A STUDY OF INTERNET UTILIZATION BY STUDENTS IN TIMES OF COVID PANDEMIC: EVIDENCE FROM ERNAKULAM DISTRICT OF KERALA

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ABSTRACT

The testing times of Covid Pandemic had made online classes the new norm of academic transmission of knowledge. The inevitability of a smart device and Internet access in a student's life had made drastic changes in their academic perspectives. The present study aimed to analyze the attitude of students towards Internet and online classes based on data collected from 111 student respondents belonging to different age and education categories from different parts of the Ernakulam district of Kerala. The frequency analysis and Chi-Square analysis were applied to study the data and found that gender and age categories had no significant association with time spent on online classes while the education category of students shows a significant association.

KEYWORDS: *Online Class, Internet Utilization, Chi-Square*

1. INTRODUCTION

Covid Pandemic had thrown out 1.2 billion students from their classrooms globally. This forced the emergence of rampant online classes that changed education dramatically. The shift of students and teachers onto the online platforms had opened up a multitude of opportunities and challenges. The integration of information technology into education would likely be further accelerated in Post Covid scenario. This structural shift in the transmission of knowledge had initially caused hiccups and adjustment lags both in the lives of teachers and students. The present study intended to look at the attitudes of students towards online class transmission and the various aspects of their Internet utilization.

The present study is structured in the following ways. Section two delineates the objectives and hypotheses of the study. Section three briefly depicts the methodologies used in the study. Section four elaborates the results and its discussions. Section five summarizes the important findings of the study.

2. OBJECTIVES AND HYPOTHESES

The primary objective of the study was to analyse the Internet utilization of students and the impact of demographic characteristics like gender, age category and education category on time spent by students on online classes. The following hypotheses were formulated for meeting these objectives.

H_{01}: There is no significant association between gender and time spent on online classes.

H_{02}: There is no significant association between age category of students and time spent on online classes.

H_{03}: There is no significant association between type of education and time spent on online classes.

3. RESEARCH METHODOLOGY

The sample of the study was composed of 111 students from different parts of Ernakulam district belonging to different education categories like Secondary, Higher Secondary, Graduate, and Post Graduation. A well-structured questionnaire was constructed and data were collected online to ensure that all respondents had Internet facilities. The study also made use of frequency analysis and chi-square analysis to find out the impact of different demographic

characteristics like gender, age category, and education category on the Internet utilization of students, especially on online classes.

4. RESULTS AND DISCUSSION
This section is classified into segments
1) Demographic Profile of the respondents
2) Characteristics of internet utilization among students
3) Chi-square analysis

4.1) Demographic Profile

Table1: Demographic Profile of the respondents			
Variable	**Characteristics**	**Frequency**	**Percentage**
Gender	Male	42	37.8
	Female	69	62.2
Age	Below 20	55	49.5
	Between 21 and 30	55	49.5
	Above 30	1	.9
Education	Secondary Education	9	8.1
	Higher Secondary Education	12	10.8
	Degree	66	59.5
	PG	24	21.6

4.2) Characteristics of Internet utilization among students
4.2.1 Sources of the Internet among students

Table 2: Sources of internet		
Source of internet	**Frequency**	**Percentage**
Mobile Sim	100	90.1
Broadband connectivity	5	4.5
Portable Wi-Fi	6	5.4

4.2.2 Internet data availability per day among students

Table 3: Internet data availability per day among students		
Internet data per day	**Frequency**	**Percentage**
Less than 1 GB	7	6.3
1 GB	22	19.8
1.5 GB	53	47.7
2 GB	13	11.7
More than 2 GB	16	14.4

4.2.3 Time allotments by students on online

Table 4: Time allotments by students on online					
	Never	**Less than 2 hours**	**Between 2-3 hours**	**Between 3-4 hours**	**Between 4-5 hours**
Time spent on online classes	0	18	23	17	53
Time spent on playing video/online games	74	25	3	5	4
Time spent on reading online	9	58	22	14	8
Time spent on online shopping	51	1	3	5	51

4.2.4 Frequency of website visits and entertainments online by students

Table 5: frequency of website visits and entertainments online by students					
	Never	**Daily**	**More than once per week**	**Once per week**	**Once per month**
Frequency of YouTube visits	2	83	13	12	1
Frequency of Facebook visits	49	19	16	10	17
Frequency of Whatsapp visits	0	107	2	2	0
Watching/downloading movies	34	4	14	23	36

4.2.5 Student attitude towards online classes and Internet

Table 6: Student attitude towards online classes and Internet (percentage)					
	Strongly disagree	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
Online classes are more effective than offline classes	35.1	34.2	14.4	9.9	6.3
Offline classes should begin from next academic year	3.6	9.9	16.2	34.2	36.2
Internet affects my grade negatively	6.3	18	33.3	35.1	7.2

4.3) Chi-square Analysis
4.3.1) Testing of the first Hypothesis
Null Hypothesis: There is no significant association between gender and time spent on online classes.
Alternative Hypothesis: There is a significant association between gender and time spent on online classes.

Table 7: Gender * Time spent on online classes Cross tabulation							
			Time spent on online classes				**Total**
			Less than 2 hours	**Between 2-3 hours**	**Between 3-4 hours**	**Between 4-5 hours**	
Gender	Female	Count	13	11	14	31	69
		Expected Count	11.2	14.3	10.6	32.9	69.0
		% within Gender	18.8%	15.9%	20.3%	44.9%	100.0%
	Male	Count	5	12	3	22	42
		Expected Count	6.8	8.7	6.4	20.1	42.0
		% within Gender	11.9%	28.6%	7.1%	52.4%	100.0%

Table 8: Chi-Square Tests			
	Value	**df**	**Asymp. Sig. (2-sided)**
Pearson Chi-Square	6.034[a]	3	.110
a. 0 cells (0.0%) have an expected count less than 5. The minimum expected count is 6.43.			

From the resulting output, it is evident that there is no significant association between the gender of the student and the time spent on online classes, Pearson chi-square (3, N=111) = 6.034, p = 0.110.

Both male and female students show no significant difference in time spent on online classes. The assumptions of the chi-square test are not violated since zero cells have an expected count less than 5. 45

% of female students and 52 % of male students spent between 4-5 hours on online classes.

4.3.2) Testing of the second hypothesis

Null Hypothesis: There is no significant association between the age category of students and time spent on online classes.

Alternative Hypothesis: There is a significant association between the age category of students and time spent on online classes.

Table 9: Age * Time spent on online classes Cross tabulation							
			Time spent on online classes				**Total**
			less than 2 hours	between 2-3 hours	between 3-4 hours	between 4-5 hours	
Age	Below 20	Count	10	14	7	24	55
		Expected Count	8.9	11.4	8.4	26.3	55.0
		% within Age	18.2%	25.5%	12.7%	43.6%	100.0%
	Between 21 and 30	Count	8	9	10	28	55
		Expected Count	8.9	11.4	8.4	26.3	55.0
		% within Age	14.5%	16.4%	18.2%	50.9%	100.0%
	Above 30	Count	0	0	0	1	1
		Expected Count	.2	.2	.2	.5	1.0
		% within Age	0.0%	0.0%	0.0%	100.0%	100.0%

Table 10: Chi-Square Tests			
	Value	**df**	**Asymp. Sig. (2-sided)**
Likelihood Ratio	3.647	6	.724
a. 4 cells (33.3%) have an expected count less than 5. The minimum expected count is .15.			

From the resulting output, it is evident that there is no significant association between the age category of students and the time spent on online classes, likelihood Ratio (6, N=111) = 3.647, p = 0.724.

Different age categories of students show no significant difference in time spent on online classes. The assumptions of the chi-square test are violated since 33.3 % of cells have expected count less than 5. Hence likelihood ratio is looked at instead of Pearson Chi-Square. 43.6 % of students belonging to the age category below 20 and 51 % of students belonging to the age category between 21- 30 spend 4-5 hours on online classes.

4.3.3) Testing of the third hypothesis

Null Hypothesis: There is no significant association between the education category of students and time spent on online classes.

Alternative Hypothesis: there is a significant association between the education category of students and time spent on online classes

Table 11: Education * Time spent on online classes Cross tabulation							
			Time spent on online classes				Total
			Less than 2 hours	Between 2-3 hours	Between 3-4 hours	Between 4-5 hours	
Education	Secondary Education	Count	5	1	3	0	9
		Expected Count	1.5	1.9	1.4	4.3	9.0
		% within Education	55.6%	11.1%	33.3%	0.0%	100.0%
	HSS	Count	4	7	0	1	12
		Expected Count	1.9	2.5	1.8	5.7	12.0
		% within Education	33.3%	58.3%	0.0%	8.3%	100.0%
	Degree	Count	6	11	11	38	66
		Expected Count	10.7	13.7	10.1	31.5	66.0
		% within Education	9.1%	16.7%	16.7%	57.6%	100.0%
	PG	Count	3	4	3	14	24
		Expected Count	3.9	5.0	3.7	11.5	24.0
		% within Education	12.5%	16.7%	12.5%	58.3%	100.0%

Table 12: Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Likelihood Ratio	37.932	9	.000
a. 10 cells (62.5%) have an expected count less than 5. The minimum expected count is 1.38.			

From the resulting output, it is evident that there is a significant association between the education category of students and the time spent on online classes, likelihood Ratio (9, N=111) = 37.932, p = .000

Different education categories of students show a significant difference in time spent on online classes. The assumptions of the chi-square test are violated since 62.5 % of cells have expected counts less than 5. Hence likelihood ratio is looked at instead of Pearson Chi-Square. Students belonging to the degree (57.6%) and PG (58.3%) spend 4-5 hours on online classes while a negligible share of students belonging to secondary (0%) and higher secondary education (8.3%) spend 4-5 hours on online classes. Most of the classes of these education categories of students in Kerala are conducted through education channels available in televisions. The classes of degree and PG students are online interactive classes conducted through online platforms as Google meet, Zoom, etc.

5. CONCLUSION

The predominant conclusion of the study based on the sample data analysis was that there was no significant association between the gender and age categories of students and their time spent on online classes. On the other hand, there was a significant association between the education category of students and their time spent on online classes. The graduate and postgraduate students spent more time on online classes than their counterparts in secondary and higher Secondary education. The reason behind this aspect was that most of the academic transmission of knowledge in secondary and higher secondary education was done through the medium of television. The study also concluded that 70 % of the students preferred offline classes than online classes and 70.2 % of students aspired to have offline classes from next academic year onwards.

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