



From classrooms to screens: Issues and challenges of online school education in education zone rohama, baramulla

Irfan Bashir Mir*

Research Scholar, Department of Education, Central University of Kashmir, Jammu & Kashmir, India

DOI: <https://doi.org/10.66856/ijers.2026.8.3.8027>

Abstract

The COVID-19 pandemic compelled schools to shift abruptly from face-to-face teaching to remote and alternative modes of education. The present study examined the remote teaching-learning practices adopted by Government Middle, High, and Higher Secondary Schools in Education Zone Rohama, District Baramulla, Jammu and Kashmir, during the COVID-19 lockdown. The study aimed to identify the modes of remote teaching-learning, examine teachers' and students' perceptions, and analyse the strengths, weaknesses, opportunities, and challenges (SWOC) associated with the transition. A mixed-method research approach was adopted. A sample of 100 participants, comprising 50 teachers and 50 students, was selected through disproportionate stratified sampling from the three school levels. Data were collected through semi-structured interviews, focus group discussions, and separate information schedules. Quantitative data were analysed using frequencies, percentages, and mean values, while qualitative responses were examined through narrative analysis. The findings revealed that physical assignments were used by 100% of both teachers and students, followed by WhatsApp/Telegram (84% teachers; 78% students), community classes (82%; 82%), telephonic communication (66%; 80%), and Zoom/Google Meet (68%; 64%). Google Classroom was used by 46% of teachers and 22% of students, while YouTube videos were reported by 16% and 26%, respectively. The findings further indicated that poor Internet connectivity, limited ICT infrastructure, inadequate access to digital devices, limited teacher preparedness, and difficulties in monitoring students constrained online learning. Community/open-air classes emerged as an important localized response to these barriers. The study concludes that future crisis-responsive education should adopt an equity-oriented blended-learning model combining digital, offline, telephone-based, and community-supported approaches with improved infrastructure and teacher training.

Keywords: Online education, remote learning, COVID-19, digital divide, blended learning

Introduction

The COVID-19 pandemic disrupted conventional schooling worldwide and compelled educational institutions to shift, often abruptly, from face-to-face instruction to remote and technology-mediated learning (Azorín, 2020; UNESCO, 2020) ^[1]. In India, school closures created an immediate need for alternative modes of teaching-learning, including online classes, messaging applications, digital content, telephone-based interaction, assignments, and community-based learning. Although online education offered continuity during school closures, its effectiveness depended heavily on internet connectivity, availability of digital devices, teachers' technological preparedness, students' home circumstances, and the capacity of schools to provide sustained academic support (Lederman, 2020; UNESCO, 2020) ^[11]. The transition also exposed the persistent digital divide in education. Access to household computers, internet-enabled devices, reliable connectivity, and suitable learning environments was uneven, particularly in rural and economically disadvantaged communities. UNESCO (2020) highlighted the large number of learners globally who lacked access to computers or internet-enabled devices during the pandemic. In the context of Jammu and Kashmir, low-speed internet connectivity and limited ICT infrastructure created additional constraints on online teaching-learning (Bilal *et al.*, 2020) ^[2]. Reports from the region during the lockdown similarly highlighted connectivity-related difficulties in sustaining online education (Hindustan Times, 2020; The Kashmir Images, 2020) ^[7, 18]. Consequently, the pandemic provided an

important opportunity to examine not only the adoption of remote learning modes but also the practical barriers that shaped their usefulness.

Against this background, the present study examines the experiences of teachers and students in Education Zone Rohama, a predominantly rural educational zone of District Baramulla, Jammu and Kashmir. The study documents the remote teaching-learning modes adopted during the lockdown, explores teachers' and students' perceptions, and identifies the strengths, weaknesses, opportunities, and challenges associated with the transition. Particular attention is given to the emergence of community/open-air classes as a localized response when online connectivity and device access were inadequate. The findings are intended to inform crisis-responsive and blended-learning planning for future disruptions.

Justification of the Study

The significance of the study lies in documenting how a rural school system attempted to sustain educational continuity during an unprecedented disruption. Rather than treating online education as a single, uniform intervention, the study examines the combination of digital, telephone-based, assignment-based, and community-learning approaches used in Education Zone Rohama. This localized evidence is important because the feasibility of remote education is shaped by infrastructure, geography, household resources, teacher preparedness, and students' ability to access devices and connectivity (UNESCO, 2020; Lederman, 2020) ^[10, 11]. The findings can therefore support

more realistic planning for blended and alternative modes of education during future emergencies. The study is also relevant to the emphasis placed by the National Education Policy (NEP) 2020^[15] on leveraging technology while developing alternative modes of quality education for situations in which conventional face-to-face education is disrupted (Ministry of Education, 2020) ^[15].

Objectives

1. To examine the various forms of remote teaching-learning modes adopted during COVID-19 pandemic.
2. To study the perceptions of teachers and students on remote teaching-learning during COVID-19 pandemic.
3. To examine strengths, weaknesses, opportunities and challenges (SWOC analysis) faced by the teachers and students in adapting to the online teaching-learning process during COVID-19 pandemic.

Methodology

The study adopted a mixed-method approach, combining quantitative descriptive information with qualitative evidence from semi-structured interviews and focus group discussions. Primary data were collected from teachers and students, while secondary information was drawn from published research, books, reports, policy documents, and contemporary reports concerning COVID-19 and education in India and Jammu and Kashmir. The study was delimited to Government Middle, High, and Higher Secondary Schools of Education Zone Rohama, a rural education zone of District Baramulla. The quantitative component was used to describe the reported use of different remote-learning modes, whereas the qualitative component was used to understand participants' experiences, perceptions, and challenges.

Population and Sample

The population comprised teachers and students of Government Middle, High, and Higher Secondary Schools in Education Zone Rohama. The study included 100 respondents; 50 teachers and 50 students. A disproportionate stratified sampling procedure was used to ensure representation of the three school levels (Middle, High, and Higher Secondary), rather than proportionate representation of their population sizes. The purpose of disproportionate allocation was not to estimate population proportions, but to ensure that each school-level stratum was adequately represented in the qualitative and descriptive analysis. Within the available field-access arrangements, respondents were selected from the three school categories. Zone Rohama had 4 Higher Secondary Schools, 13 High Schools, and 31 Middle Schools, with 419 teachers and approximately 6,110 enrolled students, according to information obtained from the ZEO office, Rohama. Students represented Classes VI–VIII in Middle Schools, Classes IX–X in High Schools, and Classes XI–XII in Higher Secondary Schools.

Sample Distribution (N = 100)

Schools	Teachers	Students
Middle schools	20	20
High schools	20	20
Higher secondary schools	10	10
Total	50	50

Data Collection/Analysis

Primary data were collected through semi-structured interviews and focus group discussions with teachers and students, conducted both offline and through available online modes. Separate information schedules were also used for teachers and students. Interview and discussion data were organized thematically and subjected to narrative analysis. Quantitative responses were summarized using frequencies/percentages and mean values where appropriate.

Major Findings/Discussion

Findings related to Objective No 1

Table 1: Remote teaching-learning modes reported by teachers and students during the COVID-19 lockdown

S. No.	Remote teaching-learning mode	Teachers (%)	Students (%)
1	Google Classroom	46	22
2	Zoom/ Google Meet	68	64
3	YouTube Videos	16	26
4	YouTube/ Facebook Streaming	00	00
5	WhatsApp/ Telegram	84	78
6	Telephonic Conversation	66	80
7	Tele classes	10	08
8	Community classes	82	82
9	Physical Assignments	100	100

Note: N = 50 teachers and 50 students. Percentages are multiple-response percentages; therefore, totals exceed 100% because respondents could report more than one mode.

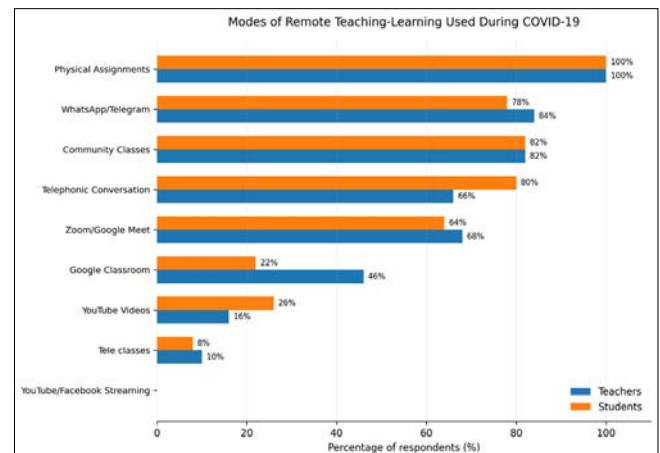


Table 2: Students' Access to Digital Resources during the Lockdown

Access indicator	Category	N	%
Digital device access	Personal/shared smartphone	38	76
	Computer/laptop	3	6
	No suitable device	9	18
Internet connectivity	Good/adequate	7	14
	Intermittent/poor	35	70
	Mostly unavailable	8	16

The findings indicate that access to digital resources was uneven among students. While 82% had access to some form of digital device, only 14% reported adequate Internet connectivity, whereas 86% experienced intermittent, poor, or mostly unavailable connectivity. These constraints help explain the limited effectiveness of synchronous online learning and the subsequent reliance on physical assignments and community classes.

Findings related to Objective No. 2

Perceptions of Teachers and Students about Remote Teaching-Learning

Teachers expressed mixed but generally constructive perceptions of remote teaching-learning. Some viewed digital teaching as a potentially transformative development, while others emphasized that meaningful use of technology required training, reliable connectivity, and appropriate infrastructure. Many teachers preferred face-to-face teaching because of the difficulties experienced during the abrupt transition, but they also recognized the usefulness of digital tools for maintaining contact with students during school closure.

A high-school teacher described the experience as follows
“Online teaching was a very good and new experience for all of us. Instead of sitting idle at home, we remained connected with our students. There were thousands of issues, but we tried our best to make use of it. I wish we could have connected with all the students.” (T_03)

A middle-school teacher explained how the mode of teaching evolved during the lockdown

“Online education brought a new experience to our schools. Initially it seemed useful, but many children could not benefit from it. We then provided physical assignments. When that was still insufficient, we started community classes.” (T_07)

A Higher Secondary School teacher emphasized the potential of digital communication as well as the infrastructure problem:

“This was a landmark development for school education. During earlier periods of school closure, student-teacher contact was completely interrupted, but now we connected many students through WhatsApp and Telegram groups and delivered classes through Zoom. We also conducted class tests through Google Forms. The main issues were internet connectivity and ICT infrastructure.” (T_05)

Students also reported mixed experiences, particularly in areas affected by poor connectivity and limited access to devices.

A student from a high school in the upper belt of Rohama reported:

“Teachers taught us online, but it was difficult to understand the lessons because network problems frequently disconnected us from Zoom classes. Sometimes the audio did not work or the teacher’s video was not visible.” (S_02)

Another school student described the progression from telephone teaching to assignments and community classes:

“For the first month we studied through phone calls, but only a few students could connect. Later, some children gathered at my home while the teacher taught us through a phone call. We were then given assignments for self-study. From July, teachers started community classes in an open area near the school while maintaining social distance. If every child had a smartphone, online learning would have been easier.” (T_06)

Overall, the evidence indicates that remote learning in Zone Rohama was not a single-mode intervention. Digital platforms were used where connectivity and devices permitted, while telephone interaction, physical assignments, and community/open-air classes were used to reach learners who could not participate consistently online. Community classes therefore emerged as an important localized continuity mechanism rather than merely an alternative to online teaching.

Findings related to Objective No 3

SWOC Analysis of Remote Teaching-Learning

1. Strengths

- Remote teaching helped maintain teacher–student contact during school closures and provided continuity of educational activities.
- Multiple channels, including WhatsApp/Telegram, Zoom/Google Meet, telephone calls, digital videos, physical assignments, and community classes, were used to sustain teaching-learning activities.
- Some teachers reported greater flexibility in teaching and opportunities to maintain student engagement despite school closures.

2. Weaknesses

- The abrupt transition to online teaching meant that many teachers had limited prior experience with digital teaching applications.
- Teachers experienced difficulties in monitoring student participation, supervision, and classroom discipline during online classes.
- The effectiveness of synchronous online teaching was constrained by poor Internet connectivity and low network speed.

3. Opportunities

- The experience created scope for integrating blended learning, in which ICT-mediated learning complements regular face-to-face classroom instruction.
- The growing use of digital platforms during the pandemic provides a foundation for developing technology-supported teaching practices in schools.
- Teachers’ participation in NISHTHA training through the DIKSHA platform offers an opportunity to strengthen digital pedagogical competencies and preparedness for future disruptions.

4. Challenges

- Low Internet speed, particularly 2G connectivity, significantly restricted participation and continuity in online learning.
- Students in economically disadvantaged and geographically remote areas faced limited access to suitable digital devices, creating unequal opportunities to participate in online education.
- Some students were unable to participate in online classes and therefore depended mainly on physical assignments, notes, and alternative face-to-face arrangements.
- The findings indicate a wider digital divide across households, influenced by differences in device availability, connectivity, and local socioeconomic conditions.

Recommendations

Based on the findings of the study, the following recommendations are proposed:

1. In view of the finding that multiple modes of remote learning were used to maintain educational continuity, schools should develop a basic blended-learning preparedness plan combining face-to-face teaching with low-bandwidth digital options, telephone support, physical assignments, and community-based

alternatives whenever normal classroom teaching is disrupted.

2. Since poor Internet connectivity, particularly low network speed, was identified as a major barrier to online learning, educational authorities should prioritize the improvement of Internet connectivity and ICT infrastructure in rural and geographically difficult areas, particularly in schools serving communities with limited network access.
3. As many teachers reported limited prior experience with digital teaching applications, regular hands-on training in digital pedagogy and the effective use of platforms such as Google Classroom, Zoom/Google Meet, WhatsApp/Telegram, and digital assessment tools should be provided. Existing initiatives such as NISHTHA through DIKSHA can be further utilized for this purpose.
4. Because the study found that some students lacked suitable digital devices and consequently depended on assignments and community classes, schools should maintain a simple student device-and-connectivity record to identify learners who lack smartphones, computers, or reliable Internet access and provide appropriate alternative learning arrangements.
5. The emergence of community/open-air classes as a localized response to limited digital access suggests that such arrangements should be incorporated into institutional crisis-response plans as a contingency mechanism when online learning is not feasible, subject to applicable health and safety protocols.
6. Since the findings indicate unequal access to remote learning across households, future crisis-response strategies should adopt an equity-oriented approach rather than relying on a single digital platform. Digital solutions should therefore be complemented by offline learning materials, telephone support, assignments, and other accessible alternatives.
7. As teachers reported difficulties in monitoring and supervising students during online classes, digital-pedagogy training should extend beyond technical platform use to include online classroom management, student monitoring, assessment, engagement, and parent communication.

Implications for Blended Learning and NEP 2020

The findings support the need for a resilient blended-learning system in which technology supplements rather than completely replaces classroom interaction. The experience of Zone Rohama demonstrates that digital platforms can sustain contact with learners, but their effectiveness depends on connectivity, devices, teacher preparation, and home circumstances. The emergence of community classes shows that crisis-response planning should include multiple delivery channels. This is consistent with the direction of NEP 2020^[17], which emphasizes alternative modes of quality education during situations in which conventional in-person education is not possible and calls for appropriately designed pilot initiatives to maximize the benefits of digital education while addressing its limitations (Ministry of Education, Government of India, 2020)^[15]. A practical pilot could therefore combine teacher training, low-bandwidth content, device/access mapping, blended lesson planning, and community-based contingency arrangements.

Conclusion

The study demonstrates that the transition from classrooms to remote learning in Education Zone Rohama was adaptive but uneven. Teachers and students used a combination of digital platforms, telephone communication, physical assignments, and community/open-air classes to sustain educational continuity during school closure. While some teachers recognized flexibility and continued connectivity as important advantages, the abrupt transition, limited digital preparedness, poor internet connectivity, inadequate ICT infrastructure, difficulties in student supervision, and unequal access to devices constrained the effectiveness of online learning.

The findings particularly highlight community classes as a locally adapted response to the digital divide. They enabled teachers to reconnect with students who could not participate adequately through online modes. The experience therefore suggests that future crisis-resilient school systems should not depend on a single delivery mechanism. Instead, they should combine digital and non-digital alternatives, strengthen infrastructure and teacher training, and identify students who require additional support.

The study does not claim that online education can replace classroom teaching in all circumstances. Rather, it indicates that technology-mediated and blended approaches can strengthen educational continuity when they are supported by adequate infrastructure, teacher preparedness, accessibility measures, and context-sensitive planning. Future research should move beyond perceptions and examine the effects of different remote-learning modes on learning outcomes, participation, attendance, and achievement, particularly among rural and disadvantaged learners.

Limitations of the Study

The study has several limitations. First, the sample was limited to 100 respondents from one rural education zone, so the findings should not be generalized to all schools of District Baramulla or Jammu and Kashmir without caution. Second, the sampling was disproportionate across school levels and was intended to ensure representation rather than population-proportionate estimates. The study focuses on perceptions and implementation experiences and does not directly measure learning outcomes or changes in student academic achievement.

Ethical Considerations: This study was conducted in accordance with the ethical principles governing research involving human participants. Prior to data collection, ethical approval was obtained from the Institutional Ethics Committee/Research Ethics Committee of the concerned institution. Permission to conduct the study was also obtained from the relevant educational authorities and participating school heads. All participants were informed about the purpose of the study, participation was voluntary, informed consent was obtained, and confidentiality and anonymity were maintained throughout the research.

Conflict of Interest: The author declares that there are no financial, personal, professional, or other conflicts of interest that could have influenced the conduct, analysis, interpretation, or reporting of this research.

References

1. Azorín C. beyond COVID-19 supernova. Is another education coming? *Journal of Professional Capital and Community*, 2020. <https://doi.org/10.1108/JPCC-05-2020-0019>
2. Bilal S, Ahmad A, Gul A. Higher education and COVID-19: An exploratory study of Jammu and Kashmir. *ResearchGate*, 2020. https://www.researchgate.net/publication/344401239_Higher_Education_and_COVID-19_An_Exploratory_Study_of_Jammu_and_Kashmir
3. Choudhary R. COVID-19 pandemic: Impact and strategies for education sector in India. *ETGovernment*, 2020. <https://government.economictimes.indiatimes.com/news/education/covid-19-pandemic-impact-and-strategies-for-india/75173099> <https://doi.org/10.1108/JPCC-05-2020-0019>
4. De Brouwer E, Raimondi D, Moreau Y. Modeling the COVID-19 outbreaks and the effectiveness of the containment measures adopted across countries. *medRxiv*, 2020. <https://doi.org/10.1101/2020.04.02.20046375>
5. Directorate of School Education, Jammu. COVID-19/education-related orders and reports, 2020. http://schedujammu.nic.in/orders_circulars/ereportdsej.PDF
6. Greater Kashmir. Opening schools and the challenges ahead, 2020. <https://www.greaterkashmir.com/news/opinion/opening-schools-and-the-challenges-ahead/https://doi.org/10.1101/2020.04.02.20046375do>
7. Hindustan Times. COVID-19 teaching in Kashmir goes online, but low-speed internet is an issue, 2020. <https://www.hindustantimes.com/education/covid-19-teaching-in-kashmir-goes-online-but-low-speed-internet-an-issue/story-6VFDTHdD2zyq62lQO4FssO.html>
8. <https://www.ndtv.com/education/jammu-and-kashmir-volunteer-teachers-parents-start-community-classes-government-notifies-sops>
9. http://schedujammu.nic.in/orders_circulars/ereportdsej.PDF
10. India TV. Schools reopen in Jammu and Kashmir for Classes 9–12: Students to attend from September 21, 2020. <https://www.indiatvnews.com/education/news-schools-reopen-jammu-kashmir-classes-9-12-students-september-21-651138>
11. Lederman D. Will shift to remote teaching be boon or bane for online learning? *Inside Higher Ed*. Gul, 2020 March 18.
12. Martinez J. Take this pandemic moment to improve education. *EdSource*, 2020 June 22. <https://edsources.org/2020/take-this-pandemic-moment-to-improve-education/633500> https://www.researchgate.net/publication/344401239_Higher_Education_and_COVID-19_An_Exploratory_Study_of_Jammu_and_Kashmir
13. Mensah EA, White KR, Self-Brown S. COVID-19 and distance learning: Effects on Georgia State University School of Public Health students. *Frontiers in Public Health*, 2020;8:576227. <https://doi.org/10.3389/fpubh.2020.576227>
14. Mishra L, Gupta T, Shree A. Online teaching-learning in higher education during lockdown period of COVID-19 pandemic. *International Journal of Educational Research Open*, 2020;1:100012. <https://doi.org/10.1016/j.ijedro.2020.100012>
15. Ministry of Education, Government of India. National Education Policy 2020, 2020. https://www.education.gov.in/sites/upload_files/mhrd/files/NEP_Final_English_0.pdf
16. NDTV. Jammu and Kashmir volunteer teachers, parents start community classes; government notifies SOPs, 2020. <https://www.ndtv.com/education/jammu-and-kashmir-volunteer-teachers-parents-start-community-classes-government-notifies-sops>
17. Remuzzi A, Remuzzi G. COVID-19 and Italy: What next? *The Lancet*, 2020;395:1225–1228. [https://doi.org/10.1016/S0140-6736\(20\)30627](https://doi.org/10.1016/S0140-6736(20)30627)
18. The Kashmir Images. COVID-19 and e-learning in Jammu and Kashmir, 2020. <https://thekashmirimages.com/2020/06/20/covid-19-and-e-learning-in-jammu-and-kashmir/>
19. The Wire. Kashmir children with disabilities and COVID-19, 2020. <https://thewire.in/education/kashmir-children-with-disabilities-covid-19>
20. The Hindu BusinessLine. Teachers, parents to begin community classes for J&K students, 2020. <https://www.thehindubusinessline.com/news/variety/teachers-parents-to-begin-community-classes-for-jk-students/article32210266.ece>
21. UNESCO. COVID-19 educational disruption and response, 2020. <https://en.unesco.org/covid19/educationresponse>
22. World Health Organization. WHO coronavirus disease (COVID-19) dashboard, 2020. <https://covid19.who.int/>