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STUDENTS' EXPERIENCE ON USE OF ICT IN ONLINE TEACHING-LEARNING DURING THE COVID-19 LOCKDOWN: A COMPARATIVE STUDY OF VARIOUS GROUPS OF STUDENTS OF CHHATTISGARH, INDIA

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Abstract

Students have faced new challenges in context of learning during the COVID-19 lockdown. It was the time when entire Higher Education Institutions (HEIs) have been closed and entire process of face-to-face teaching has been shifted onto online mode. During the first lockdown in India, many online infrastructures and platforms have been launched. However, platforms had always been available, but students were unaware of it. Also, teachers were not comfortable with these tools to be used in teaching process. Apart from this many online tools, Massive Open Online courses (MOOCs) have been launched through different platforms like Coursera, Swayam etc. This research work emphasizes on the utilization of many online tools as well as experiences of students during COVID-19 lockdown. Study was carried out among various groups and it was fond that Female, Science, College and PG students have better experience than Male, non-science, university and UG students respectively on use of online Teaching-Learning during lockdown.

Keywords: Information and Communication Technology (ICT), COVID-19, Lockdown, Online Teaching-Learning.

1. INTRODUCTION

Novel Corona Virus has changed the life of human being as well as thought process also. With online meeting, organization of online event, online teaching has become common phenomenon. Many universities decided their policy and practice for online learning during COVID-19. Online learning before COVID-19 is not a new approach, but it was used occasionally **(**Tuaycharoen, 2021). However, the online learning can be challenging to the disabled, underprivileged, and marginalized students who had limited resources and accessibility to online learning **(**Selvanathan et al., 2020**).** On the other hand, there are lots of challenges of conducting online event. Technology played vital role in online event organization. A study conducted showed that Internet connectivity in India is comparatively slow than other countries. Online teaching has also become very popular even after COVID-19 pandemic. HEIs are now developing online ICT based infrastructure at their premises, which includes ICT rooms equipped with high speed internet connectivity, audio and video facility, LED panel and many more, Smart board or Digital teaching device with online connectivity are being used by HEIs. The key point of all these arrangements is due to students' satisfaction. The main objective of any HEI is mainly student satisfaction and that comes through quality and interactive teaching, by adding ICT into Teaching-Learning process. Shifting from face-to-face mode of teaching to online teaching was challenging and was new experience for students as well as for many teachers. However, online education provides several advantages such as accessing course remotely, attending class from anywhere, carrying out course work at own time and pace, revisiting course material and accommodating large classes (Ahshan, 2021). However, it has certain drawbacks too. Also, a small HEI cannot afford the cost of many software tools especially online platform like zoom. Many vendors have offered online courses and many popular platforms like Coursera that has provided free online courses during lockdown.

Education is one of the most critical sectors affected by the COVID-19 pandemic **(**Rameez et al., 2020**).** There are many research articles which evident about work on students' experience on the use of ICT in online Teaching-Learning. There are two types of teaching methods for online education. Synchronous teaching creates a learning environment engaging participant with the course materials at different times and space. On the other hand, Synchronous teaching creates a learning environment engaging participant with the course materials at the same time and space. The several articles related to the proposed research are listed in Table 1.

Table 1: Review articles.

Author	Objective	Finding
(Al-Mohair & Alwahaishi, 2020)	Students' experience about online teaching	On the basis of the data collected using the l5-point Likert scale ranging from strongly agree to strongly disagree, it was concluded that the students are satisfied with the facilities used in online teaching. On the other hand many, students were not satisfied with their experiences due to many reasons like overload of assignments, lack of experience in online teaching. Authors have also recommended a model on the basis of their findings.
(Tan, 2021)	To investigate the impact of COVID-19 on the students studying in HEIs pre and during COVID-19	Finding indicated that students lost motivation and learning performance using online learning methods during COVID-19 period.
(Webb et al., 2021)	To investigate some ongoing issues faced by HEIs having to rapidly move their teaching to online during COVID-19	COVID-19 pandemic has accelerated the speed at which digitalization and digital ways of working have been embedded in organizational life and service delivery including new ways of learning and working.
(Aziz et al., 2021)	Survey on Mobile learning and its impact on students; education	Most of the studies indicated that mobile learning makes a positive impact on students learning experiences for all learning environments.
(Rameez et al., 2020)	Impact of COVID-19 on Higher education sector of Shrilanka.	The study highlights issues concerning online teaching and learning environment and a lack of online teaching and learning skills among staff and students.
(Almusharraf & Khahro, 2020)	To study students' satisfaction with online learning platform and learning experiences during COVID-19 period	The research findings revealed that the students are satisfied with the university staff and faculty members who agreed on specific online platforms to use, grading system, assessment options, training workshops, online technical support, and more.
	This study conducted to assess the efficacy of online teaching and learning during the COVID-19 pandemic, focusing on the perceptions of undergraduate students from the Selected university	Findings revels that even though the students are satisfied with the existing online teaching and learning in selected university, they prefer face to face learning than online learning. The study strongly recommends that improving the quality of the online education system and striving to solve students' issues in terms of online learning.
(Selvanathan et al., 2020)	To evaluate the experience of the students of higher learning institutions in Malaysia with the implementation of online learning during this pandemic	The discussion from the above mentioned showed that the online learning and teaching in Malaysia required improvement to be done, especially in the quality of the interaction and instruction delivered during the course given to the students.
(Patricia Aguilera-Hermida, 2020)	This study explored college students' perceptions of their adoption, use, and acceptance of emergency online learning.	The findings present how attitude, motivation, self-efficacy, and use of technology play a significant role in the cognitive engagement and academic performance of students. Also, participants preferred face-to-face learning over online learning.
(Ahshan, 2021)	This paper presents a framework that implements activities/strategies to ensure active student engagement in remote/online teaching and learning during this COVID-19 pandemic.	The research findings indicated that Moodle e-learning platform, Google Meet, Google Chat, Jamboard, Mentimeter, and Google Meet Breakout Room are effective tools in implementing active student engagement activities. Another key finding was that the proposed framework provides student–student, student–instructor interactions and ensures social presence during the remote/online

		sessions due to the active learning activities implemented by the tools, as mentioned

2. RESEARCH DESIGN AND METHODOLOGY

The experimental survey-based method through google form was adopted to collect data from the students during lockdown.

2.1 Survey Tool

Self-developed survey tool with various sections was developed with the help of faculty members of computer science. However, many other tools available at that time was also considered to check the reliability and robustness of the tool. This questionnaire consists of a section (Section 1) related to demographic detail of the students. Other two sections (Section 2 and 3) are respectively related to use of online Teaching-Learning during lockdown and perception on using ICT tools in Teaching-Learning during lockdown.

2.2 Population and Sample Size

Study of this research work was all the HEIs of Chhattisgarh state along with private universities and colleges. Detail of sample collected through google form is shown in Table 2 and Figure 1. A total of 1179 samples are segregated and presented in Figure 1. Table 2 show the number of respondents in each group. Table 3 show mean, median, mode, standard deviation and variance of each group.

Table 2: Frequency of collected data.

Group Name	Variable: No. of respondents	Percentage
Gender	Male: 609	51.7
	Female: 570	48.3
Institute type	University: 306	26.0
	College: 873	74.0
Discipline	Science: 789	66.9
	Non-Science:390	33.1
Class level	UG:765	64.9
	PG:414	35.1

Table 3: Statistical measures of collected data.

Statistic	Gender	Institute type	Discipline	Class level
Mean	0.48	0.74	0.35	0.35
Median	0.00	1.0	0	0.00
Mode	0	1	0	0.00
Standard deviation	0.500	0.439	0.471	0.471
Variance	0.25	0.192	0.222	0.228

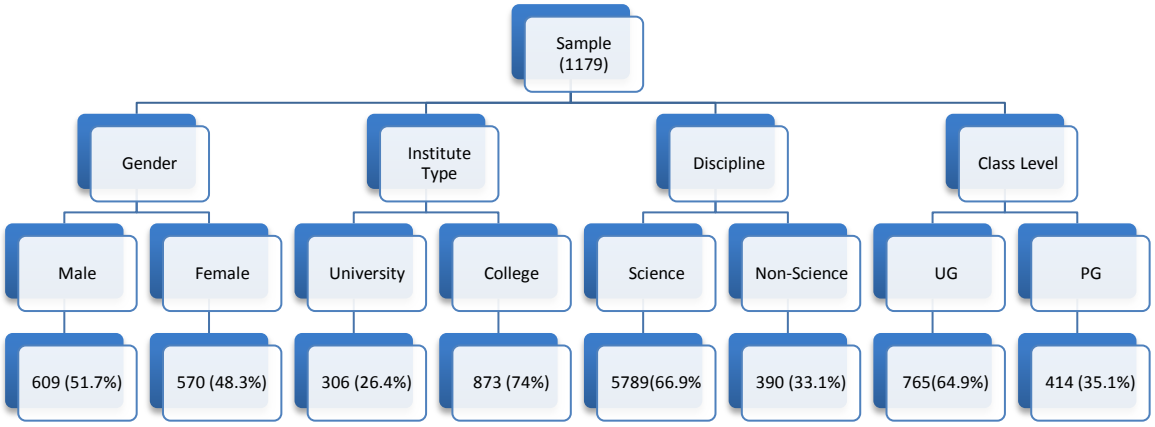

Figure 1: Detail of collected data.

3. ANALYTICAL STUDY

Study was carried out among four different groups of students. In order to find out the group frequency, SPSS software was used. This software provides interactive way to analyze the data and to generate quick results and statistical measures. The analytical results of ten questions shown in Appendix 1 are presented as four different cases for four different groups as below:

3.1 Case-I: Male Vs. Female Student

Question wise frequency detail of Male and Female students are presented in Tables 4 to 8 and corresponding Figures 2 to 6 as below:

Table 4: Responses and its percentage for questions 1 and 2.

Question 1			Question 2	
Gender	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Male	Yes: 424	69.6	E-Mail: 24	3.9
	No: 185	30.4	Social Media: 204	33.5
			VC tool: 124	20.4
			Combination of above: 198	32.5
			Not interacting: 59	9.7
Female	Yes: 439	77.0	E-Mail: 23	4.0
	No: 131	23.0	Social Media: 201	35.3
			VC tool: 117	20.5
			Combination of above: 187	32.8
			Not interacting: 42	7.4

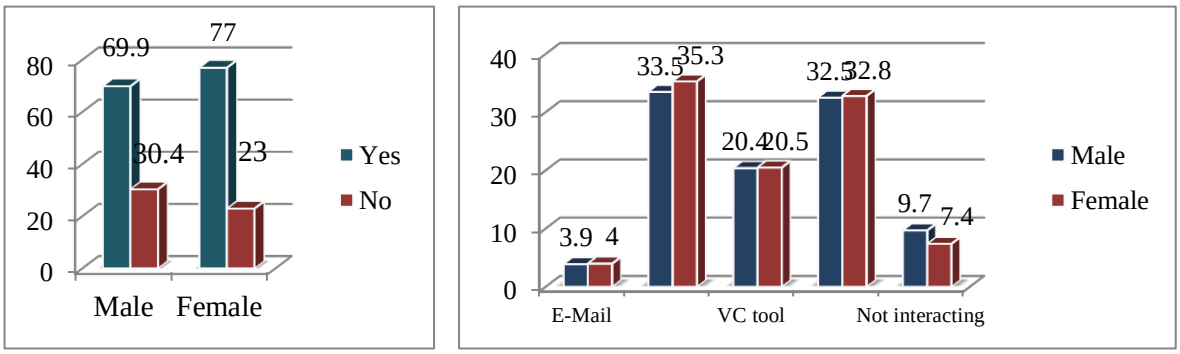

Figure 2: A comparative graph of Male Vs. Female for Question 1 (Left) and Question 2 (Right).

Table 5: Responses and its percentage for questions 3 and 4.				
Question 3			**Question 4**	
Gender	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Male	Yes: 368	60.4	Less than an hour: 213	35.0
	No: 241	39.6	1-3 Hours: 329	54.0
			More than 3 hours: 67	11.0
Female	Yes: 360	63.2	Less than an hour:178	31.2
	No: 210	36.8	1-3 Hours: 319	56.0
			More than 3 hours:73	12.8

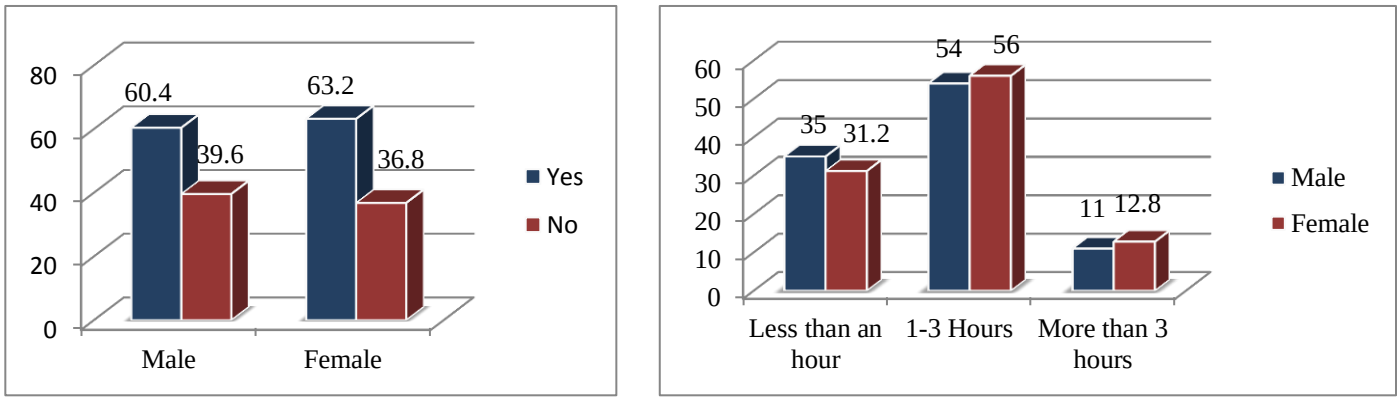

Figure 3: A comparative graph of Male Vs Female for Question 3 (Left) and Question 4 (Right).

Table 6: Responses and its percentage for questions 5 and 6.				
Question 5			**Question 6**	
Gender	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Male	Yes: 244	40.1	Yes: 420	69.0
	No: 365	59.9	No: 189	31.0
Female	Yes:235	41.2	Yes:416	73.0
	No: 335	58.8	No: 154	27.0

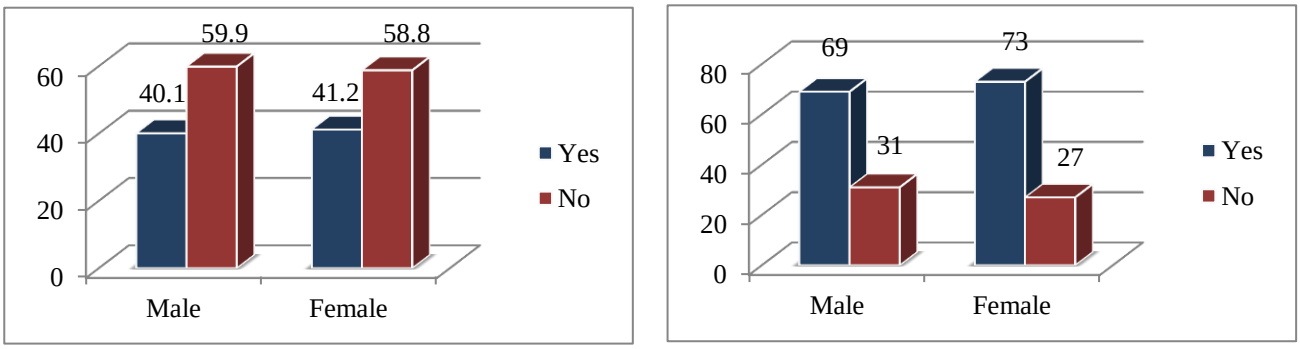

Figure 4: A comparative graph of Male Vs Female for Question 5 (Left) and Question 6 (Right).

Table 7: Responses and its percentage for questions 7 and 8.				
	Question 7		**Question 8**	
Gender	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Male	Yes: 387	63.5	Yes: 499	81.9
	No: 222	36.5	No: 110	18.1
Female	Yes: 408	71.6	Yes:486	85.3
	No: 162	28.4	No:84	14.7

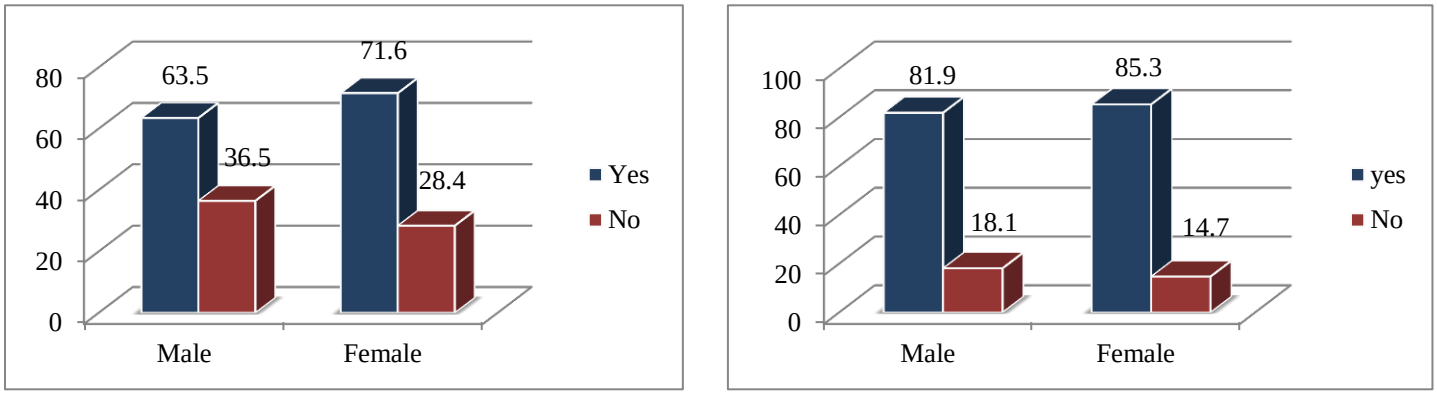

Figure 5: A comparative graph of Male Vs Female for Question 7 (Left) and Question 8 (Right).

Table 8: Responses and its percentage for questions 9 and 10.				
	Question 9		**Question 10**	
Gender	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Male	Yes: 357	58.6	Yes: 447	73.4
	No: 252	41.4	No: 162	26.6
Female	Yes: 284	49.8	Yes:453	79.5
	No: 286	50.2	No: 117	20.5

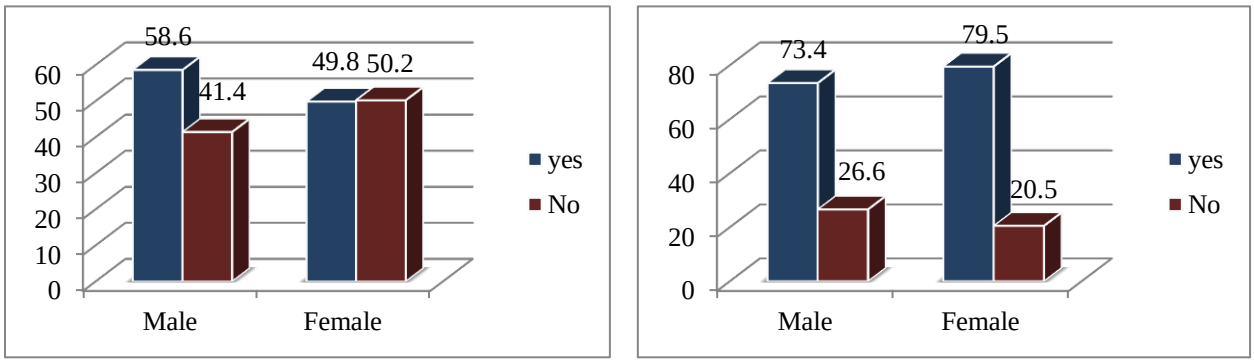

Figure 6: A comparative graph of Male Vs Female for Question 9 (Left) and Question 10 (Right).

Tables 4 to 8 and Figures 2 to 6 revels that experience towards utilization of ICT in Teaching-Learning during COVID-19 lockdown is noticed with positive experience by both male and female students. The following are the findings of this group:

i. Awareness about software tools by female is higher (77%) than male students (66.9%). Both male and female students have mostly used social media like WhatsApp to interact with each other during lockdown.

ii. Most of the male (60.4%) and female (63.2%) students were using ICT tools for Teaching-Learning during lockdown. Also, they have spent 1 to 3 hours time in online Teaching-Learning. In both the cases female students are little ahead from male students.

iii. Regarding enrollment in any MOOC courses and attending classes online, female and male students are having more or less similar behavior.

iv. More female (71.6%) students than male (63.5%) students have used ICT first time during lockdown. Also, more than 80% male and female students' institutions have released notice/notification to use ICT for online Teaching-learning during lockdown.

v. Many male (58.6%) and female (49.8%) students have acknowledged that they got opportunity to learn ICT during lockdown and a greater number of female (79.5%) students said that they have enhanced their knowledge by attending many online workshop, faculty development program etc. during lockdown.

3.2 Case-II: University Vs. College Teacher

Critical analysis in between university and college students are presented from Tables 9 to 13 and Figures 7 to 11.

Table 9: Responses and its percentage for questions 1 and 2.

Question 1			Question 2	
Institute Type	**Frequency**	**Percentage**	**Frequency**	**Percentage**
University	Yes: 216	70.0	E-Mail:24	7.8
	No: 90	29.4	Social Media:91	29.7
			VC tool: 43	14.1
			Combination of above:95	31.0
			Not interacting:53	17.3
College	Yes: 647	74.1	E-Mail: 23	2.6
	No: 26	25.9	Social Media: 314	36.0
			VC tool: 198	22.7
			Combination of above:290	33.2
			Not interacting: 48	5.5

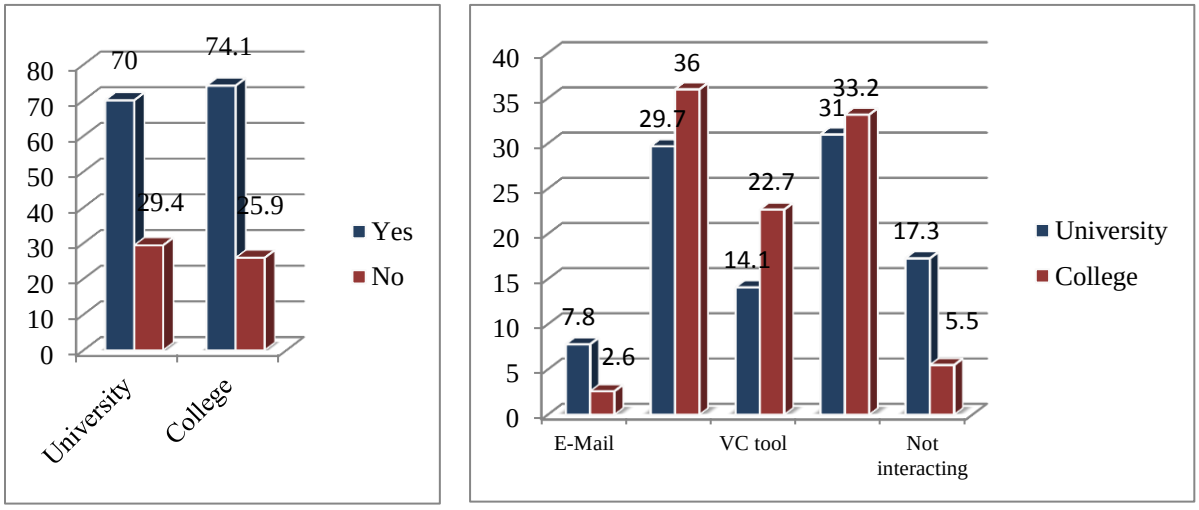

Figure 7: A comparative graph of University Vs. College students for Question 1 (Left) and Question 2 (Right).

Table 10: Responses and its percentage for questions 3 and 4.				
Question 3			**Question 4**	
Institute Type	**Frequency**	**Percentage**	**Frequency**	**Percentage**
University	Yes: 182	59.5	Less than an hour: 117	38.2
	No: 124	40.5	1-3 Hours: 152	49.7
			More than 3 hours: 37	12.1
College	Yes: 546	62.5	Less than an hour: 274	31.4
	No: 327	37.5	1-3 Hours: 496	56.8
			More than 3 hours: 103	11.8

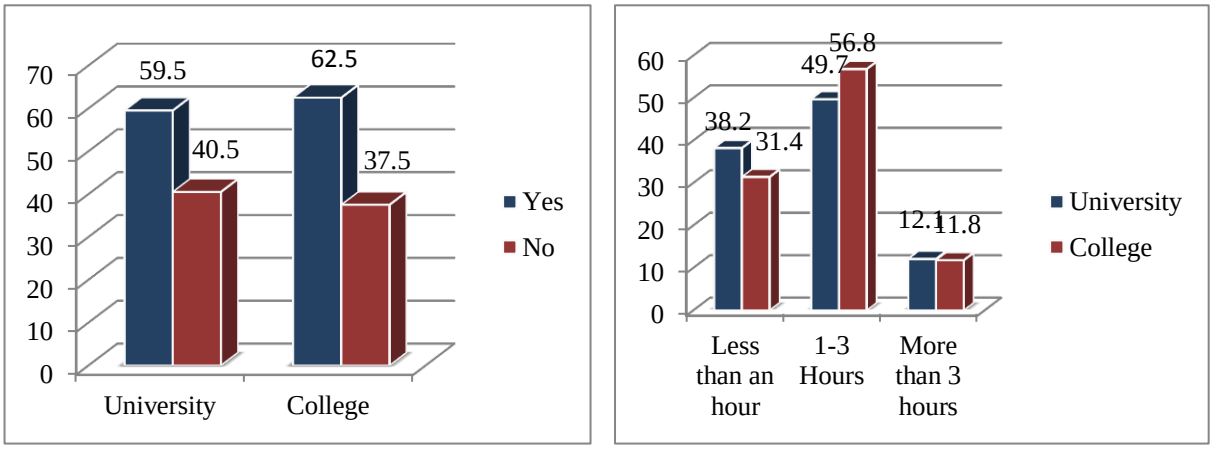

Figure 8: A comparative graph of University Vs. College students for Question 3 (Left) and Question 4 (Right).

Table 11: Responses and its percentage for questions 5 and 6.				
Question 5			**Question 6**	
Institute Type	**Frequency**	**Percentage**	**Frequency**	**Percentage**
University	Yes: 134	43.8	Yes: 174	56.9
	No: 172	56.2	No: 132	43.1
College	Yes:345	39.5	Yes: 662	75.8
	No: 528	60.5	No: 211	24.2

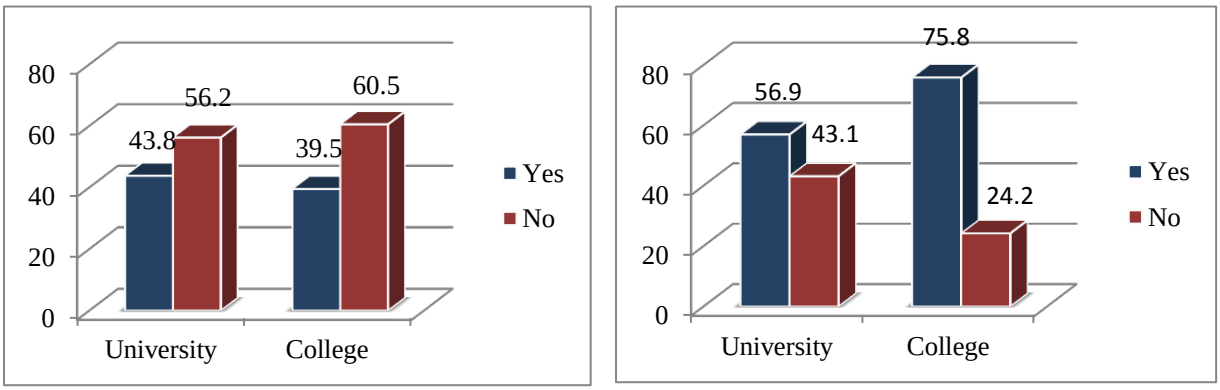

Figure 9: A comparative graph of University Vs. College students for Question 5 (Left) and Question 6 (Right).

Table 12: Responses and its percentage for questions 7 and 8.				
	Question 7		**Question 8**	
Institute Type	**Frequency**	**Percentage**	**Frequency**	**Percentage**
University	Yes: 188	61.4	Yes: 252	82.4
	No: 118	38.6	No: 54	17.6
College	Yes: 607	69.5	Yes: 733	84.0
	No: 266	30.5	No: 140	16.0

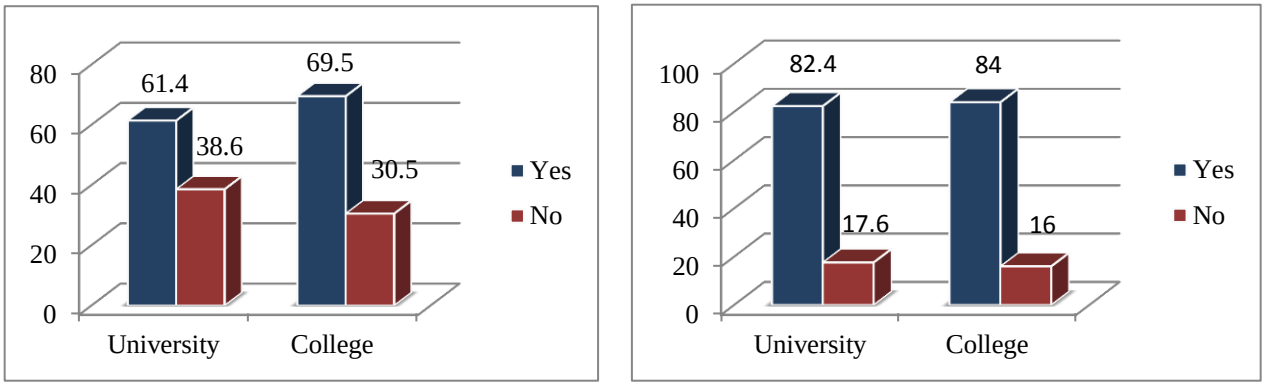

Figure 10: A comparative graph of University Vs. College students for Question 7 (Left) and Question 8 (Right).

Table 13: Responses and its percentage for questions 9 and 10.				
	Question 9		**Question 10**	
Institute Type	**Frequency**	**Percentage**	**Frequency**	**Percentage**
University	Yes: 196	64.1	Yes: 222	72.5
	No: 110	35.9	No: 84	27.5
College	Yes: 445	51.0	Yes: 678	77.7
	No: 428	49.0	No: 195	22.3

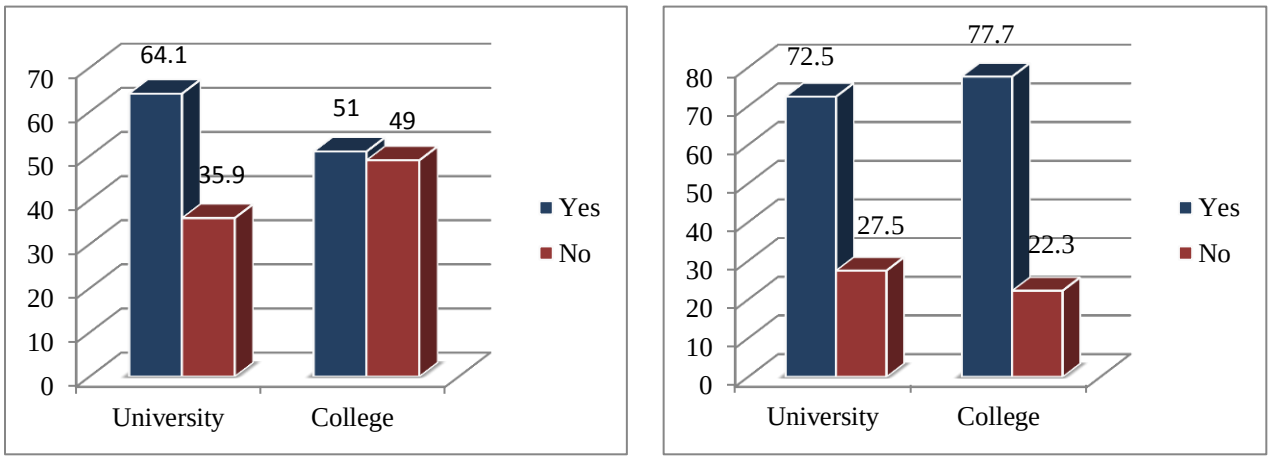

Figure 11: A comparative graph of University Vs. College students for Question 9 (Left) and Question 10 (Right).

Above tables and figures revels that experience towards utilization of ICT in Teaching-Learning during COVID-19 lockdown has positive experience by university and college students. The following are the findings of this group:

i. Awareness about software tools by college is higher than university students. Both university and college students have mostly used social media like WhatsApp to interact with each other during lockdown.

ii. Most of the university and college students were using ICT tools for Teaching-Learning during lockdown however college students are more than university students. All are spending time 1-3 hours but university students are spending time more than college student.

iii. Regarding enrollment in any MOOC courses college students are ahead then university students while for attending classes online, university students are ahead then college students.

iv. About 60%-70% students from college and university have used ICT first time during lockdown and more than 80% students' institutions have released notice/notification to use ICT for online Teaching-learning during lockdown.

v. Many (64.1%) university students have acknowledged that they got opportunity to learn ICT during lockdown and a greater number of college students reported that they have enhanced their knowledge by attending many online workshops, faculty development program etc. during lockdown.

3.3 Case-III: Science Vs. Non-Science students

The ICT utilization behavior of one category of student may differ from another category. Therefore, analysis was also done in between science and non-science students. Tables 14 to 18 and corresponding Figures 12 to 16 are shown below on the basis of 10 questions as per Appendix 1.

Table 14: Responses and its percentage for questions 1 and 2.

Question 1			Question 2	
Discipline	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Science	Yes: 580	73.5	E-Mail:30	3.8
	No: 209	26.5	Social Media: 240	30.4
			VC tool: 162	20.5
			Combination of above: 295	37.4
			Not interacting: 62	7.9
Non-Science	Yes: 283	72.6	E-Mail: 17	4.4
	No: 107	27.4	Social Media: 165	42.3
			VC tool: 79	20.3
			Combination of above: 90	23.1
			Not interacting: 39	10.0

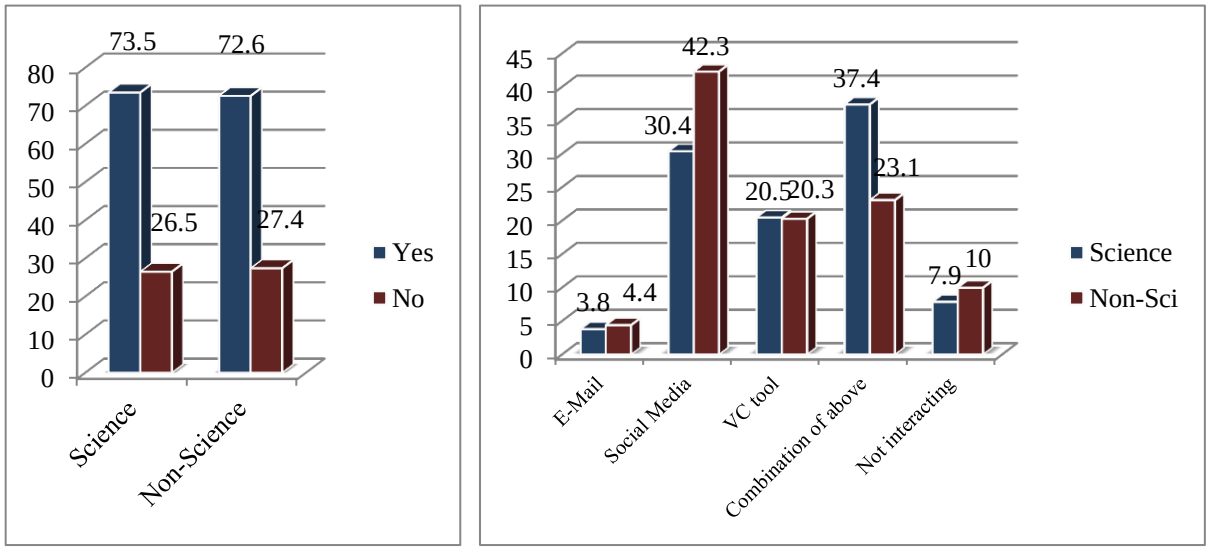

Figure 12: A comparative graph of Science Vs. Non-Science students for Question 1 (Left) and Question 2 (Right).

Table 15: Responses and its percentage for questions 3 and 4.				
Question 3			**Question 4**	
Discipline	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Science	Yes: 489	62.0	Less than a hour:237	30.0
	No: 300	38.0	1-3 Hours:467	59.2
			More than 3 hours: 85	10.8
Non-Science	Yes: 239	61.3	Less than an hour: 154	39.5
	No: 151	38.7	1-3 Hours: 181	46.4
			More than 3 hours: 55	14.1

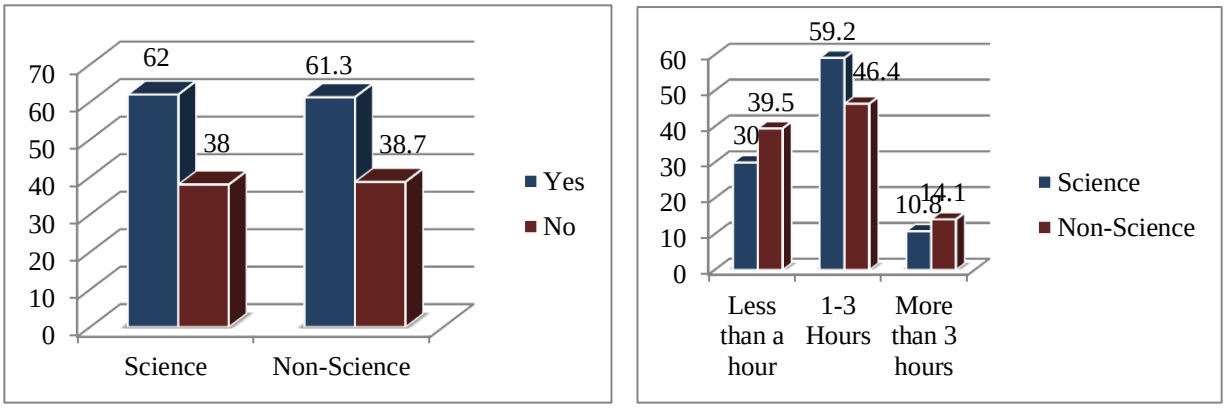

Figure 13: A comparative graph of Science Vs. Non-Science students for Question 3 (Left) and Question 4 (Right).

Table 16: Responses and its percentage for questions 5 and 6.				
Question 5			**Question 6**	
Discipline	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Science	Yes: 323	40.9	Yes: 587	74.4
	No: 466	59.1	No: 202	25.6
Non Science	Yes: 156	40.0	Yes: 249	63.8
	No: 234	60.0	No: 141	36.2

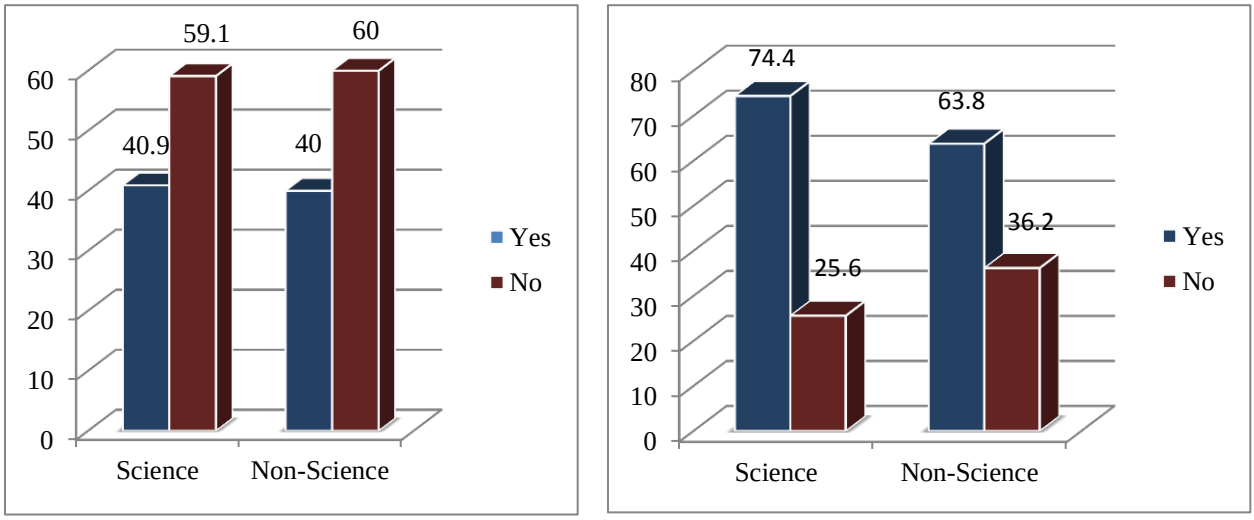

Figure 14: A comparative graph of Science Vs. Non-Science students for Question 5 (Left) and Question 6 (Right).

Table 17: Responses and its percentage for questions 7 and 8.				
	Question 7		**Question 8**	
Discipline	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Science	Yes: 535	67.5	Yes:681	86.3
	No: 254	32.5	No: 108	13.7
Non Science	Yes: 260	66.7	Yes: 304	77.9
	No: 130	33.3	No: 86	22.1

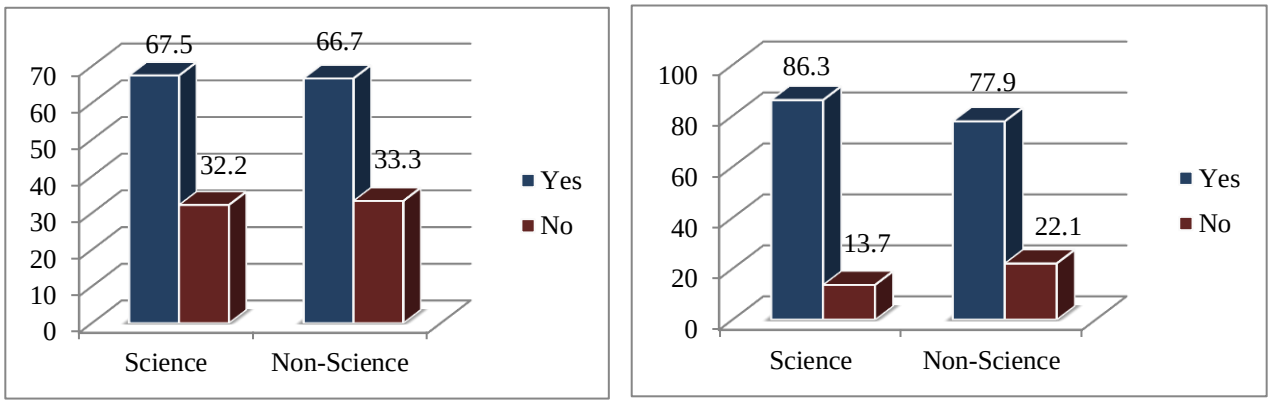

Figure 15: A comparative graph of Science Vs. Non-Science teachers for Question 7 (Left) and Question 8 (Right).

Table 18: Responses and its percentage for questions 9 and 10.				
	Question 9		**Question 10**	
Discipline	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Science	Yes: 465	58.9	Yes: 589	74.7
	No: 324	41.1	No: 200	25.3
Non-Science	Yes: 176	45.1	Yes: 311	79.7
	No: 214	54.9	No: 79	20.3

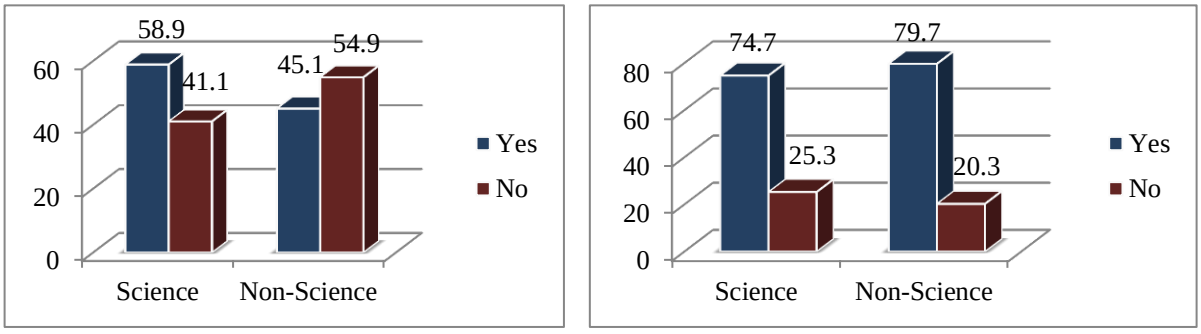

Figure 16: A comparative graph of Science Vs. Non-Science teachers for Question 9 (Left) and Question 10 (Right).

As per above Tables and Figures, the following are the findings of this group:

i. Awareness about software tools of science students is little higher (73.5%) than Non-Science students (72.6%). Both science (30.4%) and non-science (42.3%) students were using WhatsApp. social media to interact with each other during lockdown.

ii. Science students were using ICT tools (62%) more than non-science students (61.3%) for Teaching-Learning during lockdown. Most of the student have spent 1 to 3 hours daily for ICT based Teaching-Learning.

iii. Due to free time during lockdown many have joined MOOC courses (40.9% science and 40% non-science students) offered by reputed online platform. On the basis of collected data it is reflected that a smaller number of science and non-science students have joined MOOC courses. On the other hand, many students of both the categories (74.4% science and 63.8% non-science) were attending classes online.

iv. In this group also more than 65% students of both the categories have experienced ICT first time during lockdown and more than 80% students' institutions have released notice/notification to use ICT for online Teaching-learning during lockdown.

v. The pandemic has forced HEIs to shift face-to-face mode of teaching with online teaching through ICT. It is reported by the 58.9% science students and 54.9% non-science students that pandemic has provided opportunity to learn and use ICT for Teaching-Learning. It is also noted that about 75% students of both the categories have enhanced their knowledge by attending many online workshops, faculty development program etc. during lockdown.

3.4 Case-IV: UG Vs PG students

Another and last experiment conducted in between UG and PG students. Tables 19 to 23 and Figures 17 to 21 presented data related to 10 questions as per Appendix 1.

Table 19: Responses and its percentage for questions 1 and 2.

Question 1			Question 2	
Discipline	**Frequency**	**Percentage**	**Frequency**	**Percentage**
UG	Yes: 543	71.0	E-Mail: 25	3.3
	No: 222	29.0	Social Media: 251	32.8
			VC tool: 148	19.3
			Combination of above: 259	33.9
			Not interacting: 82	10.7
PG	Yes: 320	77.3	E-Mail: 22	5.3
	No: 94	22.7	Social Media: 154	37.2
			VC tool: 93	22.5
			Combination of above: 126	30.4
			Not interacting: 19	4.6

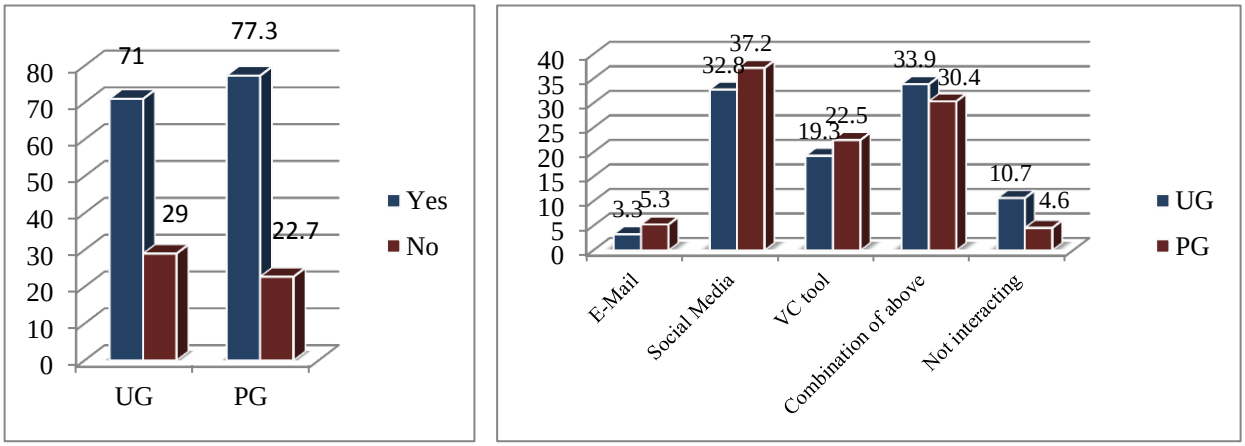

Figure 17: A comparative graph of UG Vs. PG for Question 1 (Left) and Question 2 (Right).

Table 20: Responses and its percentage for questions 3 and 4.				
Question 3			**Question 4**	
Discipline	**Frequency**	**Percentage**	**Frequency**	**Percentage**
UG	Yes: 463	60.5	Less than a hour: 252	32.9
	No: 302	39.5	1-3 Hours: 424	55.4
			More than 3 hours: 89	11.6
PG	Yes: 265	64.0	Less than an hour: 139	33.6
	No: 149	36.0	1-3 Hours: 224	54.1
			More than 3 hours: 51	12.3

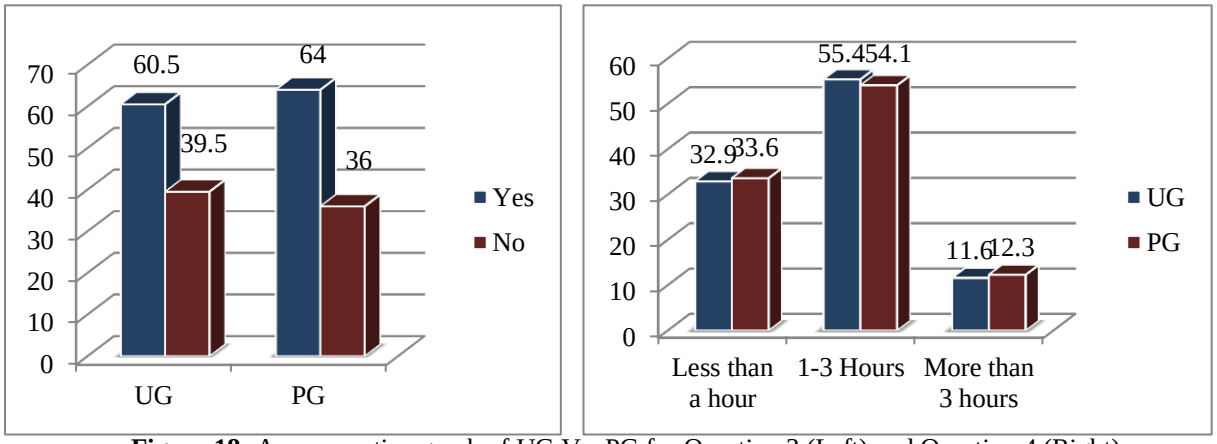

Figure 18: A comparative graph of UG Vs. PG for Question 3 (Left) and Question 4 (Right).

Table 21: Responses and its percentage for questions 5 and 6.				
Question 5			**Question 6**	
Discipline	**Frequency**	**Percentage**	**Frequency**	**Percentage**
UG	Yes: 289	37.8	Yes: 544	71.1
	No: 476	62.2	No: 221	28.9
PG	Yes:190	45.9	Yes: 292	70.5
	No: 224	54.1	No: 122	29.5

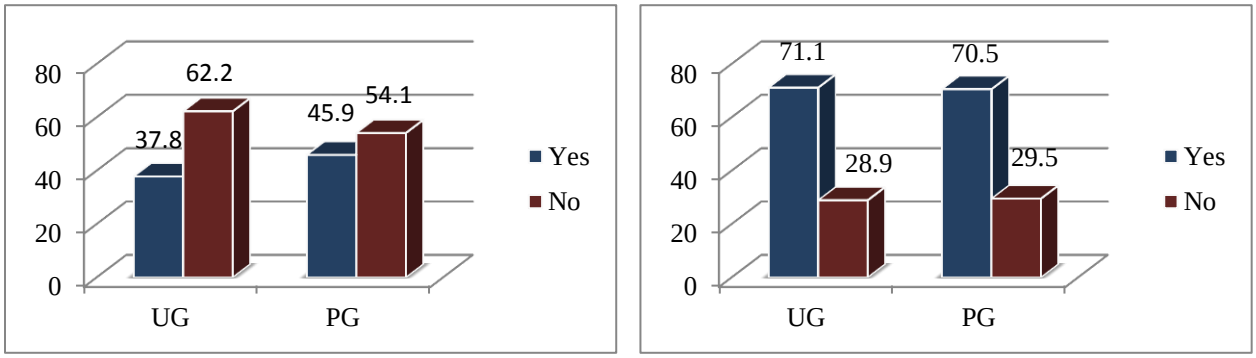

Figure 19: A comparative graph of UG Vs. PG for Question 5 (Left) and Question 6 (Right).

Table 22: Responses and its percentage for questions 7 and 8.				
	Question 7		**Question 8**	
Discipline	**Frequency**	**Percentage**	**Frequency**	**Percentage**
UG	Yes: 502	65.6	Yes: 625	81.7
	No: 263	34.4	No: 140	18.3
PG	Yes: 293	70.8	Yes: 360	87.0
	No: 121	29.2	No: 54	13.0

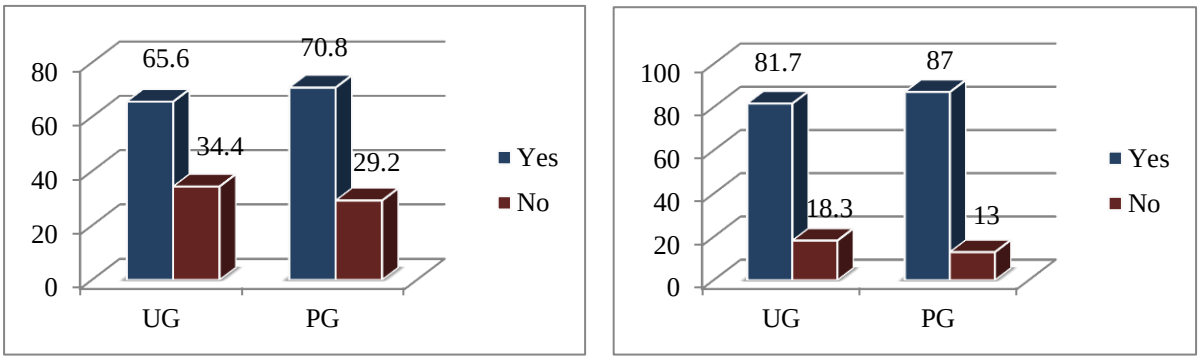

Figure 20: A comparative graph of UG Vs. PG h for Question 7 (Left) and Question 8 (Right).

Table 23: Responses and its percentage for questions 9 and 10.				
	Question 9		**Question 10**	
Discipline	**Frequency**	**Percentage**	**Frequency**	**Percentage**
UG	Yes: 441	57.6	Yes: 553	72.3
	No: 324	42.4	No: 212	27.7
PG	Yes: 200	48.3	Yes: 347	83.8
	No: 214	51.7	No: 67	16.2

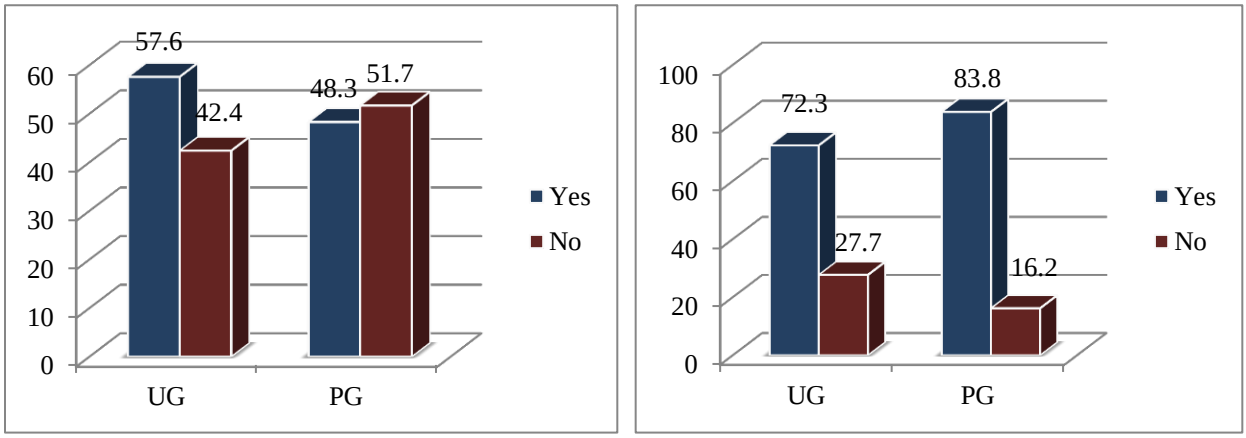

Figure 21: A comparative graph of UG Vs. PG for Question 9 (Left) and Question 10 (Right)

Experience on using ICT tools in Teaching-Learning may also differ from students to students studying either in UG or PG. Tables 19 to 23 and Figures 21 to 25 show that there is variation in utilization behaviour in between UG and PG level students. Details of finding are as follow:

i. Results of Table 19 and Figure 21 show that PG students (77.3%) are aware more than UG students (71%). Also, combinations of various tools used by UG students (33.9%) is less than PG students (37.2%).
ii. PG students (64%) were using ICT tools more than UG students (60.5%) for Teaching-Learning during lockdown. Average time spent by UG and PG students in online Teaching-Learning process is more or less similar.
iii. Enrollment in any MOOC courses was not so popular in students' community, However many have joined MOOC courses offered by many online platforms. The data show that PG students (37.8%) were more in number as compare to UG students (45.9%). Similarly, almost similar number of PG and UG students were attending online classes during lockdown.
iv. About 65% students of both the categories have used ICT first time during lockdown and more than 80% students' institutions have released notice/notification to use ICT for online Teaching-learning during lockdown.
v. 57.6% UG and % PG students have reported that they got opportunity to learn ICT during lockdown. Also 72.3% UG and 83.8% PG students have enhanced their knowledge by attending many online workshops, faculty development program etc. during lockdown.

4 CONCLUSION

Online Teaching-Learning was forced by the COVID-19 pandemic situation in almost all the countries of the world. In a country like India, online Teaching-Learning was not so popular, and the teachers and students were not much familiar with ICT tools. The state of Chhattisgarh, India where most of the HEIs are situated in rural area, online Teaching-Learning was a challenge. Availability of computing devices and internet broadband connection are the success mantra for quality online Teaching-Learning. This research work focuses on experience of students on online Teaching-Learning during lockdown. Survey conducted among 4 different groups on use of ICT for Teaching-Learning reflected positivity towards following group of students:

i. Female students were more comfortable on using ICT in Teaching-Learning during lockdown.
ii. College students have better experience than university students on use of ICT in Teaching-Learning during lockdown.
iii. Science students have better utilization behavior than non-science students on use of ICT in Teaching-Learning during lockdown.
iv. Similarly, PG students have better utilization behavior than UG students on use of ICT in Teaching-Learning during lockdown.

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Appendix I

Question 1: Are you aware about software tools for Teaching-Learning /ICT (Give your answer as Yes if you Know at least three tools).?
Question 2: How you are interacting with your teachers and colleagues during lockdown.?
Question 3: Are you using ICT tools (Device and Software) for Teaching-Learning during lockdown.?
Question 4: How much time you are spending in ICT based Teaching-Learning during lockdown.?
Question 5: Have you enrolled in any online courses like SWAYAM, NPTEL etc. during lockdown.?
Question 6: Are you attending class online using any online platform during lock down.?
Question 7: Have you used ICT tools first time during lockdown.?
Question 8: Is your University/College has released any notification/Notice to use online ICT tools for Teaching-learning and instructed you to keep in touch with students during lockdown.?
Question 9: Lockdown has enhanced your knowledge and provide an opportunity to learn ICT tools for Teaching-Learning.?
Question 10: Have you attended any ICT related workshop/Seminar etc. during lockdown to enhance your knowledge.?