

PERSPECTIVE OF PRIMARY SCHOOL TEACHERS REGARDING ONLINE EDUCATION DURING THE COVID-19 PANDEMIC IN NAGPUR, CENTRAL INDIA: A QUALITATIVE SURVEY

Author- **Dr. Snehal Korde^{1*}, Dr. Gouri Rajput², Dr. Swasti Jain³, and Dr. Girish Nanoti⁴**

1. Assistant Professor, Department of Paediatrics, NKP Salve Institute of Medical Sciences and Research Centre and Lata Mangeshkar Hospital, Nagpur, Maharashtra, India. ORCID ID- 0000-0001-6897-9719 (**Corresponding Author**)
2. Assistant Professor, Department of Paediatrics, NKP Salve Institute of Medical Sciences and Research Centre and Lata Mangeshkar Hospital, Nagpur, Maharashtra, India. ORCID ID- 0000-0002-9229-678X
3. Final year MBBS student, NKP Salve Institute of Medical Sciences and Research Centre and Lata Mangeshkar Hospital, Nagpur, Maharashtra, India
4. Professor and Head, Department of Paediatrics, NKP Salve Institute of Medical Sciences and Research Centre and Lata Mangeshkar Hospital, Nagpur, Maharashtra, India. ORCID ID - 0000-0002-6236-207X

ABSTRACT

The COVID-19 pandemic, caused by the SARS-CoV-2 virus, has had profound global impacts, particularly on the education sector. Due to widespread school closures, educators were compelled to adapt rapidly to online education systems. This abrupt transition has significantly altered pedagogical approaches and the nature of teacher-student interactions. Despite technological advancements, both teachers and students encountered substantial challenges, including digital inequality, limited resource access, and difficulties in maintaining student engagement. Consequently, this qualitative survey was conducted in Central India to bridge existing knowledge gaps by exploring the perspectives and challenges faced by teachers in adapting to COVID-19 constraints while ensuring educational continuity. The findings indicate that while teachers reported significant improvements in technological literacy, a notable proportion lacked adequate training. A strong preference for traditional classroom teaching persisted, with inconsistent attendance and technical issues—such as poor internet connectivity—emerging as major concerns. Furthermore, the effectiveness of online learning was questioned, with few educators believing that outcomes matched those of in-person instruction. In conclusion, while new technologies offer distinct advantages, the study suggests they cannot fully replace traditional teaching methods.

KEYWORDS: COVID-19, Primary education, Teachers, Online classes, Challenges.

How to cite this article: Korde S, Rajput G, Jain S, Nanoti G. Perspective of primary school teachers regarding online education during the COVID-19 pandemic in Nagpur, central India: a qualitative survey. *Int J Drug Deliv Technol.* 2026;16(74s): 1120-1125.
DOI: 10.25258/ijddt.16.74s.132

INTRODUCTION

As per the WHO, the rapid spread of COVID-19 might also be due to a recently discovered virus namely SARS-CoV-2 in late 2019. A respiratory illness that became widespread and locked down parts of the world. There was a significant number of deaths. The economy also bore a massive loss. Educational systems were also severely impacted. Consequently, classes were suspended in many places; thus, an emergency switch to online classes. Due to the virus, most schools were shut to control infection transmission. As the distance between people in the same classroom and other areas is less, super-

spreaders are considered schools [1]. Estimates suggest nearly 190 countries 1.6 billion students were absent from schools physically. According to a report from the United Nations Educational, Scientific and Cultural Organization (UNESCO), the students of the world are affected by closure. Almost all 99% of those students live in low- to middle-income countries, with almost all 94% of the world's student population affected by the closures [2, 3].

The abrupt transition to online learning platforms has affected primary school teachers in varying ways, altering their engagement and interaction with students. In the course of learning history, changeover never rang a bell; rather it was a period where teachers had to resort to technology and learn strategies to try to make their classes interactive when mostly one student probably only must one screen. To make learning materials and convert classes into online, the teachers used various digital learning platforms like Zoom, Google Classroom, Google Meet, Skype etc.[5] A lot has been said and written about the EdTech products developed by businesses for classrooms. However, their effectiveness and inclusiveness are areas that have raised a lot of discussions. Jain et al. have queried whether EdTech can resolve foundational problems in education [6]. The pandemic raised another issue: the changing role of teachers. Teachers expressed that they had to learn to use the various online platforms all over again and had to work more with a higher student work load.

Despite technological developments, it was a huge hassle to deal with. Various studies have documented the digital divide, lack of resources and student engagement difficulties [11, 12].

According to the ASER report, just 8.1% of students in government school could access online courses during pandemic [13]. This shows the digital divide in Indian schools. Moreover, it was necessary to opt for online education, which was not proved as a good substitute for face to face contact [14]. According to teachers, tests that were conducted without much contact with the student concerned us. And it was difficult to use online teaching as a daily means of communication or to activate cognition in distance teaching modes [6]. Authorities made ed-techs and online training available to make schools compatible.

The lack of training and regional infrastructural and socio-economic differences further hampered the effective delivery of digital education [6]. This research explores teachers' perceptions and barriers in adapting to the constraints brought about by COVID-19.

METHOD

This qualitative survey aimed to understand the views of primary school staff (teaching from Grade 1 to Grade 5) on school closure and shift to distance education.

Researchers developed a structured questionnaire on teachers with the multiple-choice questions related to the research and a Likert scale. This tool contained a total of 42 items concerning the following.

1. Indulged in virtual schooling experience
2. Online Teaching Comes with Major Difficulties
3. An analysis is made whereby online teaching is judged against regular classroom settings.
4. Demographic composition

The questionnaires were administered in English. At first stage, volunteers were recruited on random basis to pilot the questionnaires' use before modifying these. After that, validation and examination of the questionnaire were done.

The distribution of survey tool was done using WhatsApp & Google Forms. The survey itself indicates that the participants consent. The Institutional Ethics Committee of N.K.P. Salve Institute of Medical Sciences and Research Center and Lata Mangeshkar Hospital was provided with the explanation on study design, study duration and statistical analysis, and discharge criteria after observations. Data collection took place between July 2022 and August 2022. The study collected information from 33 primary school teachers, with the demographic information of the participant is presented in Table 1. In terms of teaching tool, 83% of the teachers used a laptop/mobile for teaching online. A very high proportion of teachers of 57.6% chose Google meet as a first choice. Zoom came in second with a 21.4% share.

RESULTS AND DISCUSSION

The global education sector has been impacted massively due to the COVID 19 pandemic, and so was India. In Nagpur city of central India, the shift of primary schools to online education was fraught with challenges and teachers' perceptions. The survey responses were analyzed to recognize critical experiences and challenges that helped in understanding the impact of the pandemic on the Indian education system.

TABLES

Table 1: Demographics of the participants

Gender	Numbers	Percentage
Male	17	51.5
Female	16	48.5
Age group		
<29 yrs	15	45.4
30-49 yrs	14	42.4
>50 yrs	4	12.2
Teaching experience		
<5yrs	15	45.4
5-15 yrs	12	36.4
>15yrs	6	18.2
Grades taught		
1 st	9	27.3
2 nd	14	42.4
3 rd	13	39.4
4 th	7	21.2
5 th	14	42.4
Place of working		
Govt school	11	33.3
Private school	22	66.7
Class size		
<10 STUDENTS	3	9.1

10-20 STUDENTS	4	12.1
20-30 STUDENTS	12	36.4
30-40 STUDENTS	13	39.4
>40 STUDENTS	1	3
Screen time		
<2 hours	20	60.6
2-4 hours	12	36.4
>4 hours	1	3

A search directorate are names used by various institutions established with the purpose of coordinating and supporting research at higher education institutions. The ability to stand up and walk was damaging the concept of diffusionism. According to the Table 2, 51.5% of teachers strongly agreed that online classes enhanced their technological skills. Teachers had no choice but to embrace digital tools; many first-time users of Zoom, Google Meet, and Microsoft Teams adapted to their online classes.

Advancements notwithstanding, 21.2% of teachers reported receiving no training and 27.3% were unsure whether they had received sufficient training to conduct online classes (Table 2). Not having enough time to prepare for this change must have made lessons less effective as online mode needed not only technical knowledge but also pedagogical knowledge. Digital pedagogies trained teachers found it easier to manage not only the skills of conducting a virtual class but also the psycho-infrastructural shift required from a face-to-face classroom to a virtual one. The absence of comprehensive training might have intensified challenges regarding handling class sizes and catering to individual students. According to a study conducted in various parts of India, 94 % people had no ICT training and were using various online platforms on an experimental basis, which was detrimental to the quality of education [6, 7]. Similar patterns were recorded in the Caribbean with devices not being smart enough, internet not being available and teachers and pupils not prepared [15, 16].

Table 2: Overall Experience of teachers regarding online teaching

STATEMENT	STRONGLY AGREE / ALWAYS/%	AGREE / OFTEN/ %	NOT SURE / SOMETIMES / %	DISAGREE / RARELY / %	STRONGLY DISAGREE / NEVER / %
It was easy to build a routine online	3	30.3	39.4	24.2	3
School already had supporting infrastructure for online classes	9.1	15.2	54.5	18.2	3
Online classes increased technological literacy	15.2	51.5	27.3	6.1	0
Learning is same in class and at home	3	30.3	30.3	45.5	18.2
Attendance was satisfactory	3	30.3	30.3	45.5	6.1
Prefer online classes more	6.1	9.1	18.2	51.5	15.2

It ensured safety of teachers and students	12.1	30.3	57.6	0	0
Online education was able to cover all domains	3	15.2	30.3	51.5	0
It was possible to conduct online classes for all subjects	3	30.3	48.5	18.2	0
Children had no problem adapting online	9.1	33.3	33.3	21.2	3
Courses were arranged properly	9.1	33.3	51.5	6.1	0

The teaching practice of teachers the pandemic caused a significant shift to online teaching, with several teachers expressing dissatisfaction regarding the efficacy of online classes. Table 2 reveals teachers' preferences in favour of not shifting to online classes. As per data, only 9.1% of teachers have shifted to online classes. The majority of the learners did not view online education as a possible full-time option as 51.5 per cent disagree or strongly disagree.

A common finding stressed establishing engagement and interactivity similar to that of a physical classroom is not easy. A mere 3% of teachers considered the learning outcomes to be the same at home and in class (Table 2) while 45.5% were unsure or disagreed. This uncertainty embodies the underlying struggles of converting interactive and experimental learning to a digital format, especially in the case of young children. These findings are consistent with Mahesh's research, which found that primary school teachers often faced challenges in capturing student attention and modifying curriculum content [11]. As per Surbhi Dayal, majority (85.65%) of respondents believed online mode has degraded education quality while only 33% respondents showed willingness to continue with online teaching post-COVID-19 [7]

Table 3: Significant challenges encountered during online teaching

STATEMENT	STRONGLY AGREE / ALWAYS / %	AGREE / OFTEN / %	NOT SURE / SOMETIMES / %	DISAGREE / RARELY / %	STRONGLY DISAGREE / NEVER / %
Internet connection posed an issue	18.2	33.3	42.4	6.1	0
Content was hard to be taught online	6.1	21.2	69.7	3	0
Lack of online resource	9.1	24.2	54.5	12.1	0
Disordered arrangement of class	15.2	30.3	42.4	12.1	0
Health issues due to screen usage	18.2	21.2	39.4	21.2	0

Attendance and student participation have been major issues in this context. In this survey, many teachers (45.5%) said attendance is irregular (Table 2). The variation of findings was due to a variety of causes. For instance, technical difficulties, especially poor internet connection impacted 42.4 percent of teachers. (TABLE 3) The reliance on internet is indispensable for online education. A joint report by the United Nations Children’s Fund and International Telecommunication Union revealed that 1.3 billion children aged 3 to 17 globally lacked internet access at home. The report of the national sample survey of the government of India (2017-2018) had stated that only 10.7 % of the households had a computer facility. Further, only 14.9 per cent of 14.9% had internet access [22].

As per the survey data of Surbhi Dayal, the lack of connectivity due to wide variation across states came in the way of teachers. Lower attendance rates may also have been caused by the access to gadgets and commonised resources in homes with children [7]. Besides, research shows that the online education benefits rich students more than poor students [18]. Various students, as per the teachers, did not have a device or a steady internet connection, which hindered participation. The disparity in internet access negatively impacted learning outcomes among previously disadvantaged students. Even educators in states with strong connectivity encountered problems due to their students’ connection issues [6, 7]. An Indian trial reveals that technology connectivity issues are not the only concern, as parental issues like lack of time, low levels of education, and inexperience with gadgets also limit children from joining remote learning initiatives [8].

Classroom organization and assessment were a serious concern in the classroom. A whopping 75.8% of teachers are managing classes with more than twenty students (Table 1) therefore maintaining order and discipline in the online manner would be difficult. In fact, 42.5% of teachers concurred that class arrangements were haphazard (Table 3) whilst most voiced complaints that online platforms did not enable class arrangements like a physical classroom.

Table 4: Evaluation during online education

STATEMENT	STRONGLY AGREE / ALWAYS/%	AGREE / OFTEN/ %	NOT SURE / SOMETIMES / %	DISAGREE / RARELY / %	STRONGLY DISAGREE / NEVER / %
Homework could not be properly checked	21.2	36.4	30.3	12.1	0
Evaluation was tough	30.3	24.2	51.5	3	0
Online exams did not show real progress	33.3	36.4	24.2	3	3
Progress was similar to offline classes	0	9.1	30.3	51.5	9.1

Student development assessment was rather challenging in the online mode. Over fifty percent (51.5%) of respondents revealed that online exams do not reflect students’ actual progress (Table 4). Due to absence of direct interaction, the teachers were unable to assess students properly. Also, cheating and excessive parent involvement led to failure of assessment as well. Evidence from Crick [4] suggests that online evaluations were regarded as a less rigorous evaluated entity. Another study in India noted that

seven out of ten teachers were not satisfied with the efficiency and transparency of online evaluations, where cheating was rampant and difficulties with internet access were common. Parents encouraged cheating for better results and teachers could not do anything about it as everything is online [7]. Thus, the view of online teaching was that it did not reflect the actual progress of students as it did offline.

Table 5: Screen time vs Health issues faced

Screen time	Often	Sometimes	Rarely
<2hrs	7(21.2%)	9 (27.3%)	4 (12.1%)
2-4 hrs	6(18.2%)	3 (9.1%)	3(9.1%)
>4hrs	0	1 (3%)	0

Another reason was the health implications due to increased screen time. According to Table 5, 39.4% of teachers reported using screens for more than two hours a day, while 78.8% suffered from health complaints due to excessive usage. Long screen time may cause eye strain, headache, and disruption of sleep patterns, studies show [17]. The wellbeing of teachers who had to face such situations in real-time was an important concern. A survey of physical well-being among Indian teachers found that many reported problems such as headache, eye strain and pain in neck or back. Multiple studies also reported mental health issues (anxiety, depression and loneliness) during the pandemic [7]. The closure of schools was implemented to curb the spread of COVID-19, although a systematic review conducted by Viner et al. [19] questions the need for such drastic measures.

Amid mass job loss and pay cuts during the outbreak, do you agree or disagree that teachers should receive a salary regularly during the lockdown? Result shows that 54.5% of teachers responded no. Similar findings have been reported by Jain et al. wherein a large proportion of the teachers also faced salary cut or irregular payment [6, 21]. This implies that many teachers had to go through financial strains and health concerns at once in the pandemic.

CONCLUSION

The research shows that the educators experienced great improvement in technology-related literacy after being upgraded to online classes; but not all were trained. The overwhelming majority of responding teachers preferred traditional classroom teaching while the irregular attendance and technical issues such as poor internet connectivity remained major areas of concern. Many educators doubted the efficacy of online learning, with only a few asserting its equivalency to traditional in-person learning outcomes.

Long online classes were challenging as they caused health issues such as eye strain and headache due to prolonged screen time. The teachers faced challenges to engage students over a virtual medium with poor connectivity issues. Moreover, the struggle of checking homework and providing feedback can be time-consuming.

Many teachers observed the online assessments dispensed did not reflect the actual progress of the students. Many trainers found it difficult to adapt curriculum content for online delivery. In terms of formal education, it was observed that the most viewed online tools during the pandemic were not the solution. All in all, new technology brings you many additional benefits but it is not without disadvantages and cannot replace 100% teaching strategies. Once challenges around health, finance,

connectivity, digital divide and overall acceptance by the teacher and student community are resolved, online education may well end up being an effective technology of the future.

LIMITATION

The study is limited in scope due to the small size of the sample. Furthermore, the research did not carry in-depth interviews with teachers to get particular explanations of the problems encountered.

Conflict of Interest: Nil

Funding Support: Nil

Ethical Statement:

Ethical approval for this study was obtained from the Ethical Review Board of N. K. P. Salve Institute of Medical Sciences & Research Center and Lata Mangeshkar Hospital, Nagpur (**NKPSIMS & RC & LMH/ IEC/9/2022**) **date 15th June 2022**. All participants and their parents/guardians were provided with comprehensive information about the study and informed consent was obtained prior to participation. Participant confidentiality was strictly maintained throughout the study and no personal information was used in the analysis.

Acknowledgements

We appreciate all the teachers, parents, and students who took part in the study. Our sincere gratitude to N.K.P Salve Institute of Medical Sciences & Research Center and Lata Mangeshkar Hospital for granting us ethical clearance. I also wish to thank the research team for their time and support during the project.

Author Contributions

Dr. Snehal Korde -designed the study, supported the statistical analysis and worked on the assessment, and wrote the first draft of the manuscript. The design of the study, statistical analysis support, intervention process supervision and assistance in preparation of manuscript was done by Dr. Gouri Rajput, Dr. Swasti Jain and Dr. Girish Nanoti.

References

1. WHO Coronavirus (COVID-19) Dashboard. [cited 14 Jan 2022]. Available: <https://covid19.who.int>
2. UNESCO. COVID-19 impact on education. Accessed July 13, 2020. <https://en.unesco.org/covid19/educationresponse>
3. Donohue JM, Miller E. COVID-19 and School Closures. *JAMA*. 2020;324(9):845–847. [doi:10.1001/jama.2020.13092](https://doi.org/10.1001/jama.2020.13092)
4. Crick T. COVID-19 and digital education: A catalyst for change? ITNOW. 2021;63(1):16–7. Doi: <https://doi.org/10.1093/itnow/bwab005>.
5. Pokhrel S, Chhetri R. A Literature Review on Impact of COVID-19 Pandemic on Teaching and Learning. *Higher Education for the Future*. 2021; 8: 133–141. <https://doi.org/10.1177/2347631120983481>
6. Jain S, Lall M, Singh A. Teachers' voices on the impact of COVID-19 on school education: Are EdTech companies really the panacea? 2020.

7. Dayal S. Online education and its effect on teachers during COVID-19-A case study from India. PLoS One. 2023 Mar 2;18(3):e0282287.
doi: [10.1371/journal.pone.0282287](https://doi.org/10.1371/journal.pone.0282287). PMID: 36862704; PMCID: PMC9980775.
8. Pattnaik J, Nath N, Nath S. Challenges to Remote Instruction During the Pandemic: A Qualitative Study with Primary Grade Teachers in India. Early Child Educ J. 2023;51(4):675-684. doi: [10.1007/s10643-022-01331-4](https://doi.org/10.1007/s10643-022-01331-4). Epub 2022 Mar 10. PMID: 35287284; PMCID: PMC8907896.
9. Marchant E, Todd C, James M, Crick T, Dwyer R, Brophy S. Primary school staff perspectives of school closures due to COVID-19, experiences of schools reopening and recommendations for the future: A qualitative survey in Wales. 2020.
10. Wang Y, Yu R, Liu Y, Qian W. Students' and teachers' perspectives on the implementation of online medical education in China: A qualitative study. 2020.
11. Mahesh S. A need now but no replacement: Teachers share concerns about online classes during COVID-19 [Internet]. The New Indian Express. 2020 May 6 [cited 2020 Sep 25]. Available from: <https://www.newindianexpress.com/education/2020/may/06/a-need-nowbut-no-replacement-teachers-share-concerns-about-online-classes-duringCOVID-19-2139605.html>
12. Banerji A. Teachers rise to COVID challenge [Internet]. The Tribune. 2020 [cited 2020 Sep 25]. Available from: <https://www.tribuneindia.com/news/jalandhar/teachers-rise-to-covid-challenge-108868>
13. aser2020wave1report_feb1.pdf. Available:
https://img.asercentre.org/docs/ASER%202021/ASER%202020%20wave%201%20-%20v2/aser2020wave1report_feb1.pdf
14. Chaudhary R. COVID-19 pandemic: Impact and strategies for education sector in India [Internet]. Economic Times. 2020 [cited 2020 Sep 25]. Available from: <https://government.economictimes.indiatimes.com/news/education/COVID-19-pandemic-impact-and-strategies-for-education-sector-in-india/75173099>
15. Leacock CJ, Warrican SJ. Helping teachers to respond to COVID-19 in the Eastern Caribbean: issues of readiness, equity and care. Journal of Education for Teaching. 2020; 46: 576–585.
<https://doi.org/10.1080/02607476.2020.1803733>
16. Mudi A. Teaching in the time of coronavirus [Internet]. LiveWire – The Wire. 2020 [cited 2020 May 6]. Available from: <https://livewire.thewire.in/personal/teaching-in-the-times-of-coronavirus/>
17. See B, Collie P. Teachers' wellbeing and workload during COVID-19 lockdown [Internet]. Durham University. 2020 [cited 2020 Sep 25]. Available from: <https://www.dur.ac.uk/resources/dece/Teacherswellbeingandworkloadreport.pdf>
18. Azevedo JP, Hasan A, Goldemberg D, Aroob S, Geven IK. Simulating the potential impacts of COVID-19 school closures on schooling and learning outcomes: A set of global estimates. Washington DC: World Bank; 2020. (Policy Research Working Paper No. 9284).
19. Viner RM, Russell SJ, Croker H, Packer J, Ward J, Stansfield C, et al. School closure and management practices during coronavirus outbreaks including COVID-19: A rapid systematic review. Lancet Child Adolesc Health. 2020;4(5):397–404. Doi: [10.1016/S2352-4642\(20\)30095-X](https://doi.org/10.1016/S2352-4642(20)30095-X).
20. Kulal A, Nayak A. A study on perception of teachers and students toward online classes in Dakshina Kannada and Udupi district. Mangalore University; 2020.
21. Report on rapid assessment of learning during school closures in context of COVID-19.pdf. Available:

<https://www.unicef.org/india/media/6121/file/Report%20on%20rapid%20assessment%20of%20learning%20during%20school%20closures%20in%20context%20of%20COVID-19.pdf>