Research Article

A Children-based Survey on Virtual Schooling/ Classrooms and Psycho-social Impacts Thereof in Elementary Education in Northeast India

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Abstract

This study aims to assess the impact of virtual schooling on learning outcomes for elementary school children, particularly from marginalised social and economic groups, in eight aspirational districts across the North-East Region: Namsai (Arunachal), Hailakandi (Assam), Chandel (Manipur), Ribhoi (Meghalaya), Mamit (Mizoram), Kiphire (Nagaland), Gyalshing (Sikkim), and Dhalai (Tripura). This paper evaluates schools' preparedness for online teaching and examines the impact of COVID-19 on the psycho-social well-being of elementary school children. The study used a mixed-methods approach, collecting both quantitative and qualitative data from Class VII and VIII students during the 2022-23 academic year. Schools were randomly selected based on administrative support, and the study focused on assessing systemic readiness, teaching quality, and the achievement of desired learning outcomes. The key concerns in online learning include the psychological well-being of students, the lack of essential infrastructure like devices and internet connectivity, and challenges such as network issues, material difficulty, distractions, and a preference for in-person learning. Addressing these requires creative, engaging teaching methods, robust support systems, and adapting teaching to meet students' needs. Teachers need strong communication skills and updated ICT resources. Ensuring students are prepared and educating parents to foster a conducive home learning environment is also important. Social isolation and the need for better interaction between students and teachers can be mitigated through ICT tools. Effective assessment methods, such as assignments and objective-based evaluations, are necessary to gauge learning while minimising dishonesty.

Keywords: Aspirational District, COVID-19, Elementary School Children, North-East Region, Statistical Survey,

Introduction

The Government of India (GOI) introduced the National Education Policy (NEP) - 2020 in July 2020 during the COVID-19 pandemic, focusing on quality, innovation, competency-based education, equity, and digital initiatives, with an emphasis on aspirational districts identified by NITI Aayog (2018) through the NIPUN Bharat Mission. The NEP 2020 emphasises that the highest priority should be given to improving children's learning outcomes through Foundational Literacy and Numeracy (FLN) in primary schools by 2025. Without achieving basic learning skills (reading, writing, and arithmetic) at the foundational level, the rest of the policy will have limited relevance for a large portion of children. To address this, the Government of India (GOI) launched the NIPUN program in mission mode to create an enabling environment for

universal FLN acquisition. The goal is for every child to attain the required competencies in reading, writing, and numeracy by the end of Grade III, or at the latest by Grade V, by 2026-27.

At the same time, the country underwent multiple lockdowns to curb the spread of COVID-19. During this period, the GOI issued guidelines for online teaching and distance learning, which became necessary due to the closure of schools, especially in rural areas. This shift from in-person classes to online learning required alternative educational methods, as traditional face-to-face teaching was no longer possible (Dhawan, 2020). Teachers' computer proficiency and internet access enable remote work. Thoughtful encouragement and a positive attitude can boost their morale and support an improved teaching-learning environment post-COVID-19 disruption (Bhat et. al, 2020). The NEP-2020 recognised the need to harness the benefits of technology in education while addressing the associated risks. It stressed that the use of technology for online and digital education must prioritise equity, calling for well-designed pilot studies to evaluate how digital learning can be effectively utilised while minimising its potential drawbacks (GOI, 2020).

Objectives of the Study

Keeping in view the NEP-2020 and NIPUN BHARAT Mission, and thrust areas identified by the GOI on Quality and Innovation, Competency-based Education, Equity, ICT and Digital Initiatives, Focus on Aspirational Districts, the present research study aimed to identify the negative and positive effects of COVID-19 pandemic on the competency-based learning for elementary school children in selected aspirational districts of the North-East region with research objectives – to assess the preparedness of schools for implementing online/virtual teaching and to examine the impact of COVID-19 on the psycho-social well-being of elementary school children.

Research Design of the Study

The study was designed using both quantitative and qualitative data, gathered through a research schedule aligned with the study's objectives, focusing on the impact of COVID-19 on elementary school children. A research schedule was created to collect information from children enrolled in Classes VII and VIII during the academic year 2022-23. This schedule included data on the steps taken so far, school preparedness for online/virtual teaching, and the psycho-social effects of COVID-19 on elementary school children in the North-East region. In brief, the children's schedule covered the data items on the availability of online class facilities and devices, sources of access to and availability of smartphones, teaching and learning methods/resources used during COVID-19, challenges faced in implementing online learning, satisfaction with the learning schedule/assigned tasks, disruptions encountered during online classes, children's views on online classes, comfort with the learning format in online classes, degree of challenges encountered at home during online learning, satisfaction with interest/motivation for learning, insight into children's engagement in online learning, and children's experiences with online learning in the home environment.

To conduct the study, eight aspirational districts from the region—Namsai, Hailakandi, Chandel, Ribhoi, Mamit, Kiphire, Gyalshing, and Dhalai—were selected, and 16 schools were randomly chosen for inclusion in the study. Besides, 4 schools were randomly selected to

try out the schedule in the Mamit and Gyalshing districts. Accordingly, data for the study were gathered from children attending 20 randomly chosen schools. The sampling unit was the schools, which were randomly selected based on administrative support from district authorities. From each randomly selected school, children were invited to participate in the survey based on their willingness. A sample of approximately 30 children (14 from Class VII and 16 from Class VIII) from two schools in each of the eight North-East states was considered. Data collection was conducted face-to-face, under the supervision of State Nodal Officers appointed by State Authorities. The data, which included both closed- and open-ended questions, were entered into MS Excel worksheets, processed for tabulation, and analysed as suggested by Cox (1996), Daniels et.al. (2002), and Kumar (2019).

Data Presentation and Analysis

The present study aimed to assess the impact of COVID-19 on elementary school children, focusing on the readiness of schools to implement online/virtual teaching and the effect of COVID-19 on the psycho-social well-being of children in selected aspirational districts of the North-East region. To achieve this, a research schedule for children was developed, tested in field conditions, and finalised with inputs from an Expert Group. Quantitative and qualitative data were collected from school children across all states of the North-East region, with one aspirational district selected from each state. The data were then categorised to provide general information about the children, as well as specific insights related to the study's objectives.

As per the study's design, the target sample size for selected children was set at 300. However, due to the responses received, the number increased to 307. Consequently, the study involved 307 children from selected 20 schools offering elementary education for Classes VII and VIII during the 2022-23 academic year. These children were considered the most vulnerable during the COVID-19 pandemic, particularly during the 2020-21 and 2021-22 academic sessions.

Table-1: Gender and Class-wise Number of Sampled Children

Gender	Class-wise Number of Sampled Children		Total
	Class – VII	Class – VIII	
Boys	79	75	154
Girls	68	85	153
Total	147	160	307

Table 1 presents gender and class-wise details of the children included in the study. Of the total 307 children, 154 were boys and 153 were girls, indicating a balanced gender ratio. Among them, 147 children (79 boys and 68 girls) were enrolled in Class VII, while 75 boys and 85 girls were in Class VIII at the time of data collection for this study.

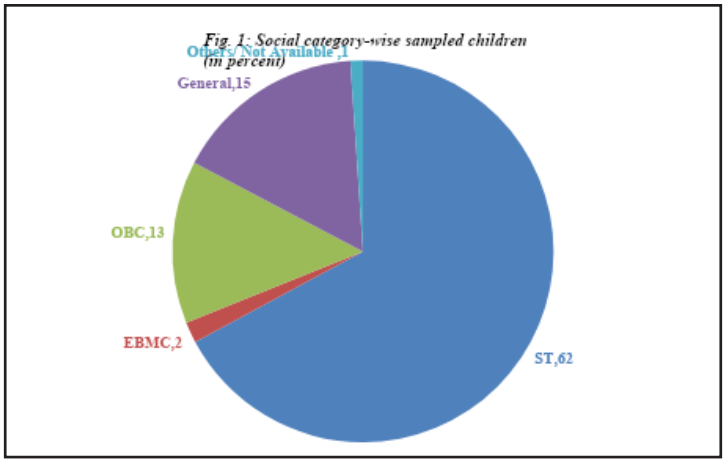


Figure 1 illustrates the distribution of children across various social groups, including General, Educationally Backward Minority Communities (EBMC), Other Backward Classes (OBC), Others/ Not Available, Scheduled Castes (SC), and Scheduled Tribes (ST). Among the children, 62% belonged to the ST group, followed by 15% from the General group.

The specific information gathered from the children was analysed using a mixed-method approach (both qualitative and quantitative) to derive objective-based findings. In line with the research objectives of the study, the data items/questions from the children's schedule were identified as detailed in the Research Design section. The analysis involved reviewing each item or question of the children's schedule, focusing on the frequency of responses. The objective-wise data presentation and analysis are then presented through tables, figures, and related interpretations, as outlined in the following paragraphs in this section.

Preparedness of Schools for Implementing Online/ Virtual Teaching

Availability of Online Class Facilities and Devices

Table-2: Accessibility of Online Class Facility and Devices for Attending Online Classes to Children

Accessibility of Online Class Facility and Devices	Children Having Access
The school provided an online class facility during COVID-19	87%
Children had access to a device for attending online classes	
Yes	59%
Yes, but it did not work effectively	11%
Yes, but I shared it with others	12%
No, I do not have one	18%
Children used devices for online learning (multiple responses are received)	
Laptop	7%
Desktop computer	
Tablet	

Accessibility of Online Class Facility and Devices	Children Having Access
Smartphone	91%
TV/DTH	2%
Radio	
Children obtained devices for online learning at home	
Already owned	67%
Purchased	15%
Borrowed	16%
Donated/ sponsored	2%
Any Other (youth club, missionary etc.)	

The children were asked to share details about the availability of online class facilities and devices for attending these classes. Table 2 summarises the data regarding the online class facilities provided by schools during the COVID-19 pandemic, the proportion of children with access to devices for online learning, the types of devices used, and the sources from which children obtained these devices for home-based online learning.

The data reveals that 87 per cent of children reported receiving online class facilities from their schools during the pandemic, while 82 per cent had access to a device for attending these classes. Smartphones were the primary device used for online learning, with 91 per cent of children relying on them. Additionally, around 82 per cent of children either already owned or purchased their devices, whereas 16 per cent borrowed them for online learning at home.

Sources of Access to and Availability of Smartphones

Table-3: Sources of Accessibility and Availability of Smartphones to Children

Sources of Accessibility of Smartphones	Availability of Smart Phone to Children
Members of children's households have smartphones	24%
Children have a smartphone	18%
Children use their parent's smartphones for online classes	58%

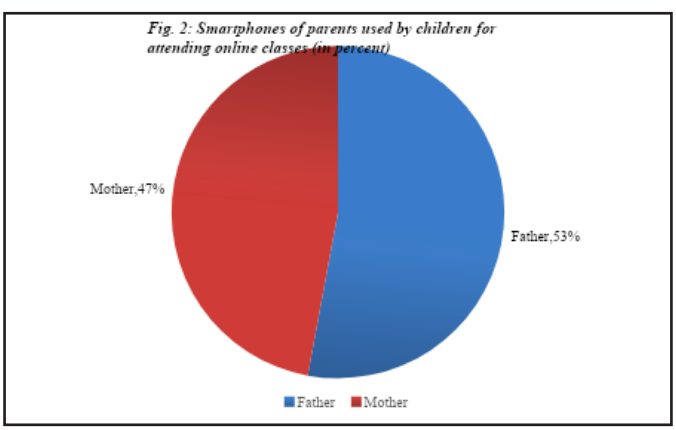


Table 3 presents data on the sources through which children accessed and obtained smartphones for attending online classes during the COVID-19 pandemic. Table 3 shows that approximately 24 per cent of children's household members owned smartphones, while 18 per cent of children had their smartphones. Moreover, 58 per cent of children relied on their parents' smartphones to attend online classes. Figure 2 provides a breakdown of the smartphones used by these 58 per cent of children, indicating that 53 per cent used their father's smartphone, while 47 per cent used their mother's smartphone for online learning during the COVID-19 pandemic.

Teaching and Learning Methods/Resources Used During COVID-19

Table-4: Children's Response on Teaching-learning Aids/ Process Used During COVID-19 Lockdown Period

S.No.	Teaching-learning Aids during COVID-19 lockdown	Children's Response to Teaching-Learning Aids Available/ Used	
1.	ICT devices used by teachers.	Computer	3%
		Laptop	5%
		Mobile phone	75%
		Both laptop & mobile phone	17%
2.	Digital resources used in online learning.	Digital textbook/ worksheets	21%
		Videos	48%
		PowerPoint presentations	11%
		Quizzes/assessment questions	25%
		Online learning tools	16%
		Other online resources: such as sending pictures of textbook chapters	38%

Children were asked about the teaching-learning aids and processes utilised during the COVID-19 lockdown, including ICT devices used by their teachers, the quality of internet connectivity, instances of internet disruptions from the teacher's side, and the digital resources employed for online learning. Table 4 outlines the ICT devices and digital resources utilised by teachers during this period.

According to Table 4, about 75 per cent of teachers used mobile phones as their primary ICT device for online teaching, while 17 per cent used a combination of laptops and mobile phones. The use of computers or laptops alone was minimal, particularly in sparsely populated and remote areas within the aspirational districts of the North-East region of India. Additionally, Table 4 highlights children's responses regarding digital resources used during online learning. Videos were the most common resource, used by 48 per cent of teachers, followed by 38 per cent who relied on other online materials, such as images of textbook chapters. Furthermore, teachers incorporated teaching aids such as quizzes or assessment questions (25 per cent) and digital textbooks or worksheets (21 per cent) into their online learning practices during the pandemic.

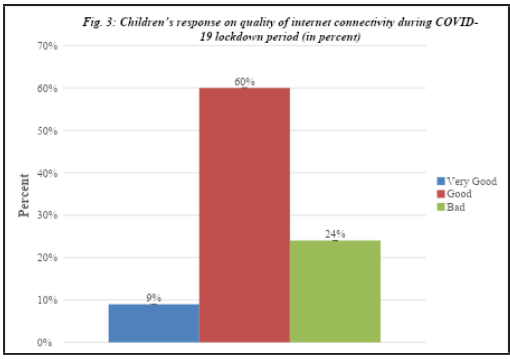


Fig. 3: Children's response on quality of internet connectivity during COVID-19 lockdown period (in percent)

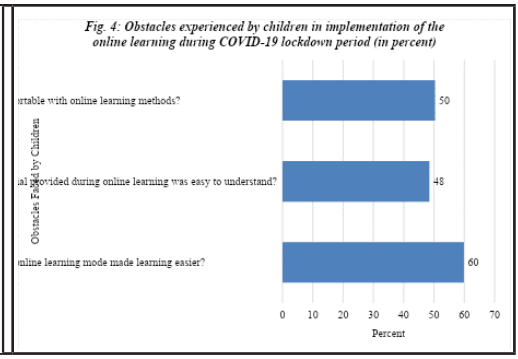


Fig. 4: Obstacles experienced by children in implementation of the online learning during COVID-19 lockdown period (in percent)

Figure 3 illustrates children's feedback on the quality of internet connectivity during virtual learning sessions from their teachers, rated on a three-point scale: very good, good, and bad. According to Figure 4.1.2, 60 per cent of children rated the internet quality as "good," while 24 per cent described it as "bad" during the online teaching-learning process during the pandemic.

Challenges Faced in Implementing Online Learning

The children's questionnaire included items on obstacles they encountered with online learning during the COVID-19 lockdown, asking them to respond "yes" or "no" to statements about (i) whether they felt online learning made learning easier, (ii) whether the materials provided were easy to understand, and (iii) whether they felt comfortable with online learning methods. For analysis, a "no" response was interpreted as indicating an obstacle.

Figure 4 presents children's opinions on these obstacles experienced in implementing online learning. Approximately 60 per cent of children felt that online learning did not make learning easier, 50 per cent reported discomfort with online learning methods, and 48 per cent encountered difficulties with the provided materials, finding them hard to understand.

Table-5: Applications Used by Children for Online Learning

S.No.	Applications Used for Online Learning	Used by Children
1	WhatsApp	75%
2.	Google Classroom	17%
3.	Zoom Meeting	20%
4.	Google Meet	28%
5.	Microsoft Teams	4%

Table 5 provides data on the percentage of children using various applications for online learning during the COVID-19 lockdown. Table 5 indicates that 75 per cent of children used WhatsApp for online learning, followed by 28 per cent who used Google Meet, and 20 per cent who used Zoom. Microsoft Teams was the least accessed, with only 4 per cent of children using it during the lockdown. This limited access to various applications, with WhatsApp being the primary option, may have been a significant obstacle due to the lack of alternative online learning platforms.

Satisfaction with the Learning Schedule/Assigned Tasks

Children were asked to rate their satisfaction regarding the clarity of the learning schedule or timetable provided, the clarity of assigned tasks or homework, and the quantity of tasks given. Responses were collected on a three-point scale: "to a great extent," "to some extent," and "not at all."

Table-6: Children's Response on Items of Satisfaction

S.No.	Items of Satisfaction	Children's Response		
		To a Great Extent	To Some Extent	Not at All
1.	Clarity of learning schedule/ timetable	40%	57%	2%
2.	Clarity of the tasks set/ given homework	39%	52%	8%
3.	The number of tasks assigned	36%	58%	7%

Table 6 shows that 97 per cent of children were satisfied with the clarity of the learning schedule or timetable provided by the school, either "to a great extent" or "to some extent." Similarly, 91 per cent of children felt satisfied with the clarity of tasks or homework assigned by their teachers, following a similar pattern regarding satisfaction with the number of tasks assigned.

Disruptions Encountered During Online Classes

The children's questionnaire included a question asking them to share their experiences of distractions at home while attending online classes during the COVID-19 lockdown. In this context, distractions identified in the existing literature—such as video games, people moving around the house, internet surfing, sleeping, household activities, and other potential sources—were considered. Multiple responses were anticipated and were indeed received from the children during data collection. Upon reviewing the responses, it was found that out of the 307 sampled children, 277 (90 per cent) provided input on the distractions they faced.

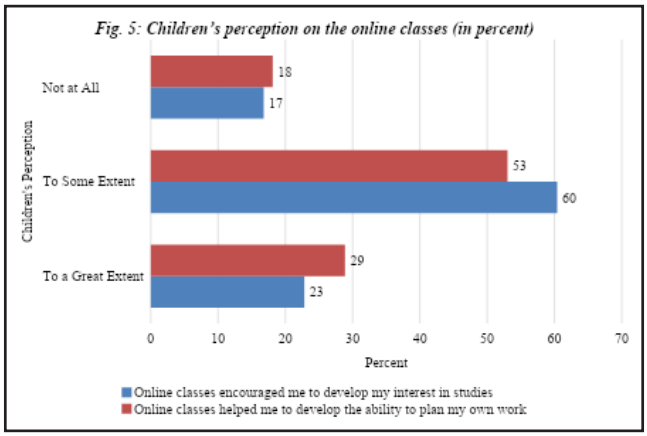
Table-7: Distractions Faced by Children at Home while Attending the Online Classes

Causes of Distraction	Faced by Children	Causes of Distraction	Faced by Children
Video Games	18%	Movement of people at home	30%
Surfing the network	46%	Sleep	5%
Any others	9%	Household activities	14%

Table 7 shows that 46 per cent of children identified internet surfing as the primary cause of distraction, followed by 30 per cent who cited the movement of people at home as a distraction during online classes. Video games ranked third, with 18 per cent, and household activities were the fourth most common cause, reported by 14 per cent of children as distractions while attending online classes during the COVID-19 lockdown.

Children's Views on Online Classes

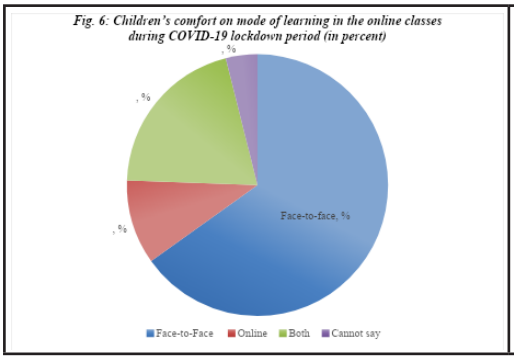
Data on children's perceptions of online classes, specifically whether these classes encouraged them to develop an interest in their studies and helped them improve their ability to plan their work during the COVID-19 lockdown, were gathered using a three-point rating scale: to a great extent, to some extent, and not at all. The results are presented in percentage form in Figure 5.

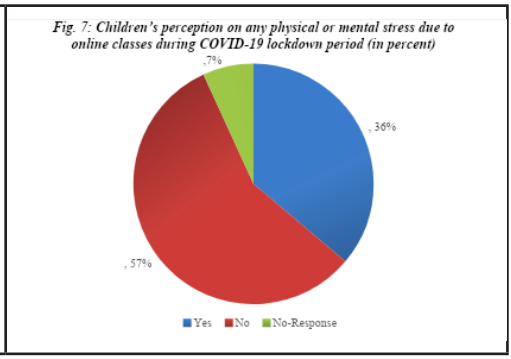


As shown in Figure 5, 60 per cent of children felt that online classes encouraged them to take an interest in their studies, and 53 per cent believed that online classes helped them develop the ability to plan their work. However, the percentage of children who rated these aspects as "to a great extent" or "not at all" was below 30 per cent for both points.

Comfort with the Learning Format in Online Classes

The children were asked to share their views on their comfort level with different modes of learning during the COVID-19 lockdown period. Their opinions were collected using a three-point rating scale: face-to-face, online, blended/hybrid, and cannot say. Additionally, children were asked if they experienced any physical or mental stress due to online classes, with responses recorded as either yes or no. If children preferred not to comment on stress, it was considered as no response. Figures 6 and 7 illustrate the children's comfort with the mode of learning in online classes and their perception of physical or mental stress caused by online learning during the COVID-19 lockdown.





As shown in Figure 6, 65 per cent of children felt most comfortable with face-to-face learning, followed by 21 per cent who preferred the blended/ hybrid (face-to-face and online) mode. Interestingly, only 10 per cent of children favoured the online mode of learning during the COVID-19 lockdown period. Similarly, Figure 7 shows that 57 per cent of children did not experience any physical or mental stress, while 36 per cent reported feeling stress due to online classes during the COVID-19 lockdown period.

Degree of Challenges Encountered at Home During Online Learning

The children's questionnaire included a question about the personal challenges they faced while learning online from home, rated on a three-point scale: most significant, moderately significant, and least significant. The challenges identified included: (i) numerous distractions at home, such as household chores, (ii) social isolation, (iii) anxiety about the effects of the coronavirus on class promotion, and (iv) cyberbullying.

Table-8: Extent of Personal Challenges Faced by Children on Online Learning from Home

S.No.	*Extent of Personal Challenges*	*Children's Response**			*Non-responding Children*
		Most significant	*Moderately significant*	*Least significant*	
1.	Too many distractions at home including household activities	17%	49%	34%	4%
2.	Social isolation	29%	34%	35%	6%
3.	Anxiety about the impact of the coronavirus on my class promotion	38%	30%	31%	4%
4.	Faced cyber bullying	12%	20%	69%	5%

***Percent point was worked out based on the total responding children keeping in view that non-responding children were outliers.**

Table 8 presents the responses, divided into two groups: children who responded and those who did not. The proportion of non-responding children was 5 per cent or less for each challenge. From Table 8, it is clear that 49 per cent of responding children found distractions at home, including household activities, to be moderately significant, followed by 34 per cent who considered it the least significant. For social isolation, the responses ranged between 29 per cent and 35 per cent, depending on the rating scale chosen. Similarly, children expressed moderate concern about anxiety related to class promotion due to the pandemic. The least significant challenge, according to 69 per cent of children, was cyberbullying during online learning.

Satisfaction with Interest/Motivation for Learning

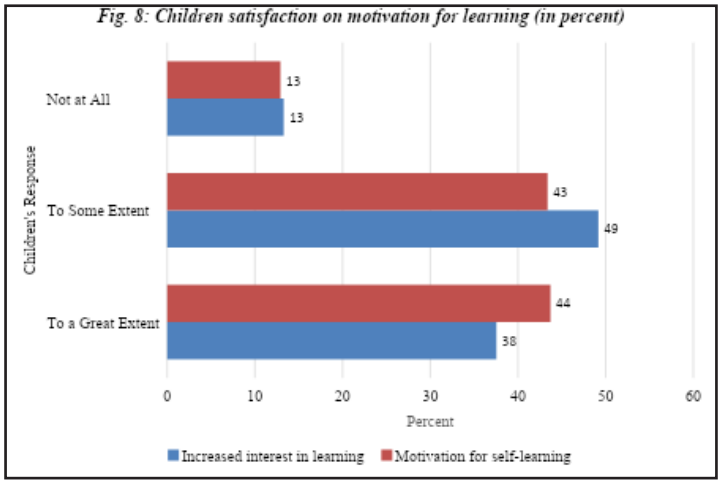


Figure 8 shows children's satisfaction with the increased interest in learning and motivation for self-learning. Using a three-point rating scale, 49 per cent of responding children indicated "to some extent," while 38 per cent rated it as "to a great extent" regarding the increased interest in learning. Similarly, 43 per cent of children rated "to some extent," and 44 per cent chose "to a great extent" in terms of motivation for self-learning. Only 13 per cent of children responded with "not at all" for both aspects.

Insight into Children's Engagement in Online Learning

A three-point rating scale was used to evaluate children's engagement in online learning and their views on it, with the following queries: (i) How unhappy did you feel about missing the class? (ii) How unhappy did you feel about skipping the class? (iii) How unhappy did you feel about missing peer interactions? (iv) How unhappy did you feel about missing games and sports? (v) How unhappy did you feel about missing co-curricular activities such as music, dance, and drama?

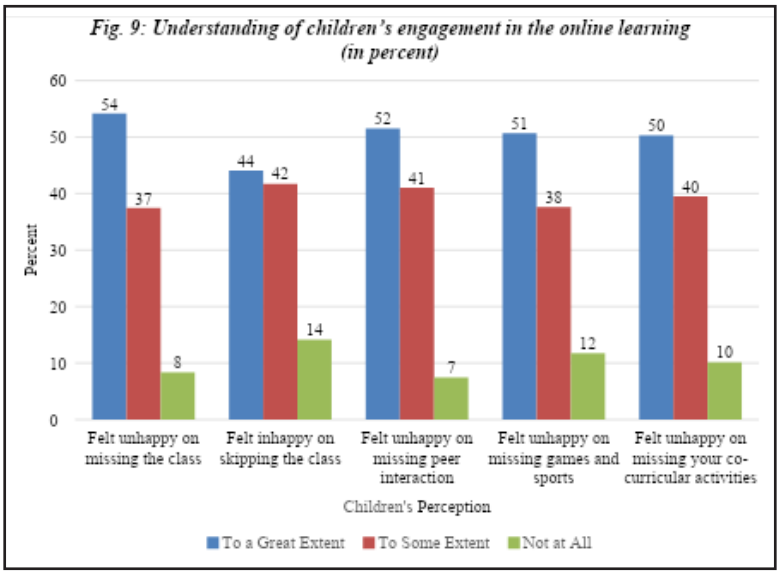


Figure 9 clearly shows that children's perception of their engagement in online classes reveals significant unhappiness about missing or skipping classes, peer interactions, games, sports, and co-curricular and co-scholastic activities. This unhappiness was reported at a rate of 44 per cent to 54 per cent for the "to a great extent" rating, followed by 37 per cent to 42 per cent for "to some extent." When combining the responses for both "to a great extent" and "to some extent," it becomes evident that children's engagement in online learning was a major source of unhappiness, with 93 per cent feeling distressed about missing peer interactions, 91 per cent about missing classes, 90 per cent about missing co-scholastic activities (such as music, dance, drama), 89 per cent about missing games and sports, and 82 per cent about skipping classes.

Children's Experiences with Online Learning in the Home Environment

Children's experiences with online learning in the home environment showed that communication with teachers was perceived to be better in face-to-face learning. Some children enjoyed attending online classes, and a few isolated themselves in a study room, which helped them complete their lessons independently. Participating in online classes allowed them to interact with their classmates and avoid feelings of loneliness or boredom at home. The home environment helped develop communication skills to some extent through virtual classes, and children adapted to new learning methods, allowing them to understand their lessons. However, most children reported missing their classmates and teachers and feeling lonely during online learning at home.

Many children faced significant challenges due to poor internet connectivity, limited data access, and power outages, which disrupted their online learning. During the early days of the COVID-19 lockdown, children also felt awkward or hesitant about facing the camera during virtual classes. They reported frequent disturbances caused by their home environment. While some children initially felt good about virtual learning, they became restless after a month due to the lack of involvement in co-scholastic activities like drama, sports, and peer interaction.

Distractions from siblings and the need to share devices with family members for online classes were common, leading to delayed homework. The absence of teachers to check homework was seen as a significant drawback of online learning during the lockdown. Additionally, lessons were often explained briefly, making it difficult for children to fully understand the material. Some children disliked online learning because they had to manage academic work along with household chores, which caused distractions from their studies at home.

Findings

The study aimed to assess the impact of online learning and virtual schooling, which became essential during the COVID-19 pandemic. A key focus of the study was to evaluate the level of systemic preparedness, the quality of the teaching and learning process, and the extent to which the desired learning outcomes were achieved. The study specifically targeted children currently enrolled in Classes VII and VIII at the elementary level, who were at the primary school level during the pandemic. The findings presented below are based on the data collected and analysed in this paper:

1. Schools adapted to the situation by organising online learning and virtual schooling, allowing children to receive education from home.

However, while the supply-side challenge was addressed, the readiness of children to engage with these inputs remained a concern. It was found that a small percentage (13.36 per cent) of children did not have access to online learning facilities.

2. Smartphones were the most commonly used devices for online learning among children.
3. Although some children owned their smartphones, most were reliant on those belonging to family members.
4. According to the children, the majority of teachers (92 per cent) used mobile phones to deliver learning materials.
5. When it came to digital resources for teaching, videos were the most frequently used tool (48 per cent), while other resources such as digital textbooks, PowerPoint presentations, quizzes, and online learning tools were also employed by teachers.
6. A large majority of children (75 per cent) used WhatsApp as a tool for their learning.
7. Most children expressed satisfaction with the learning schedule (97 per cent), clarity of tasks (91 per cent), and the overall workload in terms of the number of tasks assigned (94 per cent).
8. Children reported encountering several challenges in online learning, including discomfort with online methods, difficulty with the material, and issues with how easily they could learn.
9. Distractions during online learning were common, with the most frequent being internet surfing and the movement of people at home.
10. A significant number of children (60 per cent) felt that online classes helped them develop an interest in their studies, and 53 per cent said it helped them learn to manage their own work.
11. Despite online learning being available to all children, only 10 per cent expressed a preference for it, with the majority (65 per cent) preferring in-person learning.
12. Around 36 per cent of children reported experiencing stress due to online classes.
13. A large percentage of children experienced anxiety related to the coronavirus (68 per cent) and social isolation (63 per cent), with 32 per cent reporting instances of cyberbullying.
14. When asked about their interest and motivation in online learning, 43 per cent of children said they developed some interest, while 44 per cent said they developed a great deal of interest. However, 13 per cent did not develop any interest or motivation.
15. Most children expressed disappointment about missing peer interaction (93 per cent), in-person classes (91 per cent), and extracurricular activities like music, dance, drama, sports, and games (90 per cent).
16. While children acknowledged that communication with teachers was better in face-to-face classes, some enjoyed online learning during the pandemic. They appreciated having their own study space and being able to interact with classmates, despite not being able to meet friends in person. They valued the new learning process at home.
17. Challenges in fully benefiting from online learning included poor internet connectivity, power

outages, and initial hesitation to appear on camera during virtual classes.

18. Other concerns included sharing mobile phones with siblings who were also attending online classes and the lack of teacher feedback on homework.

Conclusions

Based on the data presentation, analysis, and findings, the following conclusions and recommendations have been made:

1. The psychological well-being of students has become a major concern, requiring educators to be highly creative and innovative in making online learning both engaging and enjoyable.
2. The lack of essential infrastructure, such as electronic devices and reliable internet connectivity, posed significant challenges for both students and teachers. However, these obstacles present an opportunity to refine policies and improve the quality of online education.
3. The feedback provided by students regarding the challenges they encountered during online learning offers valuable insights for future planning. Issues such as network connectivity, the difficulty level of materials, distractions during learning, preference for in-person schooling, and access to devices were key concerns raised by students.
4. To address these concerns, teachers need to be equipped with strong communication and creative skills, as well as up-to-date ICT teaching resources. Establishing a solid support system for online learning, ensuring punctuality, adapting teaching methods to meet the linguistic and learning needs of students, and exploring alternative models such as hybrid and blended learning are crucial for effective online education.
5. Ensuring learners are prepared and educating parents to create a supportive learning environment at home could help resolve some of the issues identified by children.
6. Social isolation was a significant challenge in online learning. Approaches that increase interaction between learners and teachers, as well as among learners, should be explored through various ICT tools.
7. Assessing student learning in the online environment requires careful consideration. The prevalence of cheating highlights the need for assessments that minimize opportunities for dishonesty.
8. Assignments, worksheets, and regular testing can effectively measure understanding and learning outcomes. Objective-based assessments, such as multiple-choice questions and short-answer formats, can provide a comprehensive evaluation of students' grasp of the material.

References

NITI Aayog (2018). Aspirational Districts Baseline Ranking, March 2018. https://www.niti.gov.in/aspirational-districts-programme.

Bhat, R., Singh, V. K., Naik, N., Kamath, C. R., Mulimani, P., & Kulkarni, N. (2020). COVID 2019 Outbreak: The Disappointment in Indian Teachers. *Asian Journal of Psychiatry*, *50*, 102047. https://doi.org/10.1016/j.ajp.2020.102047

Cox, J. (1996). *Your Opinion, Please: How to Build the Best Questionnaires in the Field of Education.* Thousand Oaks, CA: Corwin.

Daniels, D. H., Beaumont, L. J. & Doolin, C. A. (2002). *Understanding Children: An Interview and Observation Guide for Educators.* Boston: McGraw-Hill.

Dhawan S. (2020). Online Learning: A Panacea in the Time of COVID-19 Crisis. *Journal of Educational Technology Systems*, 49(1): 5-22. doi:10.1177/0047239520934018.

GOI (2020). *National Education Policy – 2020*. GOI-Ministry of Education, New Delhi.

Kumar, R., (2019). *Research Methodology: A Step-by-step Guide for Beginners.* Sage Publications.