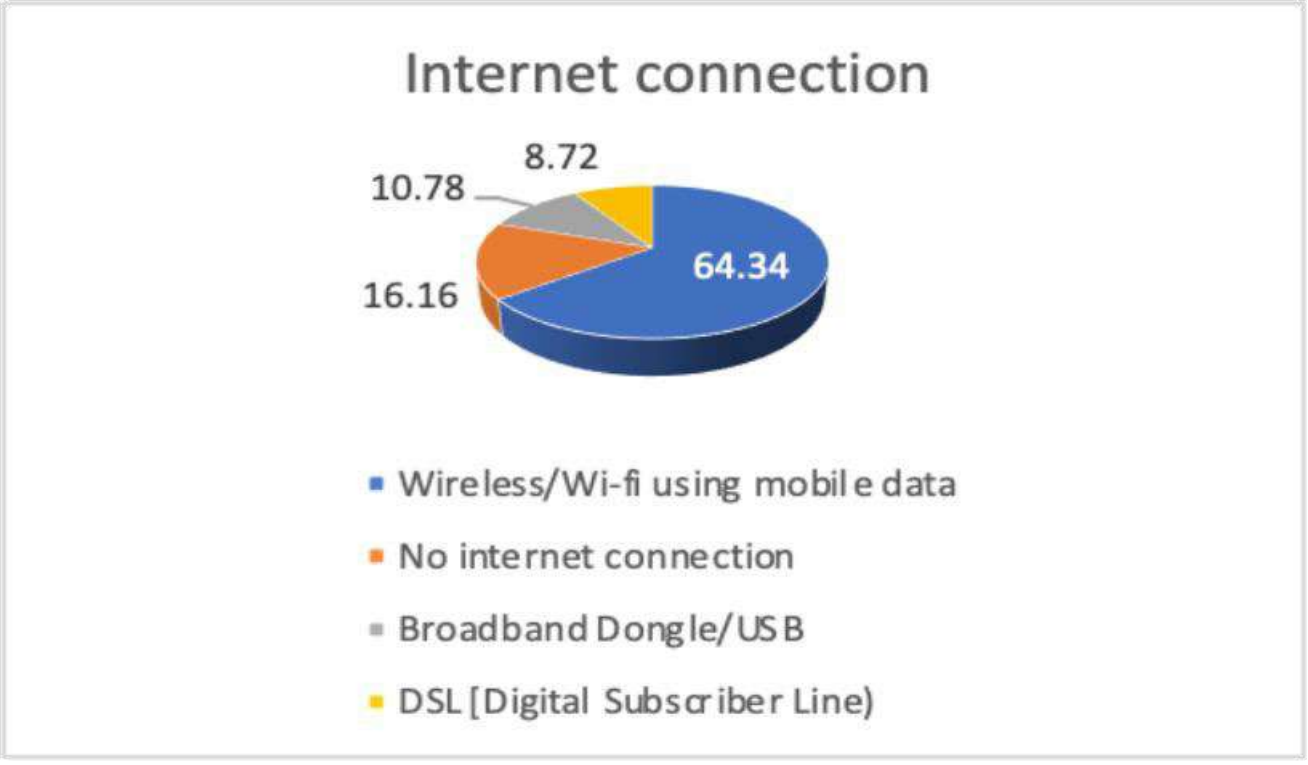

Fig. 4.6 Type of internet connection

The above figure shows that only 64.34 percent of the students had Wi-Fi connection, while 10.78 percent used broadband dongle or USB, 8.72 percent used Digital Subscriber Line (DSL). 16.16 percent of the students had no internet connection.

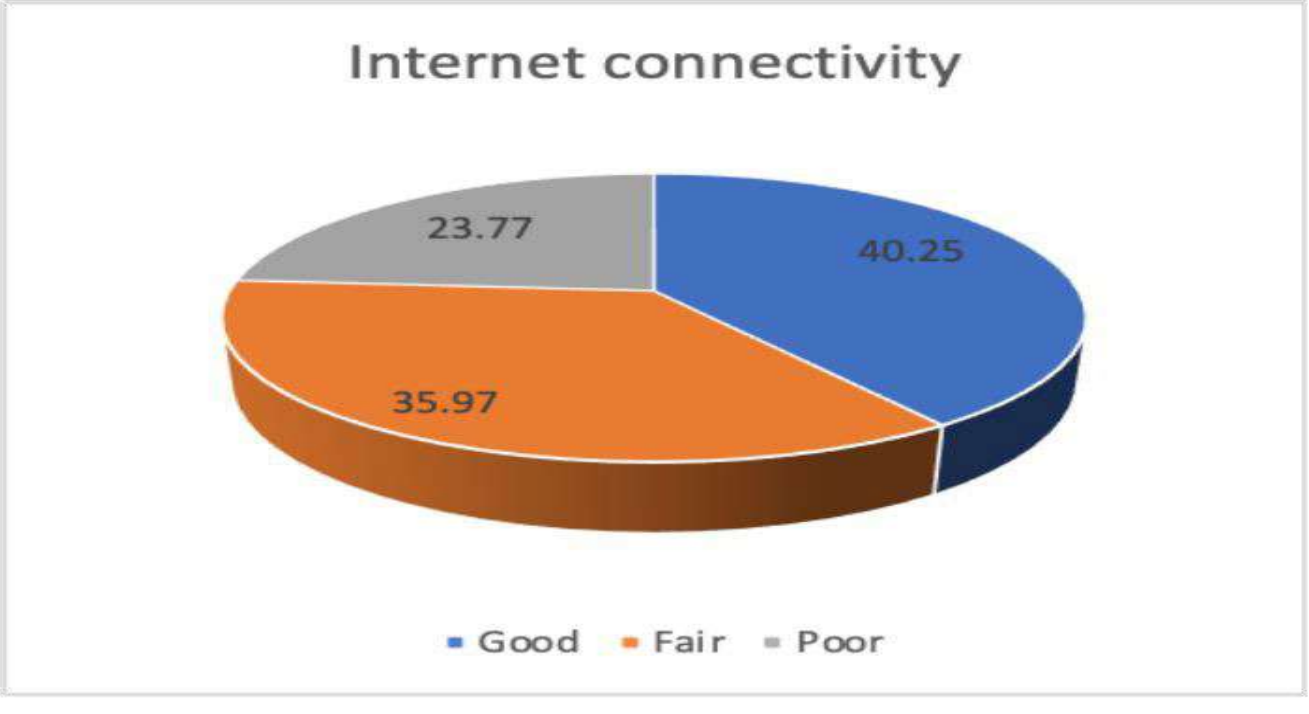

Fig. 4.7 Status of internet connectivity

The status of internet connectivity shows that 40.25 percent of students enjoyed good internet connectivity while for 35.97 percent students had fair internet connectivity and 23.77 percent had poor internet connectivity.

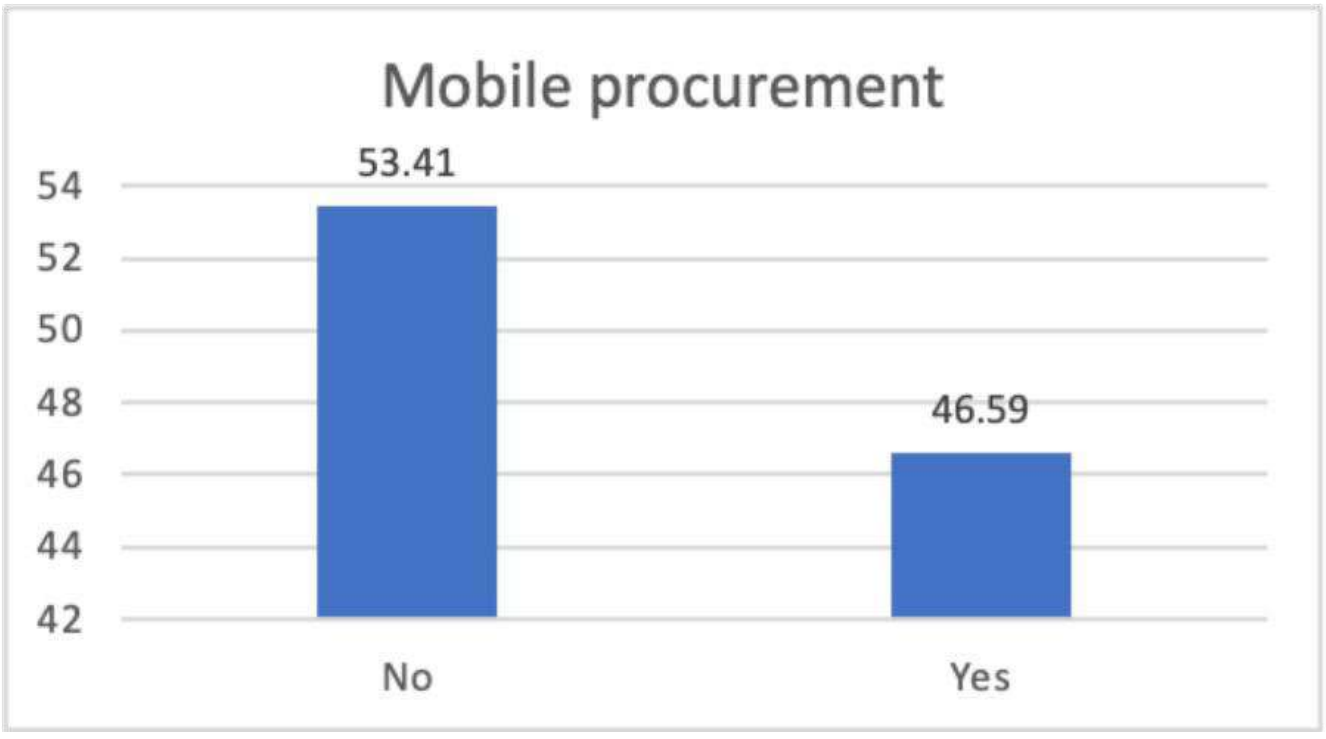

Fig. 4.8 Status of Mobile Procurement

The above data shows that 53.41 percent of students did not have to procure new mobile for online classes. But 46.59 percent of students had to buy new mobiles to attend online classes.

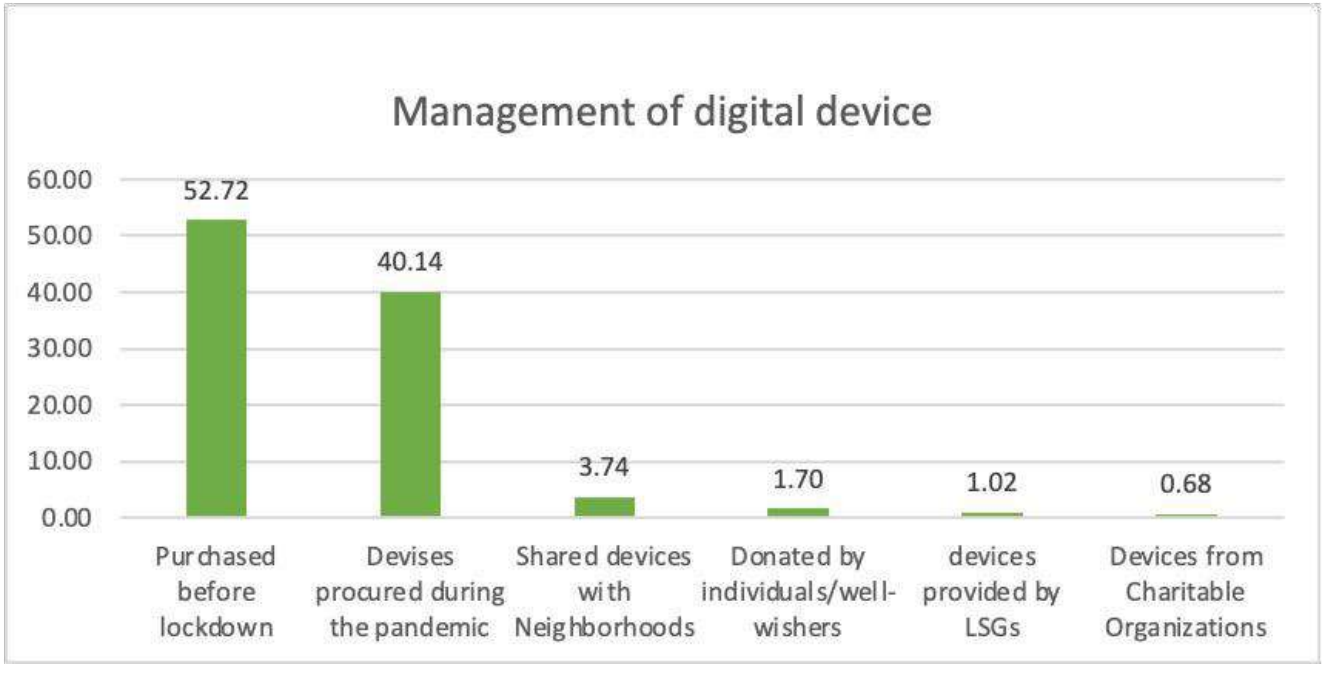

Fig. 4.9 Management of smart phones by students

Regarding management of mobile phones, 52.72 percent had purchased the mobiles before the lockdown, 40.14 percent procured the mobile devises during lockdown, 3.74 percent of the students shared devices with their friends, mobiles were donated to 1.7 percent of students, and the rest of the students got mobiles from some agency or other.

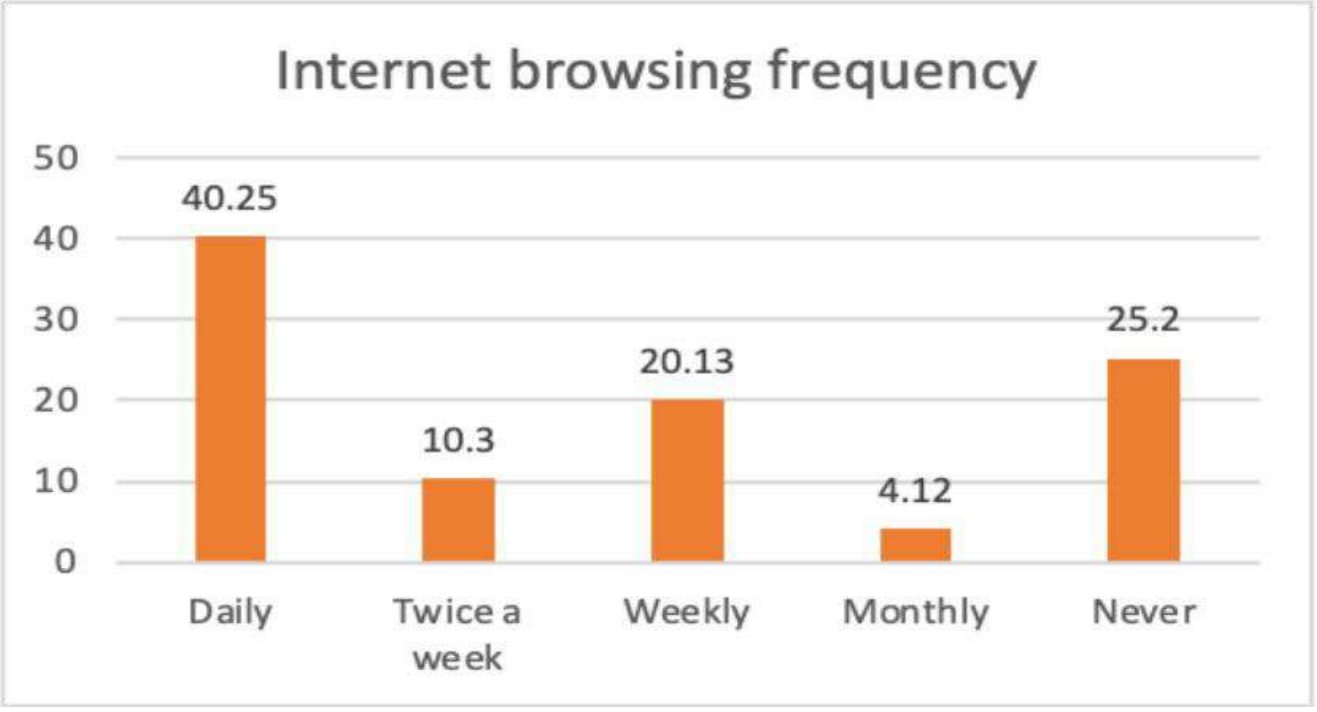

Fig. 4.10 Frequency of browsing the internet other than for online classes

Besides the online classes, the students were also browsing the internet for other purposes. Some 40.25 percent of students browsed internet every day, 10.3 percent twice a week, while 20.13 percent once a week, 4.12 percent once in a month. The rest, 25.2 percent did not browse the internet at all.

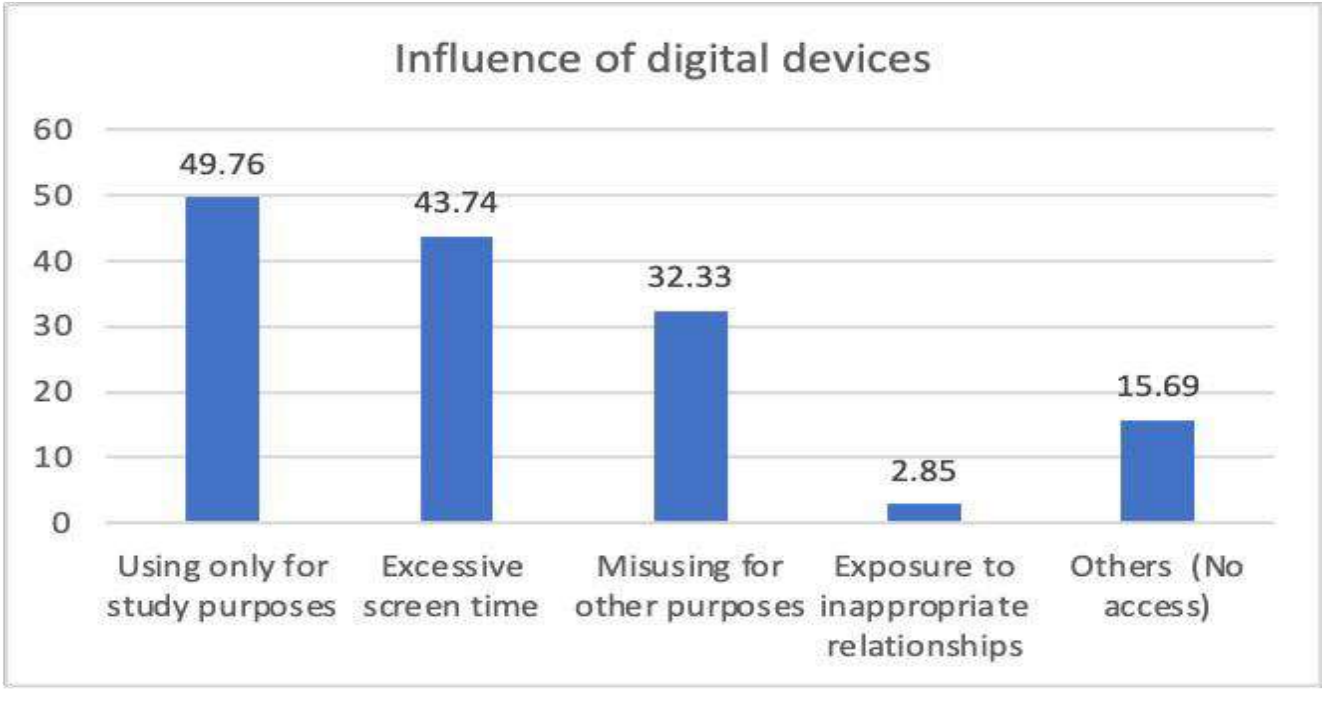

Fig. 4.11 Influence of mobiles on students

Looking at the figure above one can conclude that about half the number of students (49.76 percent) were using their digital devices only for study purposes. Some 32.33 percent of the students misused the digital devices for other purposes (playing online games, watching movies etc.). 43.74 percent had excessive screen time, 15.69 percent were Exposed to inappropriate relationships. The rest of them spent their time in other activities.

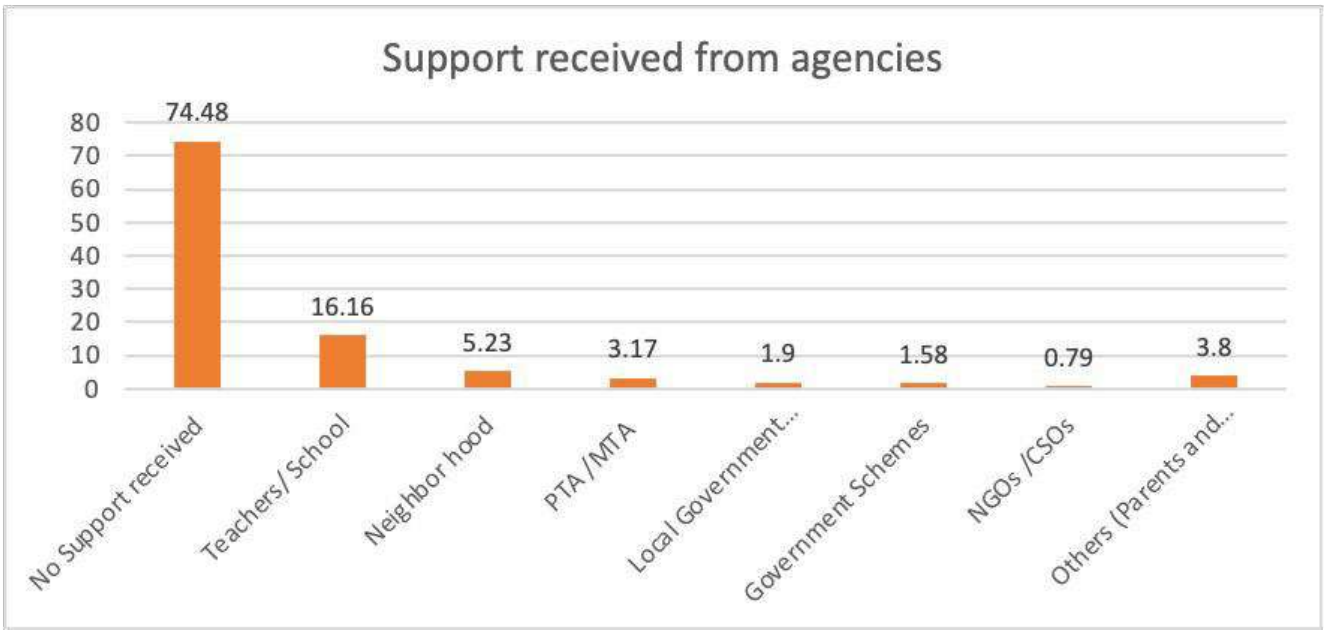

Fig. 4.12 Support received from different agencies

The above figure shows that 74.48 percent of children did not receive any support in procuring the digital gadgets for the learning from any of the government /non-government agencies. 16.16 percent did receive support from teachers while the rest received some support from neighborhood, PTA/MTA/ LSG, government schemes and NGOs.

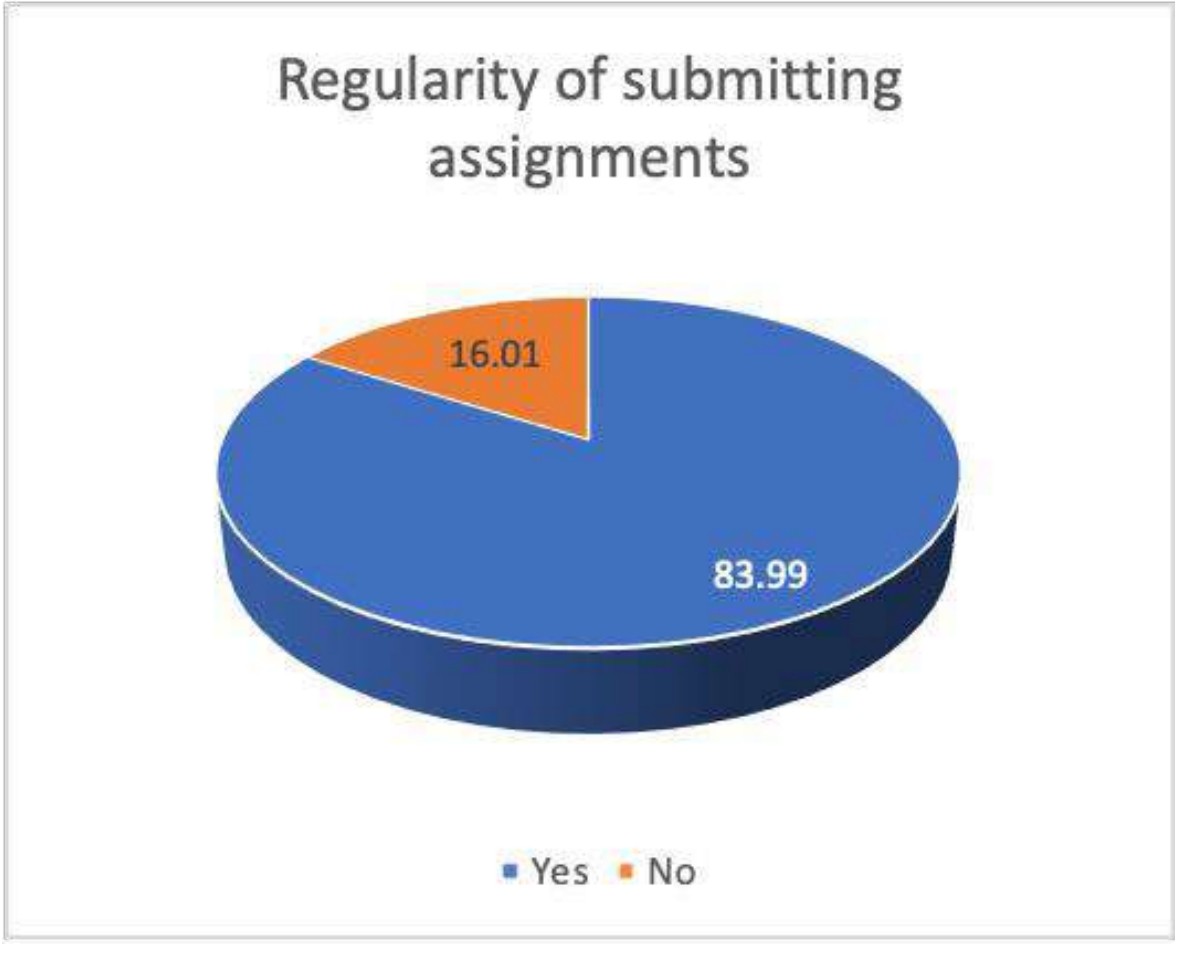

Fig. 4.13 Regularity of submitting assignments

The above figure shows that 83.99 percent of the children were regular in submitting their homework/ assignments online while 16.01 percent were irregular.

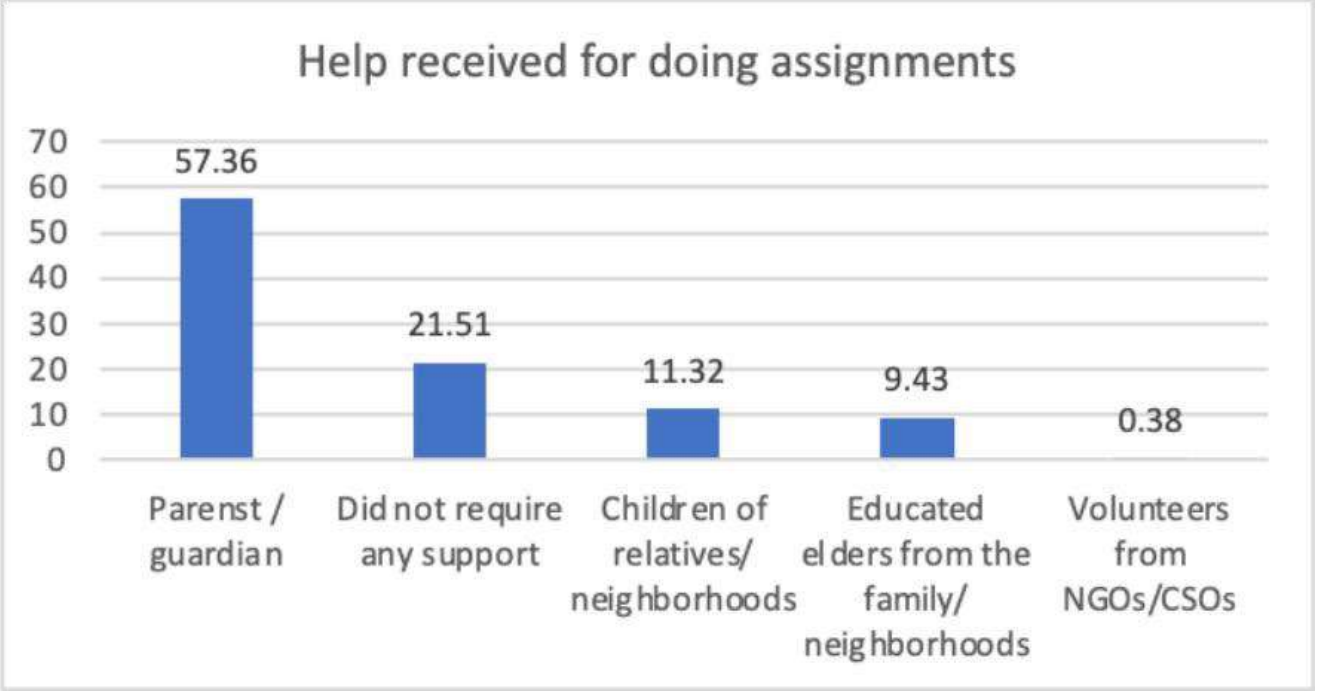

Fig. 4.14 Help received for assignment submission

It is clear from the above figure that 57.36 percent of children got help from their parents to complete their assignments, while 11.32 percent got help from relations, 9.43 percent receive help from educated elders of the village, and 0.38 percent got help from volunteers from NGOs. But 21.51 percent did not receive any help from anyone to complete their assignments.

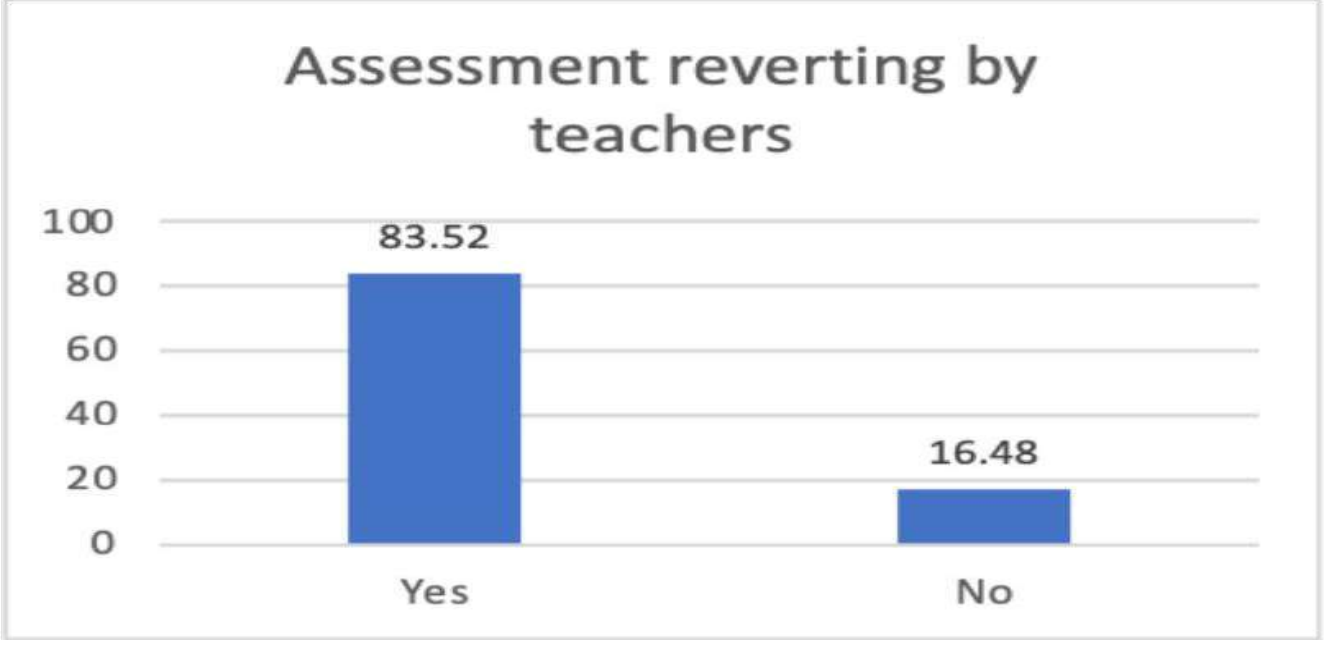

Fig. 4.15 Assessment and reverting by the teachers

The figure above illustrates that 83.52 percent of teachers were assessing the homework/ assignments and reverting in time to students during online classes and 16.48 percent of the teachers were not reverting the assignments to students in time.

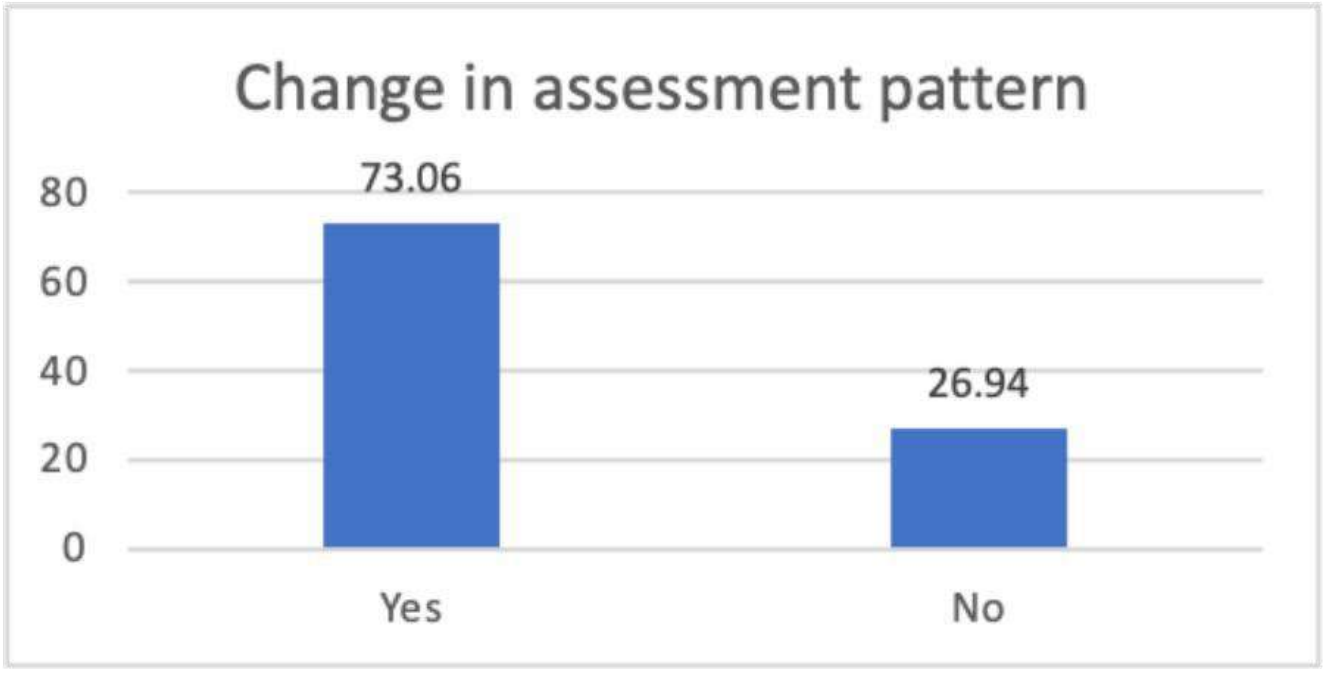

Fig. 4.16 Change in the pattern of assignment

The above figure shows that 73.06 percent of schools made changes in the assessment pattern during the pandemic period. They adopted online assessment and evaluation process. But 26.94 percent did not make any changes in the assessment pattern.

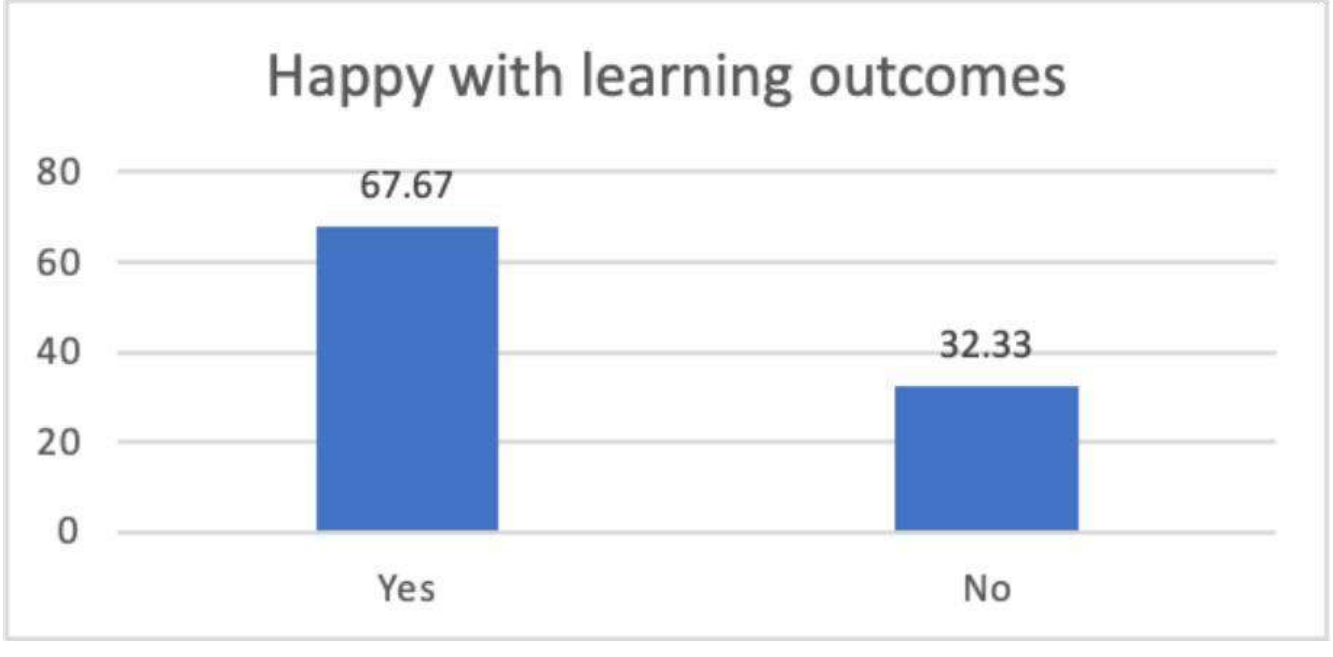

Fig. 4.17 Response of parents to children's learning outcomes

The above figure shows that 67.67 percent of the parents were happy with the learning outcomes/ achievements of their children while 32.33 percent of the parents were not happy with their children's performance.

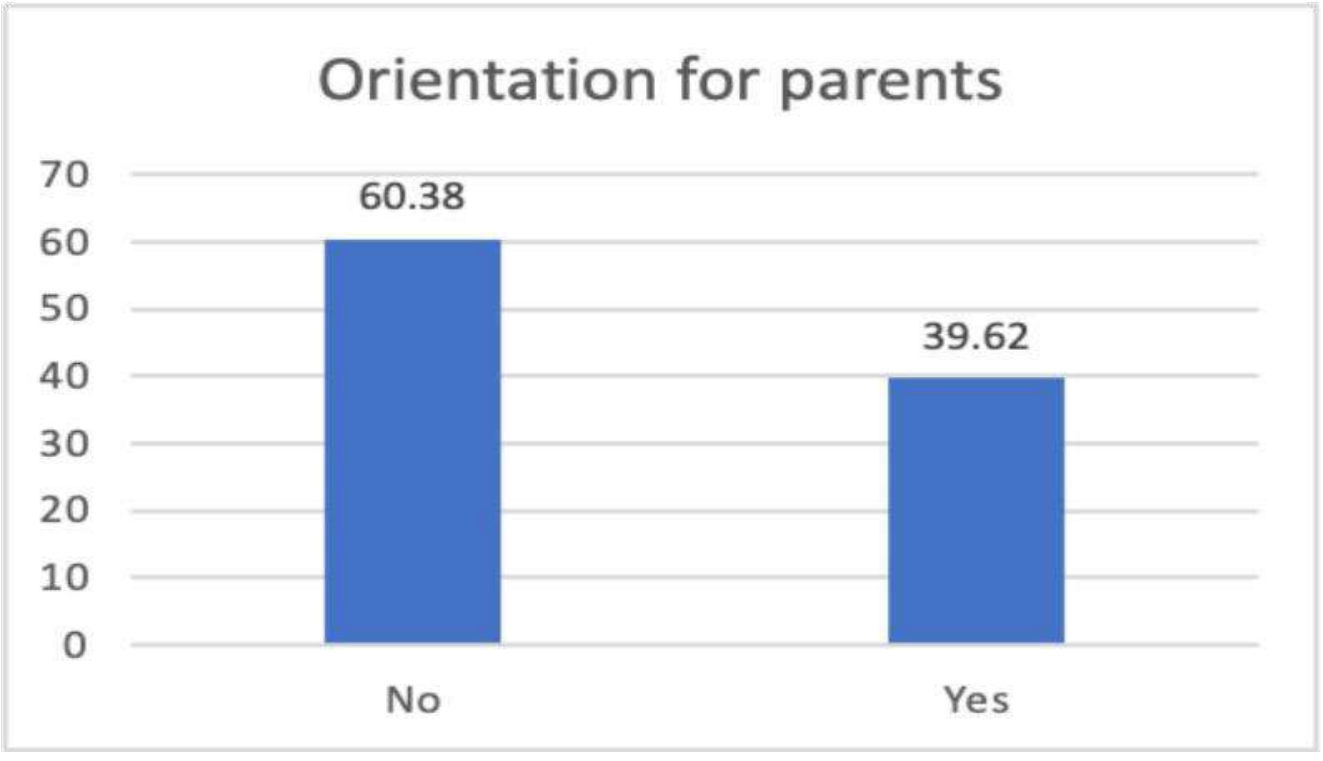

Fig. 4.18 Orientation for parents by the teachers

Only 39.62 percent of parents availed the orientation programme conducted by the school for the parents on online teaching like technical support, availability of internet connectivity and internet safety etc. The majority, 60.38 percent did not avail the orientation programme offered by the school.

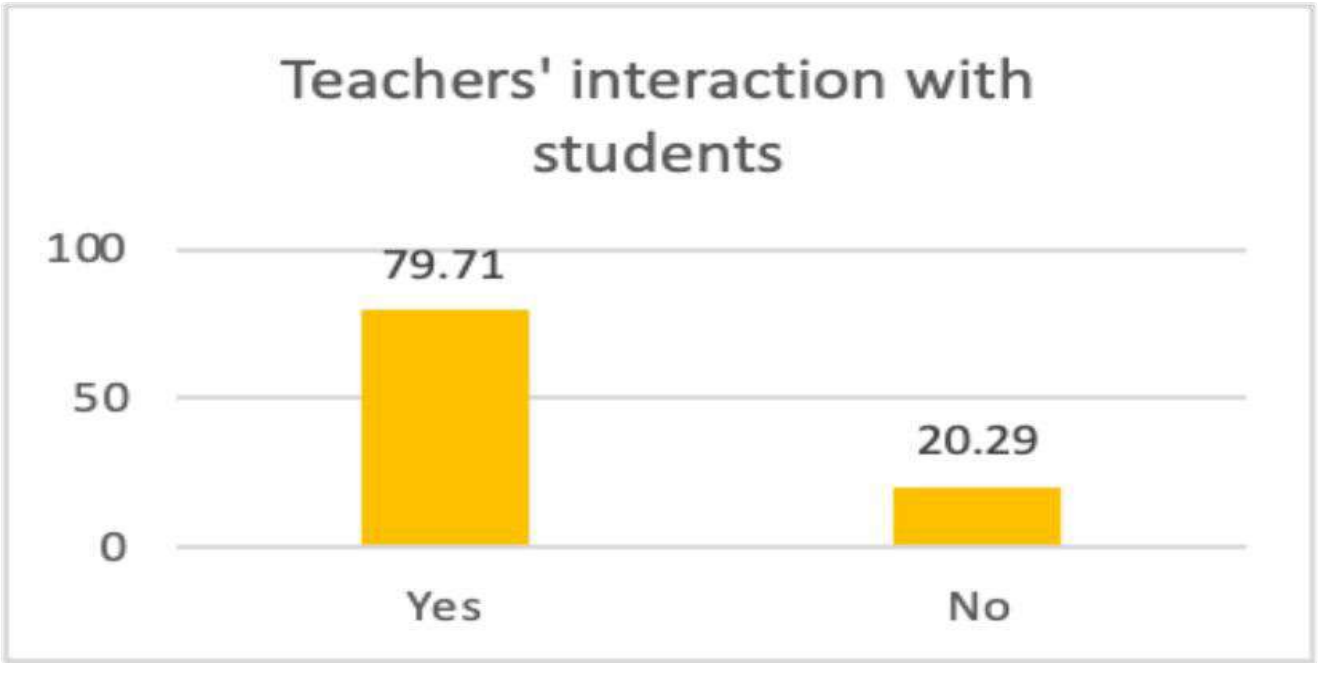

Fig. 4.19 Teacher – student interaction

According to this study 79.71 percent of the respondents said that the teachers had frequent interactions with children, while 20.29 percent parent respondents said that the teachers did not have interaction with their children.

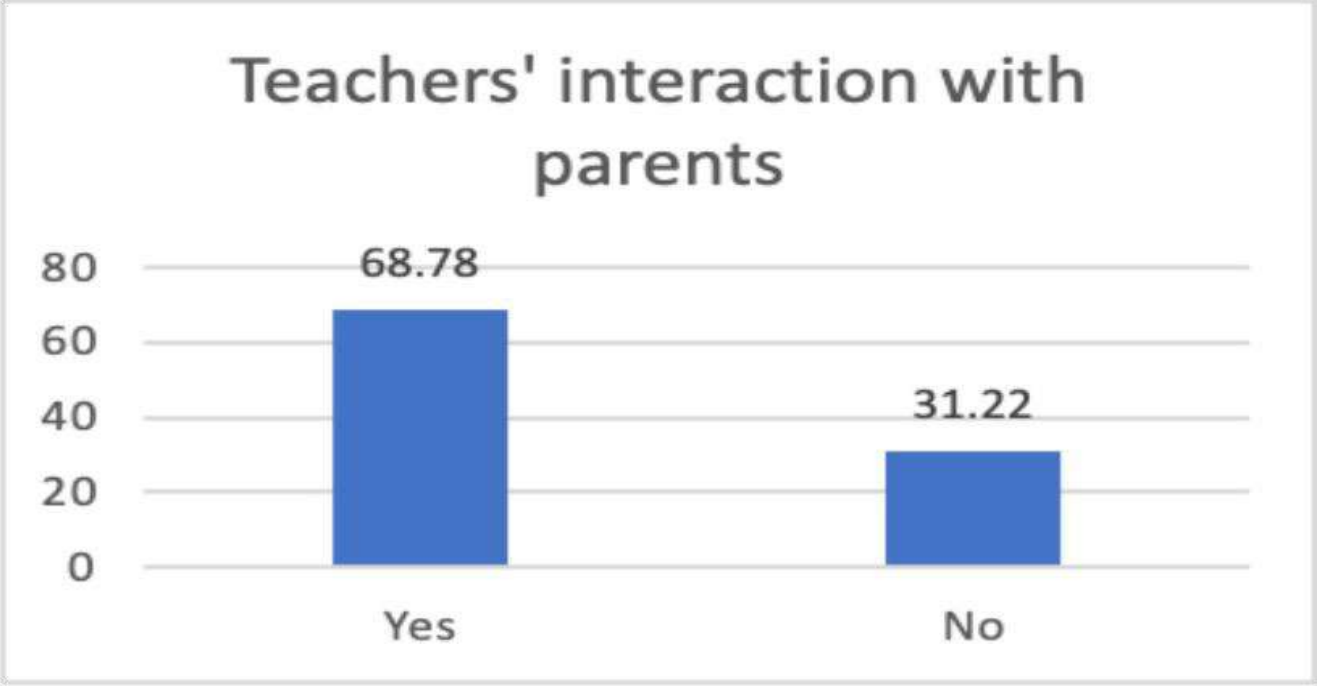

Fig. 4.20 Teachers' interaction with parents

We also find that 68.78 percent of the parents had frequent interactions with the teachers regarding the progress of the child/children or on the challenges faced in learning. But 31.22 percent of parents did not have any interaction with the teachers.

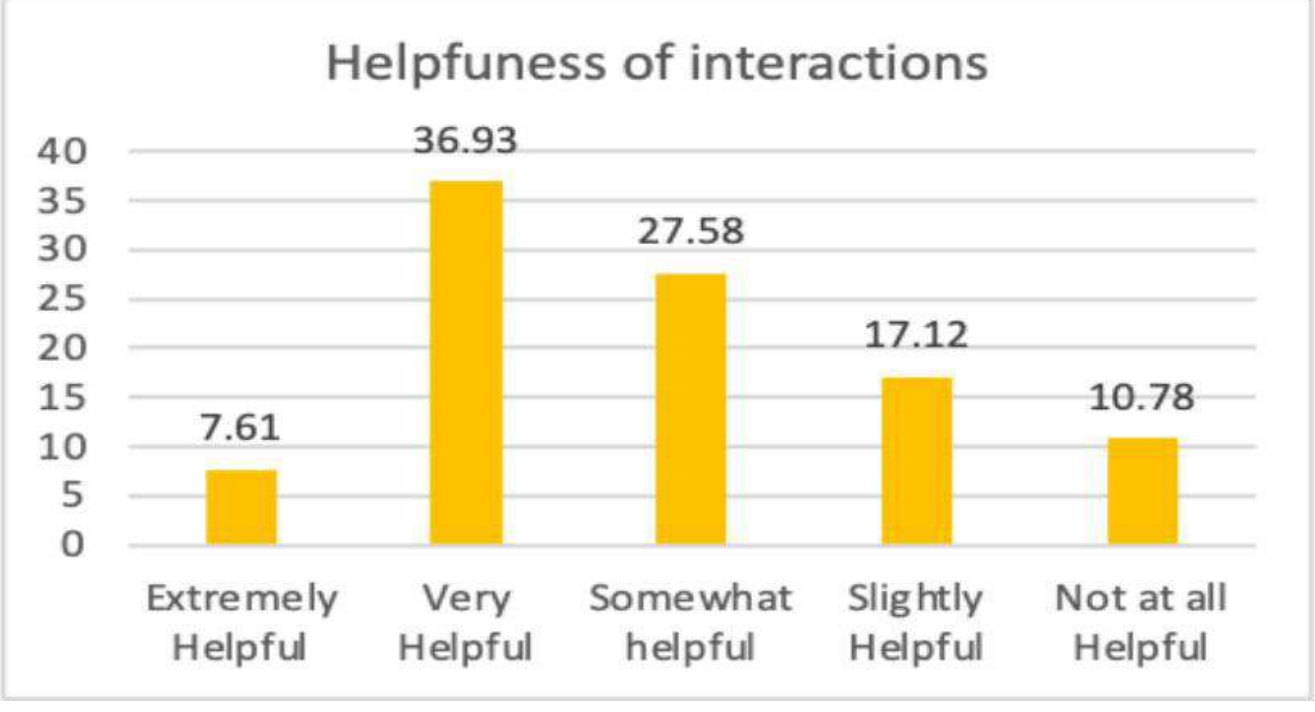

Fig. 4.21 Usefulness of teacher interactions

About the usefulness of the interactions, 7.61 percent felt the interactions were extremely helpful, 36.93 percent of the parents felt that the interactions with the teachers were very helpful in supporting their children's learning at home, while and 27.58 percent felt they were somewhat helpful, for 17.12 percent the interactions were slightly helpful and for 1078 percent the interactions were not at all helpful.

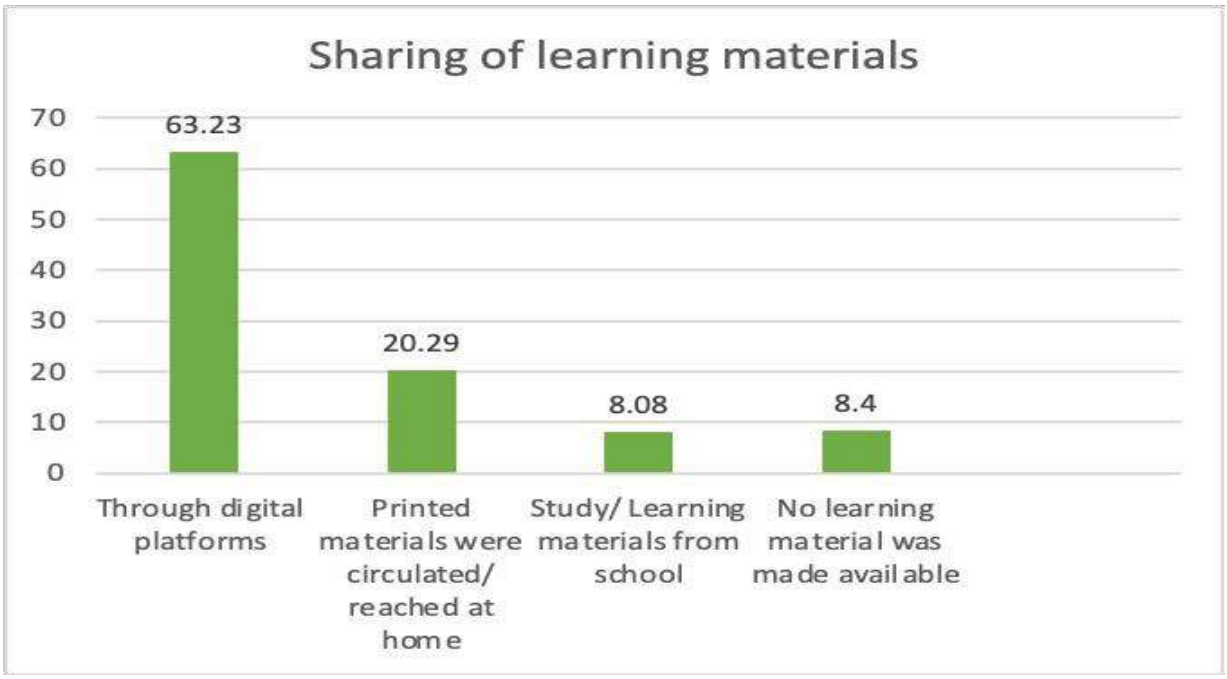

Fig. 4.22 Style of sharing of learning materials

The above figure shows that 63.23 percent of the parents said that the teachers shared the learning materials through digital platforms like WhatsApp, e-mail etc., while 20.29 percent said that teachers shared printed materials by circulating or reaching at home, 8.08 percent said that study/learning materials were collected from the school regularly, and for 7.92 percent no learning material was made available to them.

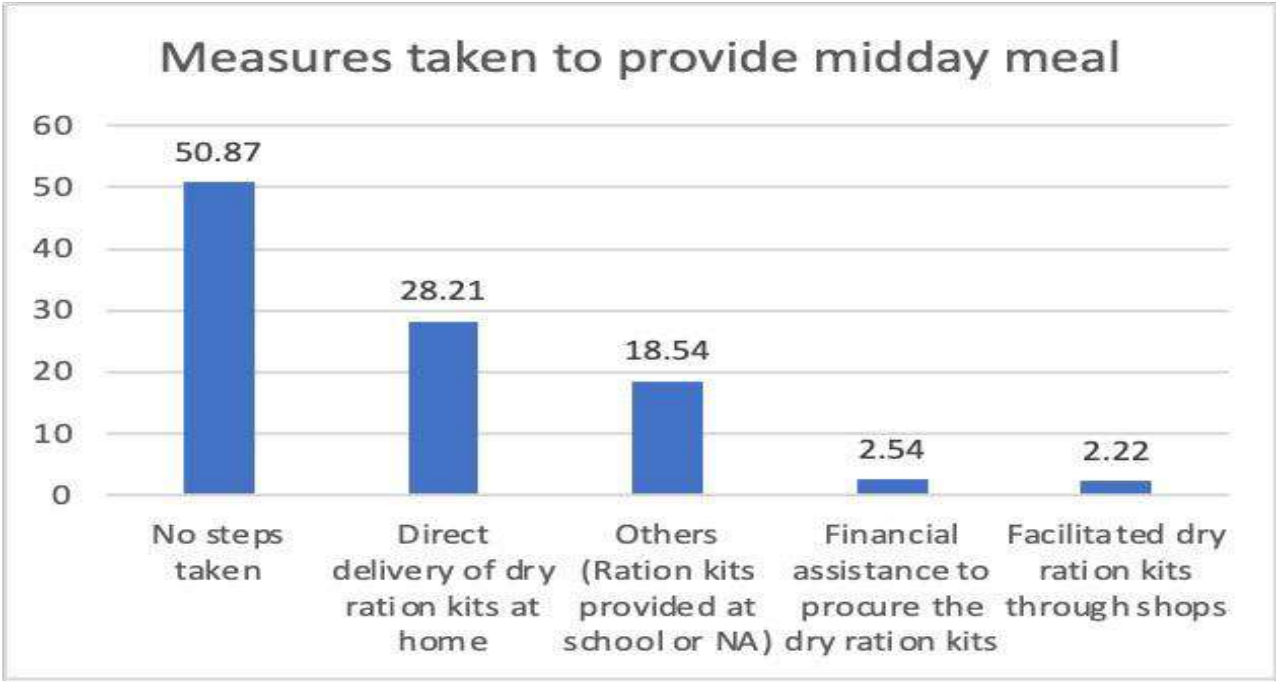

Fig. 4.23 Measures taken to provide midday meal

Regarding the measures adopted by the school to deliver the midday meal for the children during the pandemic, 50.87 percent said that no steps were taken by the school, while 28.21 percent of children received, direct delivery of dry ration kits at home, 18.54 percent got ration kits at school or midday meal system not applicable, 2.54 percent got financial assistance to procure dry ration kits and 2.22 percent got ration kits through shops.

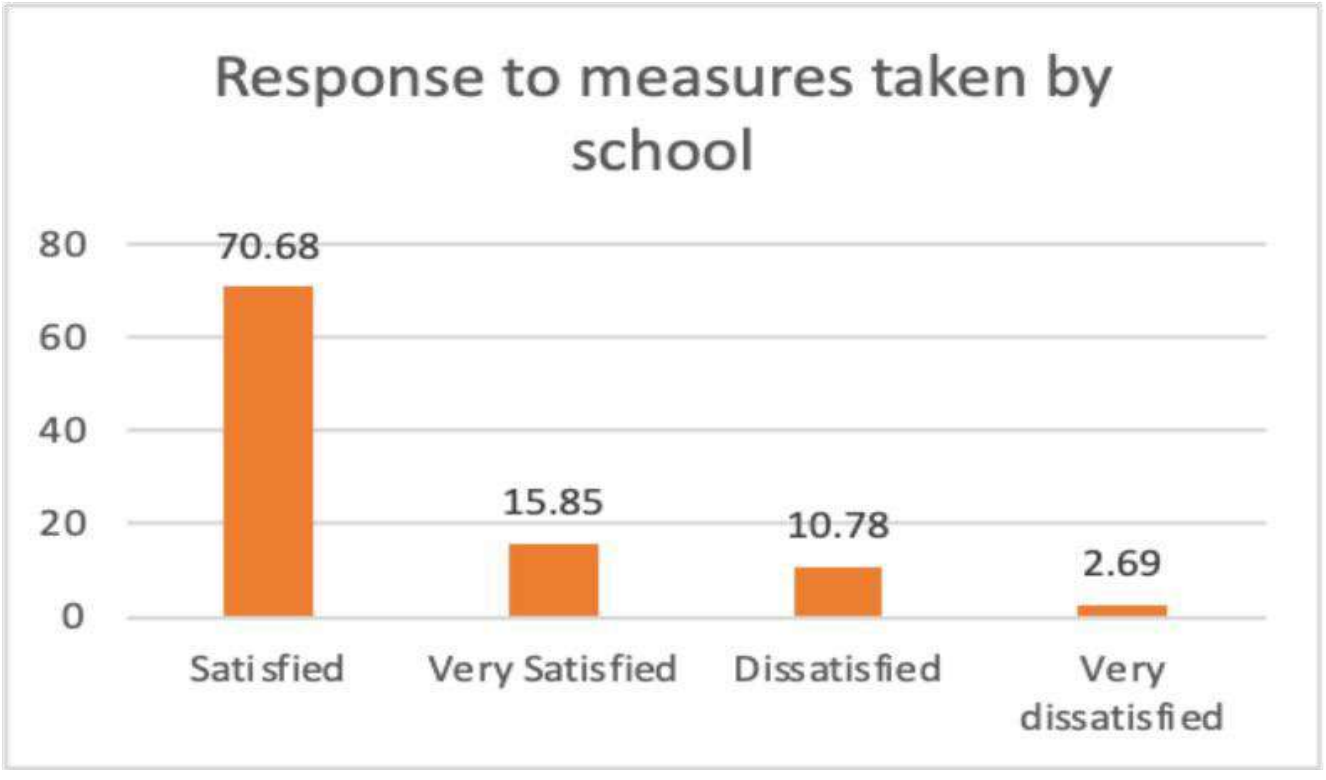

Fig. 4.24 Response to measures taken by school

Regarding the measures taken by the school to address the learning gap and learning loss of the children during the 1st an 2nd waves of the pandemic, 86.53 percent of the parents showed satisfaction while the 13.47 percent were dissatisfied with the measures taken by the school to address the learning gap.

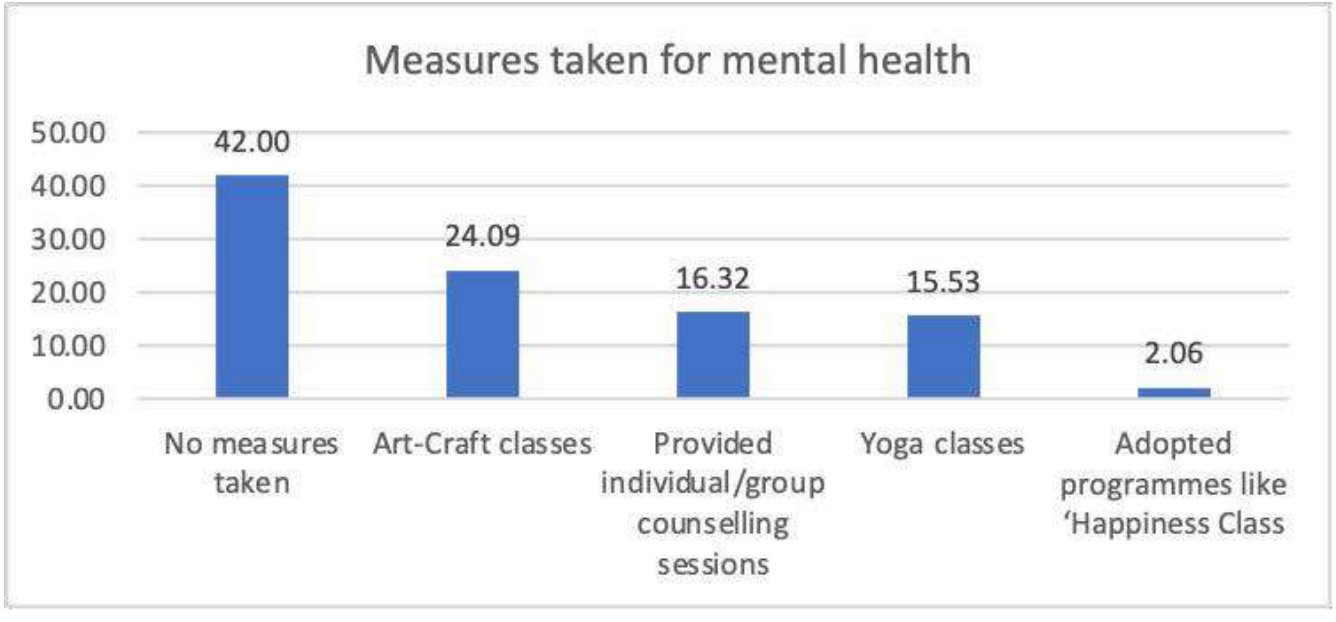

Fig. 4.25 Measures taken for children's mental health

Regarding the nature of the steps taken by the school for ensuring mental health and well- being of children, 42 percent of the respondents said that the school did not take any steps, while 24.09 percent said that the school conducted art-craft classes, 16.32 percent had individual/group counselling sessions,15.53 percent had yoga classes, and 2.06 percent had programmes like 'Happiness Class'.

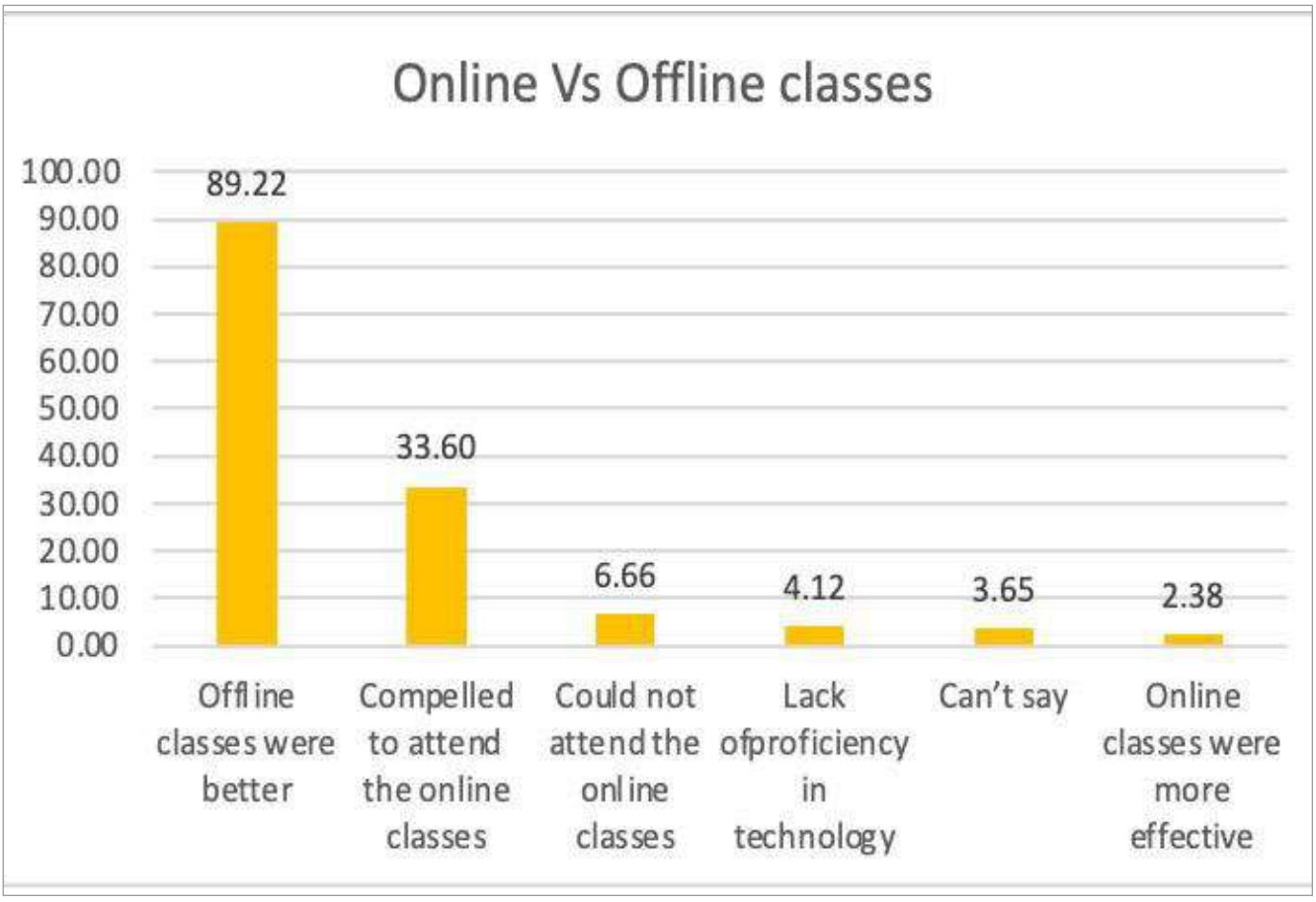

Fig. 4.26 Difference between online and offline classes

Based on the parents' feedback on their experiences, 89.22 percent of them were of the opinion that offline classes were better than online classes. For 33.6 percent of the parents, the children were compelled to attend online classes during the pandemic but it was satisfactory, 6.6 percent could not attend the online classes due to lack of proficiency in technology, 2.38 percent said that online classes were more effective and 3.65 percent had nothing to say.

The prime objective of this study was to find whether there is any significant digital divide among rural, semi-urban and urban students. Though the study was spread out to thirteen States of India, most of the responses (i.e. 499/631) came from six states, namely Jharkhand, Maharashtra, Karnataka, West Bengal, Rajasthan and Delhi. Therefore, to find the digital divide, the investigator limited the analysis to these states. The results of the same is illustrated below. Among the States, Jharkhand contributed maximum data from 237 respondents. So, the investigator analyzed the data of Jharkhand separately too. Since both the results were similar, the analysis of all six States are given below in terms of geographical location (rural, semi-urban and urban) with respect to access to online classes, availability of electricity, internet connection, internet connectivity, availability of computers and smartphones, procurement and comfortability of family members in the use of online platforms.

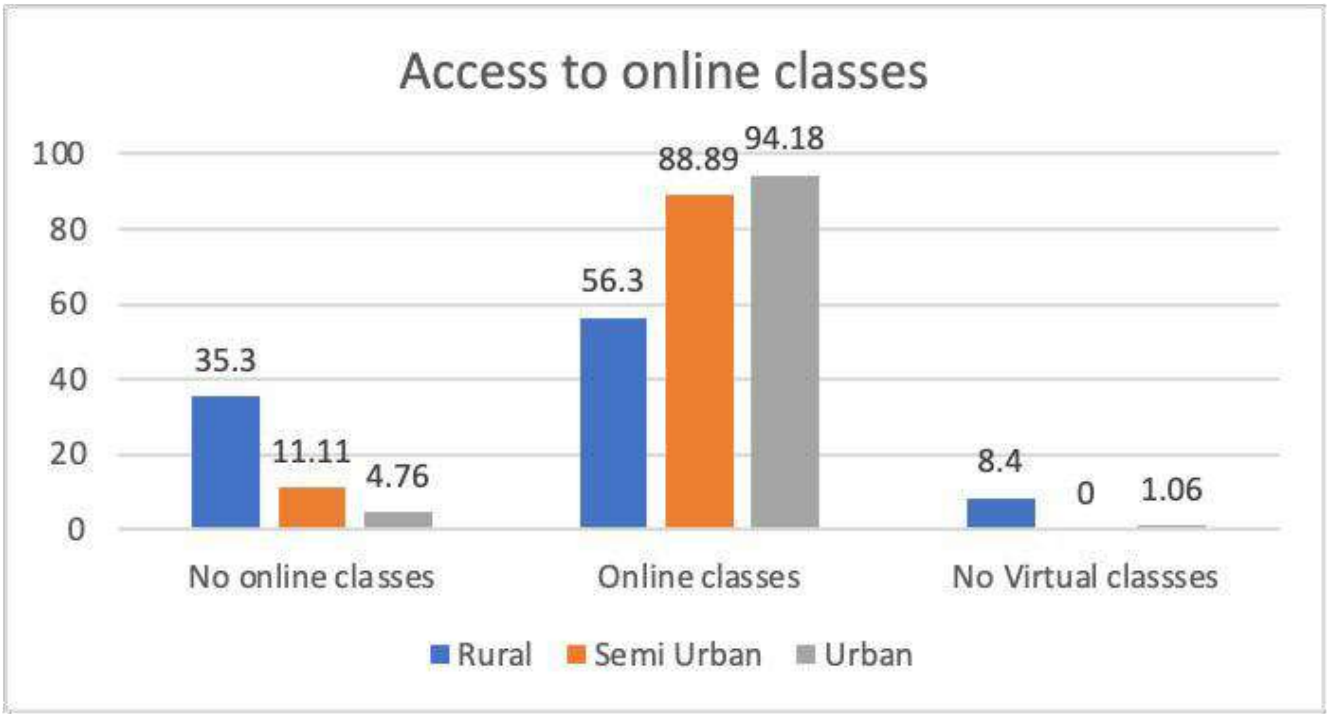

Fig. 4.27 Access to online classes

It is clear, as illustrated above, that there is a noticeable difference between rural and urban students in their access to online classes. While 94.18 percent of urban students had access to online classes, only 56.3 percent of rural students had access to online classes.

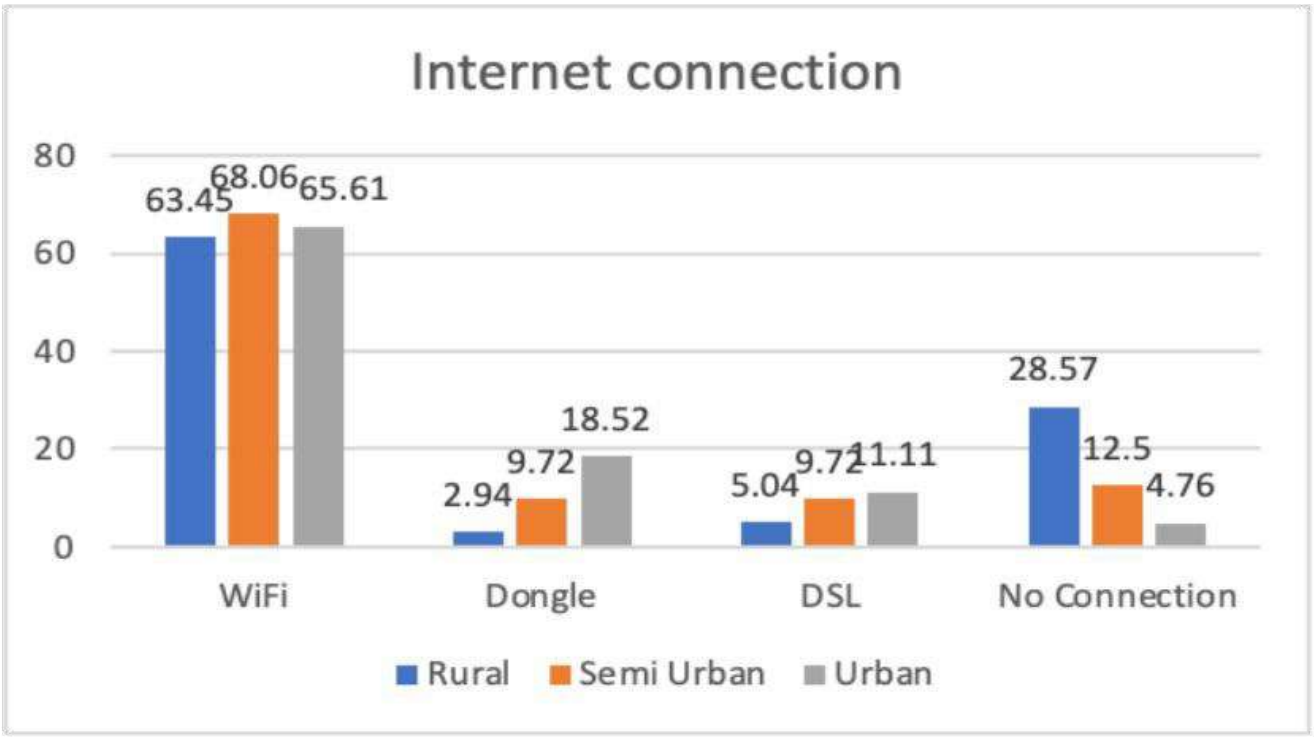

Fig. 4.28 Internet connection

With respect to internet connection, it is clear that 28.57 percent of respondents from the rural areas did not have internet connection, while only 4.76 percent of respondents from urban areas did not have internet connection either through Wi-Fi, Broadband Dongle or Digital Subscriber Line (DSL).

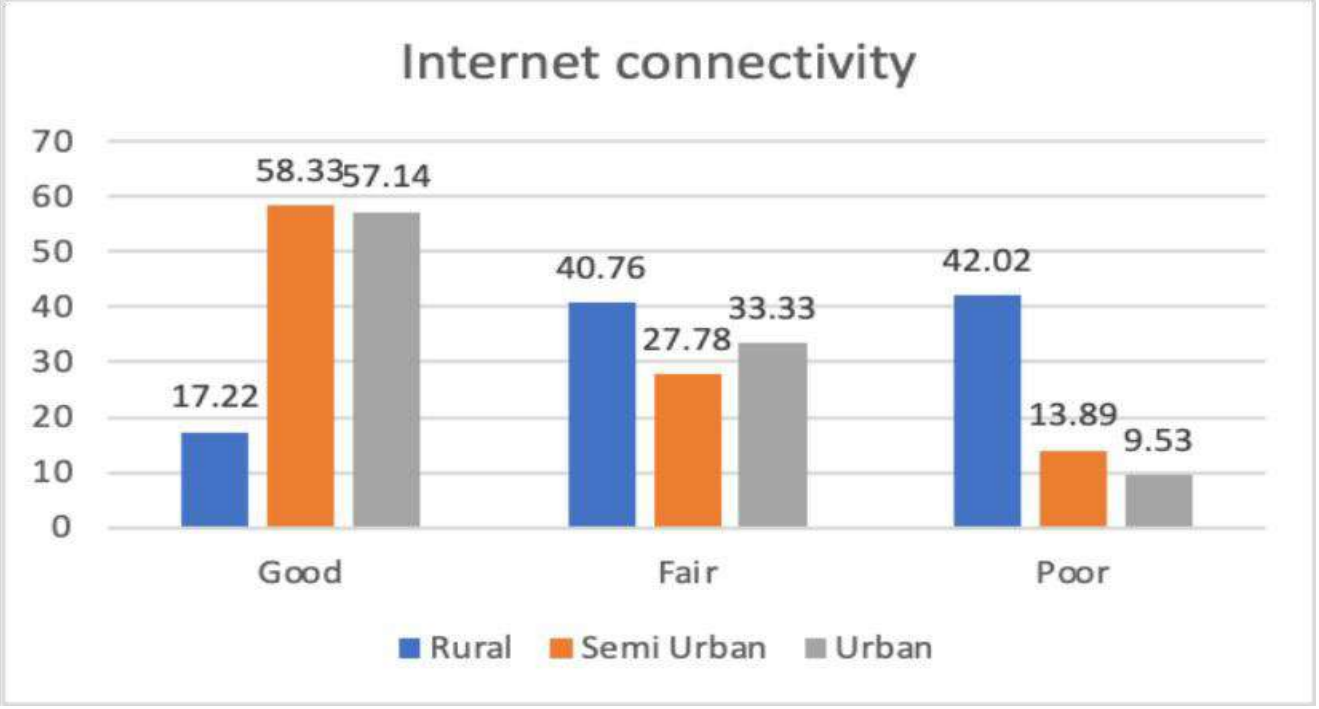

Fig. 4.29 Internet connectivity

Regarding internet connectivity, among the respondents from the urban areas 57.14 percent had good internet connectivity, 33.33 percent had fair internet connectivity and 9.53 percent had poor internet connectivity, while in the case of rural respondents, only 17.22 percent had good internet connectivity, 40.76 percent had fair internet connectivity and 42.02 percent had poor internet connectivity showing a vast difference between rural and urban students in terms of internet connectivity.

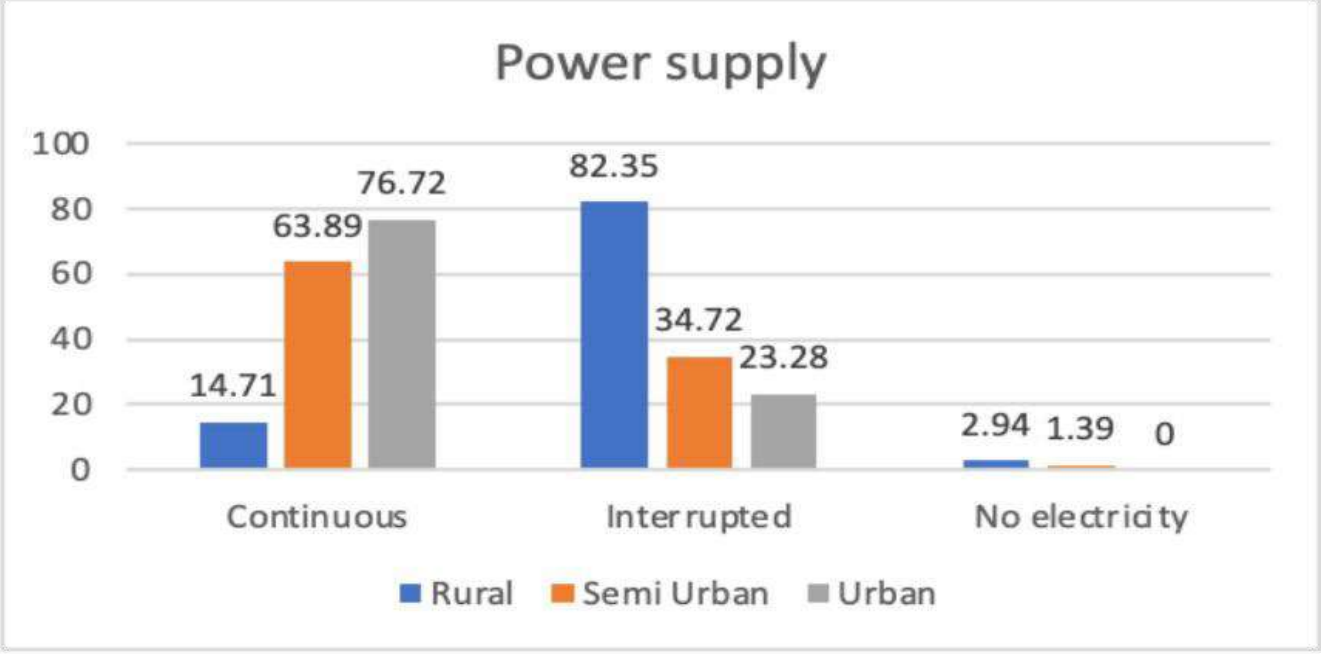

Fig. 4.30 Status of power supply

Looking at the power supply situation in rural and urban areas, we find that 76.72 percent of urban respondents had continuous power supply while it is only 14.71 percent in rural areas. At the same time we also notice that the interrupted power supply is 82.35 percent in rural areas while it is only 23/28 percent in urban areas. Also there is no electricity in 2.94 percent of rural areas.

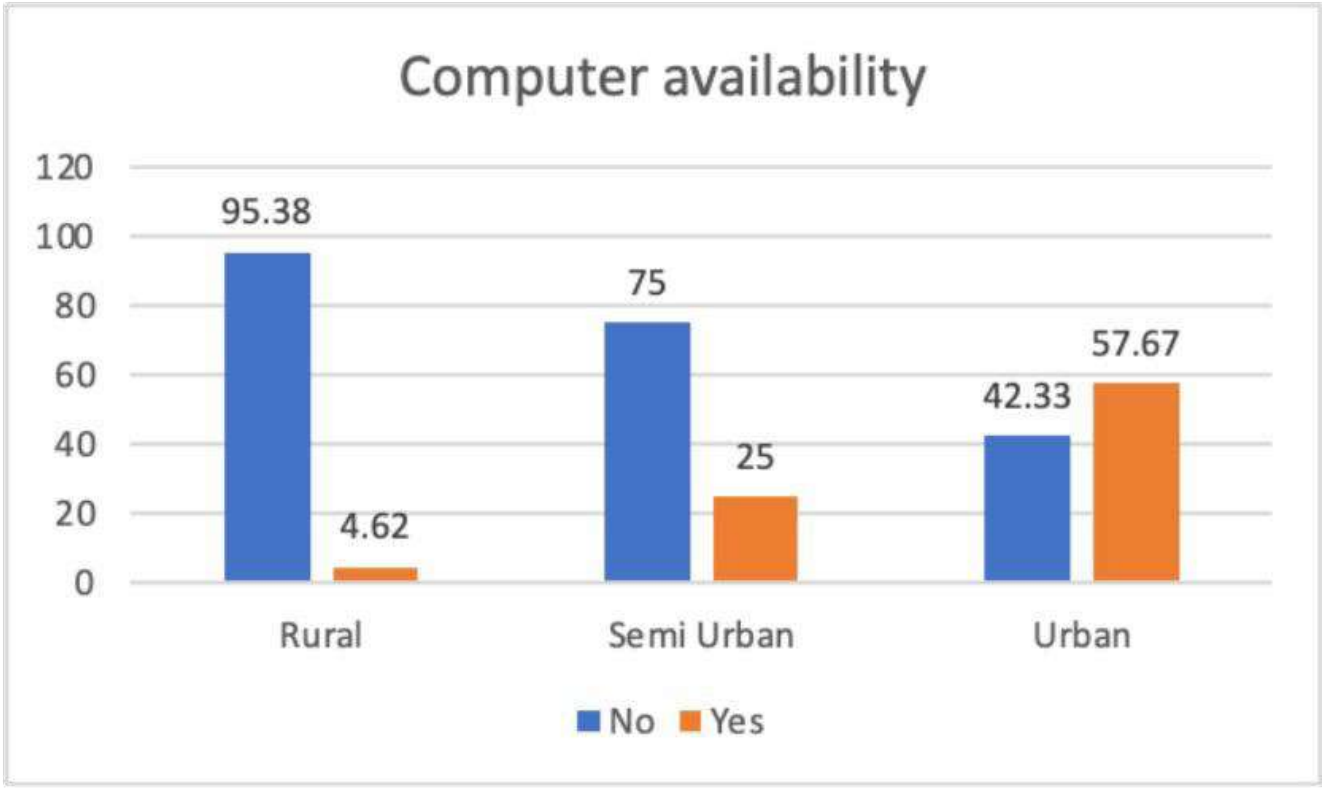

Fig. 4.31 Status of computer availability

Looking at the status of computer availability, one can see that 95.38 percent of rural respondents had no computers while 42.33 percent of urban respondents had no computers showing a huge disparity in the availability of computers.

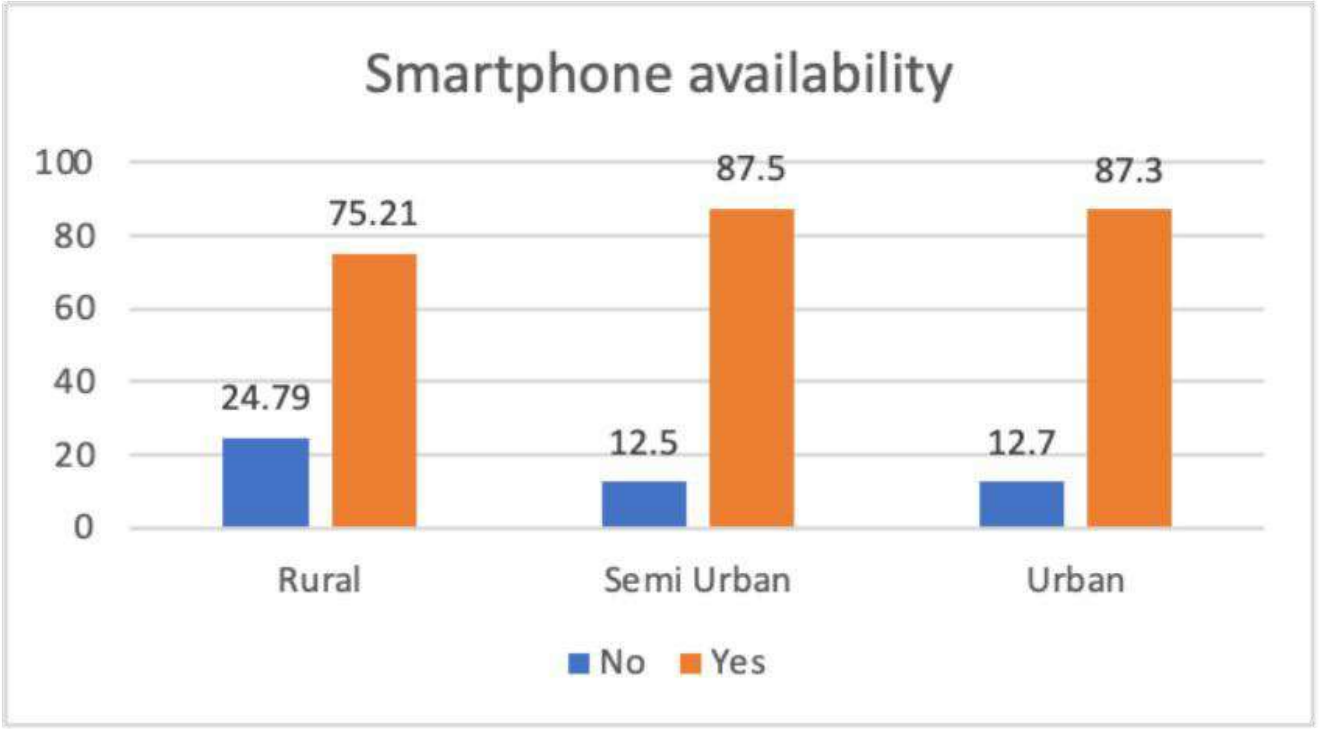

Fig. 4.32 Status of smartphone availability

If we look at the availability of smartphones 87.3 percent of urban respondents had smartphones, while only 75.21 percent of rural respondents had smartphone availability.

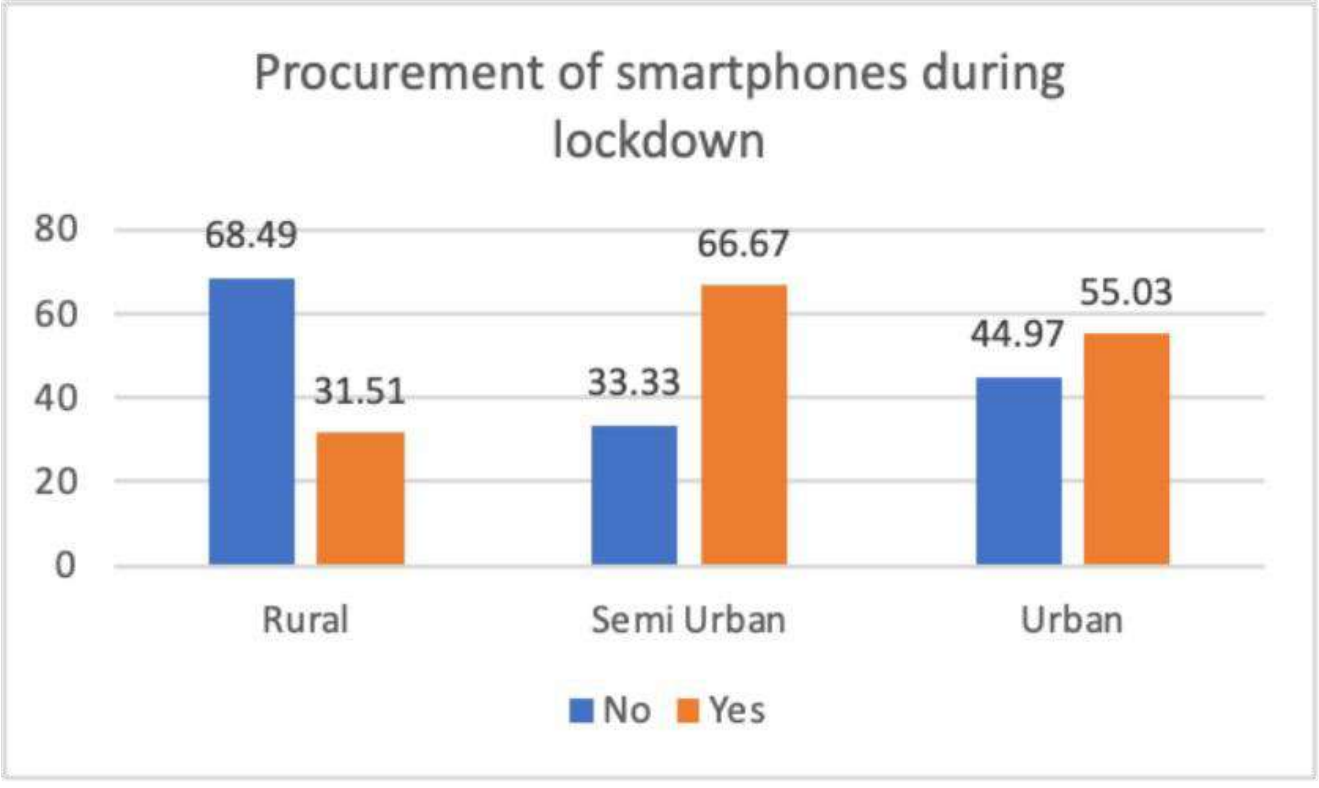

Fig. 4.33 Procurement of smartphones during lockdown

During lockdown only 31.51 percent of respondents from rural areas had to procure smartphones, but in the case of urban respondents, 55.03 percent had procured smartphones.

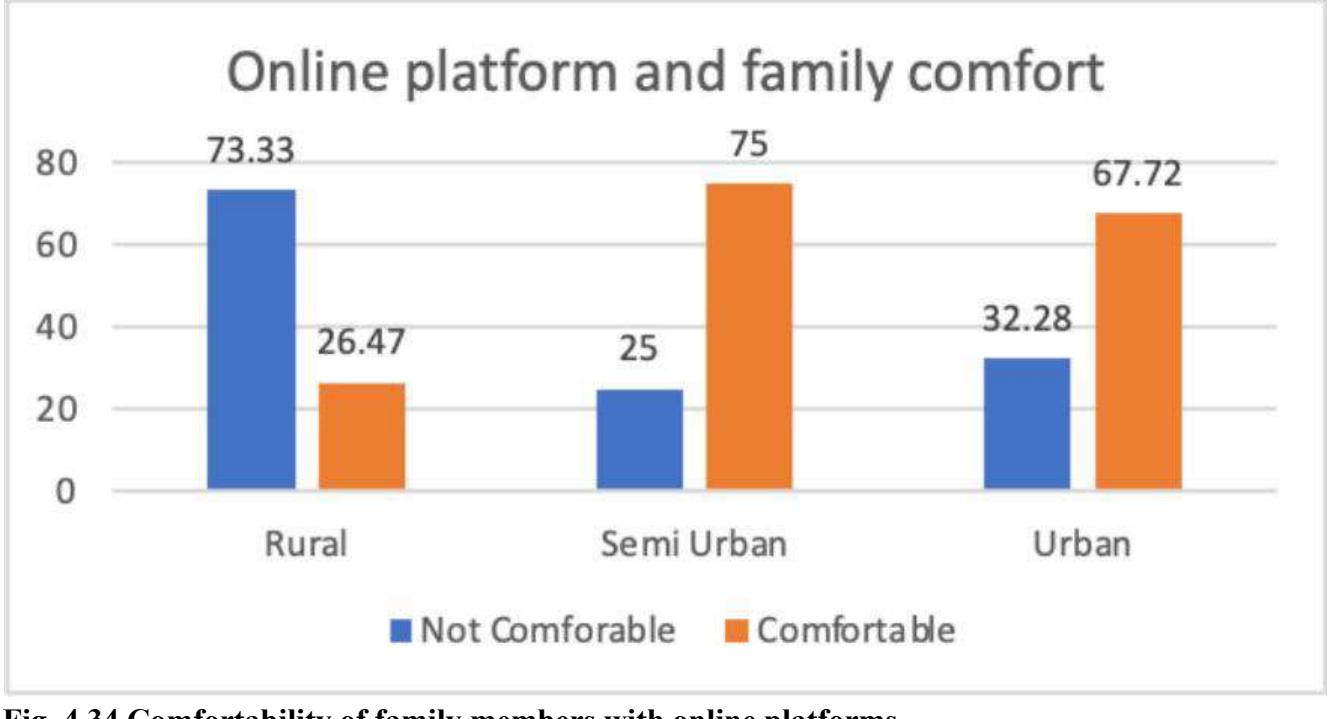

Fig. 4.34 Comfortability of family members with online platforms

The above figure illustrates that 73.33 percent of rural family members were uncomfortable with online platforms while in the case of urban family members only 32.28 percent were not comfortable with digital platforms. Again, we see a significant difference between rural and urban respondents.

The investigator also found out the significant difference in digital divide with respect to gender, age, religion, social category, parental education, parental occupations, and type of schools. Based on the responses from 725 students from the six states, analysis was done through SPSS programme. The details are given below:

4.2 DIFFERENTIAL ANALYSIS

Table 4.1 Difference between Male and Female students in their digital divide and its dimensions

	Gender	N	Mean	Std. Deviation	't'	p-vale
Access to online classes	Male	375	16.66	3.026	1.107	0.269
	Female	350	16.4	3.365		
Support of parents and peers	Male	375	14.4	2.671	-0.576	0.565
	Female	350	14.52	2.748		
Support of teachers	Male	375	33.04	5.207	-0.483	0.629
	Female	350	33.23	5.481		
Assessment and learning outcome	Male	375	15.57	2.532	-0.787	0.432
	Female	350	15.72	2.828		
Impact of online learning	Male	375	35.62	4.576	-0.268	0.789
	Female	350	35.71	4.637		
Perceptions on online learning	Male	375	49.35	5.502	1.4	0.162
	Female	350	48.8	5.145		
Digital Divide	Male	375	164.64	14.382	0.235	0.814
	Female	350	164.38	15.604		

The above 't'-test shows that there is no significant difference between male and female students in their digital divide and its dimensions: access to online classes, support of parents and peers, support of teachers, assessment and learning outcome, impact of online learning, and perceptions on online learning.

When there are more than two groups in a category, Analysis of Variance is used to find the significant difference between the mean scores of the groups. This saves time and energy as with one test one can find whether there is significant difference between the groups instead of multiple 't'-tests. In case there exists significant difference then we analyse the significant difference between pairs of groups through post host analysis.

Table 4.2 Difference between different age groups

ANOVA						
		Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Access to online classes	Between Groups	14.667	2	7.333	0.718	0.488
	Within Groups	7363.47	721	10.213		
	Total	7378.137	723			
Support of parents and peers	Between Groups	14.864	2	7.432	1.014	0.363
	Within Groups	5282.893	721	7.327		
	Total	5297.757	723			
Support of teachers	Between Groups	71.86	2	35.93	1.262	0.284
	Within Groups	20529.935	721	28.474		
	Total	20601.796	723			
Assessment and learning outcome	Between Groups	40.645	2	20.323	2.847	0.059
	Within Groups	5145.985	721	7.137		
	Total	5186.63	723			
Impact of online learning	Between Groups	47.665	2	23.833	1.125	0.325
	Within Groups	15268.749	721	21.177		
	Total	15316.414	723			
Perceptions on online learning	Between Groups	133.295	2	66.647	2.349	0.096
	Within Groups	20454.223	721	28.369		
	Total	20587.518	723			
Digital Divide	Between Groups	638.547	2	319.273	1.426	0.241
	Within Groups	161462.365	721	223.942		
	Total	162100.912	723			

The above ANOVA test shows that there is no significant difference among students of different age groups in their digital divide and its dimensions: access to online classes, support of parents and peers, support of teachers, assessment and learning outcome, impact of online learning, and perceptions on online learning.

Table 4.3 Difference between different religious groups

ANOVA						
		Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Access to online classes	Between Groups	111.162	5	22.232	2.197	0.053
	Within Groups	7266.975	718	10.121		
	Total	7378.137	723			
Support of parents and peers	Between Groups	89.349	5	17.87	2.463	0.032
	Within Groups	5208.408	718	7.254		
	Total	5297.757	723			
Support of teachers	Between Groups	280.089	5	56.018	1.979	0.08
	Within Groups	20321.707	718	28.303		
	Total	20601.796	723			
Assessment and learning outcome	Between Groups	34.521	5	6.904	0.962	0.44
	Within Groups	5152.108	718	7.176		
	Total	5186.63	723			
Impact of online learning	Between Groups	66.178	5	13.236	0.623	0.682
	Within Groups	15250.236	718	21.24		
	Total	15316.414	723			
Perceptions on online learning	Between Groups	139.563	5	27.913	0.98	0.429
	Within Groups	20447.955	718	28.479		
	Total	20587.518	723			
Digital Divide	Between Groups	23 33.547	5	466.709	2.097	0.064
	Within Groups	159767.364	718	222.517		
	Total	162100.912	723			

The above ANOVA test shows that there is no significant difference among students of different religions in their digital divide and its dimensions: access to online classes, support of parents and peers, support of teachers, assessment and learning outcome, impact of online learning, and perceptions on online learning.

Table 4.4 Difference on the basis of social category

ANOVA						
		Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Access to online classes	Between Groups	475.639	5	95.128	9.895	0
	Within Groups	6902.498	718	9.614		
	Total	7378.137	723			
Support of parents and peers	Between Groups	281.877	5	56.375	8.07	0
	Within Groups	5015.88	718	6.986		
	Total	5297.757	723			
Support of teachers	Between Groups	185.059	5	37.012	1.302	0.261
	Within Groups	20416.737	718	28.436		
	Total	20601.796	723			
Assessment and learning outcome	Between Groups	106.041	5	21.208	2.997	0.011
	Within Groups	5080.589	718	7.076		
	Total	5186.63	723			
Impact of online learning	Between Groups	257.983	5	51.597	2.46	0.032
	Within Groups	15058.431	718	20.973		
	Total	15316.414	723			
Perceptions on online learning	Between Groups	160.311	5	32.062	1.127	0.344
	Within Groups	20427.207	718	28.45		
	Total	20587.518	723			
Digital Divide	Between Groups	5001.643	5	1000.329	4.572	0
	Within Groups	157099.268	718	218.801		
	Total	162100.912	723			

The above ANOVA test shows that there is significant difference among students of different social categories in their digital divide and its dimensions: access to online classes, support of parents and peers, support of teachers, assessment and learning outcome, impact of online learning, and perceptions on online learning.

Therefore, a post hoc test was done for multiple comparisons between pairs of social categories to find the digital divide between these pairs. Accordingly, it was found that there is significant difference between general category students and ST category students and OBC students and general category students in their digital divide and its dimensions: access to online classes, support of parents and peers, support of teachers, assessment and learning outcome, impact of online learning, and perceptions on online learning. Since the mean score of general category students is more than that of OBC and ST category, the general category students do far better in digital technology than the OBC and ST students.

Table 4.5 Significant Difference on the basis of parental education

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Access to online classes	Between Groups	1391.87	4	347.968	41.794	0
	Within Groups	5986.266	719	8.326		
	Total	7378.137	723			
Support of parents and peers	Between Groups	854.425	4	213.606	34.565	0
	Within Groups	4443.332	719	6.18		
	Total	5297.757	723			
Support of teachers	Between Groups	928.432	4	232.108	8.483	0
	Within Groups	19673.364	719	27.362		
	Total	20601.796	723			
Assessment and learning outcome	Between Groups	294.982	4	73.745	10.839	0
	Within Groups	4891.648	719	6.803		
	Total	5186.63	723			
Impact of online learning	Between Groups	402.605	4	100.651	4.852	0.001
	Within Groups	14913.809	719	20.742		
	Total	15316.414	723			
Perceptions on online learning	Between Groups	459.689	4	114.922	4.105	0.003
	Within Groups	20127.829	719	27.994		
	Total	20587.518	723			
Digital Divide	Between Groups	15479.377	4	3869.844	18.977	0
	Within Groups	146621.535	719	203.924		
	Total	162100.912	723			

In order to find the significant difference among students on the basis of parental education, ANOVA test was done and found that there is significant difference among students on the basis of parental education.

Therefore, a post hoc test was done for multiple comparisons between pairs of educational qualifications of parents to find the digital divide between these pairs. Accordingly, it was found that there is significant difference between students whose parents are graduate and above and students whose parents are Sr. Secondary, secondary, primary or illiterate in their digital divide and its dimensions: access to online classes, support of parents and peers, support of teachers, assessment and learning outcome, impact of online learning, and perceptions on online learning. Since the mean score of students whose parents are graduate and above is more than that of all other groups, students whose parents are graduate and above do far better in digital technology than the rest of the students.

Table 4.6 Difference on the basis of parental occupations

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Access to online classes	Between Groups	804.69	6	134.115	14.629	0
	Within Groups	6573.446	717	9.168		
	Total	7378.137	723			
Support of parents and peers	Between Groups	432.037	6	72.006	10.611	0
	Within Groups	4865.72	717	6.786		
	Total	5297.757	723			
Support of teachers	Between Groups	459.2	6	76.533	2.724	0.013
	Within Groups	20142.595	717	28.093		
	Total	20601.796	723			
Assessment and learning outcome	Between Groups	213.566	6	35.594	5.132	0
	Within Groups	4973.063	717	6.936		
	Total	5186.63	723			
Impact of online learning	Between Groups	62.372	6	10.395	0.489	0.817
	Within Groups	15254.043	717	21.275		
	Total	15316.414	723			
Perceptions on online learning	Between Groups	1131.027	6	188.504	6.947	0
	Within Groups	19456.491	717	27.136		
	Total	20587.518	723			
Digital Divide	Between Groups	7449.859	6	1241.643	5.757	0
	Within Groups	154651.053	717	215.692		
	Total	162100.912	723			

In order to find the significant difference among students on the basis of parental occupation, ANOVA test was done and found that there is significant difference among students on the basis of parental occupation.

Therefore, a post hoc test was done for multiple comparisons between pairs of occupations of parents to find the digital divide between these pairs. Accordingly, it was found that there is significant difference between students whose parents are in government service and cultivators, or agricultural laborers or , between home makers and cultivators or agricultural laborers, between those in private service and cultivators or agricultural laborers, between business people and cultivators or agricultural laborers, in their digital divide and its dimensions: access to online classes, support of parents and peers, support of teachers, assessment and learning outcome, impact of online learning, and perceptions on online learning. Since the mean scores of students show that the children of cultivators and agricultural laborers suffer the most in terms of access to digital technology.

Table 4.7 Difference between Government and private institutions

	Type of school	N	Mean	Std. Deviation	't'- value	p- value
Access to online classes	Government	185	15.44	2.915	-5.521	0
	Private	539	16.91	3.202		
Support of parents and peers	Government	185	13.25	2.622	-7.296	0
	Private	539	14.87	2.612		
Support of teachers	Government	185	31.46	4.394	-5.014	0
	Private	539	33.7	5.514		
Assessment and learning outcome	Government	185	14.88	2.509	-4.565	0
	Private	539	15.9	2.687		
Impact of online learning	Government	185	34.99	3.991	-2.286	0.023
	Private	539	35.89	4.777		
Perceptions on online learning	Government	185	48.94	5.716	-0.448	0.654
	Private	539	49.14	5.204		
Digital Divide	Government	185	158.95	14.196	-5.993	0
	Private	539	166.42	14.768		

To find the significant difference between the government school students and private school students in their digital divide 't'-test was done. The result shows that there is significant difference between government school students and private school students in digital divide and its dimensions: access to online classes, support of parents and peers, support of teachers, assessment and learning outcome, and impact of online learning. In all the cases, the private school students are better off in terms of digital technology. But there is no significant difference between government school students and private school students in their perceptions on online learning.

Table 4.8 Association between Religion and Digital Divide

Chi-Square Tests			
	Value	**df**	**Asymptotic Significance (2-sided)**
Pearson Chi-Square	23.946	10	0.008
Likelihood Ratio	21.62	10	0.017
Linear-by-Linear Association	4.778	1	0.029
N of Valid Cases	725		

It is clear from the above analysis that there is significant association between religion and digital divide.

Table 4.9 Association between Social Category and Digital Divide

Chi-Square Tests			
	Value	**df**	**Asymptotic Significance (2-sided)**
Pearson Chi-Square	24.302	10	0.007
Likelihood Ratio	25.31	10	0.005
Linear-by-Linear Association	1.116	1	0.291
N of Valid Cases	725		

It is clear from the above analysis that there is significant association between social category and digital divide.

Table 4.10 Association between Parent's Education and Digital Divide

Chi-Square Tests			
	Value	**df**	**Asymptotic Significance (2-sided)**
Pearson Chi-Square	41.367a	8	0
Likelihood Ratio	44.731	8	0
Linear-by-Linear Association	33.731	1	0
N of Valid Cases	725		

It is clear from the above analysis that there is significant association between parents' level of education and digital divide.

Table 4.11 Association between Parent's Occupation and Digital Divide

Chi-Square Tests			
	Value	**df**	**Asymptotic Significance (2-sided)**
Pearson Chi-Square	29.102a	12	0.004
Likelihood Ratio	33.177	12	0.001
Linear-by-Linear Association	0.71	1	0.399
N of Valid Cases	725		

It is clear from the above analysis that there is significant association between parents' occupation and digital divide.

Table 4.12 Association between Type of School and Digital Divide

Chi-Square Tests			
	Value	**df**	**Asymptotic Significance (2-sided)**
Pearson Chi-Square	13.741a	2	0.001
Likelihood Ratio	14.488	2	0.001
Linear-by-Linear Association	13.616	1	0
N of Valid Cases	725		

It is clear from the above analysis that there is significant association between type of school and digital divide.

CHAPTER V

SUMMARY AND DISCUSSION

5.0 INTRODUCTION

The study's findings are based on the analysis of data collected through the administration of a questionnaire on a sample of 631 households, 1255 students and 600 teachers from 13 States across India. Through this survey, the investigator has studied the education, digital divide and COVID-19 in India. In this chapter are given the findings of the study are.

5.1 SUMMARY OF FINDINGS

1. The study shows that 76.7 percent of the students attended online classes during the COVID-19 pandemic.
2. The mode of attending the online classes mainly was live streaming on some digital platform. The study shows that 65.61 per cent of students attended live online classes, 5.71 per cent of students made use of recorded videos and 4.12 per cent of students attended recorded or live telecasts of learning materials.
3. Of the 24 per cent of students who did not attend online classes, 76.48 per cent did not have access to smartphones or had only one smartphone at home and multiple users. Other reasons for not attending online classes were network coverage issues or poor ambience at home for studies.
4. 4. The students were quite regular in attending online classes. Some 82.11 per cent of the students were regular, while 14.56 per cent attended online classes on alternate days.
5. Only 47.07 per cent of the students had a continuous power supply to attend online classes, while 50.55 per cent of students felt an interrupted power supply due to power failure. 1.43 per cent of students had no electricity, and 0.95 per cent used battery or solar power for their online classes.
6. The study shows that only 64.34 per cent of the students had a Wi-Fi connection, 10.78 per cent used broadband dongle or USB, and 8.72 per cent used a Digital Subscriber Line (DSL). 16.16 per cent of the students had no internet connection.
7. The internet connectivity status shows that 40.25 per cent of students enjoyed good internet connectivity. In comparison, 35.97 per cent of students had fair internet connectivity, and 23.77 per cent had poor internet connectivity.
8. The study showed that 53.41 per cent of students did not have to procure new mobile for online classes. However, 46.59 per cent of students had to buy new mobiles to attend online classes.
9. Regarding the procurement of mobile phones, 52.72 per cent had purchased mobiles before the lockdown, 40.14 per cent procured mobile devices during the lockdown, and 3.74 per cent of the students shared devices with their friends.
10. Besides the online classes, the students were also browsing the internet for other purposes. Some 40.25 per cent of students browsed the internet daily, 20.13 per cent once a week, 10.3 per cent twice a week, and 4.12 per cent once a month. The rest, 25.2 per cent, did not browse the internet at all.
11. About half the students (49.76 per cent) were using their digital devices only for study purposes.

The rest of them spent their time in other activities. Some 32.33 per cent of the students misused digital devices for other purposes like playing online games, watching movies etc. Some 43.74 per cent had excessive screen time, and 15.69 per cent were exposed to inappropriate relationships.

12. According to the study, 74.48 per cent of children still need support in procuring digital gadgets from government /non-government agencies for learning. 16.16 per cent did receive support from teachers, while the rest received some support from their neighbourhood, PTA/MTA/LSG, government schemes and NGOs.
13. Most children (83.99%) regularly submitted their homework/assignments on time. The study also showed that 57.36 per cent of children got help from their parents to complete their assignments, while 20 per cent still needed to receive help from someone to complete their assignments. The rest got some help from their relatives, educated elders from the family or neighbourhoods, and volunteers from NGOs.
14. According to the study, 83.52 per cent of teachers assessed the homework/ assignments and reverted in time during online classes.
15. The assessment pattern also changed during the pandemic period. 73.06 per cent of schools adopted online assessment and evaluation processes.
16. The present study showed that 67.67 per cent of the parents were happy with their children's learning outcomes/ achievements.
17. Only 39.62 per cent of parents availed the orientation programme the school conducted for parents on online teachings like technical support, availability of internet connectivity and internet safety etc.
18. According to 79.81 per cent of the respondents, the teachers had frequent interactions with the children.
19. Similarly, 68.78 per cent of the parents had frequent interactions with the teachers regarding the progress of the child/children or the challenges faced in learning.
20. Regarding the usefulness of the interactions, 44.54 per cent of the parents felt that the interactions with the teachers were beneficial in supporting their children's learning at home. At the same time, it was only helpful for 27.58 per cent of the students.
21. Regarding sharing learning materials, 63.23 per cent of the parents said that the teachers shared the learning materials through digital platforms like WhatsApp, e-mail, or other digital platforms. In contrast, 20.29 per cent said that teachers shared printed materials by circulating or reaching home.
22. Regarding the measures adopted by the school to deliver the midday meal for the children during the pandemic, 50.87 per cent said that no steps were taken by the school, while 28.21 per cent had direct delivery of dry ration kits at home.
23. Regarding the measures taken by the school to address the learning gap and learning loss of the children during the first and second waves of the pandemic, 86 per cent of the parents showed satisfaction.
24. Regarding the nature of the steps taken by the school to ensure the mental health and well-being of children, 40.73 per cent said that the school did not take any steps. In contrast, 23.61 per cent said that the school conducted art-craft classes, 16.16 per cent had individual/group counselling sessions, and 14/1 per cent had yoga classes.

25. Based on the children's feedback on their experiences, 88.75 per cent of the parents believed that offline classes were better than online classes. For 33.6 percent of the parents, the children were compelled to attend online classes during the pandemic, though it was satisfactory.

26. There is a noticeable difference between rural and urban students in their access to online classes. While 94.18 per cent of urban students had access to online classes, only 56.3 per cent of rural students had access to online classes.

27. Some 28.57 per cent of respondents from rural areas did not have an internet connection. In contrast, only 4.76 per cent of respondents from urban areas needed an internet connection through Wi-Fi, Broadband Dongle or Digital Subscriber Line (DSL).

28. Regarding internet connectivity, among the respondents from the urban areas, 57.14 per cent had good internet connectivity, 33.33 per cent had fair internet connectivity, and 9.53 per cent had poor internet connectivity. In contrast, in the case of rural areas, only 17.22 per cent had good internet connectivity, 40.76 per cent had fair internet connectivity, and 42.02 per cent had poor internet connectivity showing a vast difference between rural and urban students in terms of internet connectivity.

29. Looking at the power supply situation in rural and urban areas, it is found that 76.72 percent of urban respondents had continuous power supply while only 14.71 percent had continuous power supply in rural areas.

    At the same time, 82.35 per cent of the cases had interrupted power supply is 82.35 per cent in rural areas, while in urban areas, interrupted power supply was only 23/28 per cent. Also, there was no electricity supply in 2.94 per cent of rural areas.

30. Looking at the status of computer availability, it was found that 95.38 per cent of rural respondents had no computers. In contrast, 42.33 per cent of urban respondents needed computers showing a vast disparity in the availability of computers.

31. Some 87.3 per cent of urban respondents had smartphones, while in rural areas, smartphones were available only for 75.21 per cent of the cases.

32. During the lockdown, only 31.51 per cent of respondents from rural areas had to procure smartphones, but in the case of urban respondents, 55.03 per cent had to procure smartphones during the lockdown.

33. The study also showed that 73.33 per cent of rural family members were uncomfortable with online platforms. In contrast, in the case of urban family members, only 32.28 per cent were not comfortable with digital platforms. Again, we see a significant difference between rural and urban respondents.

34. There is no significant difference between male and female students in their digital divide and its dimensions: access to online classes, support of parents and peers, support of teachers, assessment and learning outcome, the impact of online learning, and perceptions of online learning.

35. There is no significant difference among students of different age groups in their digital divide and its dimensions: access to online classes, support of parents and peers, support of teachers, assessment and learning outcome, the impact of online learning, and perceptions of online learning.

36. There is no significant difference among students of different religions in their digital divide and its dimensions: access to online classes, support of parents and peers, support of teachers, assessment and learning outcome, the impact of online learning, and perceptions on online learning.

37. There is a significant difference among students of different social categories in their digital divide and its dimensions: access to online classes, support of parents and peers, support of teachers, assessment and learning outcome, the impact of online learning, and perceptions of online learning. According to the post hoc test, there is a significant difference between general category students and ST category students and OBC students and general category students in their digital divide and its dimensions: access to online classes, support of parents and peers, support of teachers, assessment and learning outcome, the impact of online learning, and perceptions on online learning. Since the mean score of general category students is more than that of the OBC and ST category, the general category students do far better in digital technology than the OBC and ST students.
38. There is a significant difference among students based on parental education. According to the post hoc test, there is a significant difference between students whose parents are graduates and above and students whose parents are Sr. Secondary, secondary, primary or illiterate in their digital divide and its dimensions: access to online classes, support of parents and peers, support of teachers, assessment and learning outcome, the impact of online learning, and perceptions on online learning. Since the mean score of students whose parents are graduates and above is more than that of all other groups, students whose parents are graduates do far better in digital technology than the rest.
39. There is a significant difference among students based on parental occupation. Again, according to the post hoc test, there is a significant difference between students whose parents are in government service and cultivators, or agricultural labourers, between homemakers and cultivators or agricultural labourers, between those in private service and cultivators or agricultural labourers, between business people and cultivators or agricultural labourers, in their digital divide and its dimensions: access to online classes, support of parents and peers, support of teachers, assessment and learning outcome, the impact of online learning, and perceptions on online learning. The mean scores of the children of cultivators and agricultural labourers suffer the most in terms of access to digital technology.
40. There is a significant difference between government and private school students in the digital divide and its dimensions: access to online classes, support of parents and peers, support of teachers, assessment and learning outcome, and impact of online learning. In all cases, private school students were better at using digital technology than government school students. However, there is no significant difference between government and private school students' perceptions of online learning.
41. The cross-tabulation analysis showed a significant association between religion and the digital divide, social category and the digital divide, parents' level of education and the digital divide, parents' occupation and the digital divide and the type of school the children are studying and the digital divide.

5.2 DISCUSSION

The present study showed that 76.7 per cent of the students attended online classes. This is because most of the sample came from private and Jesuit-run schools where facilities for conducting online classes were available. The government schools (36.97 per cent) and rural schools did not have facilities like electricity, internet connectivity etc. to conduct online classes. The situation in rural areas would be grimmer. These results are supported by the findings of Raju (2021), Mahapatra (2021), Hemant (2021), Srivastava (2021), Ghosh (2021), Chouhan (2021) and Barman (2021).

Let us look at the economically and socially disadvantaged groups. There is a vast digital gap between SC/ST and other social categories concerning access to online classes, support of parents and peers, support of teachers, assessment and learning outcomes, the impact of online learning, and perceptions of online learning. Digital attainment is low among the low-income groups, the agricultural labourers, and cultivators compared to the high-income groups like those whose parents are in government service, private service and homemakers. The findings of Raju (2021), Mahapatra (2021), Wadhawan (2021), Kunhaman (2021) and Barman (2021) also support the above results. This means that the economic factor plays a very important role in the digital divide in India.

Similarly, based on the parental educational level too, there is a massive gap in the digital attainment between different pairs of groups concerning access to online classes, support of parents and peers, support of teachers, assessment and learning outcome, the impact of online learning, and perceptions on online learning. Children whose parents are graduates and above did better in online learning and digital attainment. This again points to how parents give importance to education and the economic factor. The low-educated parents also form the bulk of agricultural labourers and cultivators.

There is also a significant difference between government and private school children in the digital divide and its dimensions: access to online classes, support of parents and peers, support of teachers, assessment and learning outcome, the impact of online learning, and perceptions of online learning. Government school children perform very poorly concerning digital learning because it is children from poor and disadvantaged families who mostly take admission to government schools. Besides, government schools are known for poor infrastructure, internet connectivity, and power supply.

The big divide is also very evident between rural children concerning access to online classes, internet connection, internet connectivity, uninterrupted power supply, computer availability, smartphone availability and comfortability of parents and family members with online platforms. This view is supported by Hemand (2021), Srivastava (2021), Ghosh (2021), Chouhan (2021) and Barman (2021). Once again, it is clear that financial constraints, engagement in domestic activities, engagement in economic activities and lack of interest are the main reasons leading to the digital divide in India. The education of the head of the household also matters in this regard.

5.3 NEP 2020 AND ONLINE EDUCATION

The NEP 2020 has emphasized the importance of online education alongside offline education. This will exclude a large section of the student population since access to a computer and the internet could be higher among the social and low-income groups. It has been suggested that the ratio of offline and online education should be 40:60. If the institutions spend 40 per cent of their time on online education, then it will be bad news for the disadvantaged group and will go against equity and inclusiveness.

Looking at the NSS 2017-18 data, we find many disparities concerning geographical location, social categories and income groups. According to this data, only 10.7 per cent of the households in India have access to computers (4.4 per cent of rural households and 23.4 per cent of urban households), and 23.8 per cent of households have internet (14.9 per cent of rural and 42.0 per cent of urban). The disparity between rural and urban is enormous.

In the social category, too, there are huge disparities. Only 4.8 per cent of ST, 5.5 per cent of SC, 6.37 per cent of Buddhists, 7.1 per cent of Muslims, 8.7 per cent of OBC and 22.0 per cent of General category own computers, while in the case of the internet accessibility, this ratio was 12 per cent for ST, 15.3 per cent

for SC, 21 per cent for OBC, 22 per cent for Muslim and 41.4 per cent for General category households.

Similarly, among the bottom 20 per cent of income groups, only 2.4 per cent own computers, and 8.4 per cent have access to the internet. Among the lower 20-40 per cent income groups, 3.6 per cent of households own computers, and 13.3 per cent of households have access to the internet. Among the lower 40-60 per cent income groups, 4.7 per cent of households own computers, and 18.5 per cent of households have access to the internet.

Among the 60-80 per cent income groups, 11.9 per cent of households own computers, and 31.1 per cent have access to the internet. Moreover, among the top 20 per cent of income groups, only 33.7 per cent of households own computers, and 52.6 per cent of households have access to the internet.

Therefore, as proposed by NEP 2020, online education will be a big challenge to the nation. Before enforcing 40 per cent online education, the policymakers need to ensure that computers and internet access are available in rural areas, among the disadvantaged social categories and lower income groups.

Online education will be highly discriminatory to the socio-economically disadvantaged groups and individuals from rural areas. In such a situation, the best option before the policymakers is to insist on distance education, especially at the higher levels, from the point of view of equity and inclusiveness of economically and socially disadvantaged groups. In the case of distance education, students can quickly attend online classes from particular designated institutions.

5.4 CONCLUSION

An understanding of the impact of COVID- 19 on school education, with a particular focus on digitally deprived children, garners the importance of guaranteeing numerous Central and State government schemes geared towards achieving universal education with equity and access. From the above discussion, it is clear that there is a digital divide between rural and urban children. Most rural children need help accessing better private educational institutions because of their social and economic disadvantages. Similar is the case in the urban areas, too, but with much less degree. The children have already lost almost two years of education due to the pandemic. If sufficient action is not taken by the Government immediately, this divide will widen all the more. State and Central governments must work together to provide universal education with equity and access.

5.5 RECOMMENDATIONS

Strategies and policy briefs would be developed to rattle political structures and governments to bring out systematic and synchronized changes in the current education system to mitigate the challenges and risks of the digital divide.

Steps to be taken by the Government

1. Today, online education has become a new normal; even the NEP 2020 has recommended the same for school education. The Government should provide online platforms to the schools and ensure all the institutions provide online education to the students.
2. Provide an uninterrupted power supply to all the rural schools.
3. Internet connection and connectivity is a big issue in rural areas. The State governments and educational planners ensure free internet connectivity is provided to rural schools.
4. Provide subsidized smartphones or laptops to poor children in rural schools so they can access

online education.

5. Provide financial assistance and scholarships to socio-economically disadvantaged groups in government and private institutions.
6. Provide support for technological tools for better participation and learning outcomes.
7. Government authorities should take an interest in children's education and develop the schools under their care.
8. A good number of children drop out of school in order to help their families for economic reasons. The Government should introduce welfare schemes to improve the economic situation of low-income families, especially in rural areas. This will help the parents to send their children to school and minimize dropouts.
9. Enforce free and compulsory education till the age of eighteen, even to the extent of punishing the erring parents, to realize the dreams of the founders of the Constitution.
10. Develop a me-bound programme to bridge the divide between socio-economically disadvantaged and advantaged groups.
11. Government authorities should provide small-scale internet networks in rural areas.
12. Government should train the teachers and form a strategy in order to get better results
13. Government should create endowment funds and diaspora contributions to reduce the digital divide.
14. Make free, open-source technology accessible to the poor.
15. Develop low-tech and no-tech solutions to address the needs of poor children.
16. Enforce digitization of learning in all educational institutions.
17. Set up digital libraries in rural areas with the support of Local Self-Government, which underprivileged children can use.

Steps to be taken by parents, teachers, school management and civil society

1. Parents at home and teachers in schools should monitor the internet browsing activities of the children.
2. Scholarships could be extended to more rural students based on merit. NGOs and other charitable agencies could come forward to help/adopt rural children for education.
3. The school management and educators ensure that the teachers are provided sufficient training in managing online platforms.
4. The pattern of assessment is being changed. Encourage parents to take more interest in their children and to help them complete their assignments on time.
5. Increase the infrastructural facilities in rural government schools where children are forced to sit on the floor.
6. Conduct orientation programmes on online teaching like technical support, availability of internet connectivity and internet safety for parents of children studying in government schools.
7. Have parent-teacher association (PTA) meetings regularly.

8. Today, guidance and counselling have become a norm in all schools. Appoint qualified counsellors in government schools, especially in rural areas. This will improve the mental health and well-being of the children.

9. Insist on yoga classes and practice in every school for all children.

10. Provide greater access to IT resources during regular school hours.

- Provide wireless hotspots on the school campus.
- Make sure learning materials are downloaded and stored on devices to use at home without the internet. e.g., e-book
- Identify places where broadband is accessible to the community.
- Provide recorded lessons through loudspeakers.
- Encourage self-learning as a way forward.
- Provide and encourage community learning through community-driven activities.
- Introduce new teaching techniques like Blended learning (social learning, microlearning, and gamification), Block teaching, and Hybrid learning through flipped or reverse teaching and instruction.

The Government and other stakeholders can adopt these possible measures and minimize digital disparity in rural India.

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APPENDIX 1

Frequency Tables

Table 3.2 Province wise Distribution of Respondents

Province	Frequency	Percentage
Jamshedpur	419	33.39
Calcutta	132	10.52
Delhi	154	12.27
Madurai	48	3.82
Pune	43	3.43
Patna	42	3.35
Darjeeling	42	3.35
Karnataka	42	3.35
Hazaribagh	43	3.43
Goa	48	3.82
Dumka	40	3.19
Jamshedpur	40	3.19
Bombay	41	3.27
Kerala	40	3.19
Madhya Pradesh	40	3.19
Andhra	41	3.27
Total	**1255**	**100**

Table 3.3 Habitat wise Distribution

Habitat	Frequency	Percentage
Urban	569	45.34
Rural	523	41.67
Semi-Urban	163	12.99
Total	**1255**	**100**

Table 3.4. Distribution of parents

Location	Frequency	Percentage
Rural	275	43.58
Urban	272	43.11
Semi-Urban	84	13.31
Total	**631**	**100**

Table 3.5 Gender wise Distribution of Children

Gender	Frequency	Percentage
Male	650	51.79
Female	605	48.21
Total	**1255**	**100**

Table 3.6 Religion wise Distribution of Respondent

Religion	Frequency	Percentage
Hindu	996	79.36
Christian	135	10.76
Others(specify)	56	4.46
Muslim	52	4.14
Sikh	9	0.72
Don't want to disclose	7	0.56
Total	**1255**	**100**

Table 3.7 Social Category wise Distribution of Respondents

Social Category	Frequency	Percentage
General	481	38.33
Other Backward Classes (OBC)	335	26.69
Scheduled Tribe (ST)	235	18.73
Scheduled Caste (SC)	132	10.52
Don't know	28	2.23
Don't want to disclose	23	1.83
Others(specify)	21	1.67
Total	**1255**	**100**

Table 3.8 Parents' educational level

Educational Level	Frequency	Percentage
Graduation & Above	526	41.91
Secondary	227	18.09
Primary	214	17.05
Higher Secondary	165	13.15
Illiterate	123	9.8
Total	**1255**	**100**

Table 3.9 Occupation of the parents

Occupation	Frequency	Percentage
Private Service	387	30.84
Others (specify)	204	16.25
Government Service	176	14.02
Business	157	12.51
Agricultural Labourer	144	11.47
Cultivator	104	8.29
Home Maker	83	6.61
Total	**1255**	**100**

Table 3.10 Type of school by Management

School Management	Frequency	Percentage
Private	618	49.24
Government	464	36.97
Private Aided	173	13.78
Total	**1255**	**100**

Table 3.11 Type of school by Level of education

Level	Number	Percentage
Secondary	449	35.78
Higher Secondary	364	29
Primary	278	22.15
Upper Primary	164	13.07
Total	**1255**	**100**

Table 3.12 Distance to school from home

Distance	Frequency	Percentage
Within 3km	615	49
3 - 7km	423	33.71
Above 7km	217	17.29
Total	**1255**	**100**

Table 3.13 Online class attendance

Response	Frequency	Percentage
Yes	904	72.03
No	315	25.1
No Virtual Class	36	2.87
Total	**1255**	**100**

Table 3.14 attendance of online classes

Type of Attendance	Number	Percentage
Live class through online platforms	773	61.59
Sharing of recorded videos	89	7.09
WhatsApp/.Telegram/ etc.	30	2.39
Recorded/live telecast	6	0.48
Education Channels	2	0.16
Total	**1255**	**100**

Table 3.15 Those did not attend online classes

Reasons for not attending online Classes	Frequency	Percentage
No access to Smart Phones/PCs/ Laptops etc.	196	62.22
One phone and multiple users	47	14.92
Network Coverage Issues	27	8.57
No ambience at home for learning	11	3.49
No money for recharge	6	1.91
Engaged in livelihood related options to support the family	5	1.59
Engaged in household chores during the time of classes	4	1.27
Others (specify)	19	6.03
Total	**315**	**100**

APPENDIX 2

Table 4.16 Post Hoc Tests for Religion

Multiple Comparisons							
Scheffe							
Dependent Variable	**(I) Religion**	**(J) Religion**	**Mean Difference (I-J)**	**Std. Error**	**Sig.**	**95 percent Confidence Interval**	
						Lower Bound	**Upper Bound**
Access to online classes	Hindu	Muslim	0.097	0.595	1	-1.89	2.08
		Sikh	0.135	1.21	1	-3.9	4.17
		Christian	-0.714	0.452	0.777	-2.22	0.79
		Others	1.461	0.526	0.174	-0.29	3.22
		Don't want to disclose	-0.437	1.841	1	-6.58	5.71
	Muslim	Hindu	-0.097	0.595	1	-2.08	1.89
		Sikh	0.038	1.335	1	-4.42	4.49
		Christian	-0.811	0.724	0.939	-3.23	1.61
		Others	1.364	0.773	0.682	-1.21	3.94
		Don't want to disclose	-0.533	1.926	1	-6.96	5.89
	Sikh	Hindu	-0.135	1.21	1	-4.17	3.9
		Muslim	-0.038	1.335	1	-4.49	4.42
		Christian	-0.849	1.278	0.994	-5.11	3.41
		Others	1.326	1.306	0.96	-3.03	5.68
		Don't want to disclose	-0.571	2.195	1	-7.9	6.75
	Christian	Hindu	0.714	0.452	0.777	-0.79	2.22
		Muslim	0.811	0.724	0.939	-1.61	3.23
		Sikh	0.849	1.278	0.994	-3.41	5.11
		Others	2.175	0.669	0.062	-0.06	4.41
		Don't want to disclose	0.278	1.887	1	-6.02	6.57
	Others	Hindu	-1.461	0.526	0.174	-3.22	0.29
		Muslim	-1.364	0.773	0.682	-3.94	1.21
		Sikh	-1.326	1.306	0.96	-5.68	3.03
		Christian	-2.175	0.669	0.062	-4.41	0.06
		Don't want to disclose	-1.897	1.906	0.963	-8.26	4.46
	Don't want to disclose	Hindu	0.437	1.841	1	-5.71	6.58
		Muslim	0.533	1.926	1	-5.89	6.96
		Sikh	0.571	2.195	1	-6.75	7.9
		Christian	-0.278	1.887	1	-6.57	6.02
		Others	1.897	1.906	0.963	-4.46	8.26

Dependent Variable	(I) Religion	(J) Religion	Mean Difference (I-J)	Std. Error	Sig.	95 percent Confidence Interval	
						Lower Bound	Upper Bound
Support of parents and peers	Hindu	Muslim	0.017	0.504	1	-1.67	1.7
		Sikh	-0.593	1.024	0.997	-4.01	2.82
		Christian	0.143	0.383	1	-1.14	1.42
		Others	1.473	0.445	0.054	-0.01	2.96
		Don't want to disclose	1.55	1.559	0.963	-3.65	6.75
	Muslim	Hindu	-0.017	0.504	1	-1.7	1.67
		Sikh	-0.61	1.131	0.998	-4.38	3.16
		Christian	0.126	0.613	1	-1.92	2.17
		Others	1.456	0.654	0.422	-0.73	3.64
		Don't want to disclose	1.533	1.631	0.971	-3.91	6.97
	Sikh	Hindu	0.593	1.024	0.997	-2.82	4.01
		Muslim	0.61	1.131	0.998	-3.16	4.38
		Christian	0.735	1.082	0.993	-2.87	4.35
		Others	2.066	1.106	0.625	-1.62	5.75
		Don't want to disclose	2.143	1.859	0.932	-4.06	8.34
	Christian	Hindu	-0.143	0.383	1	-1.42	1.14
		Muslim	-0.126	0.613	1	-2.17	1.92
		Sikh	-0.735	1.082	0.993	-4.35	2.87
		Others	1.33	0.566	0.356	-0.56	3.22
		Don't want to disclose	1.407	1.598	0.978	-3.92	6.74
	Others	Hindu	-1.473	0.445	0.054	-2.96	0.01
		Muslim	-1.456	0.654	0.422	-3.64	0.73
		Sikh	-2.066	1.106	0.625	-5.75	1.62
		Christian	-1.33	0.566	0.356	-3.22	0.56
		Don't want to disclose	0.077	1.614	1	-5.31	5.46
	Don't want to disclose	Hindu	-1.55	1.559	0.963	-6.75	3.65
		Muslim	-1.533	1.631	0.971	-6.97	3.91
		Sikh	-2.143	1.859	0.932	-8.34	4.06
		Christian	-1.407	1.598	0.978	-6.74	3.92
		Others	-0.077	1.614	1	-5.46	5.31
Support of teachers	Hindu	Muslim	0.363	0.996	1	-2.96	3.68
		Sikh	0.01	2.023	1	-6.74	6.76
		Christian	-0.037	0.756	1	-2.56	2.49
		Others	2.681	0.88	0.1	-0.25	5.62
		Don't want to disclose	2.296	3.079	0.99	-7.98	12.57
	Muslim	Hindu	-0.363	0.996	1	-3.68	2.96
		Sikh	-0.352	2.233	1	-7.8	7.1
		Christian	-0.4	1.211	1	-4.44	3.64

Dependent Variable	(I) Religion	(J) Religion	Mean Difference (I-J)	Std. Error	Sig.	95 percent Confidence Interval	
						Lower Bound	Upper Bound
		Others	2.318	1.292	0.666	-1.99	6.63
		Don't want to disclose	1.933	3.221	0.996	-8.82	12.68
	Sikh	Hindu	-0.01	2.023	1	-6.76	6.74
		Muslim	0.352	2.233	1	-7.1	7.8
		Christian	-0.048	2.137	1	-7.18	7.08
		Others	2.67	2.184	0.913	-4.62	9.96
		Don't want to disclose	2.286	3.671	0.996	-9.96	14.54
	Christian	Hindu	0.037	0.756	1	-2.49	2.56
		Muslim	0.4	1.211	1	-3.64	4.44
		Sikh	0.048	2.137	1	-7.08	7.18
		Others	2.718	1.118	0.316	-1.01	6.45
		Don't want to disclose	2.333	3.156	0.99	-8.2	12.86
	Others	Hindu	-2.681	0.88	0.1	-5.62	0.25
		Muslim	-2.318	1.292	0.666	-6.63	1.99
		Sikh	-2.67	2.184	0.913	-9.96	4.62
		Christian	-2.718	1.118	0.316	-6.45	1.01
		Don't want to disclose	-0.385	3.187	1	-11.02	10.25
	Don't want to disclose	Hindu	-2.296	3.079	0.99	-12.57	7.98
		Muslim	-1.933	3.221	0.996	-12.68	8.82
		Sikh	-2.286	3.671	0.996	-14.54	9.96
		Christian	-2.333	3.156	0.99	-12.86	8.2
		Others	0.385	3.187	1	-10.25	11.02
Assessment and learning outcome	Hindu	Muslim	0.267	0.501	0.998	-1.41	1.94
		Sikh	0.986	1.018	0.967	-2.41	4.38
		Christian	-0.096	0.381	1	-1.37	1.17
		Others	0.752	0.443	0.718	-0.73	2.23
		Don't want to disclose	1.367	1.55	0.978	-3.81	6.54
	Muslim	Hindu	-0.267	0.501	0.998	-1.94	1.41
		Sikh	0.719	1.124	0.995	-3.03	4.47
		Christian	-0.363	0.61	0.996	-2.4	1.67
		Others	0.485	0.651	0.99	-1.69	2.66
		Don't want to disclose	1.1	1.622	0.993	-4.31	6.51
	Sikh	Hindu	-0.986	1.018	0.967	-4.38	2.41
		Muslim	-0.719	1.124	0.995	-4.47	3.03
		Christian	-1.082	1.076	0.962	-4.67	2.51
		Others	-0.234	1.1	1	-3.9	3.43
		Don't want to disclose	0.381	1.849	1	-5.79	6.55

Dependent Variable	(I) Religion	(J) Religion	Mean Difference (I-J)	Std. Error	Sig.	95 percent Confidence Interval	
						Lower Bound	Upper Bound
	Christian	Hindu	0.096	0.381	1	-1.17	1.37
		Muslim	0.363	0.61	0.996	-1.67	2.4
		Sikh	1.082	1.076	0.962	-2.51	4.67
		Others	0.848	0.563	0.811	-1.03	2.73
		Don't want to disclose	1.463	1.589	0.974	-3.84	6.76
	Others	Hindu	-0.752	0.443	0.718	-2.23	0.73
		Muslim	-0.485	0.651	0.99	-2.66	1.69
		Sikh	0.234	1.1	1	-3.43	3.9
		Christian	-0.848	0.563	0.811	-2.73	1.03
		Don't want to disclose	0.615	1.605	1	-4.74	5.97
	Don't want to disclose	Hindu	-1.367	1.55	0.978	-6.54	3.81
		Muslim	-1.1	1.622	0.993	-6.51	4.31
		Sikh	-0.381	1.849	1	-6.55	5.79
		Christian	-1.463	1.589	0.974	-6.76	3.84
		Others	-0.615	1.605	1	-5.97	4.74
Impact of online learning	Hindu	Muslim	-0.673	0.863	0.988	-3.55	2.21
		Sikh	1.451	1.752	0.984	-4.4	7.3
		Christian	-0.739	0.655	0.937	-2.93	1.45
		Others	-0.098	0.762	1	-2.64	2.44
		Don't want to disclose	1.927	2.668	0.991	-6.97	10.83
	Muslim	Hindu	0.673	0.863	0.988	-2.21	3.55
		Sikh	2.124	1.934	0.944	-4.33	8.58
		Christian	-0.067	1.049	1	-3.57	3.43
		Others	0.574	1.119	0.998	-3.16	4.31
		Don't want to disclose	2.6	2.791	0.972	-6.71	11.91
	Sikh	Hindu	-1.451	1.752	0.984	-7.3	4.4
		Muslim	-2.124	1.934	0.944	-8.58	4.33
		Christian	-2.19	1.851	0.924	-8.37	3.99
		Others	-1.549	1.892	0.984	-7.86	4.76
		Don't want to disclose	0.476	3.18	1	-10.14	11.09
	Christian	Hindu	0.739	0.655	0.937	-1.45	2.93
		Muslim	0.067	1.049	1	-3.43	3.57
		Sikh	2.19	1.851	0.924	-3.99	8.37
		Others	0.641	0.968	0.994	-2.59	3.87
		Don't want to disclose	2.667	2.734	0.966	-6.45	11.79
	Others	Hindu	0.098	0.762	1	-2.44	2.64
		Muslim	-0.574	1.119	0.998	-4.31	3.16
		Sikh	1.549	1.892	0.984	-4.76	7.86
		Christian	-0.641	0.968	0.994	-3.87	2.59

Dependent Variable	(I) Religion	(J) Religion	Mean Difference (I-J)	Std. Error	Sig.	95 percent Confidence Interval	
						Lower Bound	Upper Bound
		Don't want to disclose	2.026	2.761	0.991	-7.19	11.24
	Don't want to disclose	Hindu	-1.927	2.668	0.991	-10.83	6.97
		Muslim	-2.6	2.791	0.972	-11.91	6.71
		Sikh	-0.476	3.18	1	-11.09	10.14
		Christian	-2.667	2.734	0.966	-11.79	6.45
		Others	-2.026	2.761	0.991	-11.24	7.19
Perceptions on online learning	Hindu	Muslim	-1.613	0.999	0.76	-4.94	1.72
		Sikh	0.626	2.029	1	-6.14	7.4
		Christian	-0.187	0.759	1	-2.72	2.34
		Others	0.464	0.882	0.998	-2.48	3.41
		Don't want to disclose	4.054	3.089	0.886	-6.25	14.36
	Muslim	Hindu	1.613	0.999	0.76	-1.72	4.94
		Sikh	2.238	2.24	0.963	-5.24	9.71
		Christian	1.426	1.215	0.927	-2.63	5.48
		Others	2.077	1.296	0.766	-2.25	6.4
		Don't want to disclose	5.667	3.231	0.688	-5.12	16.45
	Sikh	Hindu	-0.626	2.029	1	-7.4	6.14
		Muslim	-2.238	2.24	0.963	-9.71	5.24
		Christian	-0.812	2.144	1	-7.97	6.34
		Others	-0.161	2.191	1	-7.47	7.15
		Don't want to disclose	3.429	3.683	0.972	-8.86	15.72
	Christian	Hindu	0.187	0.759	1	-2.34	2.72
		Muslim	-1.426	1.215	0.927	-5.48	2.63
		Sikh	0.812	2.144	1	-6.34	7.97
		Others	0.651	1.121	0.997	-3.09	4.39
		Don't want to disclose	4.241	3.166	0.877	-6.32	14.8
	Others	Hindu	-0.464	0.882	0.998	-3.41	2.48
		Muslim	-2.077	1.296	0.766	-6.4	2.25
		Sikh	0.161	2.191	1	-7.15	7.47
		Christian	-0.651	1.121	0.997	-4.39	3.09
		Don't want to disclose	3.59	3.197	0.939	-7.08	14.26
	Don't want to disclose	Hindu	-4.054	3.089	0.886	-14.36	6.25
		Muslim	-5.667	3.231	0.688	-16.45	5.12
		Sikh	-3.429	3.683	0.972	-15.72	8.86
		Christian	-4.241	3.166	0.877	-14.8	6.32
		Others	-3.59	3.197	0.939	-14.26	7.08
Digital Divide	Hindu	Muslim	-1.542	2.792	0.998	-10.86	7.77
		Sikh	2.615	5.671	0.999	-16.31	21.54
		Christian	-1.631	2.121	0.988	-8.71	5.44

Dependent Variable	(I) Religion	(J) Religion	Mean Difference (I-J)	Std. Error	Sig.	95 percent Confidence Interval	
						Lower Bound	Upper Bound
		Others	6.732	2.466	0.191	-1.5	14.96
		Don't want to disclose	10.758	8.634	0.907	-18.05	39.57
	Muslim	Hindu	1.542	2.792	0.998	-7.77	10.86
		Sikh	4.157	6.261	0.994	-16.73	25.05
		Christian	-0.089	3.397	1	-11.42	11.24
		Others	8.274	3.623	0.391	-3.81	20.36
		Don't want to disclose	12.3	9.033	0.869	-17.84	42.44
	Sikh	Hindu	-2.615	5.671	0.999	-21.54	16.31
		Muslim	-4.157	6.261	0.994	-25.05	16.73
		Christian	-4.246	5.992	0.992	-24.24	15.75
		Others	4.117	6.123	0.994	-16.31	24.55
		Don't want to disclose	8.143	10.294	0.987	-26.2	42.49
	Christian	Hindu	1.631	2.121	0.988	-5.44	8.71
		Muslim	0.089	3.397	1	-11.24	11.42
		Sikh	4.246	5.992	0.992	-15.75	24.24
		Others	8.363	3.135	0.213	-2.1	18.82
		Don't want to disclose	12.389	8.848	0.854	-17.13	41.91
	Others	Hindu	-6.732	2.466	0.191	-14.96	1.5
		Muslim	-8.274	3.623	0.391	-20.36	3.81
		Sikh	-4.117	6.123	0.994	-24.55	16.31
		Christian	-8.363	3.135	0.213	-18.82	2.1
		Don't want to disclose	4.026	8.937	0.999	-25.8	33.85
	Don't want to disclose	Hindu	-10.758	8.634	0.907	-39.57	18.05
		Muslim	-12.3	9.033	0.869	-42.44	17.84
		Sikh	-8.143	10.294	0.987	-42.49	26.2
		Christian	-12.389	8.848	0.854	-41.91	17.13
		Others	-4.026	8.937	0.999	-33.85	25.8

Table 4.17 Post Hoc Tests for Social Category

Multiple Comparisons

Scheffe

Dependent Variable	(I) Social Category	(J) Social Category	Mean Difference (I-J)	Std. Error	Sig.	95 percent Confidence Interval	
						Lower Bound	Upper Bound
Access to online classes	SC	ST	0.516	0.551	0.972	-1.32	2.35
		OBC	0.316	0.524	0.996	-1.43	2.06
		General	-1.282	0.489	0.232	-2.91	0.35
		Don't know	-1.523	0.795	0.598	-4.17	1.13
		Don't want to disclose	-0.574	0.883	0.995	-3.52	2.37

Dependent Variable	(I) Social Category	(J) Social Category	Mean Difference (I-J)	Std. Error	Sig.	95 percent Confidence Interval	
						Lower Bound	Upper Bound
	ST	SC	-0.516	0.551	0.972	-2.35	1.32
		OBC	-0.2	0.388	0.998	-1.5	1.1
		General	-1.799*	0.34	0	-2.93	-0.66
		Don't know	-2.039	0.713	0.148	-4.42	0.34
		Don't want to disclose	-1.09	0.81	0.874	-3.79	1.61
	OBC	SC	-0.316	0.524	0.996	-2.06	1.43
		ST	0.2	0.388	0.998	-1.1	1.5
		General	-1.599*	0.294	0	-2.58	-0.62
		Don't know	-1.839	0.692	0.217	-4.15	0.47
		Don't want to disclose	-0.89	0.791	0.938	-3.53	1.75
	General	SC	1.282	0.489	0.232	-0.35	2.91
		ST	1.799*	0.34	0	0.66	2.93
		OBC	1.599*	0.294	0	0.62	2.58
		Don't know	-0.24	0.666	1	-2.46	1.98
		Don't want to disclose	0.709	0.769	0.974	-1.86	3.27
	Don't know	SC	1.523	0.795	0.598	-1.13	4.17
		ST	2.039	0.713	0.148	-0.34	4.42
		OBC	1.839	0.692	0.217	-0.47	4.15
		General	0.24	0.666	1	-1.98	2.46
		Don't want to disclose	0.949	0.992	0.969	-2.36	4.26
	Don't want to disclose	SC	0.574	0.883	0.995	-2.37	3.52
		ST	1.09	0.81	0.874	-1.61	3.79
		OBC	0.89	0.791	0.938	-1.75	3.53
		General	-0.709	0.769	0.974	-3.27	1.86
		Don't know	-0.949	0.992	0.969	-4.26	2.36
Support of parents and peers	SC	ST	0.189	0.47	0.999	-1.38	1.76
		OBC	-0.07	0.447	1	-1.56	1.42
		General	-1.225	0.417	0.126	-2.62	0.17
		Don't know	-1.353	0.677	0.552	-3.61	0.91
		Don't want to disclose	-0.752	0.752	0.963	-3.26	1.76
	ST	SC	-0.189	0.47	0.999	-1.76	1.38
		OBC	-0.259	0.331	0.987	-1.36	0.84
		General	-1.414*	0.29	0	-2.38	-0.45
		Don't know	-1.542	0.607	0.267	-3.57	0.49
		Don't want to disclose	-0.941	0.69	0.868	-3.24	1.36
	OBC	SC	0.07	0.447	1	-1.42	1.56
		ST	0.259	0.331	0.987	-0.84	1.36
		General	-1.155*	0.251	0.001	-1.99	-0.32
		Don't know	-1.282	0.59	0.451	-3.25	0.69

Dependent Variable	(I) Social Category	(J) Social Category	Mean Difference (I-J)	Std. Error	Sig.	95 percent Confidence Interval	
						Lower Bound	Upper Bound
		Don't want to disclose	-0.681	0.675	0.961	-2.93	1.57
	General	SC	1.225	0.417	0.126	-0.17	2.62
		ST	1.414*	0.29	0	0.45	2.38
		OBC	1.155*	0.251	0.001	0.32	1.99
		Don't know	-0.128	0.568	1	-2.02	1.77
		Don't want to disclose	0.473	0.655	0.991	-1.71	2.66
	Don't know	SC	1.353	0.677	0.552	-0.91	3.61
		ST	1.542	0.607	0.267	-0.49	3.57
		OBC	1.282	0.59	0.451	-0.69	3.25
		General	0.128	0.568	1	-1.77	2.02
		Don't want to disclose	0.601	0.845	0.992	-2.22	3.42
	Don't want to disclose	SC	0.752	0.752	0.963	-1.76	3.26
		ST	0.941	0.69	0.868	-1.36	3.24
		OBC	0.681	0.675	0.961	-1.57	2.93
		General	-0.473	0.655	0.991	-2.66	1.71
		Don't know	-0.601	0.845	0.992	-3.42	2.22
Support of teachers	SC	ST	0.141	0.947	1	-3.02	3.3
		OBC	0.04	0.901	1	-2.97	3.05
		General	-0.727	0.841	0.98	-3.53	2.08
		Don't know	-2.202	1.367	0.762	-6.76	2.36
		Don't want to disclose	-0.112	1.518	1	-5.18	4.95
	ST	SC	-0.141	0.947	1	-3.3	3.02
		OBC	-0.101	0.668	1	-2.33	2.13
		General	-0.868	0.585	0.82	-2.82	1.08
		Don't know	-2.343	1.226	0.6	-6.43	1.75
		Don't want to disclose	-0.253	1.392	1	-4.9	4.39
	OBC	SC	-0.04	0.901	1	-3.05	2.97
		ST	0.101	0.668	1	-2.13	2.33
		General	-0.768	0.506	0.806	-2.46	0.92
		Don't know	-2.242	1.19	0.616	-6.21	1.73
		Don't want to disclose	-0.153	1.361	1	-4.69	4.39
	General	SC	0.727	0.841	0.98	-2.08	3.53
		ST	0.868	0.585	0.82	-1.08	2.82
		OBC	0.768	0.506	0.806	-0.92	2.46
		Don't know	-1.475	1.146	0.894	-5.3	2.35
		Don't want to disclose	0.615	1.322	0.999	-3.8	5.03
	Don't know	SC	2.202	1.367	0.762	-2.36	6.76
		ST	2.343	1.226	0.6	-1.75	6.43

Dependent Variable	(I) Social Category	(J) Social Category	Mean Difference (I-J)	Std. Error	Sig.	95 percent Confidence Interval	
						Lower Bound	Upper Bound
		OBC	2.242	1.19	0.616	-1.73	6.21
		General	1.475	1.146	0.894	-2.35	5.3
		Don't want to disclose	2.09	1.706	0.913	-3.6	7.78
	Don't want to disclose	SC	0.112	1.518	1	-4.95	5.18
		ST	0.253	1.392	1	-4.39	4.9
		OBC	0.153	1.361	1	-4.39	4.69
		General	-0.615	1.322	0.999	-5.03	3.8
		Don't know	-2.09	1.706	0.913	-7.78	3.6
Assessment and learning outcome	SC	ST	0.456	0.473	0.968	-1.12	2.03
		OBC	0.141	0.449	1	-1.36	1.64
		General	-0.272	0.42	0.995	-1.67	1.13
		Don't know	-1.335	0.682	0.574	-3.61	0.94
		Don't want to disclose	0.931	0.757	0.912	-1.6	3.46
	ST	SC	-0.456	0.473	0.968	-2.03	1.12
		OBC	-0.315	0.333	0.97	-1.43	0.8
		General	-0.729	0.292	0.284	-1.7	0.24
		Don't know	-1.792	0.611	0.128	-3.83	0.25
		Don't want to disclose	0.474	0.695	0.993	-1.84	2.79
	OBC	SC	-0.141	0.449	1	-1.64	1.36
		ST	0.315	0.333	0.97	-0.8	1.43
		General	-0.414	0.252	0.748	-1.26	0.43
		Don't know	-1.476	0.594	0.29	-3.46	0.5
		Don't want to disclose	0.79	0.679	0.929	-1.48	3.06
	General	SC	0.272	0.42	0.995	-1.13	1.67
		ST	0.729	0.292	0.284	-0.24	1.7
		OBC	0.414	0.252	0.748	-0.43	1.26
		Don't know	-1.063	0.571	0.63	-2.97	0.84
		Don't want to disclose	1.203	0.66	0.65	-1	3.4
	Don't know	SC	1.335	0.682	0.574	-0.94	3.61
		ST	1.792	0.611	0.128	-0.25	3.83
		OBC	1.476	0.594	0.29	-0.5	3.46
		General	1.063	0.571	0.63	-0.84	2.97
		Don't want to disclose	2.266	0.851	0.215	-0.57	5.1
	Don't want to disclose	SC	-0.931	0.757	0.912	-3.46	1.6
		ST	-0.474	0.695	0.993	-2.79	1.84
		OBC	-0.79	0.679	0.929	-3.06	1.48
		General	-1.203	0.66	0.65	-3.4	1
		Don't know	-2.266	0.851	0.215	-5.1	0.57

Dependent Variable	(I) Social Category	(J) Social Category	Mean Difference (I-J)	Std. Error	Sig.	95 percent Confidence Interval	
						Lower Bound	Upper Bound
Impact of online learning	SC	ST	-0.363	0.814	0.999	-3.08	2.35
		OBC	0.758	0.774	0.966	-1.82	3.34
		General	-0.285	0.723	1	-2.7	2.13
		Don't know	-1.922	1.174	0.749	-5.84	1.99
		Don't want to disclose	1.541	1.304	0.924	-2.81	5.89
	ST	SC	0.363	0.814	0.999	-2.35	3.08
		OBC	1.121	0.573	0.576	-0.79	3.03
		General	0.078	0.502	1	-1.6	1.75
		Don't know	-1.559	1.053	0.821	-5.07	1.95
		Don't want to disclose	1.904	1.196	0.771	-2.09	5.89
	OBC	SC	-0.758	0.774	0.966	-3.34	1.82
		ST	-1.121	0.573	0.576	-3.03	0.79
		General	-1.043	0.435	0.331	-2.49	0.41
		Don't know	-2.68	1.022	0.231	-6.09	0.73
		Don't want to disclose	0.783	1.169	0.994	-3.12	4.68
	General	SC	0.285	0.723	1	-2.13	2.7
		ST	-0.078	0.502	1	-1.75	1.6
		OBC	1.043	0.435	0.331	-0.41	2.49
		Don't know	-1.637	0.984	0.736	-4.92	1.65
		Don't want to disclose	1.826	1.136	0.763	-1.96	5.62
	Don't know	SC	1.922	1.174	0.749	-1.99	5.84
		ST	1.559	1.053	0.821	-1.95	5.07
		OBC	2.68	1.022	0.231	-0.73	6.09
		General	1.637	0.984	0.736	-1.65	4.92
		Don't want to disclose	3.463	1.465	0.349	-1.42	8.35
	Don't want to disclose	SC	-1.541	1.304	0.924	-5.89	2.81
		ST	-1.904	1.196	0.771	-5.89	2.09
		OBC	-0.783	1.169	0.994	-4.68	3.12
		General	-1.826	1.136	0.763	-5.62	1.96
		Don't know	-3.463	1.465	0.349	-8.35	1.42
Perceptions on online learning	SC	ST	-0.765	0.948	0.985	-3.93	2.4
		OBC	0.599	0.901	0.994	-2.41	3.61
		General	0.33	0.842	1	-2.48	3.14
		Don't know	-0.886	1.367	0.995	-5.45	3.68
		Don't want to disclose	-0.108	1.518	1	-5.18	4.96
	ST	SC	0.765	0.948	0.985	-2.4	3.93
		OBC	1.364	0.668	0.526	-0.86	3.59
		General	1.095	0.585	0.623	-0.86	3.05
		Don't know	-0.121	1.226	1	-4.21	3.97

Dependent Variable	(I) Social Category	(J) Social Category	Mean Difference (I-J)	Std. Error	Sig.	95 percent Confidence Interval	
						Lower Bound	Upper Bound
		Don't want to disclose	0.656	1.393	0.999	-3.99	5.3
	OBC	SC	-0.599	0.901	0.994	-3.61	2.41
		ST	-1.364	0.668	0.526	-3.59	0.86
		General	-0.269	0.506	0.998	-1.96	1.42
		Don't know	-1.485	1.19	0.906	-5.46	2.49
		Don't want to disclose	-0.707	1.361	0.998	-5.25	3.84
	General	SC	-0.33	0.842	1	-3.14	2.48
		ST	-1.095	0.585	0.623	-3.05	0.86
		OBC	0.269	0.506	0.998	-1.42	1.96
		Don't know	-1.216	1.146	0.952	-5.04	2.61
		Don't want to disclose	-0.439	1.323	1	-4.85	3.97
	Don't know	SC	0.886	1.367	0.995	-3.68	5.45
		ST	0.121	1.226	1	-3.97	4.21
		OBC	1.485	1.19	0.906	-2.49	5.46
		General	1.216	1.146	0.952	-2.61	5.04
		Don't want to disclose	0.777	1.706	0.999	-4.91	6.47
	Don't want to disclose	SC	0.108	1.518	1	-4.96	5.18
		ST	-0.656	1.393	0.999	-5.3	3.99
		OBC	0.707	1.361	0.998	-3.84	5.25
		General	0.439	1.323	1	-3.97	4.85
		Don't know	-0.777	1.706	0.999	-6.47	4.91
Digital Divide	SC	ST	0.175	2.628	1	-8.59	8.94
		OBC	1.784	2.499	0.992	-6.56	10.12
		General	-3.462	2.334	0.821	-11.25	4.33
		Don't know	-9.22	3.791	0.316	-21.87	3.43
		Don't want to disclose	0.925	4.211	1	-13.13	14.98
	ST	SC	-0.175	2.628	1	-8.94	8.59
		OBC	1.609	1.852	0.98	-4.57	7.79
		General	-3.637	1.622	0.413	-9.05	1.77
		Don't know	-9.395	3.4	0.179	-20.74	1.95
		Don't want to disclose	0.75	3.862	1	-12.14	13.64
	OBC	SC	-1.784	2.499	0.992	-10.12	6.56
		ST	-1.609	1.852	0.98	-7.79	4.57
		General	-5.247*	1.404	0.016	-9.93	-0.56
		Don't know	-11.005	3.301	0.05	-22.02	0.01
		Don't want to disclose	-0.859	3.776	1	-13.46	11.74
	General	SC	3.462	2.334	0.821	-4.33	11.25
		ST	3.637	1.622	0.413	-1.77	9.05

Dependent Variable	(I) Social Category	(J) Social Category	Mean Difference (I-J)	Std. Error	Sig.	95 percent Confidence Interval	
						Lower Bound	Upper Bound
		OBC	5.247*	1.404	0.016	0.56	9.93
		Don't know	-5.758	3.178	0.656	-16.36	4.84
		Don't want to disclose	4.388	3.668	0.921	-7.85	16.63
	Don't know	SC	9.22	3.791	0.316	-3.43	21.87
		ST	9.395	3.4	0.179	-1.95	20.74
		OBC	11.005	3.301	0.05	-0.01	22.02
		General	5.758	3.178	0.656	-4.84	16.36
		Don't want to disclose	10.146	4.731	0.467	-5.64	25.93
	Don't want to disclose	SC	-0.925	4.211	1	-14.98	13.13
		ST	-0.75	3.862	1	-13.64	12.14
		OBC	0.859	3.776	1	-11.74	13.46
		General	-4.388	3.668	0.921	-16.63	7.85
		Don't know	-10.146	4.731	0.467	-25.93	5.64
*. The mean difference is significant at the 0.05 level.							

Table 4.18 Post Hoc Tests for Parents' Education

Multiple Comparisons

Scheffe

Dependent Variable	(I) Parents' education	(J) Parents' education	Mean Difference (I-J)	Std. Error	Sig.	95 percent Confidence Interval	
						Lower Bound	Upper Bound
Access to online classes	Illiterate	Primary	-0.058	0.656	1	-2.08	1.97
		Secondary	-1.13	0.624	0.512	-3.06	0.8
		Higher Secondary	-1.381	0.633	0.315	-3.34	0.58
		Graduation and above	-3.549*	0.584	0	-5.35	-1.75
	Primary	Illiterate	0.058	0.656	1	-1.97	2.08
		Secondary	-1.072	0.422	0.169	-2.38	0.23
		Higher Secondary	-1.323	0.436	0.058	-2.67	0.02
		Graduation and above	-3.491*	0.361	0	-4.61	-2.38
	Secondary	Illiterate	1.13	0.624	0.512	-0.8	3.06
		Primary	1.072	0.422	0.169	-0.23	2.38
		Higher Secondary	-0.251	0.387	0.981	-1.45	0.94
		Graduation and above	-2.419*	0.3	0	-3.34	-1.49
	Higher Secondary	Illiterate	1.381	0.633	0.315	-0.58	3.34
		Primary	1.323	0.436	0.058	-0.02	2.67
		Secondary	0.251	0.387	0.981	-0.94	1.45
		Graduation and above	-2.168*	0.319	0	-3.15	-1.18

Dependent Variable	(I) Parents' education	(J) Parents' education	Mean Difference (I-J)	Std. Error	Sig.	95 percent Confidence Interval	
						Lower Bound	Upper Bound
	Graduation and above	Illiterate	3.549*	0.584	0	1.75	5.35
		Primary	3.491*	0.361	0	2.38	4.61
		Secondary	2.419*	0.3	0	1.49	3.34
		Hgher Secondary	2.168*	0.319	0	1.18	3.15
Support of parents and peers	Illiterate	Primary	-0.297	0.565	0.991	-2.04	1.45
		Secondary	-1.4	0.537	0.149	-3.06	0.26
		Hgher Secondary	-1.517	0.546	0.103	-3.2	0.17
		Graduation and above	-3.108*	0.503	0	-4.66	-1.55
	Primary	Illiterate	0.297	0.565	0.991	-1.45	2.04
		Secondary	-1.104	0.364	0.057	-2.23	0.02
		Hgher Secondary	-1.221*	0.376	0.033	-2.38	-0.06
		Graduation and above	-2.811*	0.311	0	-3.77	-1.85
	Secondary	Illiterate	1.4	0.537	0.149	-0.26	3.06
		Primary	1.104	0.364	0.057	-0.02	2.23
		Hgher Secondary	-0.117	0.333	0.998	-1.15	0.91
		Graduation and above	-1.707*	0.258	0	-2.5	-0.91
	Hgher Secondary	Illiterate	1.517	0.546	0.103	-0.17	3.2
		Primary	1.221*	0.376	0.033	0.06	2.38
		Secondary	0.117	0.333	0.998	-0.91	1.15
		Graduation and above	-1.590*	0.275	0	-2.44	-0.74
	Graduation and above	Illiterate	3.108*	0.503	0	1.55	4.66
		Primary	2.811*	0.311	0	1.85	3.77
		Secondary	1.707*	0.258	0	0.91	2.5
		Hgher Secondary	1.590*	0.275	0	0.74	2.44
Support of teachers	Illiterate	Primary	1.525	1.188	0.8	-2.14	5.2
		Secondary	-0.854	1.131	0.966	-4.35	2.64
		Hgher Secondary	-0.243	1.148	1	-3.79	3.3
		Graduation and above	-1.954	1.059	0.493	-5.22	1.32
	Primary	Illiterate	-1.525	1.188	0.8	-5.2	2.14
		Secondary	-2.379*	0.766	0.048	-4.74	-0.02
		Hgher Secondary	-1.768	0.791	0.289	-4.21	0.67
		Graduation and above	-3.479*	0.655	0	-5.5	-1.46
	Secondary	Illiterate	0.854	1.131	0.966	-2.64	4.35
		Primary	2.379*	0.766	0.048	0.02	4.74
		Hgher Secondary	0.611	0.701	0.944	-1.55	2.78
		Graduation and above	-1.1	0.543	0.393	-2.78	0.58
	Hgher Secondary	Illiterate	0.243	1.148	1	-3.3	3.79
		Primary	1.768	0.791	0.289	-0.67	4.21

Dependent Variable	(I) Parents' education	(J) Parents' education	Mean Difference (I-J)	Std. Error	Sig.	95 percent Confidence Interval	
						Lower Bound	Upper Bound
		Secondary	-0.611	0.701	0.944	-2.78	1.55
		Graduation and above	-1.711	0.578	0.069	-3.5	0.07
	Graduation and above	Illiterate	1.954	1.059	0.493	-1.32	5.22
		Primary	3.479*	0.655	0	1.46	5.5
		Secondary	1.1	0.543	0.393	-0.58	2.78
		Hgher Secondary	1.711	0.578	0.069	-0.07	3.5
Assessment and learning outcome	Illiterate	Primary	0.653	0.593	0.876	-1.18	2.48
		Secondary	0.134	0.564	1	-1.61	1.88
		Hgher Secondary	0.105	0.572	1	-1.66	1.87
		Graduation and above	-1.009	0.528	0.456	-2.64	0.62
	Primary	Illiterate	-0.653	0.593	0.876	-2.48	1.18
		Secondary	-0.518	0.382	0.764	-1.7	0.66
		Hgher Secondary	-0.548	0.394	0.749	-1.77	0.67
		Graduation and above	-1.662*	0.327	0	-2.67	-0.65
	Secondary	Illiterate	-0.134	0.564	1	-1.88	1.61
		Primary	0.518	0.382	0.764	-0.66	1.7
		Hgher Secondary	-0.03	0.35	1	-1.11	1.05
		Graduation and above	-1.143*	0.271	0.001	-1.98	-0.31
	Hgher Secondary	Illiterate	-0.105	0.572	1	-1.87	1.66
		Primary	0.548	0.394	0.749	-0.67	1.77
		Secondary	0.03	0.35	1	-1.05	1.11
		Graduation and above	-1.114*	0.288	0.005	-2	-0.22
	Graduation and above	Illiterate	1.009	0.528	0.456	-0.62	2.64
		Primary	1.662*	0.327	0	0.65	2.67
		Secondary	1.143*	0.271	0.001	0.31	1.98
		Hgher Secondary	1.114*	0.288	0.005	0.22	2
Impact of online learning	Illiterate	Primary	-1.135	1.035	0.878	-4.33	2.06
		Secondary	-2.562	0.984	0.15	-5.6	0.48
		Hgher Secondary	-3.322*	1	0.027	-6.41	-0.23
		Graduation and above	-2.774	0.922	0.061	-5.62	0.07
	Primary	Illiterate	1.135	1.035	0.878	-2.06	4.33
		Secondary	-1.428	0.667	0.333	-3.49	0.63
		Hgher Secondary	-2.187*	0.689	0.04	-4.31	-0.06
		Graduation and above	-1.639	0.57	0.083	-3.4	0.12
	Secondary	Illiterate	2.562	0.984	0.15	-0.48	5.6
		Primary	1.428	0.667	0.333	-0.63	3.49
		Hgher Secondary	-0.759	0.611	0.818	-2.64	1.13
		Graduation and above	-0.212	0.473	0.995	-1.67	1.25

Dependent Variable	(I) Parents' education	(J) Parents' education	Mean Difference (I-J)	Std. Error	Sig.	95 percent Confidence Interval	
						Lower Bound	Upper Bound
	Hgher Secondary	Illiterate	3.322*	1	0.027	0.23	6.41
		Primary	2.187*	0.689	0.04	0.06	4.31
		Secondary	0.759	0.611	0.818	-1.13	2.64
		Graduation and above	0.547	0.503	0.881	-1.01	2.1
	Graduation and above	Illiterate	2.774	0.922	0.061	-0.07	5.62
		Primary	1.639	0.57	0.083	-0.12	3.4
		Secondary	0.212	0.473	0.995	-1.25	1.67
		Hgher Secondary	-0.547	0.503	0.881	-2.1	1.01
Perceptions on online learning	Illiterate	Primary	-0.844	1.202	0.974	-4.56	2.87
		Secondary	-2.092	1.144	0.502	-5.62	1.44
		Hgher Secondary	-3.132	1.161	0.123	-6.72	0.45
		Graduation and above	-1.139	1.071	0.889	-4.45	2.17
	Primary	Illiterate	0.844	1.202	0.974	-2.87	4.56
		Secondary	-1.248	0.774	0.627	-3.64	1.14
		Hgher Secondary	-2.288	0.8	0.087	-4.76	0.18
		Graduation and above	-0.295	0.662	0.995	-2.34	1.75
	Secondary	Illiterate	2.092	1.144	0.502	-1.44	5.62
		Primary	1.248	0.774	0.627	-1.14	3.64
		Hgher Secondary	-1.039	0.709	0.709	-3.23	1.15
		Graduation and above	0.953	0.549	0.556	-0.74	2.65
	Hgher Secondary	Illiterate	3.132	1.161	0.123	-0.45	6.72
		Primary	2.288	0.8	0.087	-0.18	4.76
		Secondary	1.039	0.709	0.709	-1.15	3.23
		Graduation and above	1.993*	0.585	0.021	0.19	3.8
	Graduation and above	Illiterate	1.139	1.071	0.889	-2.17	4.45
		Primary	0.295	0.662	0.995	-1.75	2.34
		Secondary	-0.953	0.549	0.556	-2.65	0.74
		Hgher Secondary	-1.993*	0.585	0.021	-3.8	-0.19
Digital Divide	Illiterate	Primary	-0.155	3.244	1	-10.17	9.86
		Secondary	-7.905	3.087	0.162	-17.44	1.63
		Hgher Secondary	-9.489	3.134	0.058	-19.17	0.19
		Graduation and above	-13.532*	2.891	0	-22.46	-4.61
	Primary	Illiterate	0.155	3.244	1	-9.86	10.17
		Secondary	-7.750*	2.09	0.009	-14.2	-1.3
		Hgher Secondary	-9.334*	2.159	0.001	-16	-2.67
		Graduation and above	-13.378*	1.788	0	-18.9	-7.86
	Secondary	Illiterate	7.905	3.087	0.162	-1.63	17.44
		Primary	7.750*	2.09	0.009	1.3	14.2

Dependent Variable	(I) Parents' education	(J) Parents' education	Mean Difference (I-J)	Std. Error	Sig.	95 percent Confidence Interval	
						Lower Bound	Upper Bound
		Hgher Secondary	-1.585	1.914	0.953	-7.5	4.33
		Graduation and above	-5.628*	1.482	0.006	-10.21	-1.05
	Hgher Secondary	Illiterate	9.489	3.134	0.058	-0.19	19.17
		Primary	9.334*	2.159	0.001	2.67	16
		Secondary	1.585	1.914	0.953	-4.33	7.5
		Graduation and above	-4.043	1.579	0.162	-8.92	0.83
	Graduation and above	Illiterate	13.532*	2.891	0	4.61	22.46
		Primary	13.378*	1.788	0	7.86	18.9
		Secondary	5.628*	1.482	0.006	1.05	10.21
		Hgher Secondary	4.043	1.579	0.162	-0.83	8.92
*. The mean difference is significant at the 0.05 level.							

Table 4.19 Post Hoc Tests for Parents' Occupation

Multiple Comparisons
Scheffe

Dependent Variable	(I) Parents' occupation	(J) Parents' occupation	Mean Difference (I-J)	Std. Error	Sig.	95 percent Confidence Interval	
						Lower Bound	Upper Bound
Access to online classes	Cultivator	Agricultural labourer	-0.111	0.638	1	-2.38	2.16
		Business	-2.755*	0.485	0	-4.48	-1.03
		Private service	-2.363*	0.433	0	-3.9	-0.82
		Govt. service	-3.273*	0.481	0	-4.99	-1.56
		Home maker	-3.083*	0.601	0	-5.22	-0.94
		Others	-0.924	0.5	0.756	-2.7	0.86
	Agricultural labourer	Cultivator	0.111	0.638	1	-2.16	2.38
		Business	-2.643*	0.581	0.002	-4.71	-0.58
		Private service	-2.252*	0.538	0.008	-4.17	-0.34
		Govt. service	-3.162*	0.578	0	-5.22	-1.11
		Home maker	-2.972*	0.68	0.004	-5.39	-0.55
		Others	-0.813	0.593	0.931	-2.92	1.3
	Business	Cultivator	2.755*	0.485	0	1.03	4.48
		Agricultural labourer	2.643*	0.581	0.002	0.58	4.71
		Private service	0.392	0.343	0.971	-0.83	1.61
		Govt. service	-0.518	0.402	0.948	-1.95	0.91
		Home maker	-0.329	0.539	0.999	-2.25	1.59
		Others	1.831*	0.424	0.005	0.32	3.34
	Private service	Cultivator	2.363*	0.433	0	0.82	3.9
		Agricultural labourer	2.252*	0.538	0.008	0.34	4.17
		Business	-0.392	0.343	0.971	-1.61	0.83
		Govt. service	-0.91	0.337	0.298	-2.11	0.29

Dependent Variable	(I) Parents' occupation	(J) Parents' occupation	Mean Difference (I-J)	Std. Error	Sig.	95 percent Confidence Interval	
						Lower Bound	Upper Bound
		Home maker	-0.721	0.493	0.907	-2.48	1.03
		Others	1.439*	0.364	0.017	0.14	2.73
	Govt. service	Cultivator	3.273*	0.481	0	1.56	4.99
		Agricultural labourer	3.162*	0.578	0	1.11	5.22
		Business	0.518	0.402	0.948	-0.91	1.95
		Private service	0.91	0.337	0.298	-0.29	2.11
		Home maker	0.19	0.536	1	-1.72	2.1
		Others	2.349*	0.42	0	0.85	3.84
	Home maker	Cultivator	3.083*	0.601	0	0.94	5.22
		Agricultural labourer	2.972*	0.68	0.004	0.55	5.39
		Business	0.329	0.539	0.999	-1.59	2.25
		Private service	0.721	0.493	0.907	-1.03	2.48
		Govt. service	-0.19	0.536	1	-2.1	1.72
		Others	2.160*	0.553	0.019	0.19	4.13
	Others	Cultivator	0.924	0.5	0.756	-0.86	2.7
		Agricultural labourer	0.813	0.593	0.931	-1.3	2.92
		Business	-1.831*	0.424	0.005	-3.34	-0.32
		Private service	-1.439*	0.364	0.017	-2.73	-0.14
		Govt. service	-2.349*	0.42	0	-3.84	-0.85
		Home maker	-2.160*	0.553	0.019	-4.13	-0.19
Support of parents and peers	Cultivator	Agricultural labourer	1.211	0.549	0.562	-0.74	3.17
		Business	-1.139	0.417	0.283	-2.62	0.35
		Private service	-1.164	0.373	0.137	-2.49	0.16
		Govt. service	-1.719*	0.414	0.009	-3.19	-0.24
		Home maker	-1.218	0.517	0.476	-3.06	0.62
		Others	0.217	0.43	1	-1.32	1.75
	Agricultural labourer	Cultivator	-1.211	0.549	0.562	-3.17	0.74
		Business	-2.350*	0.5	0.001	-4.13	-0.57
		Private service	-2.375*	0.463	0	-4.02	-0.73
		Govt. service	-2.930*	0.497	0	-4.7	-1.16
		Home maker	-2.429*	0.585	0.009	-4.51	-0.35
		Others	-0.994	0.511	0.705	-2.81	0.82
	Business	Cultivator	1.139	0.417	0.283	-0.35	2.62
		Agricultural labourer	2.350*	0.5	0.001	0.57	4.13
		Private service	-0.026	0.295	1	-1.07	1.02
		Govt. service	-0.58	0.346	0.832	-1.81	0.65
		Home maker	-0.079	0.464	1	-1.73	1.57
		Others	1.356*	0.365	0.033	0.06	2.66
	Private service	Cultivator	1.164	0.373	0.137	-0.16	2.49
		Agricultural labourer	2.375*	0.463	0	0.73	4.02
		Business	0.026	0.295	1	-1.02	1.07
		Govt. service	-0.555	0.29	0.724	-1.59	0.48
		Home maker	-0.054	0.424	1	-1.56	1.46
		Others	1.381*	0.313	0.004	0.27	2.5

Dependent Variable	(I) Parents' occupation	(J) Parents' occupation	Mean Difference (I-J)	Std. Error	Sig.	95 percent Confidence Interval	
						Lower Bound	Upper Bound
	Govt. service	Cultivator	1.719*	0.414	0.009	0.24	3.19
		Agricultural labourer	2.930*	0.497	0	1.16	4.7
		Business	0.58	0.346	0.832	-0.65	1.81
		Private service	0.555	0.29	0.724	-0.48	1.59
		Home maker	0.501	0.461	0.978	-1.14	2.14
		Others	1.936*	0.362	0	0.65	3.22
	Home maker	Cultivator	1.218	0.517	0.476	-0.62	3.06
		Agricultural labourer	2.429*	0.585	0.009	0.35	4.51
		Business	0.079	0.464	1	-1.57	1.73
		Private service	0.054	0.424	1	-1.46	1.56
		Govt. service	-0.501	0.461	0.978	-2.14	1.14
		Others	1.435	0.476	0.17	-0.26	3.13
	Others	Cultivator	-0.217	0.43	1	-1.75	1.32
		Agricultural labourer	0.994	0.511	0.705	-0.82	2.81
		Business	-1.356*	0.365	0.033	-2.66	-0.06
		Private service	-1.381*	0.313	0.004	-2.5	-0.27
		Govt. service	-1.936*	0.362	0	-3.22	-0.65
		Home maker	-1.435	0.476	0.17	-3.13	0.26
Support of teachers	Cultivator	Agricultural labourer	1.883	1.117	0.828	-2.09	5.86
		Business	-0.063	0.849	1	-3.09	2.96
		Private service	-0.568	0.758	0.997	-3.27	2.13
		Govt. service	-1.467	0.843	0.805	-4.47	1.53
		Home maker	-2.064	1.052	0.697	-5.81	1.68
		Others	-0.748	0.876	0.994	-3.87	2.37
	Agricultural labourer	Cultivator	-1.883	1.117	0.828	-5.86	2.09
		Business	-1.946	1.017	0.722	-5.56	1.67
		Private service	-2.451	0.942	0.344	-5.8	0.9
		Govt. service	-3.351	1.011	0.091	-6.95	0.25
		Home maker	-3.947	1.191	0.091	-8.19	0.29
		Others	-2.631	1.039	0.379	-6.33	1.07
	Business	Cultivator	0.063	0.849	1	-2.96	3.09
		Agricultural labourer	1.946	1.017	0.722	-1.67	5.56
		Private service	-0.505	0.6	0.994	-2.64	1.63
		Govt. service	-1.405	0.704	0.679	-3.91	1.1
		Home maker	-2.001	0.944	0.611	-5.36	1.36
		Others	-0.685	0.743	0.991	-3.33	1.96
	Private service	Cultivator	0.568	0.758	0.997	-2.13	3.27
		Agricultural labourer	2.451	0.942	0.344	-0.9	5.8
		Business	0.505	0.6	0.994	-1.63	2.64
		Govt. service	-0.899	0.591	0.888	-3	1.2
		Home maker	-1.496	0.863	0.808	-4.57	1.58
		Others	-0.18	0.637	1	-2.45	2.09
	Govt. service	Cultivator	1.467	0.843	0.805	-1.53	4.47
		Agricultural labourer	3.351	1.011	0.091	-0.25	6.95

Dependent Variable	(I) Parents' occupation	(J) Parents' occupation	Mean Difference (I-J)	Std. Error	Sig.	95 percent Confidence Interval	
						Lower Bound	Upper Bound
		Business	1.405	0.704	0.679	-1.1	3.91
		Private service	0.899	0.591	0.888	-1.2	3
		Home maker	-0.596	0.938	0.999	-3.94	2.74
		Others	0.719	0.736	0.987	-1.9	3.34
	Home maker	Cultivator	2.064	1.052	0.697	-1.68	5.81
		Agricultural labourer	3.947	1.191	0.091	-0.29	8.19
		Business	2.001	0.944	0.611	-1.36	5.36
		Private service	1.496	0.863	0.808	-1.58	4.57
		Govt. service	0.596	0.938	0.999	-2.74	3.94
		Others	1.316	0.968	0.933	-2.13	4.76
	Others	Cultivator	0.748	0.876	0.994	-2.37	3.87
		Agricultural labourer	2.631	1.039	0.379	-1.07	6.33
		Business	0.685	0.743	0.991	-1.96	3.33
		Private service	0.18	0.637	1	-2.09	2.45
		Govt. service	-0.719	0.736	0.987	-3.34	1.9
		Home maker	-1.316	0.968	0.933	-4.76	2.13
Assessment and learning outcome	Cultivator	Agricultural labourer	-0.683	0.555	0.958	-2.66	1.29
		Business	-1.532*	0.422	0.041	-3.03	-0.03
		Private service	-1.341	0.377	0.05	-2.68	0
		Govt. service	-1.948*	0.419	0.002	-3.44	-0.46
		Home maker	-2.335*	0.523	0.003	-4.2	-0.47
		Others	-1.522	0.435	0.058	-3.07	0.03
	Agricultural labourer	Cultivator	0.683	0.555	0.958	-1.29	2.66
		Business	-0.849	0.505	0.83	-2.65	0.95
		Private service	-0.657	0.468	0.922	-2.32	1.01
		Govt. service	-1.264	0.502	0.388	-3.05	0.52
		Home maker	-1.652	0.592	0.256	-3.76	0.45
		Others	-0.839	0.516	0.852	-2.68	1
	Business	Cultivator	1.532*	0.422	0.041	0.03	3.03
		Agricultural labourer	0.849	0.505	0.83	-0.95	2.65
		Private service	0.192	0.298	0.999	-0.87	1.25
		Govt. service	-0.415	0.35	0.965	-1.66	0.83
		Home maker	-0.802	0.469	0.818	-2.47	0.87
		Others	0.01	0.369	1	-1.3	1.32
	Private service	Cultivator	1.341	0.377	0.05	0	2.68
		Agricultural labourer	0.657	0.468	0.922	-1.01	2.32
		Business	-0.192	0.298	0.999	-1.25	0.87
		Govt. service	-0.607	0.294	0.64	-1.65	0.44
		Home maker	-0.994	0.429	0.498	-2.52	0.53
		Others	-0.181	0.316	0.999	-1.31	0.95
	Govt. service	Cultivator	1.948*	0.419	0.002	0.46	3.44
		Agricultural labourer	1.264	0.502	0.388	-0.52	3.05
		Business	0.415	0.35	0.965	-0.83	1.66
		Private service	0.607	0.294	0.64	-0.44	1.65

Dependent Variable	(I) Parents' occupation	(J) Parents' occupation	Mean Difference (I-J)	Std. Error	Sig.	95 percent Confidence Interval	
						Lower Bound	Upper Bound
		Home maker	-0.387	0.466	0.995	-2.05	1.27
		Others	0.426	0.365	0.968	-0.88	1.73
	Home maker	Cultivator	2.335*	0.523	0.003	0.47	4.2
		Agricultural labourer	1.652	0.592	0.256	-0.45	3.76
		Business	0.802	0.469	0.818	-0.87	2.47
		Private service	0.994	0.429	0.498	-0.53	2.52
		Govt. service	0.387	0.466	0.995	-1.27	2.05
		Others	0.813	0.481	0.827	-0.9	2.53
	Others	Cultivator	1.522	0.435	0.058	-0.03	3.07
		Agricultural labourer	0.839	0.516	0.852	-1	2.68
		Business	-0.01	0.369	1	-1.32	1.3
		Private service	0.181	0.316	0.999	-0.95	1.31
		Govt. service	-0.426	0.365	0.968	-1.73	0.88
		Home maker	-0.813	0.481	0.827	-2.53	0.9
Impact of online learning	Cultivator	Agricultural labourer	0.6	0.972	0.999	-2.86	4.06
		Business	0.217	0.739	1	-2.41	2.85
		Private service	0.181	0.66	1	-2.17	2.53
		Govt. service	-0.406	0.733	0.999	-3.02	2.2
		Home maker	-0.302	0.915	1	-3.56	2.96
		Others	0.469	0.762	0.999	-2.24	3.18
	Agricultural labourer	Cultivator	-0.6	0.972	0.999	-4.06	2.86
		Business	-0.383	0.885	1	-3.53	2.77
		Private service	-0.419	0.82	1	-3.34	2.5
		Govt. service	-1.006	0.88	0.971	-4.14	2.13
		Home maker	-0.902	1.037	0.993	-4.59	2.79
		Others	-0.131	0.904	1	-3.35	3.09
	Business	Cultivator	-0.217	0.739	1	-2.85	2.41
		Agricultural labourer	0.383	0.885	1	-2.77	3.53
		Private service	-0.036	0.522	1	-1.89	1.82
		Govt. service	-0.623	0.612	0.984	-2.8	1.56
		Home maker	-0.519	0.822	0.999	-3.44	2.41
		Others	0.252	0.647	1	-2.05	2.55
	Private service	Cultivator	-0.181	0.66	1	-2.53	2.17
		Agricultural labourer	0.419	0.82	1	-2.5	3.34
		Business	0.036	0.522	1	-1.82	1.89
		Govt. service	-0.587	0.514	0.971	-2.42	1.24
		Home maker	-0.483	0.751	0.999	-3.16	2.19
		Others	0.288	0.554	1	-1.69	2.26
	Govt. service	Cultivator	0.406	0.733	0.999	-2.2	3.02
		Agricultural labourer	1.006	0.88	0.971	-2.13	4.14
		Business	0.623	0.612	0.984	-1.56	2.8
		Private service	0.587	0.514	0.971	-1.24	2.42
		Home maker	0.104	0.817	1	-2.8	3.01
		Others	0.875	0.64	0.931	-1.4	3.15

Dependent Variable	(I) Parents' occupation	(J) Parents' occupation	Mean Difference (I-J)	Std. Error	Sig.	95 percent Confidence Interval	
						Lower Bound	Upper Bound
	Home maker	Cultivator	0.302	0.915	1	-2.96	3.56
		Agricultural labourer	0.902	1.037	0.993	-2.79	4.59
		Business	0.519	0.822	0.999	-2.41	3.44
		Private service	0.483	0.751	0.999	-2.19	3.16
		Govt. service	-0.104	0.817	1	-3.01	2.8
		Others	0.77	0.843	0.991	-2.23	3.77
	Others	Cultivator	-0.469	0.762	0.999	-3.18	2.24
		Agricultural labourer	0.131	0.904	1	-3.09	3.35
		Business	-0.252	0.647	1	-2.55	2.05
		Private service	-0.288	0.554	1	-2.26	1.69
		Govt. service	-0.875	0.64	0.931	-3.15	1.4
		Home maker	-0.77	0.843	0.991	-3.77	2.23
Perceptions on online learning	Cultivator	Agricultural labourer	4.556*	1.098	0.009	0.65	8.46
		Business	2.169	0.835	0.346	-0.8	5.14
		Private service	3.337*	0.745	0.003	0.68	5.99
		Govt. service	3.198*	0.828	0.022	0.25	6.15
		Home maker	3.705*	1.034	0.047	0.02	7.38
		Others	5.037*	0.861	0	1.97	8.1
	Agricultural labourer	Cultivator	-4.556*	1.098	0.009	-8.46	-0.65
		Business	-2.387	0.999	0.458	-5.94	1.17
		Private service	-1.218	0.926	0.942	-4.51	2.08
		Govt. service	-1.357	0.994	0.931	-4.89	2.18
		Home maker	-0.851	1.171	0.997	-5.02	3.32
		Others	0.482	1.021	1	-3.15	4.12
	Business	Cultivator	-2.169	0.835	0.346	-5.14	0.8
		Agricultural labourer	2.387	0.999	0.458	-1.17	5.94
		Private service	1.169	0.59	0.686	-0.93	3.27
		Govt. service	1.029	0.692	0.899	-1.43	3.49
		Home maker	1.536	0.928	0.841	-1.77	4.84
		Others	2.868*	0.73	0.018	0.27	5.47
	Private service	Cultivator	-3.337*	0.745	0.003	-5.99	-0.68
		Agricultural labourer	1.218	0.926	0.942	-2.08	4.51
		Business	-1.169	0.59	0.686	-3.27	0.93
		Govt. service	-0.139	0.581	1	-2.21	1.93
		Home maker	0.367	0.848	1	-2.65	3.39
		Others	1.7	0.626	0.289	-0.53	3.93
	Govt. service	Cultivator	-3.198*	0.828	0.022	-6.15	-0.25
		Agricultural labourer	1.357	0.994	0.931	-2.18	4.89
		Business	-1.029	0.692	0.899	-3.49	1.43
		Private service	0.139	0.581	1	-1.93	2.21
		Home maker	0.506	0.922	0.999	-2.78	3.79
		Others	1.839	0.723	0.374	-0.73	4.41
	Home maker	Cultivator	-3.705*	1.034	0.047	-7.38	-0.02
		Agricultural labourer	0.851	1.171	0.997	-3.32	5.02

Dependent Variable	(I) Parents' occupation	(J) Parents' occupation	Mean Difference (I-J)	Std. Error	Sig.	95 percent Confidence Interval	
						Lower Bound	Upper Bound
		Business	-1.536	0.928	0.841	-4.84	1.77
		Private service	-0.367	0.848	1	-3.39	2.65
		Govt. service	-0.506	0.922	0.999	-3.79	2.78
		Others	1.333	0.952	0.923	-2.05	4.72
	Others	Cultivator	-5.037*	0.861	0	-8.1	-1.97
		Agricultural labourer	-0.482	1.021	1	-4.12	3.15
		Business	-2.868*	0.73	0.018	-5.47	-0.27
		Private service	-1.7	0.626	0.289	-3.93	0.53
		Govt. service	-1.839	0.723	0.374	-4.41	0.73
		Home maker	-1.333	0.952	0.923	-4.72	2.05
Digital Divide	Cultivator	Agricultural labourer	7.456	3.096	0.447	-3.56	18.48
		Business	-3.102	2.353	0.942	-11.48	5.27
		Private service	-1.917	2.101	0.991	-9.4	5.56
		Govt. service	-5.614	2.335	0.449	-13.93	2.7
		Home maker	-5.297	2.915	0.77	-15.67	5.08
		Others	2.529	2.427	0.982	-6.11	11.17
	Agricultural labourer	Cultivator	-7.456	3.096	0.447	-18.48	3.56
		Business	-10.558*	2.817	0.03	-20.58	-0.53
		Private service	-9.373*	2.61	0.046	-18.66	-0.08
		Govt. service	-13.070*	2.802	0.001	-23.04	-3.1
		Home maker	-12.753*	3.301	0.022	-24.5	-1.01
		Others	-4.926	2.879	0.817	-15.17	5.32
	Business	Cultivator	3.102	2.353	0.942	-5.27	11.48
		Agricultural labourer	10.558*	2.817	0.03	0.53	20.58
		Private service	1.185	1.662	0.998	-4.73	7.1
		Govt. service	-2.512	1.95	0.948	-9.45	4.43
		Home maker	-2.195	2.616	0.994	-11.51	7.12
		Others	5.632	2.059	0.28	-1.7	12.96
	Private service	Cultivator	1.917	2.101	0.991	-5.56	9.4
		Agricultural labourer	9.373*	2.61	0.046	0.08	18.66
		Business	-1.185	1.662	0.998	-7.1	4.73
		Govt. service	-3.697	1.637	0.531	-9.52	2.13
		Home maker	-3.38	2.392	0.92	-11.89	5.13
		Others	4.447	1.765	0.386	-1.83	10.73
	Govt. service	Cultivator	5.614	2.335	0.449	-2.7	13.93
		Agricultural labourer	13.070*	2.802	0.001	3.1	23.04
		Business	2.512	1.95	0.948	-4.43	9.45
		Private service	3.697	1.637	0.531	-2.13	9.52
		Home maker	0.317	2.6	1	-8.94	9.57
		Others	8.144*	2.038	0.015	0.89	15.4
	Home maker	Cultivator	5.297	2.915	0.77	-5.08	15.67
		Agricultural labourer	12.753*	3.301	0.022	1.01	24.5
		Business	2.195	2.616	0.994	-7.12	11.51
		Private service	3.38	2.392	0.92	-5.13	11.89

Dependent Variable	(I) Parents' occupation	(J) Parents' occupation	Mean Difference (I-J)	Std. Error	Sig.	95 percent Confidence Interval	
						Lower Bound	Upper Bound
		Govt. service	-0.317	2.6	1	-9.57	8.94
		Others	7.826	2.683	0.205	-1.72	17.37
	Others	Cultivator	-2.529	2.427	0.982	-11.17	6.11
		Agricultural labourer	4.926	2.879	0.817	-5.32	15.17
		Business	-5.632	2.059	0.28	-12.96	1.7
		Private service	-4.447	1.765	0.386	-10.73	1.83
		Govt. service	-8.144*	2.038	0.015	-15.4	-0.89
		Home maker	-7.826	2.683	0.205	-17.37	1.72
*. The mean difference is significant at the 0.05 level.							

Research Tool – 1

Education, the Digital Divide and COVID-19 in India

Interview Schedule for the Parent/Guardian

Identification Code: .....

Instructions to the Interviewer/Investigator

- Introduce yourself and elaborate on –JCSA Collective
- Give a brief on the purpose and objectives of the study
- Take appropriate consent from the respondent (Parents/Guardian) to proceed with the Interview Schedule or else terminate the interview
- Ensure that the respondents are from the category of households - children studying in primary/secondary/higher secondary. Try to maintain a balance on the following - rural (70%) and urban (30%), gender and the type of schools
- To avoid uneasy situations, the Interviewer/Investigator shall be vigilant and sensitive to the situations
- Strictly adhere to the COVID-19 protocols issued by the centre/state governments/local administration and maintain social distancing. Also, it is important to ensure that the community members also maintain physical distancing.
- Kindly request to respond to all the question. While probe is allowed to get the response, do not prompt any answers. Please select/circle the appropriate responses.
- Only in exceptional cases we skip the answers. In case of a question not applicable, please mention clearly that the same is not applicable (Mark N.A.)

Date of Interview: ----------/ ----------/2022(Day / Month)

Name of the Interviewer: .....

Name of the School/Institution/Organization you are associated with:……

Geo Point (GPS on Kobo Collect): .....

Nature of the Geographical Location: 1. Rural 2. Semi-Urban 3. Urban……

Name of the Panchayat/Municipality/Corporation:……

District: ..... State: .....

1. General Information

1.1 Personal Information of the Respondent

Q. No	Description	Options	Code
1.1.1	Name of the Respondent (Parent/Guardian)		
1.1.2	Relationship to the Child	Parent	1
		Guardian	2
		Others(specify) ----------	3
1.1.3	Mobile Number of the Respondent (10 digits)		
1.1.4	Gender of the Respondent	Male	1
		Female	2
		Transgender	3
1.1.5	Age of the Respondent (in completed years. Ex 45, 49 etc.)		
1.1.6	Religion of the Respondent	Hindu	1
		Muslim	2
		Sikh	3
		Christian	4
		Others(specify)……..	5
		Don't Know	6
		Don't wish to disclose	7
1.1.7	Social Category	Scheduled Caste (SC)	1
		Scheduled Tribe (ST)	2
		Other Backward Classes (OBC)	3
		General	4
		Others (specify)……..	5
		Don't know	6
		Don't want to disclose	7
1.1.8	Educational Level of the Respondent	Illiterate	1
		Primary	2
		Secondary	3
		Higher Secondary	4
		Graduation & Above	5

1.1.9	Occupation of the Respondent	Cultivator		1
		Agricultural Labourer		2
		Business		3
		Private Service		4
		Government Service		5
		Home Maker		6
		Others (specify)……..		7
		No job		8
1.2 Information of the Household				
1.2.1	Type of House/Dwelling	1. Pucca		1
		2. Semi-Pucca		2
		3. Kutcha		3
1.2.2	Household Income (in thousands/month)	Less than 5000		1
		5000-10,000		2
		10,001-15,000		3
		Above 15000		4
2. Education and Digital Divide in Rural India				
2.1 Educational Background				
2.1.1	a) Number of School going Children:	Type of Schools		
		Government	Private	Private Aided
	a) Male			
	b) Female			
	c) Transgender			
	d) Total			
	b) Distance from the school: Within 3km	1	1	1
	3-7km	2	2	2
	Above 7km	3	3	3
2.1.2	Number of dropped out children (If there is no dropped out children, mark NA)	a) Male		
		b) Female		
		c) Transgender		
		d) Total		
2.1.3	Did your children have access to online classes or remote learning during the pandemic?	Yes		1
		No		2
		No virtual classes		3
2.1.4	If the answer is Yes, the mode of online class	Live class through online platforms provided by school		1
		Recorded/live telecast of learning materials via TV/ Radio/YouTube channels		2
		Education Channels of CBSE and NCERT (Like Swayam Prabha)		3

		DTH channels by Ministry of Education (MoE)	4
		Sharing of recorded videos of learning materials through Whats App/ Telegram/another platform	5
		Others (specify)……	6
2.1.5	If the answer is No, state the reasons for not attending the virtual class	No access to Smart Phones/PCs/ Laptops etc.	1
		Network Coverage Issues	2
		One phone and multiple users	3
		No money for recharge	4
		Denial of access to online classes due to non-submission of fees	5
		No ambience at home for learning	6
		Engaged in household chores during the time of classes	7
		Engaged in livelihood related options to support the family	8
		Others (specify)……	9
2.1.6	If the answer is No, how did your children continue your studies?	Self-learning with study materials including textbooks provided by schools	1
		Learning materials shared by friends/neighbours	2
		Support extended by Local Self Government (LSG)/ Other social security schemes	3
		Learning materials provided by NGOs/other like-minded organizations	4
		Others (specify)……	5
		Did not Study	6
		Dropped out	7
2.1.7	If the answer is No virtual class, how did your children continue their studies?	Teachers visited the children and shared the learning materials	1
		Mohalla/hamlet wise classes organized by teachers	2
		Self-learning with study materials including textbooks provided by schools	3
		Support of peers/neighbours/ community	4

		Support extended by Local Self Government (LSG)/ Other social security schemes	5
		Learning materials provided by NGOs/other like-minded organizations	6
		Community classes organized by NGOs/other like-minded organizations	7
		Others (specify)……	8
		No study	9
		Dropped out	10
2.1.8	If the answer is dropped out, what kind of additional support could have helped your children to continue their studies? (Please elaborate)		
2.1.9	Are you a migrant returnee?	Yes	1
		No	2
2.1.10	If the answer is Yes, a) name of the state where you were working (destination state):		
	b) City:		
2.1.11	If the answer is Yes, how did you manage the education of your children?	Children were enrolled in schools at destination place of migration and attended online classes	1
		Children were enrolled in schools at destination place of migration and not attended online classes	2
		Children were enrolled in schools at home place and attended online classes	3
		Children were enrolled in schools at home place and not attended online classes	4
		Enrolled in open schooling	5
		Self-learning	6
		Others (Specify)...	7
		No study	8
		Dropped out	9
2.1.12	Were your children comfortable with the transition from conventional learning method to the online learning method during the pandemic period?	Yes	1
		No	2

2.1.13	If the answer is No, could you please state the reasons		
2.1.14	When the schools reopened in between, did your children attend classes offline/ physically?	Yes	1
		No	2
2.1.15	If the answer is Yes, how often do they attend the offline classes/physically?	Regularly	1
		Alternate days	2
		Once a week	3
		Others(specify)	4
2.2 Access to Digital Infrastructure			
	Do you/your family possess/have the following services/gadgets/devices to support the online learning of your child/children?		
2.2.1	a) Electricity	Continuous power supply	1
		Interrupted supply due to power failure	2
		No electricity connection but accessing electricity through other modes (Battery/Solar)	3
		No electricity	
	b) Internet Connection	DSL [Digital Subscriber Line (through phone line connections)]	1
		Broadband Dongle/USB (universal serial bus)	2
		Wireless/Wi-fi using mobile data	3
		No	4
	c) Internet Connectivity	Good	1
		Fair	2
		Poor	3
	d) Computer (Desktop/Laptop)	Yes	1
		No	2
	e) Tablets	Yes	1
		No	2
	f) Smart phones	Yes	1
		No	2
2.2.2	Did you procure the digital devices such as mobile/laptop for your children to attend the online classes during the time of lockdown?	Yes	1
		No	2
2.2.3	If the answer is Yes, how did you manage the digital devices?	Using the purchased digital devices before the lockdown	1
		Digital devices provided by LSGs through welfare schemes	2

		Digital devices provided by NGOs/CSOs/Other Charitable Organizations	3
		Donated by individuals/well-wishers	4
		Sharing the digital devices of relatives/friends/ Neighborhoods	5
		Digital devises procured during the pandemic	6
2.2.4	Are you/any of your family members comfortable in using the online platforms for helping your children in their learning process?	Yes	1
		No	2
2.2.5	Do your children browse the internet for the study purposes other than for online classes or learning purposes?	Daily	1
		Weekly	2
		Twice a week	3
		Monthly	4
		Never	5
2.2.6	How did the use of digital devices influence your children? (Multiple options)	Using only for study purposes and attending classes	1
		Excessive screen time	2
		Misusing the digital devices for other purposes (playing online games, watching movies etc.)	3
		Exposure to inappropriate relationships	4
		Others (specify)…….	5
2.2.7	Is the following available in your area?		
	b)Community Information Centre with internet access	Yes	1
		No	2
	c) Cyber Cafe	Yes	1
		No	2
2.2.8	Mention the agencies from where your children received support in procuring the digital gadgets for the learning from any of the government/non-government agencies? (Multiple options)	Neighborhoods	1
		Teachers/School	2
		PTA (parent–teacher association)/MTA (Mother teacher association)	3
		Local Government (LSGs) bodies	4
		Government Schemes	5
		NGOs (Non-governmental organizations)/Civil Society Organizations (CSOs)	6
		Others (specify)…….	7
		No Support received	8

2.3 Assessment and Learning Outcomes			
2.3.1	Were the children submitting the homework/assignments regularly or not?	Yes	1
		No	2
2.3.2	If the answer is No, state the reasons/ challenges in submitting the homework/ assignments regularly.		
2.3.3	If the answer is Yes, who was helping your children to complete the same?	Parents/Guardian	1
		Children of relatives/ neighborhoods	2
		Educated elders from the family/ neighborhoods	3
		Volunteers from NGOs/CSOs	4
		Others(specify)……..	5
		Did not require any support	6
2.3.4	Were teachers assessing the homework/ assignments and reverting in time during online classes?	Yes	1
		No	2
2.3.5	If the answer is No, specify the reasons	Children were not submitting the homework/assignments in time	1
		Teachers were not regular in assessment	2
		Teachers were busy in preparing for online classes	3
		Teachers were randomly checking the homework of only a few children	4
		Others (specify)	5
2.3.6	According to you, has the school made any changes on the assessment pattern during the pandemic period?	Yes	1
		No	2
2.3.7	If the answer is Yes, could you please elaborate?		
2.3.8	Are you happy with the learning outcomes (achievements in terms of marks/grades) of your children?	Yes	1
		No	2
2.3.9	If the answer is No, could you please elaborate?		
2.3.10	Did the school conduct any additional/ remedial classes in addressing the learning gaps during the pandemic?	Yes	1
		No	2
2.3.11	If the answer is Yes, how frequently were the classes made available?	Daily	1
		Weekly	2
		Twice a week	
		Monthly	

2.3.12	Do you think that these remedial classes were effective to address the learning gap of your children?	Yes	1
		No	2
2.4 Support System by School			
2.4.1	Did the school make any attempt to track/ monitor children's access to any digital device at home?	Yes	1
		No	2
2.4.2	In case of non-availability of a digital device in your family, what kind of support did the school provide?	Provided learning materials at home	1
		Financial support to procure digital devices	2
		Others(specify)	3
2.4.3	Did the school conduct any orientation programme for parents on online teaching like technical support, availability of internet connectivity and internet safety etc.?	Yes	1
		No	2
2.4.4	Did the teachers have frequent interactions with the children?	Yes	1
		No	2
2.4.5	Did the teachers have frequent interactions with you on the progress of the child/ children or on the challenges being faced in learning?	Yes	1
		No	2
2.4.6	If the answer is Yes, how frequently were these interactions happening?	Daily	1
		Weekly	2
		Twice a week	3
		Monthly	4
2.4.7	According to you, how helpful were these interactions in supporting your children 's learning at home?	Extremely helpful	1
		Very helpful	2
		Somewhat helpful	3
		Slightly helpful	4
		Not at all helpful	5
2.4.8	How did the teachers share the study/ learning materials?	Printed materials were circulated/reached at home	1
		Study/Learning materials collected from the school regularly	2
		Learning materials were sharing through digital platform (Whats App/E-mail/Other digital platforms	3
		Other (Specify).....	4
		No learning material was made available	5

2.4.9	Mention the measures adopted by the school to deliver the mid-day meal for the children during the pandemic (multiple options)	Direct delivery of dry ration kits at home	1
		Financial assistance to procure the dry ration kits	2
		Facilitated dry ration kits through shops	3
		Others (specify)……	4
		No steps taken	5
2.4.10	What kind of support did you/your children receive from the school with regard to their fee? (If applicable)	Full Scholarship	1
		Partial Scholarship	2
		Fee Waive off	3
		Extended time for fee submission	4
		Provision to pay the fee in installments	5
		Support not required	6
		No support	7
		Not Applicable	8
2.4.11	How do you evaluate the measures taken by the school to address the learning gap and learning loss of your children during the 1st and 2nd wave of the pandemic?	Satisfied	1
		Very Satisfied	2
		Dissatisfied	3
		Very dissatisfied	4
2.4.12	If the answer is Dissatisfied/very dissatisfied, state the reasons (elaborate the reasons)		
2.4.13	Nature of the steps taken by the school for ensuring mental health and well-being of children (multiple options)?	Provided individual/group counselling sessions	1
		Yoga classes	2
		Adopted programmes like 'Happiness Class'	3
		Art-Craft classes	4
		Others(specify)	5
		None of the above	6

2.5 General Information

2.5.1	Based on your children's feedback on their experiences, how do you compare the online classes with offline classes? (Multiple options)	Offline classes were better	1
		Compelled to attend the online classes due to the pandemic but it was satisfactory	2
		Online classes were more effective	3
		Could not attend the online classes due to lack of digital infrastructure	4

		Could not attend the online classes due to lack of proficiency in technology	5
		Others(specify)….....	6
		Can't say	7
2.5.2	Nature of support extended by LSGs (local Government)/NGOs/CSOs in your area/ locality	Provision of digital infrastructure (devices, internet connection etc.)	1
		Provision of community space for attending online classes	2
		Provision of internet facility in the community centre	3
		Remedial Support to enhance learning outcomes	4
		Provision of learning materials	5
		Other (specify)	6
2.5.3	According to you, what are the different supportive mechanisms that can be adopted/placed by different stake holders (such as Teachers/Schools/ PTAs/MTAs/ Local Self-Government (LSGs) etc.) to address the challenges of digital divide, if any, of online classes?		
2.5.4	Any other challenges that you would like to mention?		

PART II.

1. INVESTIGATOR'S OBSERVATIONS

[Investigator: In the space below, please record any further observations of interest,

e.g., any significant details about the respondent's social background, complaints, views, experiences (positive or negative), etc.]

2. NOTE TO THE INVESTIGATOR NOTE TO THE INVESTIGATOR

[Investigator: If you feel that this person/household's experience provides interesting material for a "case study", or that the respondent has interesting stories to tell (positive or negative) on the Education, the Digital Divide and COVID-19 in Rural India (E.g., Experiences of the respondents who are having 2 or more children attending online classes), please take further notes in the space below.]

Research Tool – 2

Education, the Digital Divide and COVID-19 in India

Interview Schedule for the Children

Identification Code: .....

Instructions to the Interviewer/Investigator

- **Introduce yourself and elaborate on –JCSA Collective**
- **Give a brief on the purpose and objectives of the study**
- **Take appropriate consent from the Parents/Guardian to proceed with the Interview of the children or else terminate the interview**
- **Ensure that the respondent is from the category - children studying in primary/secondary/higher secondary. Try to maintain a balance on the following - rural (70%) and urban (30%), gender and the type of schools**
- **To avoid uneasy situations, the Interviewer/Investigator shall be vigilant and sensitive to the situations**
- **Strictly adhere to the COVID-19 protocols issued by the centre/state governments/local administration and maintain social distancing. Also, it is important to ensure that the community members also maintain physical distancing.**
- **Kindly request to respond to all the question. While probe is allowed to get the response, do not prompt any answers. Please select/circle the appropriate responses.**
- **Only in exceptional cases we skip the answers. In case of a question not applicable, please mention clearly that the same is not applicable (Mark N.A.)**

Date of Interview: ----------/ ----------/2022(Day / Month)

Name of the Interviewer: .....

Name of the School/Institution/Organization you are associated with:……

Geo Point (GPS on Kobo Collect): .....

Nature of the Geographical Location: 1. Rural 2. Semi-Urban 3. Urban……

Name of the Panchayat/Municipality/Corporation:……

District: ..... State: .....

1. General Information

1.1 Personal Information of the Respondent

Q. No	Description	Options	Code
1.1.1	Name of the Respondent (Student)		
1.1.2.	Name of the Parent/Guardian		
1.1.3	Mobile Number of the Parent/ Guardian		
1.1.4	Gender of the Respondent	Male	1
		Female	2
		Transgender	3
1.1.5	Age of Respondent (in completed years)		
1.1.6	Religion	Hindu	1
		Muslim	2
		Sikh	3
		Christian	4
		Others(specify)...	5
		Don't Know	6
		Don't want to disclose	7
1.1.7	Social Category	Scheduled Caste (SC)	1
		Scheduled Tribe (ST)	2
		Other Backward Classes (OBC)	3
		General	4
		Others(specify)...	5
		Don't know	6
		Don't want to disclose	7
1.1.8	Educational Level of the Parents/ Guardian	Illiterate	1
		Primary	2
		Secondary	3
		Higher Secondary	4
		Graduation & Above	5

1.1.9	Occupation of the Parent/Guardian	Cultivator	1
		Agricultural Labourer	2
		Business	3
		Private Service	4
		Government Service	5
		Home Maker	6
		Others (specify)……..	7
		No job	8
1.1.10	Type of the School	Government	1
		Private	2
		Others(specify)	3
1.1.11	Stages/Levels of School Education	Primary	1
		Upper Primary	2
		Secondary	3
		Higher Secondary	4
1.1.12	How far is the school from your place of stay?	Within 3km	1
		3-7km	2
		Above 7km	3
1.1.13	Did you attend the online classes during the lockdown?	Yes	1
		No	2
		No Virtual Class	3
1.1.14	If the answer is Yes, how did you attend the online classes?	Live class through online platforms provided by school	1
		Recorded/live telecast of learning materials via TV/Radio/YouTube channels	2
		Education Channels of CBSE and NCERT (Like Swayam Prabha)	3
		DTH channels by Ministry of Education (MoE)	4
		Sharing of recorded videos of learning materials through Whats App/ Telegram/another platform	5
		Others (specify)…….	6
1.1.15	If the answer is No, how did you continue your studies?	No access to Smart Phones/PCs/ Laptops etc.	1
		Network Coverage Issues	2
		One phone and multiple users	3
		No money for recharge	4
		Denial of access to online classes due to non-submission of fees	5
		No ambience at home for learning	6

		Engaged in household chores during the time of classes	7
		Engaged in livelihood related options to support the family	8
		Others (specify)……	9
1.1.16	If the answer is No virtual class, how did you continue your studies during the lockdown?	Teachers visited the children and shared the learning materials	1
		Mohalla/Hamlet wise classes organized by teachers	2
		Self-learning with study materials including textbooks provided by schools	3
		Support of peers/neighbours/ community	4
		Support extended by Local Self Government (LSG)/ Other social security schemes	5
		Learning materials provided by NGOs/other like-minded organizations	6
		Community classes organized by NGOs/other like-minded organizations	7
		Others (specify)…	8
		No study	9
1.1.17	If the answer is No Virtual Class, what kind of additional support could have helped you to continue your studies? (Please elaborate)		

If the answer is Yes for Q.1.1.13 Kindly proceed with section 2.2 or else terminate the interview

2.2 General Assessment of Impact
Please circle an appropriate response for each of the following statements
(1= Strongly agree 2=Agree 3= indifferent 4=Disagree 5=Strongly Disagree)

A	**Access to online classes and digital devices**					
	1. I attend regular online classes	1	2	3	4	5
	2. I use PC for online classes	1	2	3	4	5
	3. I use my own/personal mobile phones for online classes	1	2	3	4	5
	4. I use my parents' mobiles for online classes	1	2	3	4	5
	5. I received appropriate learning materials	1	2	3	4	5

B	**Support of Parents and Peers**					
	6. My parents could afford mobiles with data connectivity	1	2	3	4	5
	7. My parents are available at my side during online classes	1	2	3	4	5
	8. My parents encourage me to participate in online class	1	2	3	4	5
	9. My companions/friends help me to become techno-savvy	1	2	3	4	5
C	**Support of Teachers/School/Others**					
	10. Teachers helped me to procure digital devices	1	2	3	4	5
	11. Teachers share appropriate learning materials	1	2	3	4	5
	12. I can comfortably interact with my teachers during online class	1	2	3	4	5
	13. Teachers clear my doubt and helps to study well	1	2	3	4	5
	14. My teachers are very supportive and encouraging	1	2	3	4	5
	15. The teachers are efficient in online delivery of learning	1	2	3	4	5
	16. School has tracking/monitoring mechanism for the progress of students who do not have access to any digital device for continuing learning from home	1	2	3	4	5
	17. School conducts additional arrangement/ remedial classes in identifying the learning gaps/learning loss during the pandemic	1	2	3	4	5
	18. School waived off my fees/gave time for me to pay fees	1	2	3	4	5
	19. I received support in procuring digital gadgets for learning from some government/non-government agencies	1	2	3	4	5
D	**Assessment and Learning Outcomes**					
	20. I receive homework/assignments regularly	1	2	3	4	5
	21. Teachers assess my homework/assignments and revert on time	1	2	3	4	5
	22. Majority of exams/assessments are conducted online	1	2	3	4	5
	23. I am happy with my learning outcomes	1	2	3	4	5
E	**Impact of Online Learning**					
	24. Punctuality and regularity of the children are better in online	1	2	3	4	5

	25. Online learning gives more opportunities to learn as more content-rich materials can be explored	1	2	3	4	5
	26. Collaboration with other students is more during online classes	1	2	3	4	5
	27. Learning on the internet is more motivating than in a regular classroom	1	2	3	4	5
	28. Children from poor families were negatively affected	5	4	3	2	1
	29. Children from affluent families have added advantage	1	2	3	4	5
	30. Online learning has made me technologically proficient	1	2	3	4	5
	31. Online classes have drastically increased screen time and dependence on digital device	1	2	3	4	5
	32. Online classes affected my eyes very badly	5	4	3	2	1
	33. Online classes have an adverse impact on mental health	1	2	3	4	5
	34. Online learning will lead to social stratification and inequality in the future	1	2	3	4	5
F	**Perceptions on Online Learning**					
	35. In online learning, more time is required for understanding the concepts	1	2	3	4	5
	36. The knowledge acquired in online classes are inappropriate	5	4	3	2	1
	37. Lack of technological knowledge leads to poor learning	1	2	3	4	5
	38. The technology involved in online learning is confusing	1	2	3	4	5
	39. Online learning has no one-to-one interactions	5	4	3	2	1
	40. Interaction with teachers decreases in online learning	5	4	3	2	1
	41. It is challenging to maintain the concentration or attention span for long, in online sessions	1	2	3	4	5
	42. Most of the teachers are ill-equipped for online classes	5	4	3	2	1
	43. Preference is given to boys at home for online classes	1	2	3	4	5
	44. Girl students are forced to take up domestic duties in addition to/ compromising their online education	1	2	3	4	5
	45. Learning is better in online classes	1	2	3	4	5
	46. Online classes interfere with my personal life and routine	1	2	3	4	5

	47. I migrated from the other state along with my parents and enrolled in the school at my hometown during lockdown	1	2	3	4	5
	48. I am comfortable with the transition from conventional learning method to the online learning method during the pandemic period	1	2	3	4	5
	49. Online learning is better because it kept me safe during COVID-19	1	2	3	4	5
	50. I enjoy my online classes	1	2	3	4	5

1. INVESTIGATOR'S OBSERVATIONS

[Investigator: In the space below, please record any further observations of interest, e.g., any significant details about the respondent's social background, complaints, views, experiences (positive or negative), etc.]

2. NOTE TO THE INVESTIGATOR NOTE TO THE INVESTIGATOR

[Investigator: If you feel that this person/household's experience provides interesting material for a "case study", or that the respondent has interesting stories to tell (positive or negative) on the Education, the Digital Divide and COVID-19 in Rural India (E.g., Experiences of the respondents who are attending online classes, please take further notes in the space below.]

***

APPENDIX 5

Research Tool – 3

Education, the Digital Divide and COVID-19 in India

Interview Schedule for the Teachers

Identification Code: .....

Instructions to the Interviewer/Investigator

- **Introduce yourself and elaborate on –JCSA Collective**
- **Give a brief on the purpose and objectives of the study**
- **Take appropriate consent from the respondent(teacher) to proceed with the Interview Schedule or else terminate the interview. Try to maintain a balance on the following - rural (70%) and urban (30%), gender and the type of schools**
- **To avoid uneasy situations, the Interviewer/Investigator shall be vigilant and sensitive to the situations**
- **Strictly adhere to the COVID-19 protocols issued by the centre/state governments/local administration and maintain social distancing. Also, it is important to ensure that the community members also maintain physical distancing.**
- **Kindly request to respond to all the question. While probe is allowed to get the response, do not prompt any answers. Please select/circle the appropriate responses.**
- **Only in exceptional cases we skip the answers. In case of a question not applicable, please mention clearly that the same is not applicable (Mark N.A.)**

Date of Interview: ----------/ ----------/2022(Day / Month)

Name of the Interviewer: .....

Name of the School/Institution/Organization you are associated with:……..

Geo Point (GPS on Kobo Collect): .....

Nature of the Geographical Location: 1. Rural 2. Semi-Urban 3. Urban……..

Name of the Panchayat/Municipality/Corporation:……..

District: ..... State: .....

1. General Information

1.1 Personal Information of the Respondent

Q. No	Description	Options	Code
1.1.1	Name of the Teacher		
1.1.2	Name of the School		
1.1.3	Type of the School	Government	1
		Private	2
		Private-Aided	3
1.1.4	Gender of the Respondent	Male	1
		Female	2
		Transgender	3
1.1.5	Age of the Respondent		
1.1.6	Social Category	Scheduled Caste (SC)	1
		Scheduled Tribe (ST)	2
		Other Backward Classes (OBC)	3
		General	4
		Others(specify)……..	5
		Don't want to disclose	6
		Don't know	7
1.1.7	Educational Level	PRT (Primary Teacher)	1
		Trained Graduate Teacher (TGT)	2
		Post Graduate Trained Teachers (PGTs)	3
		Others (Specify)……	4
1.1.8	Which grade(s) do you teach in the school? (Multiple Options)	Primary	1
		Upper Primary	2
		Secondary	3
		Above Secondary	4
1.1.9	How long have you been teaching in this school?	Less than a year	1
		1-5 years	2
		6-10 years	3
		More than 10 years	4

2. Education and Digital Divide in India			
2.1 Educational Background			
2.1.1	Do you think that the enrollments of children in your class (es) have gone down especially during the last 2 years (2020-21 & 2021-22)	Yes	1
		No	2
2.1.2	If the answer is No, according to you, what could be the possible reasons (for the enrollment being low) (Multiple Options)	Due to the child/family members being affected by COVID-19	1
		Financial challenges due to loss of Jobs of parents	2
		Could not procure/access digital devices/infrastructural support (Net connectivity, smart phones laptop, PC etc.,)	3
		Children had to support in the livelihood of parents	4
		Children faced problems in attending classes due to technological incompetency	5
		Children were unable to sustain their attention for long on screens	6
		Children faced challenges in understanding content via digital mode and hence dropped out	7
		Children had to support in family household chores	8
		Others (specify)……..	9
2.1.3	Were there any significant dropouts in your class (es) during the last 2 years (2020-21 & 2021-22) especially during the period of lockdown due to the pandemic?	Yes	1
		No	2
2.1.4	If the answer is Yes, state the reasons (Multiple Options)	Due to the child/family members being affected by COVID-19	1
		Financial challenges due to loss of Jobs of parents	2
		Could not procure/access digital devices/infrastructural support	3
		Children had to support in the livelihood of parents	4
		Children faced problems in attending classes due to technological incompetency	5
		Children were unable to sustain their attention for long on screens	6

		Children faced challenges in understanding content via digital mode and hence dropped out	7
		Children had to support in family household chores	8
		Others (specify)……..	9
2.1.5	Were most children attending the online classes during the period of pandemic?	Yes	1
		No	
		No virtual class	3
2.1.6	If the answer is No, how did the children manage to attend the online classes during the period of pandemic?	Shared the learning materials via WhatsApp or other platforms	1
		Encouraged students to attend recorded classes through different portals	2
		With the support of neighborhood children	3
		Physically distributed learning materials	4
		Recorded/live telecast of learning materials via TV/Radio/YouTube channels	5
		Education Channels of CBSE and NCERT (Like Swayam Prabha)	6
		DTH channels by Ministry of Education (MoE)	7
		Did not attend classes	8
		Others (specify)……	9
2.1.7	If the answer is No, what did you/your school do for them to ensure regularity in their attendance in online classes?	Procured and distributed digital devices through school	1
		Procured and distributed digital devices under different government schemes	2
		Distributed digital devices through Local-Self Government (LSG)	3
		Voluntary donations by Individuals	4
		Supported by Civil Society Organizations (CSOs)/Non-Government Organizations (NGOs)	5
		Others (specify)……	6
		No support	7
2.1.8	If the answer is No virtual class, how did the children manage to continue the studies?	Teachers visited the children and shared the learning materials	1
		Mohalla/hamlet wise classes organized by teachers	2
		Self-learning with study materials including textbooks provided by schools	3

		Support of peers/neighbours/ community	4
		Support extended by Local Self Government (LSG)/ Other social security schemes	5
		Learning materials provided by NGOs/ other like-minded organizations	6
		Community classes organized by NGOs/ other like-minded organizations	7
		Others (specify)……	8
		No study	9
		Dropped out	10
2.1.9	What digital devices do you use to deliver online classes? (*Multiple Options*)	Smart Phones	1
		Laptops	2
		Desktops	3
		Other devices(specify).....	4
2.1.10	How frequent were you visiting schools during the time of lockdown for teaching related responsibilities?	Once a week	1
		Alternate days of a week	2
		Monthly Meetings of Teachers	3
		Others (specify)……..	4
		No regular visits during lockdown	5
2.1.11	How did you circulate learning materials to the students of your class (es)? (*Multiple Options*)	Live class through online platforms provided by school	1
		Recorded/live telecast of learning materials via TV/Radio/You Tube channels	2
		Encouraging students to watch Education Channels of CBSE and NCERT (Like Swayam Prabha)	3
		Encouraging students to watch DTH channels by Ministry of Education (MoE)	4
		Sharing of recorded videos of learning materials through WhatsApp/Telegram/ another platform	5
		Distributing learning materials at home	6
		Others (specify)……	7
2.1.12	Do you take feedback from children on the learning content of your classes?	Yes	1
		No	2
2.1.13	Do you think that children were satisfied with the learning content?	Yes	1
		No	2

2.1.14	If the answer is No, could you elaborate the reasons	Learning content was not sufficient	1
		Could not give the content regularly	2
		Learning content was not updated regularly	3
		Learning content could not cover the syllabus	4
		Others (specify)……	5
2.1.15	How were you able to interact with parents during the pandemic? (Multiple Options)	Online meeting with parents to exchange of feedback on learning of children	1
		Through Regular PTMs	2
		Giving individual feedback through E-mails/over phone	3
		Visiting the parents & children at homes	4
		No communication with the parents	5
		Others (specify)……	6
2.1.16	Do you think the transition from offline classes to online classes affected the children?	Yes	1
		No	2
2.1.17	If the answer is Yes, state the reasons (Multiple Options)	Children struggled to grasp the concept through online classes	1
		Learning outcomes were not consistent and comparatively low	2
		Children did not pay much attention to the online classes	3
		Children had low attention span on screens	4
		Teachers were struggling to track and monitor the children in online classes	5
		Attrition rate of the children from online classes was high	6
		Children lost the bonding and interaction with their peers	7
		Screen time was very high and diverting the attention	8
		Others (specify)……	9
2.2 Assessment and Learning Outcomes			
2.2.1	Are you happy with the learning outcomes of your children?	Yes	1
		No	2
2.2.2	If the answer is No, could you please elaborate?		

2.2.3	According to you, did the school make any changes on the assessment pattern during the pandemic period?	Yes	1
		No	2
2.2.4	If the answer is Yes, could you please elaborate?		
2.2.5	How did you assess the learning outcomes of the students? (*Multiple Options*)	Through online tests	1
		Based on assignments	2
2.2.6		Oral Tests	3
		Group Activities & Online Presentation	4
2.2.7		Others (specify)……	5
	Did the school do any additional arrangement/remedial classes in identifying the learning gaps/learning loss during the pandemic?	Yes	1
2.2.8		No	2
	Have you started taking offline classes after the lockdown period?	Yes	1
		No	2
	If the answer is Yes, have most of the children returned to classes?	Yes	1
		No	2
2.2.9	If the answer is No, how do they attend classes?	Taking classes via online mode	1
		Sharing the learning materials via WhatsApp or other platforms	2
		Encouraged students to attend recorded classes through different portals	3
		Physically distributing learning materials	4
		Others (specify)……	5
2.3 Support System by School			
2.3.1	Did the school make any tracking/ monitoring mechanism for the progress of students who do not have access to any digital device for continuing learning from home?	Yes	1
		No	2
2.3.2	If the answer is Yes, could you please elaborate		
2.3.3	Did the school conduct any online orientation programme for parents to sensitize them about the nuances of online teaching like technical support, availability of internet connectivity and internet safety?	Yes	1
		No	2
2.3.4	Did the school conduct any online orientation programme for teachers to sensitize them about the nuances of online teaching methodology?	Yes	1
		No	2

2.3.5	If the answer is Yes, how did you evaluate the orientation programme?	Extremely helpful	1
		Very helpful	2
		Somewhat helpful	3
		Slightly helpful	4
		Not at all helpful	5
2.3.6	Did you receive any financial support in procuring the digital gadgets for teaching via online from schools/ government/non-government agencies?	Yes	1
		No	2
2.3.7	If the answer is Yes, please mention the name of the agencies (multiple options)	School	1
		PTA/MTA	2
		Local Self-Government (LSGs) bodies	3
		Government Schemes	4
		NGOs/Civil Society Organizations (CSOs)	5
		Others (specify)…….	6
2.3.8	Did you receive your salary in time during the pandemic?	Yes, Full Payment	1
		Yes, Partial Payment	2
		No	3
2.3.9	If the answer is Yes, Partial Payment/No, state the reasons		
2.3.10	Were any steps taken by the school to take care of children's mental and physical health and well-being during the pandemic?	Yes	1
		No	2
2.3.11	If the answer is Yes, please give details of steps taken for ensuring mental health and well-being of children	Provided individual/group counselling sessions	1
		Yoga classes	2
		Stress management programmes	3
		Art-Craft classes	4
		Others (specify)…….	5
		None of the above	6
2.3.12	Nature of the steps/mechanism taken by the school to take care of teachers' mental and physical health and well-being during the pandemic?	Provided individual/group counselling sessions	1
		Yoga classes	2
		Stress management programmes	3
		Art-Craft classes	4
		Others (specify)…….	5
		None of the above	6
2.3.13	How do you asses the measures taken by the school to address the learning gap and learning loss of the children during the 1st and 2nd wave of the pandemic?	Satisfied	1
		Very Satisfied	2
		Dissatisfied	3
		Very dissatisfied	4

2.3.14	If the answer is Dissatisfied/very dissatisfied, state the reasons (elaborate the reasons)	
2.4 General Information		
2.4.1	According to you, what are the different supportive mechanisms that can be adopted/placed by different stake holders such as Teachers/Schools/ PTAs/MTAs/ Local Self-Government (LSGs) etc. to address the challenges of digital divide, if any, of online classes?	
2.4.2	Any other challenges that you would like to mention?	

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Research Tool – 4

Education, the Digital Divide and COVID-19 in India

In-depth Interview Schedule for the Members/ Representatives from School Management Committee (SMCs)/ Block Resource Centres (BRCs)/ Cluster Resource Centres (CRCs)

Identification Code: .....

Instructions to the Interviewer/Investigator

- **Introduce yourself and elaborate on –JCSA Collective**
- **Give a brief on the purpose and objectives of the study**
- **Take appropriate consent from the respondent to proceed with canvassing of the Interview Schedule or else terminate the interview.**
- **Ensure that the respondent is from the list of stakeholders who are engaged with the education of children. Try to maintain a balance on the following - rural (70%) and urban (30%), gender and the type of schools**
- **To avoid uneasy situations, the Interviewer/Investigator shall be vigilant and sensitive to the situations**
- **Strictly adhere to the COVID-19 protocols issued by the centre/state governments/local administration and maintain social distancing. Also, it is important to ensure that the community members also maintain physical distancing.**
- **Kindly request to respond to all the question. While probe is allowed to get the response, do not prompt any answers. Please select/circle the appropriate responses.**
- **Only in exceptional cases we skip the answers. In case of a question not applicable, please mention clearly that the same is not applicable (Mark N.A.)**

Date of Interview: ----------/ ----------/2022(Day / Month)

Name of the Interviewer: .....

Name of the School/Institution/Organization you are associated with:……

Geo Point (GPS on Kobo Collect): .....

Nature of the Geographical Location: 1. Rural 2. Semi-Urban 3. Urban……

Name of the Panchayat/Municipality/Corporation:……

District: ..... State: .....

1. General Information

1.1 Personal Information of the Respondent

Q. No	Description	Options	Code
1.1.1	Name of the Respondent		
1.1.2	Description of the Respondent	Principal/Headmaster of the School	1
		School Management Committee Member (SMC)	2
		PTA/MTA Representative	3
		CRC Coordinator/ BRC Coordinator	4
		Block Education Officer (BEO)/ Assistant Educational Officer (AEO)	5
		Others (Specify)……..	6
1.1.3	How long have you been serving in this office/post?	Less than a year	1
		1-2 years	2
		2-3 years	3
		More than 3 years	4
1.1.4	Gender of the Respondent	Male	1
		Female	2
		Transgender	3
1.1.5	Educational Level	Diploma	1
		Graduation	2
		Post-Graduation	3
		Others (Specify).....	4

2. Education and Digital Divide in India

2.1 If the respondent is Principal/Headmaster of the School/School Management Committee Member (SMC)/PTA/MTA Representative

2.1.1	Name of the School		
2.1.2	Type of the School	Government	1
		Private	2
		Private-Aided	3

2.1.3	Grade of the School	Primary	1
		Upper Primary	2
		Secondary	3
		Higher Secondary	4
2.1.4	Do you think there were significant enrollments of children in your school for the last 2 years (2020-21 & 2021-22) especially during the period of lockdown due to pandemic?	Yes	1
		No	2
2.1.5	If the answer is No, state the reasons? (Multiple options)	Due to COVID-19	1
		Health challenges or concerns	2
		Financial challenges due to loss of Jobs of parents	3
		Could not procure digital devices	4
		Technological challenges	5
		Children had to support in the livelihood of parents	6
		Household chores	7
		Others (specify)……..	8
2.1.6	Were there significant dropouts in your school during the last 2 years (2020-21 & 2021-22) especially during the period of lockdown due to pandemic?	Yes	1
		No	2
2.1.7	If the answer is Yes, state the reasons. (Multiple options)	Due to COVID-19	1
		Health challenges or concerns	2
		Financial challenges due to loss of Jobs of parents	3
		Could not procure digital devices	4
		Technological challenges	5
		Children had to support in the livelihood of parents	6
		Children involved in Household chores	7
		Others (specify)……..	8
2.1.8	What percentage of children in your school did not have digital devices to attend the online classes?		
2.1.9	If not able to access, how did they manage to attend the classes? (Multiple options)	Shared the learning materials via WhatsApp or other platforms	1
		Encouraged students to attend recorded classes through different portals	2
		with the support of neighborhood children	3
		Physically distributed learning materials	4
		Others (specify)……	5

2.1.10	What did you/your school do for them to ensure regularity in their attendance in online classes? (Multiple options)	Procured and distributed digital devices through school	1
		Procured and distributed digital devices under different government schemes	2
		Distributed digital devices through Local-Self Government (LSG)	3
		Voluntary donations by individuals	4
		Supported by Civil Society Organizations (CSOs)/Non-Government Organizations (NGOs)	5
		Others (specify)……	6
2.1.11	During the time of lockdown, how did your teachers manage the classes? (Multiple options)	Live class through online platforms provided by school	1
		Recorded/live telecast of learning materials via TV/Radio/YouTube channels	2
		Education Channels of CBSE and NCERT (Like Swayam Prabha)	3
		DTH channels by Ministry of Education (MoE)	4
		Sharing of recorded videos of learning materials through Whats App/ Telegram/another platform	5
		Teachers visited the children and shared the learning materials	6
		Mohalla/hamlet wise classes organized by teachers	7
		Others (specify)……	8
2.1.12	Did your school organize any orientation programme for parents on familiarising the online learning?	Yes	1
		No	2
2.1.13	How did the teachers in your school circulate learning materials to the students of your class (es)? (Multiple options)	Live class through online platforms provided by school	1
		Recorded/live telecast of learning materials via TV/Radio/You Tube channels	2
		Encouraging students to watch Education Channels of CBSE and NCERT (Like Swayam Prabha)	3
		Encouraging students to watch DTH channels by Ministry of Education (MoE)	4
		Sharing of recorded videos of learning materials through What's App/ Telegram/another platform	5
		Distributing learning materials at home	6
		Others (specify)……	7

2.1.14	Were the teachers taking feedback from children on the delivery of content of online classes?	Yes	1
		No	2
2.1.15	Do you think that children were satisfied with the circulated learning content?	Yes	1
		No	2
2.1.16	If the answer is No, could you elaborate the reasons (Multiple options)	Learning content was not sufficient	1
		Could not give the content regularly	2
		Learning content was not updated regularly	3
		Learning content could not cover the syllabus	4
		Others (specify)……	5
2.1.17	How did the schoolteachers ensure the co-operation of parents/guardian in the online learning education of children? (Multiple options)	Online meeting with parents to give the feedback on learning of children	1
		Through Regular PTMs	2
		Giving feedback through E-mails/over phone	3
		Visiting the parents & children at homes	4
		Others (specify)……	5
		No communication with the parents	6
2.1.18	Do you think the transition from offline classes to online classes affected the children?	Yes	1
		No	2
2.1.19	If the answer is Yes, state the reasons (Multiple options)	Children struggled to grasp the concept through online classes	1
		Learning outcomes were not consistent and comparatively low	2
		Children did not pay much attention to the online classes	3
		Teachers were struggling to track and monitor the children in online classes	4
		Attrition rate of the children from online classes was high	5
		Children lost the bonding and interaction with their peers	6
		Screen time was very high and diverting the attention	7
		Others (specify)……	8

2.2 Assessment and Learning Outcomes			
2.2.1	According to you, did the school make any changes on the assessment pattern during the pandemic period?	Yes	1
		No	2
2.2.2	If the answer is Yes, could you please elaborate?		
2.2.3	Were you happy with the learning outcomes of your children?	Yes	1
		No	2
2.2.4	If the answer is No, could you please elaborate?		
2.2.5	Did the school do any additional arrangement/remedial classes in identifying the learning gaps/learning loss during the pandemic?	Yes	1
		No	2
2.2.6	If the answer is Yes, could you please elaborate?		
2.2.7	From the time of the first lock down (March 2020), how many months were you able to run the school offline?		
2.2.8	Do you have off-line classes going on now?	Yes	1
		No	2
2.2.9	If the answer is Yes, have all the children returned to classes?	Yes	1
		No	2
2.2.10	If the answer is No, how do they attend classes? (Multiple options)	Taking classes via online mode	1
		Sharing the learning materials via WhatsApp or other platforms	2
		Encouraged students to attend recorded classes through different portals	3
		Physically distributing learning materials	4
		Others (specify)……	5
2.3 Support System by School			
2.3.1	Did the school make any tracking/ monitoring mechanism for the progress of students who do not have access to any digital device for continuing learning from home?	Yes	1
		No	2
2.3.2	If the answer is Yes, could you please elaborate		

2.3.3	Did the school conduct any online orientation programme for parents to aware them about the nuances of online teaching like technical support, availability of internet connectivity and internet safety?	Yes	1
		No	2
2.3.4	What kind of strategies were adopted by the school to equip the teachers for online teaching during the pandemic? (Multiple options)	Organized orientation programme on online teaching methodologies	1
		Arranged online class facilities for teachers in school	2
		Financial assistance to procure digital devices to take classes from home	3
		Regular technical support to the teachers to conduct online classes	4
		Collecting feedback from teachers on online classes to resolve technical glitches	5
		Others (specify)…….	
2.3.5	Do you know that children have received any support in procuring the digital gadgets for the learning from any of the government/non-government agencies?	Yes	1
		No	2
2.3.6	If the answer is yes, please mention the name of the agencies (multiple options)	Neighborhoods	1
		Teachers/School	2
		PTA/MTA	3
		Local Self-Government (LSGs) bodies	4
		Government Schemes	5
		NGOs/Civil Society Organizations (CSOs)	6
		Others (specify)…….	7
2.3.7	Were any steps taken by the school to take care of children's mental and physical health and well-being during the pandemic?	Yes	1
		No	2
2.3.8	If the answer is Yes to above, please give details of steps taken for ensuring mental health and well-being of children	Provided individual/group counselling sessions	1
		Yoga classes	2
		Stress management programmes	3
		Art-Craft classes	4
		Others (specify)…….	5
		None of the above	6

2.3.9	What kind of challenges faced by your educational institution in the ongoing Covid-19 induced closures, and the readiness to transition the operations from an offline to an online model?	Financial stress on account of the inability to collect fees	1
		Delay in adopting technology for online classes/remote schooling	2
		No adequate digital infrastructure to conduct online classes	3
		Teachers were not equipped with internet connectivity and internet enabled devices at home to conduct online classes	4
		Others(specify)……...	5
2.3.10	Main reasons for financial stress on account of the inability to collect the fees from children	Parents not having the income to pay fees due to the lockdown	1
		Parents not being able to come to school or bank premises to pay fees owing to the lockdown	2
		Parents receiving salaries late and cannot pay on time	3
		Parents not keen to pay for online classes	4
		Loss of livelihood options of parents	5
		Others(specify)……..	6
2.3.11	How did the school overcome the challenges of financial stress on account of the inability to collect fees from the children due to the pandemic?		
2.3.12	How did the school ensure the support of the teachers in terms of salary and financial assistance during the pandemic? (*multiple options*)	Financial support to the teachers to set up digital infrastructure	1
		Paid salary in advance	2
		Arranged transportation facilities for the teachers to conduct online classes from school	3
		Medical care facilities to ensure the health of the teachers	4
		Others(specify)……..	5
2.3.12	How did you supervise the activities of the school for its smooth functioning during the time of the pandemic?		
2.4 If the respondent is CRC Coordinator/ BRC Coordinator/Block Education Officer (BEO)/ Assistant Educational Officer (AEO)			
2.4.1	Total Number of the schools in your jurisdiction		
	1. Government		
	2. Private		
	3. Private-Aided		

2.4.2	Do you think there were significant enrollments of children in your schools for the last 2 years (2020-21 & 2021-22) especially during the period of lockdown due to pandemic?	Yes	1
		No	2
2.4.3	Were there significant dropouts from the schools under your jurisdiction during the last 2 years (2020-21 & 2021-22) especially during the period of lockdown due to pandemic?	Yes	1
		No	2
2.4.4	How frequent were you visiting the schools in your jurisdiction during the time of lockdown for fulfilling the responsibilities?	Once in month	1
		Once in quarter	2
		Once in year	3
		Others(specify)…	4
		No visits	5
2.4.5	How many schools did report to you that children (number may be in percentage) were not having digital devices to attend the classes?		
2.4.6	According to you, how did the children from the schools under your jurisdiction manage to attend the classes?	Live class through online platforms provided by school	1
		Recorded/live telecast of learning materials via TV/Radio/You Tube channels	2
		Encouraging students to watch Education Channels of CBSE and NCERT (Like Swayam Prabha)	3
		Encouraging students to watch DTH channels by Ministry of Education (MoE)	4
		Sharing of recorded videos of learning materials through WhatsApp/ Telegram/another platform	5
		Distributing learning materials at home	6
		Others (specify)……	7
2.4.7	Did the schools have any tracking/ monitoring mechanism for the progress of students who do not have access to any digital device for continuing learning from home?	Yes	1
		No	2
2.4.8	If the answer is yes, could you please elaborate		

2.4.9	Do you know whether children have received any support in procuring the digital gadgets for the learning from any of the government/non-government agencies?	Yes	1
		No	2
2.4.10	According to you, did the schools make any changes on the assessment pattern during the pandemic period?	Yes	1
		No	2
2.4.11	If the answer is Yes, could you please elaborate?		
2.4.12	Do you think the transition from offline classes to online classes affected the children?	Yes	1
		No	2
2.4.13	If the answer is Yes, could you please elaborate?		
2.4.14	Were any steps taken by the schools in your jurisdiction to take care of children's mental and physical health and well-being during the pandemic?	Yes	1
		No	2
2.4.15	If the answer is Yes to above, please give details of steps taken for ensuring mental health and well-being of children by the schools in your jurisdiction?		
2.5 For All the Respondents			
2.5.1	According to you, what are the different supportive mechanisms that can be adopted/placed by different stake holders such as Teachers/Schools/ PTAs/MTAs/ Local Self-Government (LSGs) etc. to address the digital divide?		
2.5.2	Any other challenges/issues you would like to mention?		

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Research Tool – 5

Education, the Digital Divide and COVID-19 in India

Guide for Collecting Case Studies (Parents and Children)

Identification Code: .....

Instructions to the Interviewer/Investigator

- **Introduce yourself and elaborate on –JCSA Collective**
- **Give a brief on the purpose and objectives of the study**
- **Take appropriate consent from the Parents/Guardian/Children to collect case study or else terminate the process of collecting case study**
- **Ensure that the respondents (Parent & Children) are from the category - children studying in primary/secondary/higher secondary. Try to maintain a balance on the following - rural (70%) and urban (30%), gender and the type of schools**
- **To avoid uneasy situations, the Interviewer/Investigator shall be vigilant and sensitive to the situations**
- **Strictly adhere to the COVID-19 protocols issued by the centre/state governments/local administration and maintain social distancing. Also, it is important to ensure that the community members also maintain physical distancing.**
- **Kindly request to respond to all the question. While probe is allowed to get the response, do not prompt any answers.**
- **Only in exceptional cases we skip the answers. In case of a question not applicable, please mention clearly that the same is not applicable (Mark N.A.)**

How to write the case study

An effective case study report should

- ☑ Clearly identify the core problem(s)
- ☑ Analyse the issues underlying the problem
- ☑ Discuss and justify alternative solutions using theory / experience
- ☑ Present feasible recommendations
- ☑ Be presented in an appropriate format.

Guide For Parents

Name of the Respondent (*Primary Respondent*) :

Date of Household Interview (in KoBoCollect) :

Name of the location :

Classification of the location : Rural/Semi-Urban/Urban

Name of the Village (Optional) :

Name of the District :

State :

I. Profile of the family whom would be interviewed for the case study

S.N.	Name of the Family members	Age	Gender	Religion	Education	Occupation	Monthly Income
1							
2							
3							
4							
5							

*Basic Details Required (If the details are not available Mark NA)

II. Social and Economic Background of the Family

- ❏ Share the details of family members and their background (Social and Education)
- ❏ Share about the details of Source of Income and Livelihood
- ❏ Details of the school going children

Probe in Detail

III. Educational Background of the Children

- ❏ Grade of schooling (Primary, Secondary and Higher Secondary)
- ❏ Types of school (Government, Private & Private Aided)
- ❏ Learning ambience at home
- ❏ Nature of support provided by the parents/guardian

IV. Education of the Children during COVID-19 period and lockdown

- ❏ How did the children attend the classes during the lockdown period?
- ❏ Access to digital Infrastructure (Desktop, Laptop, Smartphones and Nature of Internet Connectivity)
- ❏ Nature of the digital devices possessed by the family
- ❏ Orientation programme for the parents on online classes provided by school, if any
- ❏ Technical proficiency to access the digital devices
- ❏ Payment of money to access/possess digital devices
- ❏ Nature of the learning materials availed and accessed by the children
- ❏ Remedial classes, if any
- ❏ Assessment and Learning Outcomes

V. Assessment and Learning Outcome of the Children during online classes

- ❏ Interactions with the teachers
- ❏ Clearing doubts during the class time
- ❏ Nature of submission of assignments and its evaluation
- ❏ Learning outcome of the children
- ❏ Expectations on learning outcome of the children

VI. Support System by School and Social Security Benefits during lockdown

- ❏ Support systems/ mechanisms provided by the schools during the period of lockdown
- ❏ Teachers' visit to the houses of children who did not attend online classes
- ❏ Financial support in terms of waiving of fees and support to procure digital devices during the time of lockdown

- ❏ Scholarship and mid-day meal support
- ❏ Providing learning materials and mode of distribution of content
- ❏ Other support in terms of remedial classes

VII. Support by Government/Local Self Government (LSG)/NGOs/CSOs during lockdown

- ❏ Nature of the support provided by the different government and non-government agencies
- ❏ Utilization of the support for the education of children

VIII. Experiences on Online Classes

- ❏ Share the experiences of your children- whether it was interesting or not?
- ❏ Experiences of parents and children within your area or community
- ❏ Merit of online classes with reference to offline classes
- ❏ Challenges of online classes

IX. Aspirations and Desires

- ❏ Aspirations on the future of the children
- ❏ Challenges for continuing the education of children
- ❏ Any other challenges/issues you would like to mention.
- ❏ -Preparations for the education of the children if there is next wave

Name & Signature of the Respondent:

Name & Signature of the Investigator:

Date:

Guide For Children

Instructions to the Interviewer/Investigator

- If there is more than a child in the family who are going to same type of schools kindly document the responses collectively or else document the responses separately.

Probe in detail the following sections

I. Educational Background of the Children

- Grade of schooling (Primary, Secondary and Higher Secondary)
- Types of school (Government, Private & Private Aided)

II. Education of the Children during COVID-19 period and lockdown

- How did the child/children attend classes during the lockdown period?
- Access to digital Infrastructure (Desktop, Laptop, Smartphones and Nature of Internet Connectivity)
- Nature of the digital devices possessed by the family
- Orientation programme for the children on online classes provided by school, if any
- Technical proficiency to access the digital devices
- Learning ambience at home
- Nature of support provided by the parents/guardian
- Nature of the learning materials availed and accessed by the children
- Remedial classes, if any

III. Assessment and Learning Outcome of the Children during online classes

- Interactions with the teachers
- Clearing doubts during the class time
- Nature of submission of assignments and its evaluation
- Assessment and Learning Outcomes of the children
- Learning outcome
- Expectations on learning outcome of the children

IV. Support System by School and Social Security Benefits during lockdown

- Support systems/ mechanisms provided by the schools during the period of lockdown
- Teachers' visit to the houses of children who did not attend online classes
- Financial support in terms of waiving of fees and support to procure digital devices during the time of lockdown

- ❏ Scholarship and mid-day meal support
- ❏ Providing learning materials and mode of distribution of content
- ❏ Other support in terms of remedial classes

V. Support by Government/Local Self Government (LSG)/NGOs/CSOs during lockdown

- ❏ Nature of the support provided by the different government and non-government agencies
- ❏ Utilization of the support for the education of children

VI. Experiences on Online Classes

- ❏ Share the experiences of children- whether it was interesting or not
- ❏ Experiences of children within your area or community
- ❏ Merit of online classes with reference to offline classes
- ❏ Challenges of online classes

VII. Aspirations and Desires

- ❏ Future Aspirations
- ❏ Challenges for continuing the education
- ❏ Any other challenges/issues you would like to mention.
- ❏ Preparations for continuing education if there is next wave

Name & Signature of the Respondent (Child):

Name & Signature of the Investigator:

Date:

Don't just teach your children to read, teach them to question what they read. Teach them to question everything.

- George Carlin

CONTACT US

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