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A STUDY ON IMPACT OF VIRTUAL LEARNING ON STUDENTS DURING COVID-19 PANDEMIC AT J P NAGAR, BANGALORE

Dr. R. PARVATHI[1], B RAMMYA[2], LOKESHWARI D V[3]
1. Principal And Academic Director, VET First Grade College, Bangalore
2,3 Assistant Professor, VET First Grade College, Bangalore

ABSTRACT

Virtual learning also known as virtual learning environment (VLE) is a learning experience that is enhanced through utilizing computers and/or the internet both outside and inside the facilities of the educational organization. The objectives of the study were to analyze the affordability of virtual learning for middle class people, analyze the impact of virtual learning on students and to know the satisfactory level of students on virtual learning. This paper is an outcome of virtual learning on students during the lockdown due to covid-19 pandemic. The sample was collected from a random sample of 100 respondents from student's community from South Bangalore through Google forms and secondary data was collected from research articles, and other web sources. Data was analyzed using descriptive statistical tools and inferences were drawn. The researchers used crosstab and ANOVA for analysing the collected data. The study found that the virtual learning platform is expensive and is not affordable by the lower middle-class students. Though the virtual learning had positive impact on students, students prefer traditional method of learning as compared to virtual learning. Further research can be conducted with more sample size and in a different locality to understand the impact better.

Key words: Virtual Learning, VLE, Covid-19, Affordability, Impact and Satisfaction.

INTRODUCTION

Digitalization is the interaction of electronic gadgets providing information in the form text, pictures, sound, audio, video with the support of internet or intranet. In the new era, digitalization and information technology has become a cutting-edge tool through which common man's life is undergoing radical changes across the globe. Digitalization basically changes paradigm of the society and also has information for more or less to all the quarries. Digitalization and information technology are equipping everyone in general particularly the students to enhance knowledge with the support of electronic gadgets and making them to be self-sufficient in their pursuit for excellence in knowledge and skillset. This can make students more self-sufficient and also help them to gain more knowledge with computer directed programs. The changing education system should adopt some the teachers and student's knowledge. Technology is bounded to rule our present and future with the changing technology one should adopt the necessary changes. The development of E- Learning is connected to technical development, technical improvement, and better affordability of computers. Already within the late eighties and thereafter the nineties of the last century the primary sort of electronic education Computer-Based Training (CBT) was born. This is often considered as it is the cornerstone of today´s e-Learning. Virtual learning is typically related to online courses or online environments, but it is much broader dimensions. Virtuall earning enables a unique form of blended education that combines the existing paradigms of on-campus and distance education. According to Doan Thi Hue Dung (2020), the prerequisite for virtual learning are smart phones and laptops and the internet connectivity is a key.

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Virtual learning may be a learning experience that is enhanced through utilizing computers and/or the web both outside and inside the facilities of the tutorial organization. The instruction most ordinarily takes place in a web environment. The teaching activities are carried out online whereby the teacher and learners are physically separated (in terms of place, time, or both).Personal computers and therefore the Internet have revolutionized entire sectors us society. The various platforms available for virtual learning are Zoom, Microsoft Team, Skype, CiscoWebEx, Hangouts Meet, JITSI Meet, Blue Jeans, ZOHO Meeting, GOTO Meeting.

According to the Chartered Institute of Personnel &Development, e-learning is "Any form of learning that utilizes a network for delivery, interaction or facilitation… The learning could take place individually or as part of aclass". E-learning can be defined as the use of computer and Internet technologies to bring a broad array of explanations to enable understanding and improve execution. This paper is an attempt to analyse the impact of the virtual learning on the student community during the times of pandemic – COVID-19.

REVIEW OF LITERATURE

Surkhali B (2020) in their study on Pros and Cons of Virtual learning in Nepal found that virtual learning makes the students and teachers stay connected offering them emotional and moral support. They also pointed that it helps in quickening the learning and strengthens students and teachers at the coziness of their homes during this time of global crisis. But it becomes a great challenge in case of medical students as per the study as without face-to-face interactions, judging the engagement of students is highly challenging task, there are issues in sharing their emotions and can have negative impact on their physical health due to increased screen viewing time. Reliable internet connection and adaptability by the learners and teachers was also quoted as a major challenge. The other benefits are convenience, depth understanding the content, enhancement of skills and helps in connection of learners across fields.

Doan Thi Hue Dung (2020), in his study also highlighted other benefits like saving travel time, having extra time to do self-study, easier access to wide range of e-resources and at the same time protecting individual health and safety during this time of pandemic. He also highlighted few challenges like more screen viewing time, lack of physical movement, difficulties in network, audio and video clarity and lack of following study schedules and lack of self-discipline.

Almarzooq Z et al (2020) in their study on Medical education, concluded that the virtual learning has significantly reshaped and innovated how the teaching and learning has happened during the worldwide pandemic COVID-19. Among the norms of COVID-19, especially the social distancing norms, the study found that the student's learning continued despite technical issues and asserted that virtual learning environment fosters collaboration virtually by enabling the users to enrich themselves with the latest in educational technology which is the future. They concluded that it had a significant impact on the medical trainees.
Shahzad, Syed Khuram et al (2020) conducted a study on impact of virtual learning on learners' attitude with respect to post graduation students in Pakistan and found that students enjoyed virtual teaching and virtual teaching brings a positive change in the students' attitude.

Eimear Ryan et al (2019) conducted a study on medical students regarding satisfaction,

engagement, recall and retention among students. And found out that virtual learning environment plays a key role among students and emphasized the need to introduce technology into health care through virtual reality Kata Csizér et al (2015) in their study opined that the integration of technology into teaching may be a complex issue, whose success depends on several factors. Considering the literature on the theoretical background and therefore the results of inquiry , a group of principles are often formulated.

Elizabeth Murphy et al (2012) identified six categories of rapport-building in Digital education which are recognizing the person/individual; Supporting and monitoring; Availability, accessibility, and responsiveness; Non-text-based interactions; Tone of interactions; Non-academic conversation/interactions.

M Liminou (2010) et al in their study on teachers and students' perspective on virtual learning environments (VLE), opined that students felt that interactive teaching approach was lacking, and teachers felt difficulty in using VLEs. Fariborz Moazami et al (2014) in their study in Iran on dental students felt that virtual learning was more effective than traditional learning.

Harry R. Goldberg and et al (2000) in their study compared the performance of the students in virtual learning environment (VLE) with the conventional lecture hall environment and found in their study that students scored higher and improved scores in VLE and felt more engaged.

OBJECTIVES OF THE STUDY

- To analyze the affordability of virtual learning.
- To evaluate the impact of age on awareness level with respect to virtual learning.
- To evaluate the impact of virtual learning with respect to different income groups.
- To analyse whether issues in virtual learning is gender sensitive.
- To evaluate satisfactory level of students on virtual learning with respect to gender, age and course and income.
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RESEARCH METHODOLOGY

The study is on A study on impact of virtual learning on student's community with special reference to during the outbreak of COVID-19 The paper is the outcome of sample surveyconductedonarandomsampleof100respondentsformstudent'scommunityfromsouth Bangalore. The study is based on primary sources of data collected through survey method by administering the questionnaire to randomly selected students spread across south Bangalore city studying various levels like BBA, MBA, B.COM and M.COM through Google forms.

Collecteddataformthesurveywasanalyzed,usingdescriptivestatisticaltoolslike crosstabs and ANOVA and inferences are drawn. To analyse the collected data following hypothesis has been formulated objective wise which is as under

- To analyze the affordability of virtual learning for middle class people.

Hypothesis: H01: There is no significant difference in affordability of students with respect to income

- To evaluate the impact of age on awareness level

Hypothesis: H02 : There is no significant difference in age and awareness level

- To evaluate the impact of virtual learning with respect to different income groups.

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Hypothesis: H03: There is no significant difference in impact of virtual learning on different Income groups

- To analyse whether issues in virtual learning is gender sensitive.

Hypothesis: H04: There is no significant difference in issues faced by men and women

- To know the satisfactory level of students on virtual learning with respect to gender, age and course and income.

H01: There is no significant difference in satisfaction level with age
H02: There is no significant difference in satisfaction level with gender
H03: There is no significant difference in satisfaction level with course
H04: There is no significant difference in satisfaction level with income

ANALYSIS AND DISCUSSION:

Table 1
Descriptive statistics with respect to demographic variables

	N	MEAN	STD. DEVIATION	VARIANCE	SKEWNESS	KURTOSIS
AGE	109	1.37	.648	.420	1.968	4.149
GENDER	109	1.61	.491	.241	-.438	-1.842
COURSE	107	1.68	.928	.860	1.691	3.172
INCOME	107	2.05	.840	.705	.495	-.271
Valid N (listwise)	106					

Source: Self Compiled using SPSS

The above table 1 shows the mean, Standard deviation, Variance, Skewness and Kurtosis for the various demographic variables like Age, Gender, Course and Income.

Objective 1 - To Analyze The Affordability Of Virtual Learning For Middle Class People.'

H01: The mean affordability of virtual learning with respect to income is same

Table 2
Affordability of Virtual Learning according to different income groups – Crosstab (income expressed in Lakhs – L)

INCOME	STRONGLY AGREE	AGREE	NEUTRAL	DISAGREE	STRONGLY DISAGREE	TOTAL
less than 2L	6	13	6	6	4	29
2L to 4 L	1	28	15	1	6	50
4L to 6L	0	7	7	0	5	22
above 6L	3	1	1	3	1	6
Total	10	49	29	10	16	107

Source: Self Compiled using SPSS

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From the above table, it can be analysed that almost 55% of the respondent either strongly agree or agree that the virtual learning is affordable. The affordability is maximum among the income group of Rs 200000 and Rs 400000.

Table 3
ANOVA Test

ANOVA					
	SUM OF SQUARES	**DF**	**MEAN SQUARE**	**F**	**SIG.**
Between Groups	3.966	4	0.991	1.428	0.23
Within Groups	70.801	102	0.694		
Total	74.766	106			

Source: Self Compiled using SPSS

As the p value is more than .05, the null hypothesis is accepted or retained, and it can be concluded results are insignificant i.e. There is no difference in affordability of virtual learning with respect to respondents belonging to different income groups.

Objective 2 - To Evaluate The Impact Of Age On Awareness Level
Hypothesis: H02 : There is no significant difference in means of age and awareness level

Table 4
Crosstabulation of Age groups and awareness of various virtual application

	ZOOM APPLICATION	**CISCO WEBEX**	**WHAT'S APP**	**ALL OF THE ABOVE**	**TOTAL**
16-21	3	0	3	20	26
22-25	8	2	13	54	77
26-29	1	0	0	3	4
30 and above	0	0	0	2	2
Total	12	2	16	79	109

Source: Self Compiled using SPSS

The above table shows that the awareness level of respondents is very high in the age bracket of 22-25 years and around 70% of the respondents are aware of the applications in this category.

Table 5
ANOVA Test

ANOVA					
	SUM OF SQUARES	**DF**	**MEAN SQUARE**	**F**	**SIG.**
Between Groups	0.929	3	0.310	.732	.535
Within Groups	44.392	105	.423		
Total	45.321	108			

Source: Self Compiled using SPSS

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As the p value is more than .05, the null hypothesis is accepted, and it can be concluded results are insignificant i.e. There is no difference in awareness level of various virtual applications with respect to the given age groups.

Objective 3 - To Evaluate The Impact Of Virtual Learning With Respect To Different Income Groups.

Hypothesis: H03: There is no significant difference in means of impact of virtual learning on different Income groups

Table 6
Cross tabulation of income and impact

	POSITIVE IMPACT	NEGATIVE IMPACT	BOTH	NO IMPACT	TOTAL
less than 2L	7	1	19	2	29
2L to 4 L	14	1	35	0	50
4L to 6L	1	7	6	8	22
above 6L	4	0	2	0	6
Total	26	9	62	10	107

Source: Self Compiled using SPSS

The above table depicts the crosstab between impact and the income groups. 70% the respondents belonging to the income level between Rs 200000 and Rs 400000 feel that virtual learning has both positive and negative impact.

Table 7
ANOVA test

ANOVA					
	SUM OF SQUARES	DF	MEAN SQUARE	F	SIG.
Between Groups	8.827	3	2.942	4.596	.005
Within Groups	65.940	103	.640		

Source: Self Compiled using SPSS

As the p value is less than .05, the null hypothesis is rejected, and it can be concluded results are significant i.e. There is a difference in impact of virtual learning on different income groups of respondents.

Objective 4 - To Analyse Whether Issues In Virtual Learning Is Gender Sensitive.
Hypothesis: H04: There is no significant difference in means of issues faced by men and women

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Table 8
Cross tabulation between gender and issues

GENDER	NETWORK ISSUES	AUDIO ISSUES	VIDEO ISSUES	ALL OF THE ABOVE	TOTAL
male	16	2	4	20	42
female	25	4	0	36	65
Total	41	6	4	56	107

Source: Self Compiled using SPSS

The above table shows the cross tabulations of various issues with the gender of the respondents. 38% of female respondents opined that the main issue is network issue whereas the equal percentage of men also feels the same.

Table 9
ANOVA test

ANOVA					
	SUM OF SQUARES	DF	MEAN SQUARE	F	SIG.
Between Groups	1.567	3	.522	2.247	.087
Within Groups	23.947	103	.232		
Total	25.514	106			

Source: Self Compiled using SPSS

As the p value is more than .05, the null hypothesis is accepted or retained, and it can be concluded results are insignificant i.e. There is no difference in issues faced with respect to gender and both face network as main issue during virtual learning.

Objective 5 - To Know The Satisfactory Level Of Students On Virtual Learning With Respect To Gender, Age, Course And Income.

$H0_{5a}$: There is no significant difference in satisfaction level with age

Table 10
Cross Tabulation between Age and satisfaction

AGE	SATISFACTION		TOTAL
	YES	NO	
16-21	12	13	25
22-25	49	27	76
26-29	4	0	4
30 and above	2	0	2
Total	67	40	107

Source: Self Compiled using SPSS

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The above table shows the cross tabulation of satisfaction level with the different age groups of respondents. It is evident that nearly 65% of the respondents belonging to the age group of 22-25 years are satisfied with the virtual learning.

$H0_{5b}$: There is no significant difference in satisfaction level with gender

Table 11
Cross tabulation between gender and satisfaction

GENDER	SATISFACTION		TOTAL
	YES	NO	
male	27	15	42
female	40	25	65
Total	67	40	107

Source: Self Compiled using SPSS

The above table shows that nearly 64% of the female respondents are satisfied with the virtual learning and 61% of men respondents are satisfied with the virtual learning.

$H0_{5c}$: There is no significant difference in satisfaction level with course

Table 12
Cross tabulation between Course and Satisfaction

COURSE	SATISFACTION		TOTAL
	YES	NO	
M.COM	42	14	56
B.COM	17	18	35
MBA	5	5	10
BCA	1	1	2
BBA	2	1	3
Total	67	39	106

Source: Self Compiled using SPSS

The above table shows that the satisfaction level of Mcom students is maximum at 63% as compared to all other courses.

$H0_{5d}$: There is no significant difference in satisfaction level with income

Table 13
Cross tabulation between Income and satisfaction

INCOME	SATISFACTION		TOTAL
	YES	NO	
less than 2L	26	3	29
2L to 4 L	32	18	50
4L to 6L	3	19	22
above 6L	6	0	6
Total	67	40	107

Source: Self Compiled using SPSS

The above table clearly shows that 39% of respondents earning less than Rs 200000 are satisfied with virtual learning and 48% of the respondents belonging to the income levels of Rs 200000 to Rs 400000 are also satisfied.

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Table 14

ANOVA test

ANOVA						
		SUM OF SQUARES	**DF**	**MEAN SQUARE**	**F**	**SIG.**
AGE	Between Groups	0.1	1	0.1	0.234	0.63
	Within Groups	44.685	105	0.426		
	Total	44.785	106			
COURSE	Between Groups	2.689	1	2.689	3.176	0.078
	Within Groups	88.038	104	0.847		
	Total	90.726	105			
GENDER	Between Groups	0.02	1	0.02	0.081	0.777
	Within Groups	25.494	105	0.243		
	Total	25.514	106			
INCOME	Between Groups	7.972	1	7.972	12.532	0.001
	Within Groups	66.794	105	0.636		
	Total	74.766	106			

Source: Self Compiled using SPSS

As the p value is more than .05 for variable Age, Course and Gender, the null hypothesis is accepted, and it can be concluded results are insignificant i.e. There is no difference satisfaction level with respect to virtual learning as related to age, course and gender. Contrary to above, regarding Income, As the p value is less than .05, the null hypothesis is rejected, and it can be concluded results are significant i.e. There is difference in satisfaction level with respect to different income groups.

CONCLUSION

The study conducted on the students regarding the impact of virtual learning on students during COVID 19 pandemic helped us to understand the impact in a better manner. The pandemic could not stop the learning and teaching among students and staff alike. It was found from the study that affordability is an issue across all income groups, the awareness level with respect to virtual learning is good and almost same across different age groups considered for the study, regarding the impact of virtual learning, there is a different positive impact on different students belonging to different income groups. Also, the satisfaction levels of students regarding the virtual learning are almost same across different age groups, different courses and gender but the satisfaction level is different with respect to different income levels. Students are convinced about the benefits of virtual learning during this pandemic, but still prefer traditional learning due to personal and emotional touch. This is in line to that the study by Emily Chen, BA et al (2020) that virtual learning is not as much welcomed by the students except in the circumstance of pandemic. Also, the students are positively impacted by the virtual learning which is in line with the study conducted by Shahzad, Syed Khuram (2020) in Pakistan. But despite the challenges and issues, blended learning is the future of most educational systems with maximum emphasis on virtual

learning. Virtual learning has now become a new normal in the view of existing and continuing pandemic. The further scope of research could be conducted taking a greater sample size with the inclusion other variables like recall, retention and others.

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