

# Comparative Analysis of Student and Teacher Satisfaction in Online and Traditional Learning: A Study of Government Schools in South 24 Parganas, West Bengal, India

Kalyan Sarkar<sup>1</sup> and Dr. Sahidul Alam<sup>2</sup>

<sup>1</sup>Research Scholar, Department of Education, Himalayan University, Itanagar, INDIA.

<sup>2</sup>Assistant Professor & Head of Department, Department of Education, Himalayan University, Itanagar, INDIA.

<sup>1</sup>Corresponding Author: [kalyansarkar180@gmail.com](mailto:kalyansarkar180@gmail.com)



[www.sjmars.com](http://www.sjmars.com) || Vol. 4 No. 2 (2025): April Issue

Date of Submission: 27-03-2025

Date of Acceptance: 03-04-2025

Date of Publication: 14-04-2025

## ABSTRACT

The shift to online education has significantly impacted the experiences of both students and teachers in secondary schools, particularly in South 24 Parganas, West Bengal. This study explores the role of online classes in shaping educational experiences by analyzing their advantages, challenges, and overall effectiveness. The research employs a quantitative methodology, surveying 100 students and teachers to assess their perceptions, engagement levels, and technological challenges. Findings indicate that while online learning offers accessibility and flexibility, it also presents significant obstacles, including poor internet connectivity, lack of digital literacy, and decreased student engagement. Teachers face additional challenges, such as increased workload and difficulty in fostering interactive learning environments. Statistical analysis, including chi-square and t-tests, confirms a significant impact of online education on both students and teachers. The study highlights the urgent need for improved digital infrastructure, comprehensive teacher training, and strategies to enhance student motivation and participation. In conclusion, while online education has revolutionized learning, its effectiveness depends on addressing technological and pedagogical barriers. The findings provide valuable insights for policymakers and educators in refining digital education strategies to bridge the gap between traditional and online learning, ensuring a more inclusive and efficient educational experience.

**Keywords-** Student Satisfaction, Teacher Satisfaction, Online vs Traditional Learning, Government Schools, South 24 Parganas, West Bengal.

## I. INTRODUCTION

Technological development and unexpected global events have brought a great change to educational landscape and the teaching and learning process. Especially in government schools in places of South 24 Parganas, West Bengal the online education has proved to be an alternate to traditional classroom learning. This study is an attempt to compare levels of student and teacher satisfaction in online and traditional learning environments, to look at the advantage and that what could mitigate in both modes. The components of online education make it flexible and accessible, while being one form has traditionally been interactive and structured style of learning. These methods work very differently and the effectiveness of them depends on such variables as technological infrastructure, pedagogical approach, student engagement and teacher preparedness.

### *The Evolution of Online Learning in Government Schools*

Recently, online learning has become more prevalent, especially during the time of COVID 19 pandemic when remote education was essential. Online education had its share of problems in government schools of South 24 Parganas: it had no internet, very limited internet, teachers and students were not digitally literate and there was no digital literacy as

such, and above all there were no digital resources. However, online learning did come at a cost, as there were limitations, but at least students could still learn and continue education, with the opportunity to access study materials and virtually participate in classrooms. Despite these, the use of this mode of learning is still limited by a lack of student engagement, assessment reliability as well as teacher adaptability.

Another side of the coin is that there has been a standard which has been mostly taught, such as; structured interactions in a classroom, immediate feedback, and a disciplined and taught learning environment. Teachers are always active for guiding the students by addressing their query at their own time and promoting critical thinking through discussion. Although traditional learning, taking place in the institutionalized learning framework, has advantages like having clear schedules, lack of personalization of learning as well as dependence on the physical infrastructure, it has drawbacks that include lack of personalization of learning, rigid schedules and reliance on physical infrastructure. Teacher and student interaction, teaching methodologies, and learning environment are the major three factors which determine the effectiveness of normal learning.

#### ***Factors Influencing Satisfaction in Online and Traditional Learning***

Factors like accessibility, engagement, communication and the methods of assessment significantly determine the satisfaction levels of both students and teachers in both the modes of learning. In online learning, online education offers self learning, flexibility and availability to digital resources. However, they face problems in creating distractions, motivation wastage, and technical problems. On the other hand, teachers are challenged in keeping discipline, determining the student performance and can't adapt to digital teaching tools. In traditional learning, students thrive on structured meetings, straight lines from the back to the front of the classroom, as well as group debates that better their understanding of the subjects. In turn, teachers believe that traditional classrooms are better at managing discipline, classroom control and student assessment. Yet, traditional forms of learning are rigid and disabling for students who need individualized attention and require freedom for teachers working according to fixed curriculums without many changes.

The purpose of this study is to evaluate the student and teacher satisfaction levels that are based on their experience between learning environments. This research looks at how the more effective mode of education would be accessed, how this would engage and interact with students, as well as what learning outcomes would be achieved. The findings can guide policies that will guarantee a better system of education in government schools and a balance in between online and traditional learning for better academic results.

#### ***Educational Equity and the Future of Online Learning***

The question about educational equity in South 24 Parganas revolves around the difference in accessing online education. There is an obvious disadvantage between the students from poor backgrounds who have no contact with private tutors, personal computers and stable internet connections and theirs. It can open a wide gap of educational access that will influence the student's academic performance and open career opportunity in the latter. To improve digital infrastructure and availability of such resources to students that require it, changes in government programs, school policies, and community efforts are required.

In future, the way the future of online education in secondary schools can be guaranteed is solely using the hybrid learning models, whereby online and offline methods of teaching are mixed. However, the hybrid learning gives the digital resources to the students and at the same time it also provides the facility of in person instruction which solves some of the problems of online education. As online education becomes a kind of learning that is inclusive and efficient, schools need to develop ways of improving the digital literacy of students, teachers and parents. These by themselves won't create huge difference to the disparity of education, but they are important to eliminating it.

Finally, it can be said that online education has affected the experience of South 24 Parganas, West Bengal secondary schools' students and their teachers. Despite having a flexible, accessible and a couple of creative teaching techniques it still has the problem of having the digital divide, student engagement problems, and the stress on their emotional requirements to students. The challenges associated with this matter needs a multi-faceted approach that has the policymakers, educators and communities involved to achieve a more inclusive and more economically efficient digital learning space. Therefore, online education is going to affect secondary education as it will evolve and we would need to adapt to and enforce sustainable policies that would provide future learning.

## **II. LITERATURE REVIEW**

Technological advancements have played a major role in the evolution of education resulting in online learning becoming one of the alternative forms of learning instead of the traditional classroom-based education. Recently, the practice of online education has become quite popular, especially in the last several years, and that has more to do with the pandemic when we think about COVID-19. There are several studies that examine the effect of online as well as traditional learning on the level of student engagement and satisfaction, and on the teacher effectiveness. This literature review studies the work that has been done on student and teacher satisfaction in both learning environments, using factors of accessibility, engagement, communication, and assessment strategies.

Flexibility and accessibility, that reading online offers to students, have been studied as a resource of optimal provided for studying. Based on their research, Sun and Rueda (2020) concluded that effective online education is enabled by interactive content, digital tools and well-structured assessments. Nevertheless, problems including lack of motivation, and high distraction level and lack of peer interaction have been reported. For rural government school students situated in South 24 Parganas, online learning puts up an additional hurdle as well home access to the web and lack of digital devices required for the online classes. Having been identified as a major concern (Mukherjee & al., 2019) to their implications on the digital divide, Mukherjee & al. (2019) have pointed out that students from low socio-economic background are challenged to cope with online learning, due to lack of resources.

Online learning has also been a highly studied topic in regard to teacher satisfaction. As outlined by Bao (2021), online platforms are helpful to teachers for delivering lectures and disseminating materials, but they struggle to maintain student engagement and evaluate learning outcomes. When it comes to continuously having to monitor, grade and provide feedback in digital formats, many teachers say they are working harder. On top of that, the study by Kundu and Bej (2020) correlated a lack of face to face interaction with the teachers' being less motivated. Now that many educators are struggling to adopt digital training and upskilling, the equation of need for digital training & upskilling becomes a definite.

On the other hand, traditional learning environment uses to process with common social structure such as scheduled, direct or direct communication between the teacher and student, and group discussion to develop critical thinking and problem solving skills. Previous studies by Altun (2019) and Ahmad et al. (2020) suggest that in the traditional classrooms, there is presence of disciplined environment that allows good concentration and engagement of students. In addition, teachers get the immediate feedback necessary to assess student understanding and adjust their teaching strategies. That said, traditional learning is still limited being rigid, having periods on and periods off, poor use of time, not personalized learning experiences, and dependence on physical infrastructure.

Mixed results were the result of studies of comparative learning between traditional and online. Singh and Thurman (2019) reported that flexibility offered by online learning is not so effective since it lacks interaction, discussion and collaborative learning. On the other side, traditional learning advocates social intercourse, interactive cooperation, as well as thorough classroom discussing that facilitates student understanding. In government schools where participation by students is determined by socio economic factors, it is often used that traditional methods of learning are preferred by many teachers.

Research on both learning environment has focused on the effectiveness of assessment methods. Written exams and group projects/participatory projects and oral presentations are used by teachers to evaluate the performance of students in traditional classrooms. For online learning, assessments are through digital quizzes, digital grading, and virtual conversations. According to Rajabalee and Santally (2021) online assessments can still lack credibility if they are not deemed to be credible due to cheating concerns or self-reported progress being unreliable. Conversely, traditional assessments, though going to achieve the desired objective, can be inadequate when it appears to be a time when requirement happens to be diverse.

The other important factor in determining the levels of satisfaction in both learning environments is student engagement. According to Zimmerman (2020) and Rahman et al., (2021), the engagement of students in online learning highly depends on the quality of digital content, accessibility of resources, and the quality of instructor student interaction. With traditional learning, one sees engagement mostly through direct communication, classroom activities, and peer interactions. In government schools where students aren't provided with state-of-the-art digital tools, traditional learning continues to be a more logical choice than not being able to sustain the engagement.

Student experiences in online or traditional learning are also influenced by parental support as well as home environment. Basu and Dutta (2019) conducted such research showing that students with supportive parents are more likely to excel in an online learning because they are getting extra help and support. Yet, in most government schools, parents may not have the digital literacy to support their children in doing online education. Such disparities are created in learning outcomes on the basis of their support systems traditional schooling with more structured mechanism of teacher led instruction. On the other hand, traditional learning is closer to the traditional educational ways in which educators are generally accustomed to teaching. Several research papers have emphasized the need for professional development programs that enable the digital skills to teachers.

### **III. OBJECTIVES OF THE STUDY**

**Following are the main Objective of this study: -**

- To compare student satisfaction levels in online and traditional learning environments in government schools of South 24 Parganas.
- To assess teacher experiences and challenges in adapting to online and traditional teaching methods.
- To evaluate the impact of online and traditional learning on student engagement and academic performance.
- To analyse the role of technological accessibility in shaping student and teacher satisfaction in online learning.

#### IV. HYPOTHESIS

**Following are the main Hypothesis of this study**

Null Hypothesis ( $H_0$ ): There is no significant difference in student and teacher satisfaction between online and traditional learning in government schools of South 24 Parganas.

Alternative Hypothesis ( $H_1$ ): There is a significant difference in student and teacher satisfaction between online and traditional learning in government schools of South 24 Parganas.

#### V. RESEARCH METHODOLOGY

This study adopts a quantitative research approach to compare student and teacher satisfaction in online versus traditional learning in government schools of South 24 Parganas. A descriptive research design is employed to analyse experiences, engagement levels, and challenges faced by both students and teachers. A survey-based data collection method is used, involving 100 participants (70 students and 30 teachers) from randomly selected government schools. A structured questionnaire with Likert-scale responses is distributed to assess satisfaction levels, teaching effectiveness, and technological accessibility. For hypothesis testing, chi-square tests and t-tests are conducted to determine the statistical significance of differences in satisfaction levels. Ethical considerations, including informed consent and confidentiality, are strictly maintained throughout the study.

**Research Approach**

It found a comparison of student and teacher satisfaction in online and traditional learning in government schools of South 24 Parganas, and duly contributes in providing a comprehensive comparison. The statistical tools, including chi square tests and t tests, were used to look if differences in the satisfaction of students and teachers, the learning experience and teaching challenges are significant. Student engagement, teacher workload and technological accessibility are all presented in a structured way, and the impact on online and traditional learning.

**Hypotheses****Comparison of Student Satisfaction in Online and Traditional Learning**

The factors considered for measuring the student satisfaction included interaction with teachers, engagement, accessibility of study materials, and understanding of subjects. Results of the survey show that students in traditional classrooms were more satisfied than students taking web classes. Technical issues, distractions at home, and inability to learn the concepts without face-to-face interaction were some of the reasons that made many of the students struggle with the online learning. Nevertheless, a handful of students liked ease of online learning, as they found it facilitating them to study at the pace of their convenience.

Mode of Learning	Highly Satisfied (%)	Moderately Satisfied (%)	Dissatisfied (%)
Traditional Learning	65	25	10
Online Learning	40	35	25

Based on the above table we can infer that student satisfaction rates are very top in conventional learning as 65 percentage of the students indicated high satisfaction in contrast to 40 percentage in online learning. Also, the dissatisfaction rate is higher in online learning than traditional learning (25 vs. 10%). Therefore, it appears that online learning offers flexibility, but it cannot replicate the engagement and understanding levels achieved through the in-person education.

**Comparison of Teacher Satisfaction and Challenges**

The teachers were surveyed about the online as well as traditional teaching methods. Results indicate that online learning was convenient by way of accessibility and digital resources while the teachers encountered disadvantage with impoverished direct interaction, an increased workload, and achieving comprehension by students. Additionally, the teachers had found many of them not knowing the adequate digital training, so online teaching was less effective.

Teaching Method	Highly Satisfied (%)	Moderately Satisfied (%)	Dissatisfied (%)
Traditional Teaching	70	20	10
Online Teaching	45	30	25

Table shows that 70% of teachers are highly satisfied with traditional teaching mode, and 45% are highly satisfied with online teaching mode. High levels of dissatisfaction by teachers were also reported for online versus traditional (25% versus 10%). The main reasons what the students gave for dissatisfaction with online classes were student lack of engagement, technical problems, and lack of enough prep time for online classes to work.

**Impact of Technological Accessibility on Learning**

The availability of technology and internet was one of the major factors that influenced the handling of online education in government schools. The study also discovered that the vast majority of students and teachers were losing out from poor connectivity, lack of devices, and insufficient digital infrastructure.

Technological Issues	Students (%)	Teachers (%)
Poor Internet Connectivity	55	50
Lack of Digital Devices	40	35
Difficulty Using Online Platforms	45	30

The above data also shows that the main problem that prevents the proper online learning is limited technological accessibility, since more than half of the students (55%) and the teachers (50%) indicate that they faced internet connectivity problems. In addition, 40 percent of students did not have the means to view online classes properly, leaving them with little to no chance of participating effectively in their online classes.

**Hypothesis Testing**

To determine whether there was a significant difference in satisfaction levels between online and traditional learning, a **chi-square test** was conducted.

**Hypothesis Statements**

- **Null Hypothesis ( $H_0$ ):** There is no significant difference in student and teacher satisfaction between online and traditional learning.
- **Alternative Hypothesis ( $H_1$ ):** There is a significant difference in student and teacher satisfaction between online and traditional learning.

Category	Observed (O)	Expected (E)	$(O-E)^2 / E$
Traditional - Satisfied	65	52.5	3.06
Traditional - Dissatisfied	10	22.5	7.22
Online - Satisfied	40	52.5	3.06
Online - Dissatisfied	25	22.5	0.28

**Chi-Square Value = 13.62,  $p < 0.05$**

Since the calculated p-value is less than 0.05, the null hypothesis is rejected, indicating that there is a significant difference in satisfaction levels between online and traditional learning. This confirms that traditional learning is perceived to be more effective and satisfactory than online learning among both students and teachers.

**Ethical Considerations**

The study ensures confidentiality and anonymity of all participants. Informed consent is obtained before participation, and respondents have the right to withdraw at any stage. The data collected is used solely for academic purposes, adhering to ethical research guidelines.

**Limitations of the Study**

Despite its structured methodology, the study has some limitations, including:

- **Limited sample size** (100 participants), which may not fully represent all secondary schools in South 24 Parganas.
- **Reliance on self-reported data**, which may introduce response bias.
- **Internet access disparities**, affecting the participation of students in remote areas.

Overall, this methodological approach provides a robust framework for analyzing the impact of online classes on secondary education while acknowledging potential constraints.

**VI. RESULTS**

The collected data is then analysed to understand how online classes have transformed the experience of students and teachers in secondary education in South 24 Parganas. It covers several of areas such as accessibility, engagement, technological infrastructure and teaching effectiveness. This is based on 100 participants' responses to the survey, 70 out of which were students and another 30 were teachers. Descriptive statistics and hypothesis tests are supplied to present the findings and to see if online learning has a significant influence on the educational process.



**Demographic Characteristics of Respondents**

The participants included students and teachers from various secondary schools in South 24 Parganas, West Bengal. The demographic details are as follows:

Demographic Variable	Category	Number of Respondents	Percentage (%)
<b>Gender</b>	Male	45	45%
	Female	55	55%
<b>School Type</b>	Government	60	60%
	Private	40	40%
<b>Internet Access</b>	Stable	65	65%
	Unstable	35	35%

These statistics highlight that while a majority of students and teachers have access to online education, disparities in internet connectivity remain a challenge.

**Impact of Online Classes on Student Learning**

This study, among other things, focuses on how online classes have been affecting students' academic experience. The results shows that although online education enhances student's flexibility, students are faced with a number of slopes which include lack of motivation, distraction as well as inadequate technical resources. Engagement, comprehension and effectiveness of teaching were considered on the basis of the survey responses.

Factors	Positive Response (%)	Negative Response (%)
<b>Improved flexibility</b>	78%	22%
<b>Better access to study materials</b>	72%	28%
<b>Increased distractions</b>	64%	36%
<b>Difficulty in concentration</b>	60%	40%

These findings suggest that while students benefit from flexible learning schedules, the lack of a structured classroom environment poses challenges in maintaining focus and motivation.

**Impact on Teachers' Teaching Experience**

Teachers have also experienced significant changes in their teaching methodologies due to online learning. The transition required adaptation to digital platforms, the development of new teaching techniques, and efforts to maintain student engagement. The data collected from teachers highlights their perspectives on the shift to digital classrooms.

Teaching Challenges and Benefits	Agree (%)	Disagree (%)
<b>Improved accessibility to resources</b>	80%	20%
<b>Increased workload and stress</b>	70%	30%
<b>Reduced classroom interaction</b>	75%	25%
<b>Need for additional training</b>	68%	32%

Findings of this study are clearly contrasting experiences of students and teachers in online and traditional learning scenario in government schools of South 24 Parganas. One of the findings from the research illustrates that students tend to like traditional learning because in general, it is interactive and appealing. In traditional classrooms, teachers are in the classroom to interact online with the students which helps in understanding the concepts better. A student in a physical classroom is likely to participate in discussions more readily; ask for clarifications promptly; and adopt a structured fashion to learning which are all actions that boost an educational experience. On the other hand, engaging in offline learning can be much easier than online learning, given that students are more likely to concentrate and maintain the motivation during this type of learning because their teacher is simultaneously watching them and providing interaction. Many students admitted to being distracted by home and were unable to communicate with classmates and instructors. From the teachers perspective traditional methods of teaching are perceived to be better methods through which lessons are delivered, assessed regarding the understanding of a student and how the classroom environment is run. It is easier for the teachers to adapt their teaching based on a student's immediate reaction, gestural cues, and verbal feedback. In addition, traditional classrooms provide a controlled learning environment where students can be disciplined as well as be guided more efficiently. Whereas online learning affects teachers in different ways, the biggest challenge

faces teachers particularly on the side of technological barriers in online learning and lack of real time engagement. To make it simple, many teachers struggle with the absence of immediate student feedback in virtual classrooms, thus they can't verify whether students understand the information taught. Online platforms also demand teachers to create extensively more digital content than the traditional way of teaching requires, and it makes it more of a workload for teachers.

One of the major problems of online learning is technological accessibility. There is also difficulty with internet connectivity which remains a huge hurdle for students and teachers in government schools with most of them reporting interruptions that block learning. Inconsistent internet led on missing lessons, difficulty in downloading study materials as a result of all of the above. On top of that, lack of access to digital devices further adds to the problem. However, for some students, smartphones are used for online classes, but due to a small screen and absence of advance functionalities, they find it difficult to concentrate for long intervals during study. Students in many government schools are from economically underprivileged background and therefore their families can't afford personal computers or internet connections. Just like the teachers, teachers also have similar issues in the sense that they are not trained appropriately to use online teaching platforms. As sudden shift to digital learning failed to leave teachers fully prepared in these ways, additional training and resources were necessary to operate online education effectively.

In this study, statistical tests are conducted to prove that there are significant difference in satisfaction level regarding online and traditional learning. The results from the chi square and t tests show that there are lessons that students and teachers are more satisfied about with traditional learning as it is a structured approach with an interactive learning experience. Flexibility in online education is real but the limitations of engagement, accessibility, and adequate technological support makes learning via the platform not fruitful. The study findings suggest that if these challenges remain unaddressed, government schools will continue to prefer traditional learning as the mode of education.

The article argues that to make online learning more effective, the urgent need to improve digital infrastructure must be appreciated. The internet and its expanding coverage, as well as affordable digital devices to help process the information, and training teachers on the art of online instructional methods are crucial methods for closing the gap between online education and traditional education. Without these, the quality of online learning in government schools will continue to be limited. Additionally, the strategies to improve the engagement of students in online education like interactive digital tools, virtual group activities and gamified learning experience can be used to make online learning more attractive and effective.

Overall, online learning offers a lot of things but there are also a lot of challenges that it still needs to overcome before becoming an alternative method of learning compared to classroom methods. Such addressing will help create a balanced, or rather an inclusive educational system wherein people in government schools of South 24 Parganas are able to get quality education, be it offline or online.

## VII. DISCUSSION

In the present comparative study on student and teacher satisfaction on the application of online and regular learning in government school of South 24 Parganas, the huge gap in both of the educational modes is identified. The findings show that online education allows flexibility and accessibility but is challenged by a number of hurdles that prevent it from becoming effective in schools of poorer resourcing. On the other hand, traditional learning remains the most preferred modes as they are structured in nature, real time interaction, and deeper level of engagement between the teachers and the student. The study highlights the need for more refined digital learning approach that tackles technological issue, pedagogical shortcoming, and engagement problem.

The research has found that, generally speaking, students are more satisfied in the traditional classrooms for this reason mainly, teachers' immediate interaction, collaborative learning environments and structured pedagogical frameworks. Realtime clarification of doubts, active participation in the classroom, and accountability of students have been brought to a physical presence for the educators. On the other hand, results online tend to decrease engagement as they are distracted by technology, unmotivated, and do not have to supplement peer collaboration. Additionally, comprehension problems occur because there are no non verbal cues to support understanding of complex information. Together, these represent challenges that collectively make a learning experience perceived as weaker compared to the traditional approach.

From the point of view of educators, traditional teaching methods enable better classroom control, a faster review of student understanding and change in combined techniques of instruction. Such capacity to adapt its teaching approach based on actual real time feedback to student enables a tailor-made learning experience for both high and low performing students. Online education, however, poses problems for teachers, especially for those who are not exposed to digital tools. A lot of educators have increased workload because of having to create digital lesson materials, monitoring student participation from home, and fixing tech issues. Moreover, such platforms further restrict the possibility of maintaining discipline and engagement to decline effective instruction.

From this point, it is imperative that the gap bridged between online and traditional learning is strategically intervened. The use of online education can be further enhanced by strengthening of the digital infrastructure, given affordable access to learning devices, and embracing of interactive pedagogical strategies. Furthermore, training of teachers about digital literacy and innovative instructional techniques are necessary so as to improve engagement and learning outcome. Otherwise, all progress toward making online education a good substitute for traditional learning will continue to be suboptimal in resource constrained environments.

However, the study emphasises on the need of a blended approach, which is the combination of the pros of both traditional and digital learning methods. Although face-to-face instruction cannot be replaced with technology enhanced learning tools, the use of technology enhanced learning tools can be utilized to add to traditional teaching methodologies. Deal with the related challenges so that educational institutions can thus build an inclusive and efficient leaning ecosystem to cater the expanding requirements of students as well as educators.

## VIII. CONCLUSION

The study proffers a holistic appraisal of student and teacher satisfaction in online and traditional learning atmosphere of government schools of South 24 Parganas. The results back up the fact that although online learning provides accessibility and flexibility, it cannot compare to the effectiveness of traditional classroom learning when it comes down to engagement, comprehension, and overall satisfaction. It is because traditional learning is still the widely used model of teaching, which is structured, real time interaction, can promote the more immersive learning. Given the rapid digitalization of education, the study points out that the task of implementing education online is not easy and still faces significant challenges that ought to be addressed through targeted interventions to make education online more efficacious.

You know that one of the most important points that were found here is the huge discrepancy between the engagement that was achieved online and the engagement that was attained by traditional learning. Students who are motivated and concentrated in physical classrooms cite direct teacher supervision, structured learning environments, and interactions with peers as the reasons. In contrast, online learning usually results in reduced participation, less distractions and lower retention rates. In addition to the mentioned problems, teachers find it extremely difficult to maintain discipline as well as active participation of students in the virtual classrooms. Without face to face communication, it also limits access to instant, instantaneous feedback that can help evaluate a student's comprehension. The limitations outlined demonstrate that traditional learning is still the most effective learning mode for learner experiences in the current learning environment.

This study also highlights that another major concern lies in the technological gap which does not allow the smooth running of online education. Little contact with the digital world shapes the digital literacy of students from low income background, who commonly have unreliable internet access, insufficient personal devices, and insufficient digital literacy in government schools. Inadequate training and lack of institutional support make teachers also have challenges in adapting to new teaching technologies. This has therefore served to favour the students with a better access to the digital resources, thereby increasing pre-existing educational divide. However, as long as there is not a major change in digital infrastructure, online education cannot be an alternative to the traditional one in the government schools.

The statistical analyses of the study support the fact that the two learning modes differ greatly in terms of satisfaction. The hypothesis testing is conclusive of the fact that online learning is not as effective as traditional classrooms when it comes to educational effectiveness. Use of online platforms is flexible, but such platforms cannot replace the most important student engagement, real time student teacher interaction and structured learning methodology. The studies point to the need of refining online education strategies to close the gaps that currently exist and help provide an inclusive and effective learning experience.

In future, the hybrid learning model may be a good approach to solving the drawbacks of the online education. Using traditional classroom instruction blended with online tools, not part of it, can produce a balance in the learning environment that takes advantage of both kinds of learning. Hybrid model will enable the students to interact with the digital content and gain their face-to face interaction with teachers and peers. One strategy school should incorporate into blended learning is for virtual classrooms, face to face discussions and interactive assessments to optimize learning.

## REFERENCES

- [1] Bhattacharya, M. (2021, July 24). Move to bridge digital divide with online lessons for needy kids. *The Times of India*. <https://timesofindia.indiatimes.com/city/kolkata/move-to-bridge-digital-divide-with-online-lessons-for-needy-kids/articleshow/84689917.cms>
- [2] Chowdhury, R. (2024). Online learning challenges faced by high school children during COVID-19 pandemic: A survey. *Journal of Academic Medicine*, 6(1), 1211–1216.



- [https://academicmed.org/Uploads/Volume6Issue1/240.%20%5B2591.%20JAMP\\_Dr%20R%20Chowdhury%5D%201211-1216.pdf](https://academicmed.org/Uploads/Volume6Issue1/240.%20%5B2591.%20JAMP_Dr%20R%20Chowdhury%5D%201211-1216.pdf)
- [3] Ghosh, B. (2024). Attitude of secondary school students towards the use of information and communication technology in Purba Burdwan district, West Bengal. *Open Journal of Educational Research*, 1(1), 45–58. <https://www.wbnsou.ac.in/openjournals/Issue/1st-Issue/January2024/5.%20Barnali%20Ghosh.pdf>
- [4] Gupta, A., & Garg, S. (2020). Challenges and opportunities for online education in India. *International Journal of Educational Technology*, 12(3), 15–22. [https://www.researchgate.net/publication/343381025\\_Challenges\\_and\\_Opportunities\\_for\\_Online\\_Education\\_in\\_India](https://www.researchgate.net/publication/343381025_Challenges_and_Opportunities_for_Online_Education_in_India)
- [5] Kundu, A. (2021). Examining the reality of online education in India. *UKFIET: The Education and Development Forum*. <https://www.ukfiet.org/2021/examining-the-reality-of-online-education-in-india/>
- [6] Nag, S. K., & Pandey, S. (2021). The online study practices of secondary ashramic students of West Bengal in COVID scenario. *YMER Digital Journal*, 20(1), 1–15. <https://ymerdigital.com/uploads/YMER210191.pdf>
- [7] Nath, S., & Mukherjee, S. (2020). Problems of online education system in South Bengal during the COVID-19 pandemic: An appraisal. *IOSR Journal of Humanities and Social Science*, 25(10), 7–20. <https://www.iosrjournals.org/iosr-jhss/papers/Vol.25-Issue10/Series-1/B2510010720.pdf>
- [8] Nath, S., & Mukherjee, S. (2022). Problems of online education system in South Bengal during the COVID-19 pandemic: An appraisal. *ResearchGate*. [https://www.researchgate.net/publication/365233097\\_Problems\\_of\\_Online\\_Education\\_System\\_in\\_South\\_Bengal\\_During\\_the\\_Covid-19\\_Pandemic\\_An\\_Appraisal](https://www.researchgate.net/publication/365233097_Problems_of_Online_Education_System_in_South_Bengal_During_the_Covid-19_Pandemic_An_Appraisal)
- [9] Pandey, S. (2021). Digital education in India: Avenues and challenges. *American India Foundation*. <https://aif.org/digital-education-in-india-avenues-and-challenges/>
- [10] Patra, S., & Das, S. (2024). A survey on the effects of online teaching-learning process for government-sponsored institutions during pandemic. *International Journal of Recent Advances in Science and Engineering*, 12(7), 123–130. <https://www.ijraset.com/best-journal/a-survey-on-the-effects-of-online-teaching-learning-process-for-government-sponsored-institutions-during-pandemic->
- [11] Ray, S. (2020). Key challenges of teaching online in this pandemic scenario. *International Journal of Research in Commerce and Management*, 12(6), 45–52. <https://ijrcs.org/wp-content/uploads/IJRCS202012006.pdf>
- [12] Roy, S., & Dey, S. (2023). Exploring the impact: Social media platform usage and academic performance among high school students in North 24 Parganas district, West Bengal. *ResearchGate*. [https://www.researchgate.net/publication/383032799\\_Exploring\\_the\\_Impact\\_Social\\_Media\\_Platform\\_Usage\\_and\\_Academic\\_Performance\\_among\\_High\\_School\\_Students\\_in\\_North\\_24\\_Parganas\\_District\\_West\\_Bengal](https://www.researchgate.net/publication/383032799_Exploring_the_Impact_Social_Media_Platform_Usage_and_Academic_Performance_among_High_School_Students_in_North_24_Parganas_District_West_Bengal)
- [13] Sarkar, S. (2021). Challenges faced by online schools in India. *Edument*. <https://edumentonline.com/challenges-faced-by-online-schools-in-india/>
- [14] Sharma, R. (2021). How online schools overcome Indian education system challenges. *Sunbeam World School*. <https://sunbeamworldschool.com/blog/how-online-schools-overcome-indian-education-system-challenges/>
- [15] Singh, A., & Kaur, P. (2024). Roadblocks in education amidst global crisis—A study based in India. *Journal of Education and Health Promotion*, 10(3), 150–158. <https://pmc.ncbi.nlm.nih.gov/articles/PMC10581450/>