STUDENTS' PERCEPTION ABOUT ONLINE CLASSES DURING COVID-19 PANDEMIC: A STUDY WITH REFERENCE TO COLLEGE STUDENTS OF PUDUCHERRY

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Abstract

The main purpose of the study is to look into the perception of students about the online classes which they are attending during the COVID-19 pandemic. The present paper aims to study the college students' perception[both Undergraduate (UG) and Postgraduate (PG) level] about their online classes conducted during the pandemic period. The data was collected using structured questionnaire (online survey) from the college students in Puducherry. The students' perception has been studied using various parameters viz., online class benefits, drawbacks of online class, changes needed in the online class and the effectiveness of online teaching. The analysis has been done using Mann-Whitney U Test, Correlation and Simple Linear Regression model. The study reveals that there exists a significant difference between UG and PG students with regard to the changes expected to be implemented in the online classes whereas the students' perception do not vary significantly with regard to the 'effectiveness' and the 'benefits' they obtained from online classes. Using correlation, the study found a significant positive relationship between online teaching and the benefits obtained from it. Finally, the study proved that the benefit obtained by the students in online classes is fully dependent on the effective method of teaching.

Key words : Online Classes, COVID-19, Students' Perception, Benefits, Effectiveness.

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Introduction

The virus called corona originated in (Wuhan City), China has endangered the entire human life. World Health Organisation (WHO) has named the disease as "COVID-19" since in that year it was first identified. This virus spread all over the world gradually and by the end of February 2020, the number of infection crossed nearly 82,000 worldwide Al Jazeera (2020).COVID -19 pandemic entirely changed the scenario of educational system in India. The schools, colleges and other educational institutions were forced to close because of the increased number of infection rates of COVID-19. The lockdown for the prolonged period has significantly affected the entire educational system. Because of theglobal shut down of schools and colleges, the whole educational system has been distorted and leads to go for online education Mishra (2020). Although the online learning is growing rapidly on the students' side, it still is in initial stage in the development process. Students, parents, teachers and other institutional instructors are put into the set-up of adapting new teaching methodology. Even though the students are following their classes promptly through virtual method, but then there are many views and proposals from them about the e-learning methodology used at this COVID-19 lockdown period. Hence, it creates the way in identifying the actualities behind the online classes and the students' perception.

Review of Literature

Recently, the researchers are very much interested in examining the preference and perception of the students attending online classes, since the outbreak of COVID-19 still remains. Fewstudies proved that even duringCOVID-19 lockdown period, majority of the students exhibits a positive insight towards online classes and improved their academic progress. (Khan*et al.,* 2020;Khan*et al.,*2021; Muthuprasad, T. *et al.,*2021).But however,there were studies which exposed that students have adverseoutlook towards online learning during COVID-19 pandemic (Azhari and Kurniawati, 2020; Michael, 2021). Anjum and Jarupla (2019) examined the attitude of student towards online education in Hyderabad city and pointed out that the real time communication is missed in the online education system. But then the paper pin pointed

that the virtual leaning method is the most convenient method of learning. Recent study of Muthuprasad, T. *et al.,* (2021) reported that compared to (traditional) classroom method of teaching, the online teaching method is more challenging and that is because of the problems of technical issues and incapability of the educator to handle the classes. On the other hand Chandrika (2019) pointed out that only when the drawbacks and problems involved in online teaching are reduced, the students will get benefited.

Kulal and Nayak (2020)quoted that nothing can be substituted in the place of direct face to face classroom teaching. Bali and Liu (2018) usedthree variables viz., social presence, social interaction, and satisfaction to identify the main difference between face to face teaching method and online teaching methods and they found out that online teaching methods are more comfortable for the students. Although many studieshave been done by various researchers, there were no much research inferences on identifying the college students' perception especially in Puducherry. Therefore, the present study focused on identifying the college students' perception about the online classes.

Objectives of the Study
The main objective of the study is to identify the students' perception using parameters viz., online class benefits, drawbacks of online class, changes needed and the effectiveness of online teaching by the instructor during the covid-19 pandemic.
The following sub-objectives are formulated to detect the students' perception about online classes:
1. To identifyt he students' perception about the changes they need in online classes.
2. To study the benefit obtained by the students through online class.
3. To find out the effectiveness of online classes.
4. To examine the relationship between various parameter of students' perception about online classes.
5. To study the impact of online teaching.

Hypotheses Developed for the Study

The following hypotheses were framed in order to achieve the stated objectives:

H_o^1: *There is no significant difference between educational level and the changes needed in online class.*

H_o^2: *There is no significant difference between educational level and the benefit obtained in online class.*

H_o^3: *There is no significant difference between educational level and the effectiveness of online class.*

H_o^4: *There is no significant relationshipbetween* various parameter of *students' perception about online classes.*

H_o^5: *There is no significant impact of online teaching and its determinants.*

Research Methodology

Source of Data and Period of the Study

For identifying the students' perception about the online classes, the primary data has been collected using structured questionnaire. The study is confined to college students of Puducherry. Using online survey, the framed questionnaire was shared to college students of Puducherry and 51 responses were ultimately received. The data were collected during March 2021 and May 2021 and the same has been taken into for analysis purpose.

Research Methods used for the Analysis

The data has been analysed with the help ofStatistical Package for Social Science (SPSS), whereMann-Whitney U Test is employedfor testing hypotheses viz.,H_o^1, H_o^2 andH_o^3foridentifying the students' perception about the online class. Correlation coefficient has been used forH_o^4 to determine the relationship between the parameters of students' perception. Finally, the regression is used to identify the impact of online teaching.

Results and Discussion

Table-1
Demographic Characteristics of the Respondents

| Characteristics		Frequency	Percent
Gender	Male	19	37.3
	Female	32	62.7
	Total	**51**	**100.0**
Educational Level	UG	39	76.5
	PG	12	23.5
	Total	**51**	**100.0**

Source: Computed based on Primary Data

Table 1 shows the demographic characteristics of the respondents. Since the present study is focused on identifying the students' perception on online classes, the demographic characteristic is confined to gender and educational classification. Out of 51 respondents, 19 respondents were male and majority of the respondents were female (Figure 1). On the other side, the educational level of students is the most important factor which determines their perception and interest towards online class education. Hence to study the students' perception about online class, the sample respondents have been grouped into two, namely UG and PG. The data presented above in table 1 depicts that majority of the students (76%) belong to UG level. As portrayed in   Figure 2, majority of the respondent were UG (76%) students of different colleges in Puducherry.

Figure 1: Gender Classification
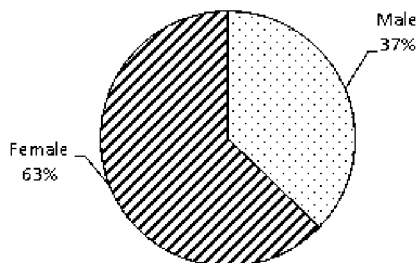
Figure 2: Educational Level
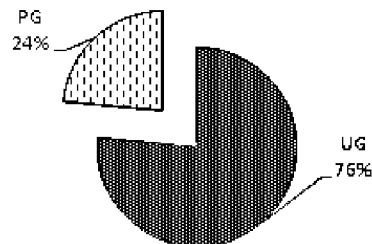
Source: Computed based on Primary Data

As shown in table 2, the study attempted to identify the perception of students about the online class which is handled during pandemic period, in respect of selective parameters

like benefits of online class, drawbacks, effective class during pandemic and the changes need to be incorporated in the online class session. The main outcome of attending online classes at this pandemic period is that the students are get to know more about handling of mobile phone rather that the 'safety class'(26%) or 'good teaching' (8%) or 'taking notes' (22%). The drawbacks of attending online class are another important factor to be considered while analysing about students' perception about online class. In this regard, the majority of the students are facing network problem (55%) while attending online classes. This is because the students are from different places where the network may not be good. On the other side, the health issues (45%) is also an important problem which faced by the students. It was found that the effective teaching is attainted only through offline class (33%), because though online classes are safer during pandemic, it is from the students' side who always wish for class room ambiance. With regard to the parameter, 'changes needed in online class'only 12% of the students favored for online classes rather 45% of the students expecting for more concentration and content from the instructor's part.

Table-2
Parameters of Students' Perception about Online Classes

Parameter		Frequency	Percent
Benefits	Mobile knowledge	23	45.1
	Safety Classes	13	25.5
	Good teaching	4	7.8
	Easy to take notes	11	21.6
	Total	**51**	**100.0**
Drawbacks	Network issue	28	54.9
	Health issue	23	45.1
	Total	**51**	**100.0**
Effective class during pandemic	Online class	8	15.7
	Offline class	17	33.3
	Both	17	33.3
	Practical	9	17.6
	Total	**51**	**100.0**
Changes needed in online class	Need more concentration	23	45.1
	Enough	10	19.6
	Excellent	6	11.8
	Simply waste	12	23.5
	Total	**51**	**100.0**

Source: Computed based on Primary Data

H_o^1:*There is no significant difference between educational level and the changes needed in online class.*

Mann-Whitney U Test is performed in the study to check whether the changes need to be incorporated in the online class vary with educational level of the students. The result of the analysis is shown in table 3.

Table-3
Results of Mann-Whitney U Test on Educational Level and Changes to be incorporated in Online Classes

	Education	N	Mean Rank	Mann-Whitney U Test	P value
Changes Needed	UG	39	23.91	152.50	0.05*
	PG	12	32.79		

Source: Computed results based on survey data.
*Significant at 5% level.

It is inferred from the *table 3* that the changes needed to be incorporated in online class is statistically significant at 5% for UG and PG students. The p value is less than 5% level of significance, hence it can be inferred that there is a significant difference between UG and PG students in the changes expected from them in online class. Hence H_o^1'*there is no significant difference between educational level and the changes needed in online class'* is rejected at 5% and it can be concluded that there exists a significant difference between UG and PG students in respect of the change they expect in the online classes. Hence, the students' preference and expectations differ on the basis of their educational qualifications.

H_o^2:*There is no significant difference between educational level and the benefit obtained in online class.*

To test whether the benefits obtained through online classes varies with the educational level of students, Mann-Whitney U Test is performed and the result is presented in Table 4.

Table-4
Results of Mann-Whitney U Test on Educational Level and Benefit of attending Online Classes

	Education	N	Mean Rank	Mann-Whitney U Test	P value
Benefits of attending online class	UG	39	26.72	206.000	0.508
	PG	12	23.67		

Source: Computed results based on survey data.

From the table 4it is inferred that the mean rank differ for both UG (26.72) and PG (23.67) students. The result of U test reveals that the students belonging to UG and PG level do not vary significantly with regard to the benefits they obtain from the online classes. Since the p value of 0.508 is greater than0.05, the H_o^2 is accepted leading to conclude that there is no significant difference between educational level and the benefit obtained in online class.In other words, the benefit of attending online classes does not vary with UG and PG students.

H_o^3:*There is no significant difference between educational level and the effectiveness of online class.*

Table-5
Results of Mann-Whitney U Test on Educational Level and Effectiveness of Online Classes

	Education	N	Mean Rank	Mann-Whitney U Test	P value
Effectiveness of online class	UG	39	25.69	222.000	0.781
	PG	12	27.00		

Source: Computed results based on survey data.

To study the difference between the UG and PG students about the effective of online class during COVID-19 pandemic period, a non-parametric test called Mann-Whitney U Test is used and the result is shown in *table 5*. From the mean rank (25.69) it can be inferred that the online method of teaching is more effective for the UG students than the

PG students (27.00). As the p value of Mann-Whitney U Test (0.781) is greater than 0.05, the hypothesis H_0^3 is accepted inferring that the effectiveness of online class does not differ significantly for UG and PG students of Puducherry. Though UG students stated that online teaching are more effective, it is proved from the significant value (0.781) that there is no much difference between the students of UG and PG with regard to the effectiveness in online class.

H_0^4:There is no significant relationship between various parameter of students' perception about online classes.

Pearson Correlation is employed to find out the relationship between all four variables and the result is shown in table 6.The result illustrates that there is a positive correlation between two variables i.e. Benefits/Drawbacks and effective teaching in online class. This indicates that 'as the effective teaching by instructor increases, the benefit obtained by the student increases and vice versa.

Table-6
Result of Correlation between the Four Variables

Parameters	Correlation coefficient	Drawbacks	Benefits	Effective	Changes
Drawbacks	Pearson Correlation	1			
	Sig. (2-tailed)				
	N	51			
Benefits	Pearson Correlation	.155	1		
	Sig. (2-tailed)	.276			
	N	51	51		
Effectiveness	Pearson Correlation	.322[*]	.285[*]	1	
	Sig. (2-tailed)	**.021**	**.042**		
	N	51	51	51	
Changes	Pearson Correlation	-.037	-.224	.122	1
	Sig. (2-tailed)	.795	.115	.392	
	N	51	51	51	51

*Source: Computed results based on survey data.*Significant at 5% level*

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The correlation coefficient between effectiveness and benefits received out of online class is 0.285. It is significant at 5%level of significance and has a linear relationship between them. Similarly, effectiveness in online teaching and the drawbacks in it are positively correlated at 5% level of significance with a coefficient value of 0.322. As the p value is less than 0.05, the H_o^4 'there is no significant relationship between various parameter of students' perception about online classes' is rejected and can be concluded that there exist a significant positive relationship between effectiveness in online teaching and draw backs or benefit obtained from it. Hence, from the correlation matrix it is proved that as much as the instructor handle online classes effectively, the more students will get benefited.

H_o^5:There is no significant impact of online teaching and its determinants.

Table 7(A) and 7(B) shows the results of simple regression model which reveals the impact of online teaching. The value of R (0.387) intable 7(A) represent the value of simple correlation and R^2 indicated the proportion of variation in the dependent variable (Benefits), which is predicted from independent variable (Drawbacks, Effectiveness and Changes). Here, 15% ($R^2 - 0.151$) of the variance in the benefit of online classes can be predicted from variables viz., drawbacks, effectiveness and changes needed in the online teaching.

Table-7
(A) Result of Regression: Model Summary

Model	R	R^2	Adjusted R Square	Std. Error of the Estimate
1	.389[a]	0.151	0.097	1.131
a. Predictors: (Constant), Effectiveness, Drawback, Changes				

Source: Computed results based on survey data.

Table-7
(B) Result of Regression: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.487	0.672		2.395	0.013
	Drawbacks	0.115	0.337	0.049	0.342	0.734
	Effectiveness	0.371	0.177	0.301	2.102	**0.041***
	Changes	-0.250	0.131	-0.259	-1.904	0.063
a. Dependent Variable: Benefits						

*Source: Computed results based on survey data.*Significant at 5% level*

H_o^5 is tested using regression model, which reveals that the coefficient for the independent variable '*effectiveness*' is statistically significant since the p value (0.041) is less than 0.05; whereas the regression model fails to show the significance for the other two determinants namely '*drawbacks*' and '*changes*'. Hence, H_o^5 is rejected for the independent variable '*effectiveness*' and inferred that there is a significant impact of online teaching. Therefore, it can be concluded that the *benefits* attained by the students in the online classes is fully dependent on the *effective teaching* of the instructor and if there were no proper handling of online classes by instructor, the student will not get benefited.

Concluding Remarks

The present study focusto empirically prove the students' perception about the online classes handled during COVID-19 pandemic. For this purpose, the primary data were collected using Google Form Questionnaire from 51 students of Puducherry and tested using statistical tools viz., Mann-Whitney U Test, Correlation and Regression. The study found out that there is an insignificant difference between UG and PG students with regard to the benefits obtained and also in the effectiveness of online teaching. Furthermore by using correlation matrix, the study proved the relationship between benefits and drawbacks of students about online classes during the COVID-19 pandemic. The result of regression model discloses that the out of four determinants

used in the study, the variable *'benefits'* received by the students showed a significant positive impact in the online teaching method. The limitations of the present study are that it only focused on the college students from Puducherry and used only limited number of variables.

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