



## Effectiveness and Impact of Online Education on School Students - A Study With Reference to Chennai City

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### Abstract

This study examines how beneficial online learning and tests are for students. During the COVID-19 epidemic, every educational institution has switched to an online style of learning and examination. This study is about the student's experiences with online classes. This paper also examines how students respond to online classrooms and how they enhance their skills by studying online. A survey was conducted by distributing an online questionnaire to schools students studying in various parts of Chennai city. Data gathered from the survey were analysed with SPSS software. Statistical tools such as paired sample test, ANOVA, Chi-Square test were used to test various hypotheses. The outcomes of the study revealed how students were motivated and the difficulties faced during online classes. An attempt was made to learn about the student's attitudes towards online classes before and during the COVID-19 outbreak.

**Keywords:** Onlineclasses; COVID-19pandemic; Paired samples test; ANOVA; Chi-square test

### 1. Introduction

The COVID-19 is the type of virus that highly affect the human society. In Dec 2019 the diseases was first identify in Wuhan the capital of China and the virus spread globally to every Countries without exception. During this COVID-19 condition all the sector of human life as affected quickly. Throughout the world the education system was affected badly due to this COVID-19 pandemic. So, for the welfare of the student the ministry of education and teacher were forced to teach in online mode. Online education was brought up for distance education at the initial stage that same methodology is used for school students as when the school was closed for COVID-19. So, the students of elementary, secondary and university level were started to continue their education in e-learning. Even though school campus environment was closed the academic activities continue and COVID-19 was also brought under control.

### 2. Literature Review

DEEPIKA NAMBIAR [1] The goal of this study was to conduct an online poll of professors' and students' perceptions about online classrooms and their experiences with them. In the midst of the present pandemic crisis, the Indian education system has made a recent change by delivering classes via online means. As a result, this study examines college and university teachers' and students' perceptions of online classes, which have been made mandatory as a result of COVID-19. The sample included 70 teachers and 407 students from Bangalore's colleges and universities. Teacher and student satisfaction with online classrooms was measured using an online survey approach in the following areas: quality and timely contact between students and professors, technical assistance availability, and structured online class modules. GREENI MAHESHWARI [2] During COVID-19, educational institutions all around the world had to switch from face-to-face to online teaching. Until the abrupt eruption of

COVID-19, most universities in Vietnam were based on face-to-face learning. The structural Equation Model (SEM) was utilised to analyse the data in this research study, which had 145 participants. The findings suggest that institutional support and perceived satisfaction have an impact on a student's desire to take online courses in the future. The online learning intention (OLI) is influenced by perceived fun, and PE is in the future. The online learning intention (OLI) is influenced by perceived enjoyment (PE), which is influenced by ICT infrastructure, internet speed, and access. As a result, this study introduces a new research variable known as the extensic factor, which has an indirect impact on students' desire to learn online. Given the generation's greater use of smartphones, it's a good idea to include that in the course materials. It is also suggested that the student's perceived appreciation of the course material be increased. It is also suggested that, in order to boost the student's perceived satisfaction of online learning, lecturers be encouraged to contact and provide feedback to students via video, audio, and instant messaging. It is critical for universities to be prepared for future crises. The findings of this study will help to develop effective online courses by taking into account all of the elements that influence student intention and satisfaction. DR.M.SHIVARAJAPPA [3] The global impact of pandemic COVID-19 can be seen in every industry. This has a negative impact on India's and the world's education systems. It has imposed a global lockdown, which has had a negative impact on student life. In India, around 32 crore students have ceased attending school/college, and all educational activities have come to a halt. The COVID-19 epidemic has shown us that change is unavoidable. It has acted as a spur for educational institutions to grow and use platforms using previously unexplored technologies. The education industry has been striving to survive the crisis by taking a unique approach and digitising difficulties in order to eliminate the pandemic threat. This paper discusses some of the steps taken by the Indian government to ensure that all citizens have access to quality education. The positive and negative effects of COVID-19 on education are examined, as well as some useful suggestions for conducting educational activities during a pandemic. SUSANNA LOEB , MICHAEL HILL [4] For students who take courses remotely and face-to-face, this research employs fixed effect models to estimate differences in contemporaneous and downstream academic outcomes, both for initial efforts and for credit recovery. While the immediate consequences for a virtual student are positive in both contexts, the downstream outcomes differ depending on the type of effort. For first-time course takers, virtual courses are linked to a lower likelihood of taking and passing subsequent courses, as well as graduation preparation (based on a proxy measure). Virtual course participation is linked to an improved possibility of attending and passing follow-on courses, as well as being on track for graduation for credit recovery students. Supplementary analyses imply that significant selection on unobservable would be required to render these findings invalid. YUSTINUS BUDI HERMANTO, VERONIKA AGUSTINI SRIMULYANI [5] The COVID-19 pandemic necessitates a transition in practically all human activity, including education services, to digital media. Now is the time for educational institutions to adapt to online learning approaches. This shift presents a challenge for Indonesian education, which must also equip students to adapt to the demands of the Society 5.0 period. The goal of this research is to learn more about online learning from home during the COVID-19 pandemic in Indonesia at the junior, senior, vocational, and university levels. Researchers also looked into the disparities in student and educator mastery of learning technology. This study used a Google Forms questionnaire that was delivered to students and instructors via Facebook, e-mail, and WhatsApp Groups (WAG). A total of 108 educators and 386 students were included in this study. The following results were obtained from the independent sample t-test test: students' mastery ability of MS office software and online learning technology was significantly higher than students; there was no significant difference between teacher and lecturer perceptions of the role of learning technology in the classroom and on students' educational process. The success of online learning was heavily reliant on a number of interconnected factors, including students, educators, learning resources, and the technology used. The technology that was utilised. The study also discovered a number of drawbacks to online learning, including student discipline, lack of internet connection, and loss of social interaction, all of which are typical difficulties for educational institutions and stakeholders.

### 3. Research Methodology

#### a. Objectives of the study

- To study the effectiveness and impact of the online classes among school students in Chennai city.
- The study the changes in the attitude, feeling of the students before and after COVID.

- To study the extent of motivation and support the students received from their teachers while attending online classes.

*b. Data collection:*

Data collected is primary in nature: A questionnaire has been prepared and circulated for responses over the salaried employees in techno-verse sector. The responses collected were tested by applying various statistical tools such as Percentage Analysis Correlation, regression and the relationship analysis are determined with the results of, ANOVA Table, 't-test' using SPSS software.

*c. Hypothesis tested:*

The following hypothesis were tested

- There is no difference between communication skills of students before COVID and after COVID.
- There is no difference between feelings of students while attending online class for a long time and Hours of attending online class.
- Genuinity of students in online examination has no relationship with feeling of students attending continuous online class.
- Rating scale of motivation and support from teacher has no relationship with feeling of students attending continuous online class.

*d. Limitations of the study*

- Due to the time constraint only 972 responses were collected.
- This survey is limited to certain number of students and teacher and we can't determine the performance of each and individual teachers and Students.
- The technique and internet connection might not be available in rural area. So, those analyses are not affix able to that area.
- Through studying modalities, they had been not able to educate and study realistic and medical work
- Due to loss of instantaneously feedback, instructors had been not able to get entry to students' knowledge throughout on line lecturing.
- Self-motivation and time management of the students vary from one student to another and so this survey can't analyze that kind of activities.

#### 4. Analysis and Findings

Table 1 shows the time spent by the students in attending online classes per day. From a sample of 972 respondents 27.16% spend 4 hours studying in online classes, 25.41% spend 5 hours a day, 16.87% spend 6 hours, 14.81% spend 7hours a day .An opinion was asked on the student's attitude and feelings while attending online classes. 33.44 % of the students feel stressed on attending continuous online class 27.16% feel comfortable 21.81% of the students get bored and 17.59% find it difficult to attend the classes. 67.59 % of the students feel that they received personal attention from their teachers while attending online classes .67.70% of the students are guided by their teachers in setting targets and strategies. 26.95% of the students feel that they are highly motivated and supported by their teachers during their online classes.

Table 1: Time spend on online class

<i>How much time do you spend in your online class? (Hours)</i>	Number of Respondents	Percentage of Respondents
4	264	27.16%
5	247	25.41%
6	164	16.87%

7	144	14.81%
8	63	6.48%
9	74	7.61%
10	8	0.82%
11	8	0.82%
<b>Grand Total</b>	<b>972</b>	<b>100.00%</b>

Table 2: Attending continuous online class

<i>How do you feel when attending continuous online class?</i>	Number of Respondents	Percentage of Respondents
Boring	212	21.81%
Comfortable	264	27.16%
Difficult	171	17.59%
Stressed	325	33.44%
<b>Grand Total</b>	<b>972</b>	<b>100.00%</b>

Table 3: Personal attention from the teacher

<i>Do you miss the personal attention from the teacher during online class?</i>	Number of Respondents	Percentage of Respondents
No	315	32.41%
Yes	657	67.59%
<b>Grand Total</b>	<b>972</b>	<b>100.00%</b>

Table 4: Teacher guide you in setting personal target

<i>Does your teacher guide you in setting personal targets and developing strategies to achieve that target?</i>	Number of Respondents	Percentage of Respondents
No	314	32.30%
Yes	658	67.70%
<b>Grand Total</b>	<b>972</b>	<b>100.00%</b>

Table 5: Scale at which your teacher motivates and support you during this pandemic

Kindly rate the scale at which your teacher motivates and support you during this pandemic? (Where 1 represents minimum and 5 represents maximum)	Number of Respondents	Percentage of Respondents
1	171	17.59%
2	140	14.40%
3	174	17.90%
4	262	26.95%
5	225	23.15%
<b>Grand Total</b>	<b>972</b>	<b>100.00%</b>

The communication skills of the students were tested before and after the pandemic using paired samples test. The results of the test are given in Table: 6. Since p-value is lesser than 0.001, we fail to accept the null hypothesis that there is no significant difference in the communication skills of the students before and after the pandemic. ANOVA was used to test for no difference between feelings of students while attending online class for a long time and Hours of attending online class. The null hypothesis was rejected for the same since the p value was lesser than 0.001%.

Table 6: Results of the communication skills before and after pandemic

Paired Samples Test										
		Paired Differences					t	Df	Significance	
		Mean	Std.dev	S.E Mean	95% Confidence Interval of the Difference				One-Sided p	Two-Sided p
					Lower	Upper				
Pair 1	Communication skills of students before - Communication skills of students after COVID	-.540	1.146	.0367	-.612	-.467	-14.69	971	<.001	<.001

Source: Output from SPSS

Table 7: Feelings of the students while attending online classes

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Hours of attending online class	Between Groups	324.203	3	108.068	45.032	<.001
	Within Groups	2322.993	968	2.400		
	Total	2647.197	971			

Source: Output from SPSS

Furtherchi Square test (table 8 and 9) was used to analyse the association between the student's genuinity and their emotional feeling while attending online classes. The results of the test are given in table 8. The Asymptotic Significance p values are lesser than 0.001%, hence we reject the null hypothesis that student's genuinity and their

feelings are not associated while attending online classes. Similarly, the motivation and the support from the teachers does not impact the student's feelings while attending online classes since the probability value is lesser than 0.001% level of significance.

Table 8: Association of student's genuinity and feelings

Chi-Square Tests			
	Value	Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	125.524 <sup>a</sup>	6	<.001
Likelihood Ratio	132.925	6	<.001
Linear-by-Linear Association	40.292	1	<.001
N of Valid Cases	972		
a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 34.83.			

Source: Output from SPSS

Table 9. Association of teacher's motivation on student's feelings

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	115.786 <sup>a</sup>	12	<.001
Likelihood Ratio	123.444	12	<.001
Linear-by-Linear Association	9.098	1	.003
N of Valid Cases	972		
a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 16.54.			

Source: Output from SPSS

## 5. Conclusion

The rapid increase in the number of COVID19 cases has resulted in the closure of educational institutions, including primary and secondary schools. The absence of an educational setting can affect a student's feelings towards education. This study has analysed the effectiveness and the impact of online education classes among the school students during the pandemic in Chennai city. The study analysed the feelings of the students in terms of stress and the support and the motivation they received from their teachers while attending online classes. Various hypotheses were tested in this regard and it was found that teacher's motivation and support had no significant impact on the

school student's feelings. Majority of the students felt stressed on attending online classes. During the online sessions, our data revealed a satisfactory degree of students' sentiments toward schools and education. There were no significant differences in students' communication abilities before and after the epidemic, according to our findings. This shows that, despite the stressful circumstances, pupils were enthusiastic about learning and schools.

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