

Students' Technology Skills & Usage and Attitude towards E-Learning during Covid-19: An Empirical Study

Darshna A. Joshi

Assistant Professor (CES),
Department of Commerce & Business Management
Faculty of Commerce, The Maharaja Sayajirao University of Baroda
Vadodara, Gujarat
darshana.joshi-cbm@msubaroda.ac.in

ABSTRACT

The traditional physical classes in educational institutes are replaced by online classes as a precautionary measure to prevent the spread of corona pandemic. The given research study aims to investigate the University students' attitude towards E learning during the period of Covid-19. The study also examined the impact of technology skills & usage on students' attitude towards e learning and whether there exist any significant difference in students' attitude based on their course and year of study. The researcher used Google form links to collect the data due the limitation of offline classes at University. Collected primary data was analyzed using statistical tools. The result of study revealed that students have average attitude towards e learning and there is no statistic significant difference in students' attitude and technology skills & usage based on course pursued and year of study.

Keywords: *E -learning, COVID 19 pandemic, Attitude, Technological skills and usage*

INTRODUCTION

Covid-19 has affected the economies of almost all countries around the globe. Many countries including India were in total lock down for few months to protect its citizens from corona pandemic. Each country today is trying to recuperate from the loss suffered during the period of Covid-19. The pandemic has resulted into varied changes in the working pattern of organizations. Numerous companies opted for work from home concept for their employees and educational institutions were not the exception.

Educational institutions were forced to conduct virtual classes to interact and impart education to students. Different electronic platforms like Google

classroom, Zoom, Microsoft teams etc were being used. Thus Covid-19 compelled many educational institutes to deliver education using technology and electronic means well understood as E learning. E learning is formalised teaching with the aid of electronic resources wherein education can be delivered to large number of students (the target audience) at same or different time. With the rapid technological development, personal computers, laptops, smart phones, tablets, etc. are used for e learning. Government too came up with IT initiatives like E-Pathshala, National Institute of Open Schooling, E yantra during the period of Covid-19.

As Covid-19 required educational institution to switch from traditional classroom teaching to offline teaching, it leads to vast area of research. The present research study aims to measure the students' attitude towards E learning in the period of Covid-19 and whether there is any significant difference in their attitude & technological skills & usage based on their course and year of study.

LITERATURE REVIEW:

Khan M.A et al. (2021) studied University students' perception towards E learning during Covid-19. Covid-19 pandemic being contagious in nature required control and isolation affecting teachers- students' personal interaction. The data was collected from 184 students studying in three different universities in Delhi-capital of India. The findings revealed positive perception of university students towards e- learning.

Dr. K. Nachimuthu (2020) examined the student teachers attitude towards online learning in the period of Covid-19. The study concluded to have no significant difference in student teachers attitude towards online learning based on gender. The study found significant difference in the attitude of student teachers from science and art streams and also between private and government institutions.

Ehab Malkawi et al. (2020) investigated the undergraduate students' attitude and satisfaction level towards E learning and virtual classes. The result of research indicated that attitude and satisfaction level towards e learning and virtual classes were strong with varying degrees. However the students' demographic variables (gender, college, residential location and students GPA)

showed no significant difference, while there was significant difference in satisfaction and attitude of students based on their level of education.

Gehan Mohamed Abd El-Hamed Diab, Nahid Fouad Elgahsh (2020) investigated the consequence of obstacles faced by students on their attitude towards E- learning during covid-19. It was revealed that 61.6% students had negative attitude towards e learning due to the obstacles in e learning. Technology & infrastructure, instructor characteristics and technical & management support were the most common obstacles to e learning.

R. Radha et al. (2020) concluded that e learning has become popular among the students across the world especially during the covid-19 pandemic

RESEARCH OBJECTIVES:

- To investigate the students' attitude towards E- Learning during the period of covid-19.
- To examine the influence of technology skills & usage on students attitude towards E learning.
- To find out the significant difference in technological skills & its usage with respect to students educational qualifications.
- To find out the significant difference in attitude towards E- learning with respect to students educational qualifications.

HYPOTHESIS:

H01 There is no significant influence of technology skills & usage on students' attitude towards e- learning

H02 There is no significant difference in technological skills and its usage among second year B.com, third year B.com and Post graduate diploma students.

H03 There is no significant difference in the attitude towards E- learning among second year B.com, third year B.com and Post graduate diploma students.

RESEARCH METHODOLOGY:

The given research study is based on descriptive research design. Secondary data was collected from various journals, books and websites. However, due to offline teaching at University, the primary data was collected from the respondents by convenient sampling method using Google survey link. The sample size was 135 students of The Maharaja Sayajirao University of Baroda, Vadodara of Gujarat

State pursuing third year B.Com, second year B.Com and post graduate diploma course (Commerce & Business Management). The questionnaire enclosed statements about technological skills & usage and attitude towards E- learning. The collected data was analysed and interpreted by using descriptive statistics, regression analysis and one way Anova.

RELIABILITY OF THE CONSTRUCTS:

Reliability testing is commonly used in Likert scale survey questions as it checks the internal consistency. Table shows the Cronbach's alpha score for both the construct separately. Researcher has presented the information prepared through SPSS output.

Table 1 Reliability

Constructs	Cronbach's Alpha	No. of items
Students' Attitude towards E- learning	0.90	07
Technology skills & usage	0.86	10

The score of Cronbach's alpha for both the constructs is 0.90 and 0.86 which is above 0.70 hence there is good internal consistency.

DATA ANALYSIS AND INTERPRETATION:

Table 2 Demographic Information of Sample Respondents

Variables	Categories	Frequency	Percentage
Gender	Male	60	44.40
	Female	75	55.60
	Total	135	100
Age (in years)	18 and below	14	10.37
	19-29	117	86.67
	30-39	03	2.22
	40-49	01	0.74
	50 and above	-	-
	Total	135	100
Course & Year of Study	Third Year B.Com	45	33.3
	Second Year B.Com	45	33.3
	Post Graduate Diploma (Commerce & Business Management)	45	33.4
	Total	135	100

The above table shows the demographic information of respondents. The table indicates that majority of the respondents i.e. 55.60% were female students whereas 44.40 were male students. 86.67% of the respondents were from the age

group 19-29 years, 10.37% are in the age group of 18 years and below, 2.22% belonged to the age group of 30-39 years and only 0.74% falls in the age category of 40-49 years. Students are equally distributed as per course and year of study.

Table 3 Device used by students for E learning

Device used for E learning	Frequency	Percent
Smart phone	94	69.6
Laptop	27	20.0
Tablet	8	6.0
Personal Computer	6	4.4
Total	135	100.0

Figure 1 Device used by students for E learning

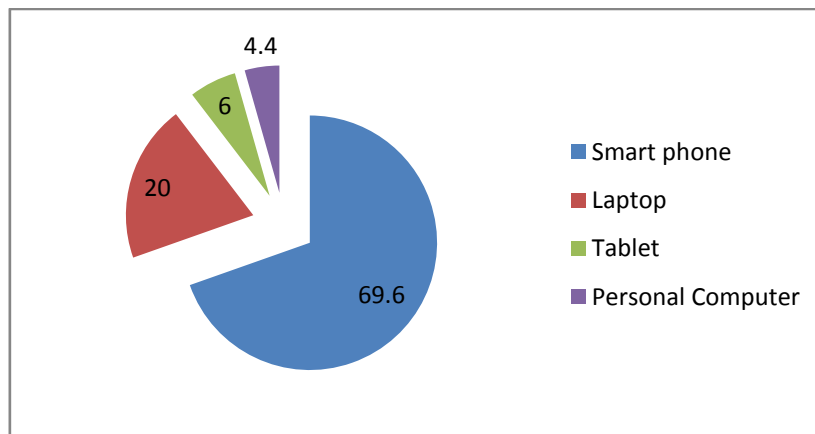


Figure 1 reveals the device used by students for e learning. 69.6% of the students use smart phone with internet for e learning. While only 4.4% used personal computer, 6% make use of tablet and 20% uses laptop e learning.

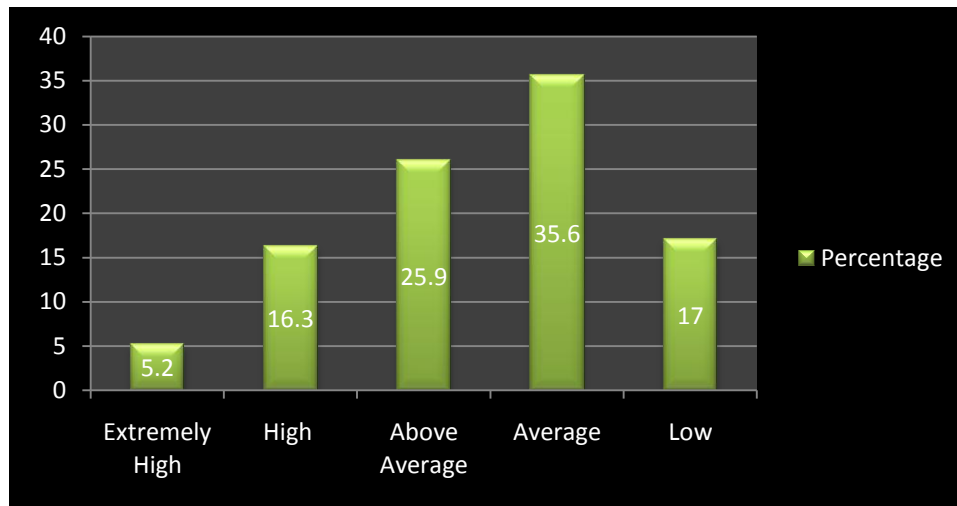
STUDENTS' ATTITUDE TOWARDS E LEARNING

Table 4 Students overall attitude towards E Learning

Students overall attitude towards E- learning	Frequency	Percentage
Extremely High	7	5.2
High	22	16.3
Above Average	35	25.9
Average	48	35.6
Low	23	17.0
Total	135	100

It is apparent from table 4 that only 5.2% of the students have extremely high attitude, 16.3% have high attitude, 25.9% have above average attitude, 35.6% students have average attitude and 17% of students have low attitude towards e learning.

Figure 2 Students overall attitude towards E Learning



H01 There is no significant influence of technology skills & usage on students' attitude towards e- learning

Table 5 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.773 ^a	.598	.595	.5644890342

a. Predictors: (Constant), Technology skills & usage

Table 6 ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	63.084	1	63.084	197.973	.000 ^a
	Residual	42.380	133	.319		
	Total	105.464	134			

a. Predictors: (Constant), Technology skills & usage

b. Dependent Variable: Students attitude towards E- Learning

Table 7 Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients		t	Sig.
		B	Std. Error	Beta			
1	(Constant)	-.274	.256			-1.069	.287
	Technology skills & usage	.979	.070	.773		14.070	.000

a. Dependent Variable: Students attitude towards E- Learning

Linear regression analysis was used to measure the impact of technology skills and usage on students' attitude towards E learning. The results of the regression analysis suggested that there is strong positive correlation between the technology skills & usage and students attitude towards e learning as the r value =.773. R square value = .598 which means 59.8% variance in students attitude towards E learning can be explained by technology skills and usage. It is apparent from table 6, p (sig) value =.000 related to F statistic 197.973 is less than 0.05, thus the model is statistically significant. Table 7 reveals the p value =.000 related to t statistic = 14.070 is less than 0.05, thus null hypothesis is rejected.

H02 There is no significant difference in technological skills and its usage among third year b.com, second year b.com and Post graduate diploma students.

Table 8 ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.384	2	.192	.387	.680
Within Groups	65.461	132	.496		
Total	65.845	134			

One way Anova statistical technique was used to find out the significant difference in technological skills and usage among third year, second year b.com and post graduate diploma students. The anova table revealed that there is no statistic difference among the students of third year, second year b.com and post graduate diploma towards e learning. The significant value was .680 which is greater than 0.05, thus null hypothesis is accepted.

H03 There is no significant difference in the attitude towards E- learning among second year B.com, third year B.com and Post graduate diploma students.

Table 9 ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.302	2	.151	.190	.828
Within Groups	105.162	132	.797		
Total	105.464	134			

Table 9 shows the significant value = .828. Hence there is no difference in the attitude towards E- learning among second year B.com, third year B.com and Post graduate diploma students. Thus null hypothesis is accepted.

CONCLUSION

As the consequence of Covid-19 educational institutes were shut down all across the world, which resulted in dramatic change in education system. Physical traditional teaching was replaced by distinguishing rise of E learning, thereby imparting education remotely on digital platforms. However, many apprehended the sudden move to e learning with little planning and training may result in poor experience for the user. The present study investigated the university students technology skills and usage and their attitude towards e-learning during covid-19 times. Result of the study revealed positive correlation between technology skills & usage and students attitude towards e learning. The result also indicated the average attitude of students towards e-learning and there was no significant difference in their technology skills & usage and attitude based on course and year of study.

LIMITATION AND FUTURE SCOPE OF STUDY:

The research study is confined to 135 students of third year b.com, second year b.com and post graduate diploma students of The Maharaja Sayajirao University of Baroda, Vadodara city. In future the study can be conducted with large sample size and on students pursuing varied courses from different streams across schools, colleges and universities at rural and urban regions.

REFERENCES:

- Khan, M. A et al. (2021), Students' Perception towards E- learning during Covid-19 pandemic in India: An Empirical study, *Sustainability*, 13(57).
- Dr. K. Nachimuthu (2020), Student Teacher's attitude towards online learning during Covid- 19, *International Journal of Advanced Science and Technology*, 29 (6), pp. 8745-8749.
- Ehab Malkawi et al. (2020), Campus off, Education on: UAEU students' satisfaction and attitudes towards E- learning and virtual classes during Covid-19 pandemic, *Contemporary educational technology*, 13 (1).

- Gehan Mohamed Abd El-Hamed Diab, Nahid Fouad Elgahsh (2020), E-learning During COVID-19 Pandemic: Obstacles Faced Nursing Students and Its Effect on Their Attitudes While Applying It, *American Journal of Nursing Science*, (9) 4, pp. 295-309.
- R. Radha et al. (2020), E- Learning during Lock down of Covid-19 Pandemic: A Global Perspective, *International Journal of Control and Automation*, 13 (4), pp. 1088-1099.
- <https://economictimes.indiatimes.com/definition/e-learning>, accessed on 11th February 2021 at 12.05 pm.
- <https://www.weforum.org/agenda/2020/04/coronavirus-education-global-covid19-online-digital-learning/>
- <https://government.Economictimes.indiatimes.com/news/education/lockdown-impact-governments-e-learning-platforms-witness-surge-in-subscribers/74870839>.