



# EFFECTIVENES AND IMPACT OF ONLINE EDUCATION ON SCHOOL STUDENTS - A STUDY WITH REFERENCE TO CHENNAI CITY

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## ABSTRACT

This research looks on the benefits of online learning and tests for pupils. Every educational institution has moved to an online learning and examination style during the COVID-19 outbreak. The focus of this research is on students' experiences with online classrooms. This report also looks at how students react to online classrooms and how learning online helps them improve their skills. A survey was carried out by delivering an online questionnaire to students from several schools in Chennai. The SPSS software was used to analyse the survey data. To test various hypotheses, statistical procedures such as the paired sample test, ANOVA, and Chi-Square test were used. The study's findings highlighted how students were motivated and the challenges they faced when taking online programmes. Before and during the COVID-19 outbreak, an attempt was made to learn about students' attitudes regarding online education.

Key words: Online classes, COVID-19 pandemic, paired samples test, ANOVA, Chi-square test

## I. INTRODUCTION

COVID-19 is a virus that has a significant impact on human society. The disease was initially identified in Wuhan, China's capital, in December 2019, and the virus has since spread to every country on the planet. During the COVID-19 state, every aspect of human life is quickly affected. The global education system has been severely impacted by the COVID-19 pandemic. As a result, the ministry of education and teachers were forced to educate in an online mode for the sake of the students' welfare. When the school was closed for COVID-19, online education was introduced for distance education. The same process was applied for school students. As a result, students at the elementary, secondary, and university levels have begun to pursue their education through e-learning. Despite the closure of the school campus, academic activities continue, and COVID-19 has been brought under control.

## II. LITERATURE REVIEW

DEEPIKA NAMBIAR [1] The purpose of this study was to conduct an online poll of professors' and students' opinions and experiences using online classrooms. In the midst of the current pandemic problem, the Indian education system has recently changed by offering classes online. As a result, this research looks at how college and university teachers and students feel about online classes, which are now required as a result of COVID-19. 70 teachers and 407 students from Bangalore's colleges and universities were included in the sample. In the areas of quality and timely contact between students and professors, technical assistance availability, and structured online class modules, teacher and student satisfaction with online classrooms was examined using an online survey approach.

GREENI MAHESHWARI [2] During COVID-19, educational institutions all over the world were required to move away from face-to-face instruction and toward online instruction. Until COVID-19 erupted, most universities in Vietnam were dependent on face-to-face instruction. The data in this research investigation, which included 145 individuals, was analysed using the structural Equation Model (SEM). The findings imply that a student's motivation to attend online courses in the future is influenced by

institutional support and perceived pleasure. Perceived enjoyment influences online learning intention (OLI), and PE is in the future. Perceived enjoyment (PE), which is determined by ICT infrastructure, internet speed, and access, influences online learning intention (OLI). As a result, this research introduces the extensic factor, a novel research variable that has an indirect impact on students' motivation to learn online. It's an excellent idea to incorporate that in the course materials, given the generation's increased use of cell phones. It's also recommended that the student's perceived appreciation of the course material be raised. It is also proposed that instructors be encouraged to contact and provide feedback to students via video, audio, and instant messaging in order to improve students' perceived satisfaction with online learning. The need for universities to be prepared for future crises is crucial. The results of this study will aid in the development of effective online courses by considering all of the factors that influence student intention and satisfaction.

DR.M.SHIVARAJAPPA [3] Every industry has been affected by the global impact of pandemic COVID-19. This has a negative impact on the education systems in India and around the world. It has implemented a worldwide curfew, which has had a significant influence on student life. Around 32 crore kids in India have stopped attending school or college, and all educational activities have ceased. Change is unavoidable, as the COVID-19 outbreak has demonstrated. It has functioned as a catalyst for educational institutions to expand and utilise platforms that previously had not been explored. In order to eradicate the pandemic threat, the education business has been attempting to withstand the crisis by taking a unique method and digitising difficulties. This paper examines the Indian government's efforts to ensure that all citizens have access to high-quality education. COVID-19's good and negative consequences on education are discussed, as well as some practical suggestions for performing educational activities during a pandemic.

SUSANNA LOEB, MICHAEL HILL [4] This study uses fixed effect models to assess differences in contemporaneous and downstream academic outcomes for students who take online and face-to-face courses, both for initial attempts and credit recovery. While the immediate effects for a virtual student are beneficial in both cases, the long-term ramifications vary depending on the sort of effort. Virtual courses are associated to a reduced likelihood of taking and passing future courses, as well as graduation preparation, for first-time course takers (based on a proxy measure). For credit recovery students, virtual course attendance is associated to a higher likelihood of attending and passing follow-on courses, as well as staying on schedule to graduate. Supplementary analyses suggest that strong selection on unobservable is necessary to invalidate these results.

YUSTINUS BUDI HERMANTO, VERONIKA AGUSTINI SRIMULYANI [5] The COVID-19 epidemic needs a shift to digital media in almost every human activity, including education services. The moment has come for educational institutions to embrace online learning methods. This shift poses a challenge for Indonesian education, which must prepare students to adapt to the demands of Society 5.0. The purpose of this study is to learn more about online learning from home at the junior, senior, vocational, and university levels in Indonesia during the COVID-19 epidemic. The inequalities in student and educator mastery of learning technology were also investigated. A Google Forms questionnaire was employed in this study, and it was distributed to students and professors via Facebook, e-mail, and WhatsApp Groups (WAG). This study comprised a total of 108 educators and 386 students. The independent sample t-test yielded the following results: There was no significant difference between teacher and lecturer perceptions of the role of learning technology in the classroom and on students' educational process; 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. Students, educators, learning resources, and the technology employed all had a role in the success of online learning. The technology that was used in the project. The study also revealed a number of disadvantages to online learning, including student discipline, internet connectivity, and social interaction loss, all of which are common challenges for educational institutions and stakeholders.

### III. RESEARCH METHODOLOGY

#### Objectives of the study

- The purpose of this research is to look into the effectiveness and influence of online lessons on school students in Chennai.
- The researchers looked at how pupils' attitudes and feelings changed before and after COVID-19.
- The purpose of this study was to see how much motivation and encouragement students received from their teachers while taking online classes.

#### Data collection:

The information gathered is primary in nature: a questionnaire was created and distributed to salaried personnel in the technological industry for responses. Various statistical procedures, such as Percentage Analysis, were used to test the responses collected. The findings of an ANOVA table and a 't-test' using SPSS software are used to determine correlation, regression, and association analysis.

#### 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.

#### Limitations of the study

- Due to the time constraint only 972 responses were collected.
- We can't determine the performance of individual teachers or pupils because this poll is limited to a set number of students and teachers.
- In rural areas, the technique and internet connection may not be available. As a result, those analyses cannot be applied to that location.
- They had not been able to educate and learn practical and medical work through researching modalities.
- Instructors were unable to access students' knowledge during on-line lectures due to a loss of quick feedback.
- Student's self-motivation and time management differ from one to the next, hence this poll cannot assess those activities.

## IV. 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 7 hours 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>	<b>Number of Respondents</b>	<b>Percentage of Respondents</b>
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>

<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**

<i>Kindly rate the scale at which your teacher motivates and support you during this pandemic? (Where 1 represents minimum and 5 represents maximum)</i>	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

Further Chi Square test (Table 8 and Table 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

## V. CONCLUSION

Due to the significant rise in COVID-19 cases, educational institutions, including primary and secondary schools, have been forced to close. The lack of an educational setting might have an impact on a student's attitude toward education. During the epidemic in Chennai, this study looked at the usefulness and effects of online education classes among school children. The study looked into students' stress levels as well as the support and motivation they received from their lecturers while taking online classes. Various hypotheses were investigated in this respect, and it was discovered that the motivation and support of the teacher had no substantial impact on the feelings of the school students. The majority of students reported feeling pressured when taking online classes. Our findings demonstrated a satisfactory level of student feelings toward schools and education during the online sessions. According to our findings, there were substantial changes in student's communication abilities before and after the outbreak. This demonstrates that students were excited about learning and schools despite the challenging circumstances.

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