



# Use of Information and Communication Technology in Teaching- Learning Process during COVID-19 Pandemic in West Bengal

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**Abstract:** *The COVID-19 pandemic has disrupted education of 160 crore students in over 200 countries in this globe. After 25<sup>th</sup> March, 2020 in India all the educational institutions were closed so face to face teaching-learning process could not possible in schools. In this situation online digital education was used as alternative mode for continuing teaching learning process. But in our developing country have no such proper infrastructure and training for teachers. Although government and private sectors are try to implement online classes. In the present study researcher organize an online survey for accessing the use of Information and Communication Technology (ICT) by the students and teachers of West Bengal. For this study researcher prepare two questionnaires for students and teachers and prepare two Google forms of these questionnaires for online data collection. Sample size of the study is 156 students and 60 teachers. From the present study researcher found that students and teachers both have not sufficient Information and Communication Technology like mobile, computer, and internet for online classes. The COVID-19 pandemic has shown the deficiency of digital infrastructure in schools. Nowadays we dream for digital India. So our education system also have proper infrastructure for digital education so that we can achieve our dream.*

**Key Words:** *Information and Communication Technology, Teaching-Learning process, COVID-19.*

## 1. INTRODUCTION:

The COVID-19 pandemic has disrupted education of 160 crore students in over 200 countries in this globe. School education system in India is one of the largest education system in the world with more than 15 lakh schools, nearly 97 lakh teachers and nearly 26.5 crore students of pre-primary to secondary level. In which 95 thousand schools, 5.6 lakh teachers and 1.8 crore students belongs to West Bengal state in India. Government of India from 25<sup>th</sup> march, 2020 ordered a nationwide lockdown. So, all the educational institutions like schools, colleges and universities were closed and face to face mode of instructions was postponed. During this time government of India and also government of West Bengal turned to digital education through Information and Communication Technology (ICT). In transformation of digital education, there are some major problems have in India, for example lack of infrastructures for digital education, lack of teachers' competency in using ICT, lack of access of technology i.e. mobile, computer, internet for school students in rural areas etc. In this study researcher organized an online survey to access the use of information and communication technology (ICT) by the students and the teachers in teaching- learning process during COVID-19 pandemic situation in West Bengal.

## 2. OBJECTIVES:

- To access use of Information and Communication Technology by students in teaching-learning process during COVID-19 pandemic.
- To access use of Information and Communication Technology by teachers in teaching-learning process during COVID-19 pandemic.
- Give suggestions to improve the digital education in West Bengal.



### 3. METHOD:

- Method:**  
 This study is descriptive survey method where researcher tried to find out the status of teaching-learning process during COVID-19 pandemic in West Bengal.
- Tools and Techniques for Data Collection:**  
 The researcher prepared two questionnaires related to the use of information and communication technology in teaching-learning process for students and teachers perspectives. Then researcher prepared two Google forms of these two questionnaires.
- Procedure for Data Collection:**  
 Researcher sent these two Google forms of questionnaires to his known school teachers and students by mail and whatsapp and request to fill up these Google forms with their knowledge. After filling up these Google forms researcher got the responses of students and teachers through Google form setting.
- Sample:**  
 In the present study 156 students and 60 school teachers from different areas of West Bengal is sample.

Category	Male	Female	Total
Students	56	100	156
Teachers	33	27	60

### 4. DATA ANALYSIS:

#### From Students' Questionnaire data:

Sl. No.	Questionnaire	Responses			
1	Are you studying regularly at home in the current situation of corona epidemic?	Yes	No	I am doing but not like before	
		59.6%	1.3%	39.1%	
2	Are the school teachers taking your online class in this situation of corona pandemic?	Yes	No	Sometimes	Not so
		88.5%	1.3%	9.6%	0.6%
3	Are you able to participate in online class regularly?	Yes	No	Sometimes	little
		68.6%	5.1%	21.8%	4.5%
4	Are you satisfied with this online study?	Yes	No	Not at all	
		47.4%	41.7%	10.9%	
5	Do you have proper learning equipment (mobile / computer / tablet) for online class?	Yes	No		
		82.7%	17.3%		
6	Do you have enough internet service for online classes?	Yes	No	There is but not enough	
		48.1%	7.1%	44/9%	
7	What kind of application (Apps) are you using as a media of online class? (choose one or more than one)	YouTube	Whats app	Google Classroom	Google Meet
		5.1%	60.3%	10.9%	51.3%
8	Are all subjects being taught in Online Class?	Yes	No	Some subjects are happening	
		77.6%	3.8%	18.6%	
9	Are you able to understand everything taught in Online Class well?	Yes	No	There is a Problem	
		50.6%	6.4%	42.9%	
10	Do teachers regularly give you homework?	Yes	No	Sometimes	
		53.8%	5.8%	40.4%	
11	Are you facing problems in doing homework given by teachers?	Yes	No	Sometimes	
		17.9%	30.8%	51.3%	



12	Do you get help from your parents in studying or doing homework?	Yes	No	They can not	
		65.4%	14.7%	19.9%	
13	Did the school have an online test?	Yes	No		
		58.3%	41.7%		
14	Is there any cultural program in the school online?	Yes	No	Don't Know	
		40.4%	39.1%	20.5%	
15	Are you able to communicate with your friends in this situation of corona pandemic?	Yes	No	Sometimes	
		43.6%	13.5%	42.9%	
16	How do you communicate with your friends? (choose one or more than one)	By phone	Social Media (Facebook)	Whats app group	Telegram group
		68.6%	14.1%	61.5%	3.2%
17	Do you think it is important to have online classes as well as off-line classes in the future?	Yes	No	Definitely important	
		40.4%	30.8%	28.8%	
18	What have you learned new in online in the past year?	Use of internet, use of Google meet, prepare homework in pdf, drawing, cooking			
19	Apart from the online class of the school, are you studying through any other online means?	Yes	No		
		39.7%	60.3%		
20	How are you spending time at home in this corona epidemic situation?	Study, listening music, singing, drawing, dancing, storytelling, lie down			

#### From Teachers' Questionnaire data:

SL.NO.	Questionnaire	Responses			
1	Is it possible for school students to start studying online in the current situation of corona pandemic?	Yes	No	Not quite possible	
		77%	1.3%	21.6%	
2	How much damage do you think to school students in this corona pandemic situation?	To much	Little	No	There is nothing to do
		55.7%	4.9%		39.3%
3	Does the school have an official website?	Yes	No		
		85.2%	14.8%		
4	Do you have the right learning tools for online classes?	Yes	No	Something	
		41%	6.6%	52.4%	
5	Do students have proper learning equipment (mobile / computer / tablet) for online class?	Yes	No	Some people have	
		34.4%	8.2%	57.4%	
6	Is there adequate internet service in Online Class?	Yes	No	Many Don't	Some people don't
		13.1%	6.6%	41%	39.3%
7	What kind of application (Apps) are you using as a means of online class? (choose one or more than one)	YouTube	Whats app	Google Meet	Google Classroom
		27.9%	83.6%	50.8%	13.1%



8	What kind of lesson is possible in Online Class? (choose one or more than one)	Audio-Visual	Audio only	Power point	Pictur e	Chart
		80.3%	36.1%	32.8%	44.3%	26.2%
9	Is it possible to make alternative arrangements for those students who do not have the facility of Online Class?	Yes	No		Don't Know	
		39.3%	54.1%		6.6%	
10	How are students reacting to Online Class?	Very good	Good	Bad	Very bad	
		6.6%	77%	16.4%		
11	Online class is constantly being possible?	Yes		No		
		54.1%		45.9%		
12	How many days a week are taking online classes?	Two days	Three days	Four days	Five days	Six days
		11.5%	16.4%	24.6%	18%	29.5%
13	How are you evaluating online school students?	Online Exam	Oral Test	Class Test	Not possible	
		50.8%		19.7%	29.5%	
14	Is it possible to do any cultural programs in schools online?	Yes		No		
		52.5%		47.5%		
15	Are all teachers of the school comfortable to take online class?	Yes	No	Some people have problems	Many have problems	
		44.3%	9.8 %	44.3%	1.6%	
16	Has any action been taken online to keep the mental health of school students in this situation of corona pandemic?	Yes	No	Not Possible		
		32.8%	14.6%	50.8%		
17	Do you have any advice on how school students can study at home in this corona epidemic situation?	Yes	No	Not possible		
		88.5%	6.6%	4.9%		
18	Is it possible to have a parent-teacher meeting online?	Yes		No		
		63.9%		36.1%		
19	Do you think it is important to have online classes as well as off-line classes in the future?	Yes		No		
		62.3%		37.7%		
20	How much do you think the infrastructure of online class in the school is currently in the situation of corona epidemic?	Good	Bad	Very bad	Yes but need to be done better	
		9.8%	3.3%	11.5%	75.4%	

## 5. DISCUSSION:

From the students' responses researcher found following results:

- 40% students cannot study at home in regular basis.
- 88% students said that their teachers were taking online classes.
- Nearly 32% of students can't participate the online classes in regular basis.
- Most of the students i.e. nearly 53% students are not satisfied through online education.
- Nearly 83% students said that they have technology like mobile, computer and 17% students said that they have not any technology device.
- Most of the students i.e. 52% students said that they have not proper internet facility for digital education.
- 60.3% students use whatsapp, 51.3% students use Google Meet, nearly 11% students use Google Classroom, 5.1% students use Youtube as a media for online class.
- 77.6% students said that they learn all subjects through online mode but 22.4% students said that they cannot learn all subject through online.
- Half of Students said that they faced problem of understanding their study through online.



- 53.8% students said that their teachers give homework regularly but 46.2% students said that their teachers give homework frequently.
- Most of the students i.e. 69.2% students faced problem in doing their homework activities.
- 35% students said that their parents cannot guide in doing homework activities.
- 41.7% students said that they do not appear any online examination.
- Nearly 60% students said that their school cannot organize any cultural program through online.
- 43.6% students said that they contact with their friends through mobile or whatsapp regularly, 42.9% students said that they contact with their friends through mobile or whatsapp frequently and 13.5% students said that they cannot contact their friends in this pandemic situation.
- Most of the students i.e. nearly 70% students said that in future online class and offline class both are required simultaneously.
- During this last year 2020, students said that they learn new things in online like drawing, guitar, dancing, storytelling etc.

From these results we discuss that the students faced many problem like infrastructural problem, mental health related problem because they could not face this type of pandemic before.

From the teachers' responses researcher found following results:

- 78.3% teachers said that they were taking online class and 21.7% teachers said that they cannot start online class.
- Most of the teachers i.e. 56.7% said that in this pandemic situation students are deprived for their regular study and 38.3% teachers said that they cannot do anything in this situation.
- 86.7% teachers said that their school have website and rest teachers said that their school have not any website.
- Most of teachers i.e. 53.3% teachers said that they have not sufficient technology for taking online class.
- Most of teachers i.e. 56.7% teachers said that few numbers of students able to do their online class with sufficient technology.
- Most of the teachers i.e. 86.7% teachers said that they have not proper internet service for taking online class.
- Most of the teachers use whats app and Google Meet as a media for online class and some teachers use Youtube and Google Classroom as a media for online class.
- Most of teachers said that they cannot organize any alternative mode of instruction for the students who were not accessing online class.
- Students' responses in online class are not good.
- 55% teachers said that they were taking online class regularly and 45% teachers said that they were not taking online class in regular basis.
- 51.7% teachers said that they were taking online examination and 28.3% teachers said that students' evaluation not possible.
- 53.3% teachers said that they organized cultural program through online and rest 46.7% teachers said that they cannot organized any cultural program through online.
- Nearly 60% teachers said that they faced problem in taking online class.
- Most of the teachers i.e. 66.7% teachers said that they did not any action for students' good mental health.
- 36.7% teachers said that they cannot organize any parents-teachers meeting.
- 63.3% teachers said that in future online and offline class is require simultaneously but 36.7% teachers said do not require online class in future.
- Most of the teachers i.e. 75% teachers said that their schools have infrastructural problem for digital education.

From the results we discuss that in school education system in West Bengal have infrastructural problem for digital education.

## **6. CONCLUSION:**

In the present study researcher found many different aspects related to digital education in West Bengal. From these results researcher conclude some important points as follows:

- In this COVID-19 pandemic situation due to closure of schools; students faced problem in learning and teachers faced problems in teaching. So teaching-learning processes are hampering.
- Students and teachers have not sufficient technology for continuing teaching- learning process in digitally.



- Some teachers are not competent for taking online class.
- In our school have no proper infrastructure for organizing online class properly.
- Students' mental health is also hampering for suddenly occur this pandemic.

#### **7. SUGGESTIONS:**

- Firstly government should focus in digital education infrastructure for future.
- Teachers' skills improvement is required for future education because after this COVID-19 pandemic digital education is a very important issue in the future.
- Parents support their child for technology use and also students give proper guidance for utilization of technology for their future study.
- Government of West Bengal should organize an open platform for digital education like DIKSHA.

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