



# Perception of Online Education During the COVID-19 Pandemic in India

By

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## Abstract

The Coronavirus pandemic has replaced the traditional face to face classrooms with online teaching mode. Considering this, an attempt has been made in the present study to understand how the school going children perceive the online education. The sample for the present study comprised of 404 students (209 females and 195 males) from the fifth, sixth and seventh standard. Questionnaire was developed by the researchers and the data was collected using google forms. Percentage analyses was carried out to analyse the data. Obtained results showed that students perceived the online mode of learning to be beneficial, it allowed them to continue with academics even during the lockdown and resulted in adequate free time to pursue their hobbies. However, on the other hands the students felt that they feel restless and experience headaches, eye strains etc because of the prolonged periods of screen time; another prominent issue that they faced was internet connectivity issues which resulted in the inability for students to concentrate during their classes. Students from the lower socio-economic backgrounds had problem of fully equipped devices (either smart phone or laptop).

**Key Words-** Online Education, Online Learning, COVID-19, Traditional Classrooms

## 1. Introduction

The COVID-19 pandemic has resulted in many institutional and structural changes. One of the major changes can be seen in the educational space. From many decades the traditional forms of classrooms continued to exist across the globe. Although there were advances in technology in educational institutions such as the implementation of smart boards, Audio visual classrooms etc, the mere thought of remote learning seemed unthinkable and that of the distant utopian future. However, with the onset of the recent pandemic, schools and colleges all over the world were forced to shift to the online/virtual space. This resulted in students and teachers finding ways to learn and adapt to the new education forum. Applications like Zoom, Google Meet and Microsoft Teams are some of the most commonly used platforms for online teaching in schools and colleges. Although such platforms are useful for conducting live classes, webinars, screen sharing and video conferencing; it is argued that such platforms need better digital infrastructure and lack adequate control mechanisms.

Earlier, online classes and asynchronous content (recorded lectures, videos etc) were mostly perceived to be supplementary to traditional classes but now they became part and parcel of teaching learning process. As a result, it becomes imperative to study the how the school going children perceive online learning mode.

## 2. Literature Review

An early study conducted a few years prior the COVID-19 pandemic, by (Hurlburt, 2018) sought to differentiate between the progress made by the respondents in a traditional classroom in comparison to that of an online class. It was found that the respondents who had enrolled in the traditional class received slightly higher grades and assignment scores than those respondents who had participated in the online mode.

Study was conducted by (Mishra et. al, 2020). They used mixed methods to study the perceptions of 78 teachers and 260 students. It was found that, although online leaning helped students stay in touch with academics, there were many challenges. Many students did not have the essential resources to attend class, faced severe network issues and found it difficult to maintain their pace of learning with their teachers. The teachers on the other hand were unable to have meaningful interactions and found it difficult to read the faces and moods of their students. Further it was also found that female participants were often assigned household chores and found it difficult to manage both academics and household responsibilities thereby adversely affecting their studies.

In an empirical study conducted in India by (Khan, Vivek et. al, 2020) on 184 University students, it was found that they had an overall positive perception towards e-learning and were accepting the new mode of learning style during the pandemic in a positive manner. Majority of the students (73.4%) felt that e-learning was useful as it allowed students to engage in their academics irrespective of geographic limitations and it also facilitated the exams and submissions electronically with ease. Apart from this, 68% of the respondents felt effective communication is possible in the online classes and 52% of the respondents perceived the that E-learning platforms were user friendly and easy to access. It was seen that while 50% of the respondents believed web-based learning helped simplify the learning process, 24.5% believed that such type of learning was not helpful in simplifying the learning process.

In another study conducted on Indian students' perceptions and preferences during the pandemic by (Muthuprasad, Aditya et. al, 2021) it was found that 57.9% of the respondents preferred attending online lectures through smartphones; thereby, pointing to the need to ensure that applications for online learning should be compatible with android devices/smartphones. The study also found that students preferred to have recorded classes along with quizzes after each class to enhance their learning experience. It was also found that students perceived flexibility and better convenience of online classes. But the major challenge was again technological, distractions faced by the students, instructor's incompetency and learner's inefficiency.

Another research conducted on 133 University students by (Alwamleh et. al, 2020) found that many students preferred traditional offline classes over the virtual ones due to various issues including- inability to effectively understand the material taught during online lectures, lack of motivation and decrease in the level of interaction and communication between teachers and students. It was also seen that majority of the students did not feel encouraged to participate in class and felt isolated.

In a study conducted in Netherlands, by (Engzell et. al, 2021) it was found that despite provisions for high quality remote learning, primary grade students were found to have lost about one fifth of the progress that they would usually make in a year. Furthermore, the impact was seen more severely among those children who were from disadvantaged or lower socio-economic backgrounds. Study conducted by (Lepp et. al, 2019) on 296 undergraduate students showed that students multitasked significantly more in their online courses than they did in their face to face courses. It was seen that students were more likely to engage in behaviours such as sending texts/emails, watching videos, listening to music, using social media or surf the Internet more during their online courses.

Study by (Bordes, Walker et. al, 2020) on medical students showed that students preferred shorter videos based on their course as compared to the recordings of the previously delivered lectures. It was also found that students preferred watching videos to assigned reading material, thus pointing to the importance and impact of asynchronous content that should be made in a comprehensive and easily accessible manner to facilitate better learning outcomes.

In another study conducted (Yadav, 2021) on 792 students, 30% of the students were found to be unsatisfied with the with the delivery of content through the online mode of teaching. The study also found that children below 14 years of age were getting addicted to cellular devices and laptops which brought forth the concerns of eye strains etc.

In view of the review of literature and earlier studies cited, the present study was conducted to understand the perceptions of young children towards online education and recognize the issues they face while using this mode for learning.

### 3. Methodology

#### 3.1 Sample

The sample for the study comprised of 404 students, consisting of 209 females and 195 males from the fifth, sixth and seventh grade. Their ages ranged from around 9-14 years, with the mean age being 11.7 years (SD=1.44). The sample represented a diverse range of income groups and socio-economic backgrounds. Participants studied in various schools affiliated to different boards of education including CBSE, ICSE, State Board and so on. Table.1 showcases an overview of the sample distribution.

**Table 1.** Sample distribution

Category	Count
<b>Gender-</b>	
Male	195
Female	209
<b>Standard-</b>	
Fifth Standard	97
Sixth Standard	125
Seventh Standard	182
<b>Board Affiliated-</b>	
CBSE	220
ICSE	73
State	106
Other	5

#### 3.2 Data Collection & Tools

The questionnaire was developed by the researchers and was administered. The data for the study was collected online via Google Forms, the link for which was shared through WhatsApp. The participants were informed the main purpose for the present study and the informed consent was taken. Precautions were taken to respect the confidentiality of the participant and it was ensured that the data collected was valid. The questionnaire administered consisted of a total of 32 items, which included 5 Multiple Choice Questions, 14 Yes or No questions, 11 items measured with the five- point Likert Scale and 2 open ended questions. The responses for the five-point Likert Scale ranged from (1= Strongly Disagree to 5= Strongly Agree).

#### 4. Results & Discussion

This section showcases the major findings of the statistical analysis that was carried out on the data collected.

The data revealed that when the students were asked how beneficial they think online classes were, 63% of the students stated it was moderately beneficial, 22% claimed it was very beneficial and 15% stated online classes were not beneficial at all (Refer Table 2).

**Table 2.** Frequency of indicators related to student's perception of Online Classes

Variable	Category	Percentage
i) Perceived Usefulness of Online Class	Very Beneficial	22%
	Moderately Beneficial	63%
	Not Beneficial at All	15%
ii) Most Useful Teaching Aid	Virtual Whiteboard	18%
	PPT	19%
	Demonstration of Practical-Experiments	20%
	All of The Above	43%
iii) Physical Fitness As Affected Due To the Online Medium of education	Excellent	12%
	Good	31%
	Average	41%
	Below Average	11%
	Poor	5%
iv) Frequency of the Teachers Using Videos/Educational Films For Their Classes	Very Frequently	30%
	Occasionally	43%
	Rarely	20%
	Never	7%
v) Perception of One's Own Technological Literacy	Excellent	28%
	Good	48%
	Average	20%
	Below Average	3%
	Poor	1%

It was found that teaching aids such as practical demonstrations of experiments, PPTs and virtual whiteboards were perceived to be useful tools of teaching.

It was found that out of the 404 students, 15% (62 respondents) did not have access to fully equipped devices for online learning. Further analysis revealed that this segment of the respondents was from comparatively lower socio-economic backgrounds with 41 respondents having an annual income of below 6 lakhs out of which 25 of them belonged to the income category of less than 3 lakhs per year.

Obtained results showed that 65% (264 respondents) claimed to face technical difficulties or internet issues during their online classes. Here it's worth noting that out these 264 students, 153 students were found to come from relatively lower financial backgrounds. It was also found that 69% (277 respondents) felt that their concentration during online classes would get disrupted due to issues pertaining to their internet connections.

Obtained results revealed that 71% (285 respondents) of the participants claimed to have experienced some form of eye strain, headaches etc due to sitting in front of their electronic devices for prolonged periods of time. Students also reported that they now receive more assignments and homework than they did before.

Overall, 76% of the participants felt that online education could not replace the traditional form of education, involving face to face interaction. When asked about the online evaluation/online exams, 75% perceived that such method of evaluation involved ethical threats of copying, cheating etc. It was also found that only 32% (129 respondents) of the respondents preferred to have their cameras on during classes while 68% (275 respondents) of the respondents preferred to keep their cameras off during class.

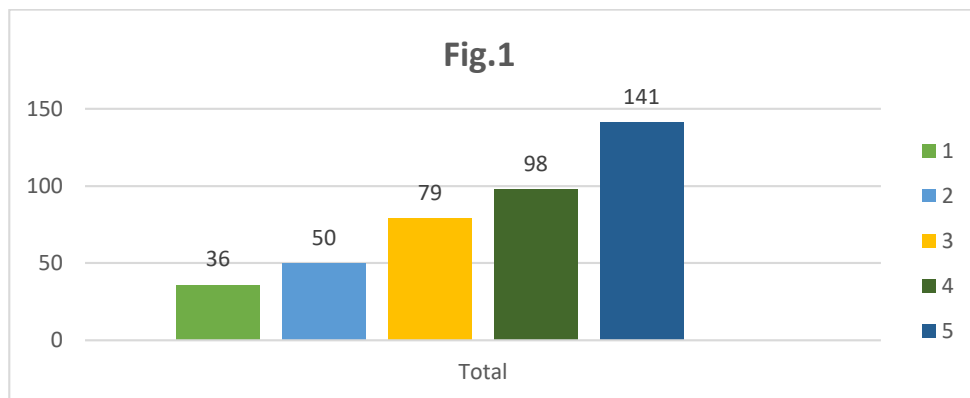
**Table 3.** Descriptive Analysis of the Likert Scale

Items	Mean	Median	Mode	SD
Online classes have increased my overall attendance	3.64	4	5	1.31
Online classes have resulted in more student-teacher interaction.	2.76	3	3	1.32
I often get distracted by external factors at home during online lectures.	3.70	4	5	1.28
I feel very restless and uncomfortable sitting in the same position in front of the screen for hours.	3.96	4	5	1.25
I interact and participate more in an online class than I did before during traditional classes	2.78	3	3	1.30
Online classes have resulted in more free time for pursuing my hobbies/interests	3.57	4	5	1.29
I feel more motivated to study because of online classes.	2.81	3	3	1.23

Note. N=404

It was found that 35% (141 respondents) had strongly agreed and 24.2% (98 respondents) had agreed with the statement “Online classes have increased my overall attendance” (Fig. 1) On the other hand 19.5% (79 respondents) neither agreed nor disagreed, while 12.3% (50 respondents) and 9% (36 respondents) disagreed and strongly disagreed respectively. Thus, indicating that many students reported that they were now attending classes more than they did before, during the traditional mode of schooling.

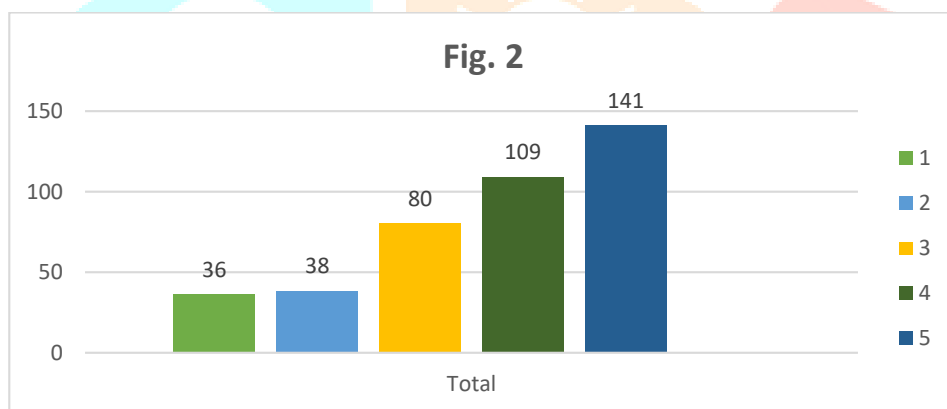
**Figure-1 Showing relationship between Online Education and student’s attendance**



Note. 1= Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree, 5= Strongly Agree

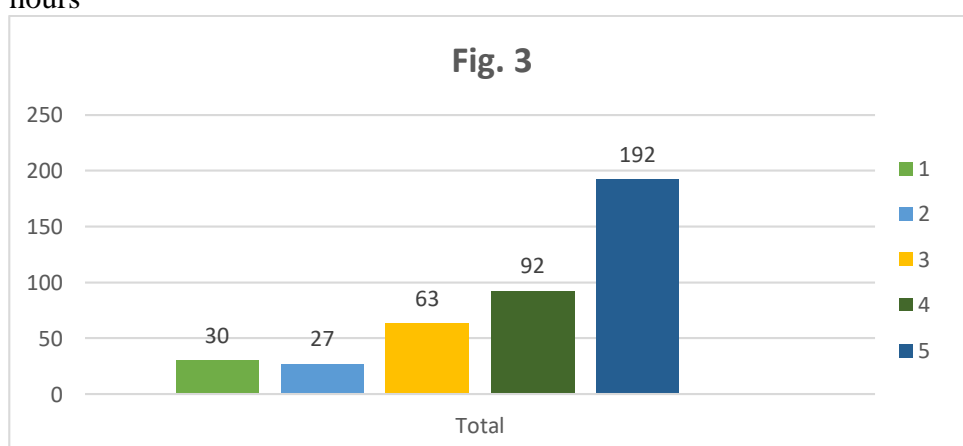
As per **Fig.2**, when the students were presented with the statement “I often get distracted by external factors at home during online lectures”, 34.9% (141 respondents) had strongly agreed and 27% (98 respondents) had agreed. 19.8% (80 respondents) were neutral while 9.4% (50 respondents) and 8.9% (36 respondents) had disagreed and strongly disagreed respectively. It can be seen that many students reported to being unable to concentrate during their online classes due to external factors at home (noise, family members, technology etc.).

**Figure 2 Showing the percentage of students getting distracted by the external factors at home while attending online lectures.**



When presented with the statement- “I feel very restless and uncomfortable sitting in the same position in front of the screen for hours.”, it was seen that 47.5% of the respondents had strongly agreed, 23% had agreed, 15.5% were neutral while 6.6% and 7.4% had disagreed and strongly disagreed respectively (**Fig.3**). Thus, it is seen that a significant number of students reported that prolonged screen time makes them feel restless and uncomfortable.

**Figure 3 Showing the percentage of students feeling restless and uncomfortable in front of the screen for hours**



Students reported to be neutral (neither agreed nor disagreed) when they were presented with items such as: - “I interact and participate more in an online class than I did before during traditional classes”; “Online classes have resulted in more student-teacher interaction” and “Online classes have resulted in more student-teacher interaction.” (**Table.3**)

In a country like India, over 16 lakh students from Delhi alone, are from poor backgrounds and lack gadgets and resources required for online learning (Bedi, 2020) and as per the recent UNICEF report, over one-third of the worlds school children i.e. 463 million were not able to access remote learning during the COVID-19 pandemic (UNICEF, 2020). Similarly, our data indicated that amongst the 15% of the respondents who did not have devices equipped for online learning, many were from comparatively lower socio-economic backgrounds. Therefore, attention needs to be paid to such students to ensure their inclusion and that they do not miss out on their academics.

It was seen that 71% respondents suffered from eye issues, headaches etc. The same issue was brought up by almost more than half of the participants when asked to state a negative impact of online education. In order for us to ensure the well-being and enhance the concentration of young children, it is important that long durations of classes should be avoided and teachers should ensure that there is sufficient number of breaks between consecutive classes. This will not only ease the physical strain but also help in reducing the cognitive load and stress experienced by students so that they are fresher and they will have higher productivity levels (Thompson, 2014).

Educational films or videos have been proved to be a useful tool for educational purposes, in some cases even increasing scores on academics (Dupuis et. al, 2013). Apart from its benefits, such videos can ease the cognitive load and help refresh students from the mundane academics. It’s a popular form of learning that many teachers are adopting during the pandemic. In our data majority of the students claimed that their teachers either frequently or occasionally show such videos. However, 7% of the respondents reported their teachers never show such videos. This points to the need for teachers to incorporate some form of educational videos to facilitate learning. It would also help students concentrate and stay better focused when in case of long class durations. It was seen that students wished to have classes with more interaction, activities and games. Such types of activities make learning fun, keep students engaged and result in active participation of all the students. Conducting such activities in the online space may be challenging but finding alternative ways for the same can enhance learning outcomes.

The last section of the questionnaire comprised of 2 open ended subjective type questions. When asked for suggestions to improve online classes, many students had raised their concerns over the lack of adequate interactive activities during class and had suggested to include interactive sessions, games, activities, quizzes etc during their classes. A few of students even suggested to reduce the duration of each class or provide sufficient breaks in between classes so as to avoid issues concerning eye strain. **Table 4** depicts some of the suggestions given by the students.

**Table 4.** Suggestions given by the students to enhance online learning

- "Online classes in my school should be longer and much more organized. Schools should interest students in sports, music and similar activities during these times. My school should keep everything organized in Google classrooms instead of WhatsApp. Schools should encourage students to open their cameras during online classes and interact more with them."*
- "More group discussions on topics taught while seeing that all the students actively participate will ensure that the topic taught has been properly understood."*
- "Online classes on Goggle meet should be done regularly. So that the teachers may know that who's attending the class regularly as some students are only marking their attendance in Goggle Classroom and not giving classes. "*
- "Online Classes can be enhanced through more active interaction between student and teacher like ppt presentations of assignments by students and inclusion of educational videos. However, the traditional physical method of teaching is and still remains to be more affective for students as well as teachers."*
- "Classes should provide ample physical activities or programs (sports, yoga, exercise) to keep students physically active during lockdown."*
- "We can reduce the school timing or change the continuous hours of studying as it causes headache and eye issues"*

When asked to state a positive impact of online education, a number of students stated that they were able to continue with their academics even during the lockdown period and were able to attend classes from the comfort of their homes without travelling, thereby saving time and having opportunities to pursue their hobbies. Some students even claimed that they have become more tech savvy and now have more family time than before. When asked to state a negative impact due to the online mode of education, it was found that majority of the students felt that prolonged periods of attending classes through their electronic devices, was harming their eye sight and creating issues of headaches, physical fitness etc. **Table 5.** depicts some of the responses given by the students.

**Table 5.** Positive & negative impacts of online education perceived by the students

- "Positive impact: online education was the only way that helped the student continue with their studies during the pandemic. Indeed, it is a very good way of learning.  
Negative impact: long hours in front of the screen has caused a lot of problems with the physical conditions of children."*
- "Positive: - We get a lot of free time and it is a very effort-less way of studying. Negative: -Many students don't pay attention during online classes and some get away with not doing work very easily. Students also have to sit in front of computer screens for a long time which can cause eye strains and headaches."  
"Positive impact- Due to online classes, we get more time to spend with our family.  
Negative point- It affects our eyes and sometimes causes headache."*
- "The positive impact is that teachers of our school give their full efforts to teach us and to keep us connected with the studies during this pandemic also and we can even study anywhere at any time as the notes are present in our class group. The negative impact is that our eyes are getting spoiled day by day due to overspending time on mobile phones and even children are getting addicted to phones."*
- "Positive impact: I get more time to do some of my hobbies than studying  
Negative impact: screen time, less physical activities and less interaction with the teachers  
While online education makes one more tech savvy and gives one more time for other activities, but the beautiful and emotional bond between teachers and students has received a setback. Teachers don't only provide knowledge but also personally and emotionally shape and mould the students which somehow is not possible in online classes."*
- "I think that the positive impact is that at least all of us are not missing our academic education and learning because many students still can't go to school due to Corona in their area and online classes are providing them at least a little bit of knowledge. The negative impact is that too much technology and sitting in front of these devices for so much time can ruin our minds."*



The findings of the present study showcased how online education can have both positive and negative impacts on students. Majority of the students felt that online education is moderately beneficial. The students indicated that overall, the online form of education could not replace the traditional in person form of education. Students reported that teaching aids such as virtual whiteboards, PPTs and practical demonstration were useful modes of teaching along with asynchronous content such as recorded classes. Students reported that on the positive side, the online form of educational resulted in higher attendance, ample free time for students to pursue their hobbies/interests and more family time. On the negative side, there were technical and internet constraints that disrupted their concentration, physical strains due to prolonged screen time, lack of interactive activities and distractions due to external factors at home. It was found that a small portion of students from lower financial backgrounds lacked adequate devices that support online classes. Students also claimed to have received more assignments and homework than they did before the pandemic and perceived ethical threats such as instances of cheating, copying, bias etc in the online mode of evaluation. Furthermore, while majority of the students preferred to have their videos off during class, multiple students had suggested that there should be more interactive sessions and activities, games and quizzes to facilitate active participation of everyone.

In view of the positive and the negative side of the online education, attempts need to be made by educational institution, especially by the teachers to design classes that are short and efficient which will minimize screen time. In short, adequate breaks between the classes need to be ensured. In addition, teachers need to include interactive sessions, games, group activities, quizzes, videos for the enhancement and betterment of the academic abilities of the students. It should also be ensured that the online method of evaluation should be done in an efficient manner without any form of ethical threats. This would encourage and motivate students to study and work to their full potential.

**Implications** – The present study points out the need and importance of building more effective distance learning resources and teaching tools that can facilitate social engagement and active participation of students. The study also points to the importance of improving digital infrastructure that is targeted towards creating a classroom environment. This could include designing better control mechanisms and scope for monitoring students, offering instant technical assistance, providing a more structured and comfortable space for one-on-one student-teacher interactions, creating a forum for peers to interact and work with each other for group projects and ensuring easy access to the learning material.

The educational institutions especially need to take into consideration the problems faced by the children coming from disadvantaged households and provide them with some form of assistance. It's also important to take into account students coming from different segments of society, including those with disabilities and ensure that their needs and requirements are met so that they do not miss out on their academics.

The present study will help the educational institutions and researchers understand the need to identify the students who lack devices for online education. Teachers can also ensure that they incorporate ample number of interactive activities and group work (such as debates, games, quizzes, competitions and class discussions) into their courses. This would prevent students from getting distracted during class hours and also help them learn together in a fun way.

### **Suggestions for the future research-**

- 1) Further studies could include both quantitative and qualitative data with telephonic interviews to ensure a more comprehensive and deeper understanding of the impacts on education.
- 2) Future research could assess the impacts of online education on academic performance and peer interaction. Studying the academic performance of students will help determine the effectiveness of online learning.
- 3) It would also be useful to compare and contrast the impacts of online learning on students from different streams and age groups. This would allow researchers to recognize the specific tools and resources needed for students from different streams/ages.

## 5. Conclusion

The complete transition from face to face learning to online learning during the COVID-19 pandemic led to concerns about quality, effectiveness, learning outcomes, student engagement and accessibility. In a country like India there are many challenges to this method of learning such as; availability of internet at a cheaper rate, easy accessibility, cost of online education, social engagement and so on. Despite all these challenges, it's important to consider the positive aspects of online learning as well. These include more free time for hobbies, geographical flexibility, low operating cost, improved attendance, more family time and so on. While it is true that online classes can't replace the traditional classes, such type of virtual classes are helping students stay in touch with their academics during the lockdown phase. Currently efforts are being made to reach the students belonging to poor socioeconomic background for their inclusion. This can enhance learning opportunities with convenience and ease for the betterment of all.

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