



Covid Impact on Children's Education: A Case Study of Punjab, India

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

Covid-19 has had an unforgettable effect on the world and disrupted the whole of society. It has a major effect on the health system of the society which disrupts the economic system as well. Resulting in a disruption in the normal life of the people. Sudden lockdowns and restrictions on mobility have made sudden changes in the society. To curb the spread of COVID-19, social distancing and lockdown also followed in India. This causes a serious effect on the education system as shuts down all schools, colleges, and universities. The new system of online education was initiated to tackle the situation. Thus, the present study has a main objective to understand the problems and challenges faced by parents and children with this new norm. For this, the data was collected from 100 households through a semi-structured interview schedule from the Bathinda district of Punjab. The study found that there was a shift of schools from private to government after the lockdown because of shutdown of the economic sector. Various parents faced economic crises and low wages that caused non-affordability of school fees and other expenditures. Parents faced serious setbacks and disruptions in their daily routines also. Similarly, children have become addicted to phones and the internet. Children started watching YouTube and cartoons that hampered their education.

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1. INTRODUCTION

COVID-19 has a devastating effect on the world. The outbreak of the coronavirus in China increased fear in the world economy, and an immediate lockdown was initiated to control the spread [1]. In India first lockdown was followed on 23 March 2020, and the sudden shutdown of all the institutions. Schools were closed all over India to shield the coming generation, and social distancing and quarantine norms were also implemented [2,3]. According to UNESCO, the coronavirus outbreak has impacted education worldwide, and in 185 countries, schools and colleges were shut down. With this, 1542412000 learners were affected, which constituted 89.4% of total enrolled learners [4].

The government opted for an online education system rather than an offline one to protect the children and control the COVID-19 virus. Roughly in April 2020, the government announced an online mode of education for all school-going children [5]. It was a sudden change in the ongoing offline system of schools [6]. As no one was prepared for such a situation and as skilled to follow the online teaching method. In developing countries like India, offline traditional method of teaching is widely accepted. However, the closer of institution, it is become demand or sudden emergency requirement to shift on online method of teaching [7]. Schools were closed and children were confined to their homes. Around 360 million of children education was hampered in India alone during pandemic [8]. Pandemic also created pressure on the teachers to complete their syllabus in stipulated time period that compelled to them to shift on online classes [7] It has become necessity to shift on ICT resources during the pandemic and utilization of ICT resources for teaching. Though ICT tools are a good addition to the teacher's lecture method and enhance teaching skills, there are many other problems attached to the ICT tools. Such as discrepancies in existing ICT resources, poor management, lack of knowledge, and teachers' workload. These problems also have a negative effect on effective education [9].

However, it is also difficult for those students who were just enrolled in their pre-kg classes and the meaning of school still needs nurturing in their daily routine. It became a tough time for both the parents and the teachers, as teachers became a double burden because they had to take their

classes and provide education to their children [10]. Even teachers have no control on students' physical circumstances and also their movements in online classes. It has become difficult to make control over children and also to check on their behavior [11]. It had become a vicious cycle, and most of the time was spent on technological gadgets. The demand for mobile phones and internet connectivity has increased. For children's education, dependency on technology has increased, which has both positive and negative consequences [12]. On one side, the small children who had just started their schooling became dependent on technology, especially mobiles. At an early age, mobiles became a gadget to socialize them. The school concept shifted to technology, and school socialization also got a setback [13]. It was difficult for small children to understand the concept of the teacher on the phone, and learning also became difficult for them. In the young generation, technology increased their social media skills to increase their potential. Thus, the learning environment shifts to an interactive social learning environment and students shift to e-learning systems for their education [14]. Online mode also makes changes in the traditional education system that is based on paper and pen. With online education children have become dependent on online classes and online paper systems which are very new and difficult to understand. Moreover, children started spending most of their time on the Internet and other applications which has become a mode of addiction [15,16]. The online mode of education has not remained available to all children as some children cannot afford new phones and internet due to the economic situation of the household, as they were barely able to get offline education. It increased more fall in education and widened the gap among school-going children [17, 14]. Thus, the present study was conducted in Punjab to examine the impact of online education on children in rural settings. The paper discusses the challenges and problems faced by children and parents in getting online education. The study also explored the challenges faced by parents to provide online education during the pandemic and coping mechanisms to deal with the situation.

2. MATERIALS AND METHODS

For the present paper, data was collected from Bhalaiana village of Bathinda district (Punjab).

For the present study, the first author (Atinder Pal Kaur) was on induction training at the Regional Research Station, Bathinda (under Punjab Agricultural University Ludhiana). In the induction training, one part of the training is primary data-based research under the guidance of instructor. So, according to the schedule, village Bhalaiana was recommended for field work and so far, the study was planned on COVID-19's impact on the children's education after the discussion with the instructor. In the field, one month was spent on survey and data collection. Due to money and time constraints, this study was limited to 100 households survey.

So, A survey was conducted in 100 households on a random basis. For the data collection, the first initial listing was done with the help of the Sarpanch of the village. Further, with the help of Asha workers, village households were visited that had school-going children. The study found that 199 children were getting an online education. The main objective of the study was to understand the impact and challenges of an online education system faced by children and parents during COVID-19.

For this, data was gathered from parents of school-going children. Questions were asked about children's educational backgrounds, types of schools, modes of learning, and problems faced during online education. The impact on children's education and parents' problems with online education, and teacher behavior. A semi-structured interview schedule was prepared to deal with these issues. Open-ended questions about difficulties faced during lockdown to tackle children and their education were asked—difficulties in providing them education and any shifts in school due to increased burden. To understand the parent's satisfaction with the online mode of education a 1-3 Likert scale was developed where 1 was marked as least and 3 marked with highest satisfaction.

3. RESULTS AND DISCUSSION

In our 100 sampled households, in total, 199 school-going children, 107 were boys, and 92 were school-going girls. It was found that after COVID, 196 children were getting education through the online method. It was found that three school-going boys left school due to money problems. Another issue found was that the mother was a widow and working as a laborer so she could not afford a mobile phone. Thus, the

online mode of education became costly for the laborer families. Of 100 households, 42 belonged to the general caste, 44 households had S.C. population, and 14 had OBC caste. In the case of occupation, the General caste had farming as the main occupation while the S.C caste worked as manual labor.

3.1 Shift and Dropout in School during Pandemic

The first question was asked about which schools' children were enrolled in before and after the COVID situation. The study found a shift from private schools to government schools after COVID-19. Fig. 1 shows that in a pre-covid situation, only 37% of household children were in a government school.

It showed that before lockdown in the pre-COVID situation, parents were sending their children to a private school in 63% of households. However, the situation has changed due to the lockdown and shutdown of all work. Admission to government schools also rose by almost 9% after COVID-19. On a gender basis, 9% of boys shifted from private to government schools and 7.5% of girls also moved to government schools (Table 1).

The finding suggested that out of 107 boys, 51.5% had enrollment in private schools than in government schools. In the case of girls, the private school still has a significant 51.1% enrollment. However, the covid changed the whole scenario; students shifted from private to government schools. In the case of boys, from 48.5 percent to 57.9 had increased enrollment in government schools. Similarly, in the case of girls, 48.9 percent to 56.5 percent increased. Other than that, dropout cases became visible concerning boys, as three boys dropped out of school due to economic reasons.

A further reason for the shift from private to government school was asked of the respective parents. It showed fee structure and other expenditures during COVID remained the main cause of dropout among students (Table 2).

In total, 17 children shifted to government schools from private ones, and three boys dropped out during the COVID time. When the question was asked about the reason for the shift, parents emphasized the fee structure of

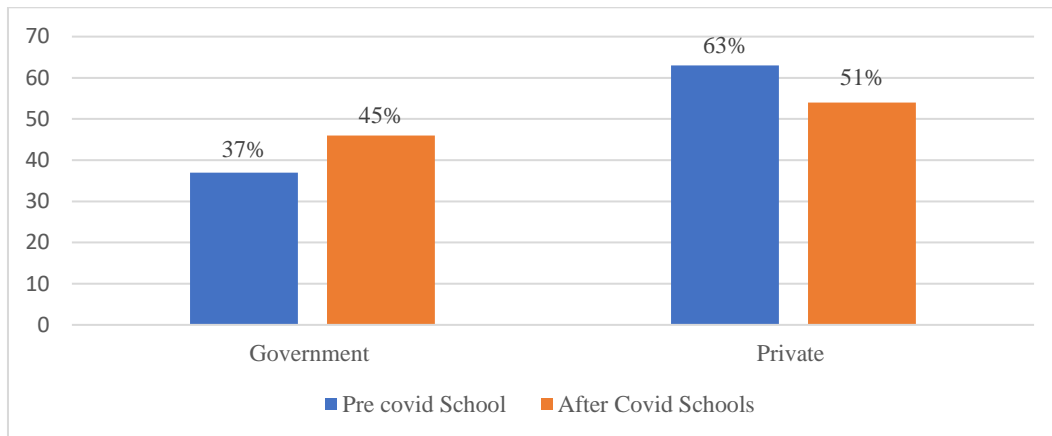


Fig. 1. The shift of schools in households after COVID-19

Table 1. Shift in schools (Boys and Girls) due to Covid situation

Boys in School(N=107)	Pre covid (%)	After Covid (%)
Government	48.5	57.9
Private	51.5	42.0
Girls in School(N=92)	Pre Covid	After Covid
Government	48.9	56.5
Private	51.1	43.5

Table 2. Reason for shift from private schools to government schools

Reason of Shift	Male	Female
Fee Structure and van	4	2
Fee	3	3
Fee, van and other expenditures	3	2
Grand Total	10	7

private schools during the lockdown and shut down of their work. In the majority, all parents were from semi-skilled jobs. 1 father was a painter, 1 father had a sweetshop, one was a potter maker, 3 were tailors, and 4 were non-agricultural laborers. The sudden lockdown means shutting down all the work, which increases unemployment and economic crunch. Non-availability of economic resources, parents shifted their children to government schools. Ratan Lal emphasizes that

Earlier, my son was in a private school, and my daughter was also. However, the sudden shutdown was also a hamper to my work. I was a painter, and the lockdown increased unemployment. As a result, I stayed at home for more than six months, and it became difficult to pay school fees and other expenditures. So, after the lockdown, I enrolled both my children in village government schools.

Similar issues were faced by other respondents. Undoubtedly, fees and other expenditures remained the leading cause of the shift to government schools. However, without work, parents had no source of income and no money to spend on their children's education. At the micro-level, unemployment during the COVID-19 time caused the shift. Tsolou et al. [11] mentioned that poor family conditions and lower income levels affect children's education.

Similarly, the question was asked to the mother of dropout children. As Sita Devi mentioned that

She was a widow and worked in brick killing near her village. During COVID, the shutdown of work for more than six months caused debt in the family. Her husband was dead more than two years, and she had no other family members to support her. Her two sons were in ninth class, and her third son was in fourth class. Though the study

was free of cost in school, during COVID online class system required a mobile phone, which was out of their range. Therefore, she could not afford to buy a mobile phone and expenditure on the internet. So, the leading cause of dropout was the shutdown of work, and the non-availability of economic funds caused dropout.

The cause of dropout among children is the non-availability of economic resources and poor economic conditions [18,19] Also, the unemployment rate is higher in the family and no support system is available to deal with the situation remains the cause of dropout among school-going children [20].

3.2 Use of Technology and Online Classes during Pandemic

The study also discussed the problems and issues faced during online classes. Questions were asked to know how parents tackled the situation during the lockdown. The first question was asked for the online classes did they purchase mobile/laptops for study purposes? It was found in Fig. 2 that 41 households already had a smartphone.

On the other side, 55 percent of households purchased new mobile phones for online classes. In 4 household cases, a phone was borrowed from the neighborhood for online classes. The question was also asked about the purchase of the phone. 42 households mentioned that they purchased new phones, while 13 households purchased old ones to provide online education (Fig. 3). It increased the extra burden on the families, especially from labor and scheduled caste, to purchase mobile phones for children's education. Our respondent Sarabjit mentioned that She was a domestic helper in village houses and earned approximately 5500/- per month. Her husband was an agricultural laborer and earned between 7000 to 8000/- monthly. Sarabjit did not have any work during the lockdown while her husband worked in the field. They had two school-going children and were getting an education from a government school. However, the online education system increased an extra burden on the family. Sarabjit borrowed money from her earlier workplace and was able to purchase a smartphone worth rupee 5000/- for her children's education. However, it became difficult for them because they had to recharge their phone monthly as two children took classes every day.

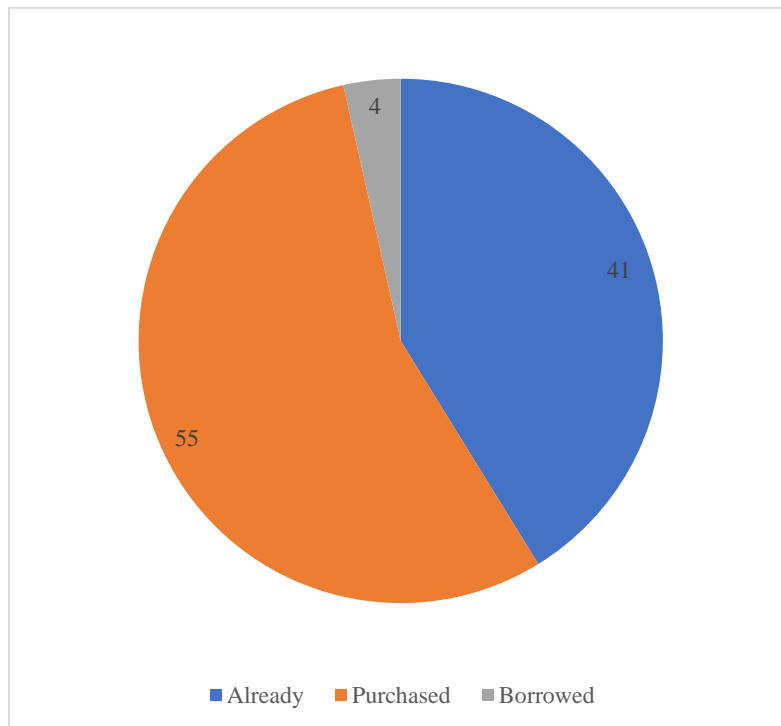


Fig. 2. Purchase & borrow of mobile phone

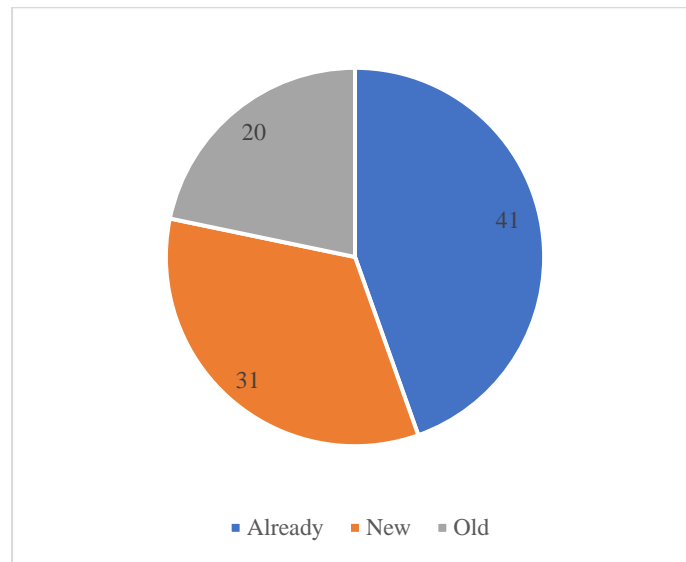


Fig. 3. Purchase of old & new mobile phones

However, the other side had handsome earnings from their job and had operational land. Purchasing a phone and paying school fees was not a burden. In the case of Avatar Singh

He was an MPHWH in the PHC of the village earning monthly 50000/- and had 7 acres of land for cultivation. He had two children and got his education from a convent school in a nearby town. He was paying almost 60000 fees during the lockdown and purchased two phones worth rupees 22000/- per smartphone. Other than that, he was sending his children on extra tuition. He mentioned that the phone was necessary because of the lockdown, and I had money to purchase it. It was all right.

So COVID directly impacted the income group families basically from lower strata [8]. Other than that, we asked to know who was using the phone as a purchased phone used by only males or females.

Table 3. Mobile phone used by Male and Female

Mobile used by	Percentage
Male	31
Female	8
Both	61
Grand Total	100

In the survey, we found that 61% of both male and female cases were using mobile to get online education. The study showed no gender bias as both males and females were getting an

equal education. No doubt, in 6 households, boys were in a private school and girls were in a government school before COVID-19. However, during COVID, boys shifted to government schools due to economic reasons.

3.3 Parental Satisfaction towards online Education System

The next part of our study focused on the positive and negative impact of the online education system on children.

An online education system was introduced during lockdown time in 2020, and almost for two years, children followed the online mode of education, even after the relaxation of lockdown rules. There was no vaccination available for school-going children to curb the covid spread.

We asked questions about satisfaction with the online mode of education with three Likert parameters.

The questions were asked parents about satisfaction with the online mode of education.

The questions were about how they feel about the online mode of education in which both open-ended and close-ended discussions were introduced to the respondents. The first question on whether they feel online education is effective. It was found that 35 percent of respondents mentioned not being satisfied with the online mode; on the contrary, 52 percent of respondents mentioned about satisfied, and only

14 were highly satisfied with the online mode of education. When further asked about their views on the online mode of education. Rani mentioned that Due to an emergency, we could not send our children to school. So, whatever is suggested by the government, we are following. It is for the safety of the children, but personally, it is not that effective. Despite that, teachers are making their best efforts.

Similarly, the question was asked about the comfortability of the online education mode; the highest 51 percent of respondents were not satisfied with the online mode of education. The main point was that their children sometimes faced internet connectivity issues and difficulty understanding the class. In addition, all day children have to sit in front of the camera, which is also harmful. Furthermore, they have more burden of classes because there is no timing of classes and no schedule.

Moreover, the question related to children's performance was asked, and 48 percent of respondents were not satisfied with the children's performance, no doubt 42 percent of respondents were satisfied, and 10 were highly satisfied, but still, parents had many complaints about online mode. Although those children were small and parents had to sit with them, those parents had satisfaction. In contrast, adult

children did not have much interest in education. After taking online classes, they were not ready to do their homework because it would not check. Due to lack of teacher fear and online mode with physical contact with teachers, children became fearless and devoted less time to education.

Satwinder mentioned that they feared the teacher earlier and were ready to do homework after returning from school, but nowadays, they know that no one will check them. Even if we said something, they said we were taking an online class and feeling exhausted. Moreover, the teacher will not check their homework which is a drawback of online education. Thus 85% of respondents were not satisfied with the online mode of education. However, 96% of respondents agreed and were ready to send their children to school for offline mode. The main reason is that in online mode, children become fearless and do not pay full attention to their education. Parents also mentioned that children showed no attention towards education. Amarjit mentioned When children were at school, they feared their teachers and had some curriculum to follow. They were attending classes on their own and even do not follow any curriculum, causing irregularities in the study.

Table 4. Online mode of education and parental satisfaction

Online Education System	Not Satisfied	Satisfied	Highly Satisfied
Do you feel the online mode of education is effective	35	52	12
Are you comfortable with the online mode of education	51	39	10
Are you happy with your children's performance in the online mode	48	42	10
Are you happy with the online mode of the education system	85	15	0
Happy with the offline method	4	44	52
Are the teachers easily accessible for students who may need extra help	6	56	48
Are you satisfied with the teacher's behavior and communication with you	8	53	39

Table 5. Impact of online mode of education on children

Online Education System	Yes (%)	No (%)
Do you think it increases the productivity of your child in class	24	76
Did they explore something else than class (YouTube videos, online lectures and also educational apps)	54	46
Is online mode improving the technical skills of your child	14	86
Does online mode become addicted to your children (explain)	56	44
do you want a combination of online and offline mode	12	88

3.4 Impact of Online Education System on Children

Respondents showed a positive response towards teacher availability on time and ready to help solve the issues.

To know the effect of online mode on children, the first question was asked about whether they think online mode increases productivity in the class, as they have other options such as taking videos related to education on YouTube. However, we got a negative response that 76% of respondents mentioned that there was no increase in their productivity but rather faced irritation in their eyes after continuing to watch mobile phones [6]. They became extra occupied with classes and connectivity issues [21]. Even 54% of parents also mentioned that children were overutilizing the phone rather than studying. They watched cartoons, movies and played online games.

Other than school apps, children are not following any other educational apps 56% of respondents also complained that online mode becomes addictive to their children. They watch movies and play games; they also remain on the phone all the time [22] Even 88% of respondents were also against the combination of offline and online modes. They wanted to follow offline mode only because it helped their overall development.

Thus, the study found that the online mode of education remained less effective in rural areas and not beneficial for the children.

4. CONCLUSION

In a developing country like India, an education system based on traditional offline mode is

widely accepted. However sudden changes and lockdown made sudden changes in the educational institutions. It created pressure to complete the prescribed syllabus on time on the prescribed form and compelled them to follow alternative measures. Within these changes new method of learning was adopted by schools that is online mode of education and teachers had to follow the rules. Thus, the present change made various unimaginable changes in the children and teachers' routine system [23] [6].

The present study found that online mode had a negative impact on children and parents. Online mode became addictive and children started watching, songs, movies, and cartoons. Other than education, children started spending more time on internet surfing and YouTube. On the other hand, it also enhances the extra cost of the internet and burdens families from lower economic strata. It was difficult for parents to purchase new phones and other devices for online classes where the household had more than one school-going child [6] [21] Other than that, poor connectivity, technical issues and limited data also cause issues in getting online education [24] The study also found that limited space in the house, no room for classes and one device at a time caused a serious loss in education during the pandemic [25,13] Other parts of student's dropouts were also found due to the economic crisis and the non-affordability of technological gadgets for online classes [26] Due to the economic crisis and non-affordability during the pandemic, many children shifted their school from private to government schools. The study tried to find that online mode of education can become a future educational model, but surprisingly, it has not shown any positive results. Parents didn't have any intention of following an online mode of education for their

children because it created normlessness among the children. Focus on the offline mode of education was given by parents as it is more effective and makes children more disciplined. However, our study also had limitations because it was conducted in only rural areas, instead, a comparison in rural and urban areas shows more authentic results.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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