STUDENT'S FEEDBACK ON ONLINE EDUCATION
DURING COVID 19
(A National Study)

May 2020

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CONTENT

1.   Acknowledgments

The COVID 19 pandemic has affected almost all sectors and every sphere of life. Education is one of the important sectors which faced multiple challenges during the current crisis. This Study "Student's Feedback on Online Education during COVID 19" is an attempt to understand the efficacy of Online line Education amongst the Higher Education Students.

It was important to find out and understand the various factors which affected the students' in carrying out their education during this pandemic, also how online education was taken by the students during the pandemic.

It is my privilege to acknowledge and show deep gratitude to Prof. Ayub Khan, former Vice-Chancellor I/C MANUU Hyderabad, Prof Fatima Begum Honourable Vice-Chancellor I/C MANUU Hyderabad, Prof S M Rahmatullah Registrar I/C MANUU Hyderabad, Prof. Syed Mohammed Haseebuddin Quadri, Director IQAC, MANUU Hyderabad for encouraging this endeavor. My sincere thanks to Ms Nanu Bhasin, Additional Director General, Press Information Bureau, MHRD, Govt of India for her great encouragement and advising all Social Media Champions of Central Universities/ Institutes to support the study.

My thanks are due to my co-authors who helped me in this study Dr Rafi Mohmad, Asst Professor, Dept. of Education & Training and Mr Md Imtiyaz Alam, Jr. Research Officer, Instructional Media Centre, MANUU Hyderabad.

This study would not have been possible without the support of staff and students of many Institutions and Universities across India who readily agreed to support the study. My gratitude to the staff and students of MANUU Hyderabad, MNNIT

Allahabad, Babasaheb Bhimrao Ambedkar University Lucknow U.P., SRFTI KOLKATA, Indian Institute of Engineering Science and Technology Shibpur, Aligarh Muslim University, IIT KHARAGPUR, Visva-Bharati University, Scottish Church College, IIIT Hyderabad, Indian institute of Science, HSS, Rabindra Bharati University, Kl University, Vignan University, Kakatiya Institute of technology sciences, Lady Brabourne College , Vidyasagar College, Bethune college, Osmania University and more.

2.   Introduction

COVID 19 is an extraordinary crisis of this century. Probably, the world has never ever witnessed a situation like COVID-19 pandemic earlier when the whole world came to stand still and almost all activities ceased. This pandemic affected human civilization at various levels and introduced the globe with new issues and challenges. Current lockdown changed our thinking process, our living and working patterns as well.

Through the media, while everyone was watching the stagnant images of life from all across the globe,, sametime the parallel world of Digital platforms provided much needed impetus to life and governance. Had there not been the third and fourth Industrial revolutions, life would have been very difficult during this pandemic. Infact, there would have been much more loss to human lives as well. During COVID 19, life continued with the byproducts of the last two industrial revolutions i.e. Online/Digital platforms.

This is a well known fact that the last two industrial revolutions provided us new ways of processing and sharing information through computers and digital systems. Further, "Cyber- human combo" – that is, the merging of the capabilities of both humans and machines opened the doors to a new era of artificial intelligence, biometrics and the Internet of Things as we know it today.

Digital Learning Platforms were initially introduced for Distance Education purpose and later these platforms were also utilized in regular mode of education as well   in the form of blended and flipped mode of learning as complementary/supplementary online education platforms. But the current pandemic situation completely changed the scenario of utilizing online education platforms.

The whole world facing the COVID 19 outbreak, more than ever the need of Online teaching was felt. During current COVID 19 lockdown, the importance of Digital way of education was well recognised as Online Education platforms came very handy in reaching large and diversified students. Worldwide lockdown redefined pedagogy and the Digital way of education became the mainstream.

This survey/study is an attempt to find out and analyse the challenges and issues faced by the students across the country while attempting online learning and how limitations, if any, can be overcomed with suitable solutions. Therefore findings of this study may be useful in devising online education strategies and policies.

(RIZWAN AHAMD)

3.   Need and Rationale of the Study

Online education is an important digital platform to engage the students in an enriching learning experience. Though online platforms were available to access the educational content for quite some time, the importance of online education was perhaps truly realised during COVID-19.

Besides the current COVID 19 lockdown situation, online education has its own significance for a large country like India where the Gross Enrolment Ratio is still less than 30 %. Online Education, if planned strategically, has the potential to change the education scenario in the country. However, online education has its own challenges and issues which need to be found out and analysed to improve the efficacy of online education.

During the current lockdown, teachers engaged with the students through multiple digital learning platforms which helped the students in continuing their studies and added a whole new perspective to the education in the country.

Conventional mode of education (Face to Face Education) provides a very effective way of delivering the education wherein teachers and students can engage in a discussion at multiple levels. If the same level of interactivity is possible during online education or not, is an important question. Is Online education just about delivering the content via the internet on your mobile or desktop/laptop? Or It is a pedagogy which needs thorough understanding and training of digital interfaces to both teachers and students to make the effective use of online tools through a multilogue. There are several factors which affect the process of online education such as availability of electricity, hardwares, softwares, internet connectivity, training of teachers and students etc.

Therefore it was important to find out the issues and challenges faced by the students during the Pandemic online education, if they were enriched through the digital platforms and how the students perceived the online education.

Now, Online Education is not limited to the Distance Learners only but it has taken a mainstream look. Flipped mode of learning and blended mode of learning have already been incorporated in Regular mode of learning. It seems, after COVID 19, online mode of learning is going to be part of mainstream education as well. In this context as well, this study was needed so that future education strategies could be worked out as per the target group's limitations and requirements.

4.   METHODOLOGY

This study was planned on a survey mode at all India level, wherein a set of extensive questionnaires, mostly closed ended multiple choice type questions while there were some open ended questions as well was sent to various universities / institutes through Social Media Champions group of MHRD, Govt of India and by other means on 30th April 2020.

While most of the questions were quantitative in nature, hence the quantitative data stratification method was applied to analyze the data. The questionnaire included Student's Profile, Resources and Infrastructure Availability for online Education, Awareness and Experience of Using Online Platforms, Online Platform Access, Preferences and Expectations etc

The research universe of the study was from higher education institutions, universities, colleges from across the country consisting of the Diploma, Certificate, undergraduate, postgraduate and research students. It was very much in the plan of the study that random responses in the forms of data are collected from heterogeneous student's groups so that study represents India's top ranking institution like IITs as well as small colleges.

Students were requested to submit their responses by May 6, 2020 but the date of submission was further extended on requests.

A total of 1069 students from the following Universities/Institutes/Colleges etc responded to the survey. This formed the random sample of the study spread all across the country.

S.No	Universities/Institutes/Colleges etc involved in the study
1	Indian Institute of Technology, IIT Kharagpur
2	Indian Institute of Engineering Science and Technology ,IIEST, Shibpur
3	Aligarh Muslim University
4	Asutosh college, Kolkata
5	Babasaheb Bhimrao Ambedkar University Lucknow
6	Bethune College, Kolkata
7	Motilal Nehru National Institute of Technology, MNNIT Allahabad
8	Vignan university
9	IIIT Hyderabad
10	VFSTR UNIVERSITY, GUNTUR
11	Scottish Church College , Kolkata
12	IIT Bhubaneswar
13	Indian institute of Science, Bengaluru
14	Indian Institute of Technology Hyderabad
15	Kakatiya Institute of Technology Sciences, Warangal
16	Kl University, Vijayawada

17	Lady Brabourne College , Kolkata
18	Osmania University, Hyderabad
19	Rabindra Bharati University, Kolkata
20	Sachidanand Sinha College, Bihar
21	SRFTI, KOLKATA
22	Ushangini Balika Vidyalaya, Chandannagar, West Bengal
23	VFSTR, Guntur
24	Vidyasagar College, Kolkata
25	Visva-Bharati University, Santhinikethan, West Bengal
26	Maulana Azad National Urdu University, Hyderabad

Though the students of above 26 colleges, institutes, universities etc were involved in the study, it covered quite a good number of states all across the country. Details of the States covered can be seen in the chapters detailing the States, Districts,Towns covered during the Study.

The study is based on the data received from the students online. The data had a good mix of gender, rural urban, Diploma, graduate, postgraduate and Research students. The study has been done almost after a month of lockdown and hence it can be assumed that students had enough of online teaching learning experience by the time this study started. Still, needless to mention that every study has its own limitations.

5) Student's Profile

Aim of this chapter was to map the students profile through their education details such as class/course/semester etc, This section of the study also included several important details such Student's Level of Education, States, Districts,Towns they belong to, thus the study covered the geographical details, Rural Urban Representation, Colleges, Institutes and Universities involved, Gender Representation etc

This section of the study was important in understanding the sample diversity, gender and geographical representation. Accordingly, the section was divided into five chapters as per the following details.

5.1) Students Level of Education involved in the Study

Out of the total sample of the study, approximately 63 % were UG students, 23.9 % were PG Students, 6.3 % Research Students and 6.1 % were the College/Diploma level students.

Level of Education:

1,037 responses
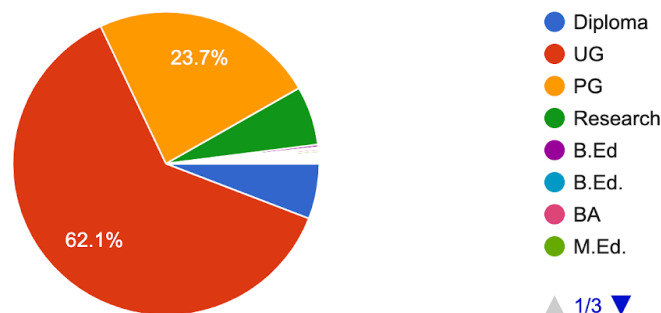
5.2)   States, Districts,Towns represented during the Study

The study involved 1069 participants but it covered 26 States/UTs and quite a good representation of Districts and other areas. Following is the breakup of the geographical representation during the study.

States Represented -

S.No	Name of the States Represented in the Study
1	Andhra Pradesh
2	Arunachal Pradesh
3	Assam
4	Bihar
5	Chandigarh
6	Chhattisgarh
7	Goa
8	Gujarat
9	Haryana
10	Himachal Pradesh
11	Jammu & Kashmir
12	Jharkhand
13	Karnataka
14	Kerala
15	Madhya Pradesh
16	Maharashtra
17	New Delhi
18	Odisha
19	Punjab
20	Rajasthan
21	Tamil nadu
22	Telangana
23	Tripura
24	Uttar Pradesh
25	Uttarakhand
26	West Bengal

Districts/Towns Represented -

S No	Name of the Districts/Towns Represented in the study
1	Agra
2	Ahmedabad
3	Ajmer
4	Akola
5	Aligarh
6	Alipurduar
7	Allahabad
8	Alwar
9	Ambala Cantt
10	Amravati
11	Amroha
12	Ananatnag
13	Anantapur
14	Araria
15	ARWAL
16	Aurangabad
17	Azamgarh
18	Ballia
19	Balod
20	Banka
21	Bankura
22	Baramulla
23	Bareilly
24	Bargarh
25	Bastar
26	Basti
27	Begusarai
28	Belagavi
29	Belgachia
30	Bengaluru
31	Bengaluru Rural
32	Bengaluru South
33	Bengaluru Urban
34	Betuk

35	Betul
36	Bhadradri kothagudem
37	Bhadrak
38	Bhagalpur
39	Bharatpur
40	Bhatinda
41	Bhiwani
42	Bhojpur
43	Bhopal
44	Biddhannagar
45	Bilaspur
46	Birbhum
47	Bokaro
48	Bulandshahr
49	Burdawan
50	Burdwan West
51	Cachar
52	Chandauli
53	Chandigarh
54	Chandrapur
55	Chengalpattu
56	Chennai
57	Chhindwara
58	Chitradurga
59	Chittaurgarh
60	Chittoor
61	Chittorgarh
62	Coimbatore
63	Coochbehar
64	COOCHBEHAR
65	Cuttack
66	Dahod
67	Darbhanga
68	Darjeeling
69	Darrang
70	Dausa
71	Dehradun
72	Delhi

73	Dhamtari
74	Dhanbad
75	Dhar
76	Dhenkanal
77	Kishanganj
78	East delhi
79	East Godavari
80	East Midnapore
81	East Singhbhum
82	Ernakulam
83	Faridabad
84	Fatehpur
85	Firozabad
86	Garhwa
87	Gautam Budh nagar
88	Gaya
89	Ghaziabad
90	Ghazipur
91	Giridih
92	Gondia
93	Gorakhpur
94	Guntur
95	Gurugram
96	Gwalior
97	Hamirpur
98	Hanumangarh
99	Hathkalangale
100	Hooghly
101	Howrah
102	Hyderabad
103	Indore
104	Jabalpur
105	Jaipur
106	Jalgaon
107	Jalpaiguri
108	Jammu
109	JAMNAGAR
110	Jamtara

111	Jamui
112	Janakpuri
113	Janjgir-champa
114	Jaunpur
115	Jhabua
116	Jhalawar
117	Jhansi
118	Jhargram
119	Jhunjhunu
120	Jodhpur
121	Junagadh
122	Kadaap
123	Kamareddy
124	Kamrup
125	Kandhamal
126	Kangra
127	Kanpur
128	Kanpur dehat
129	Kanyakumari
130	Karimnagar
131	Karnal
132	Kathua
133	Katihar
134	Khagaria
135	Khammam
136	Khandwa
137	Kharagpur
138	Kheda
139	Khordha
140	Khurda
141	Kishanganj
142	Kokrajhar
143	Kollam
144	Korba
145	Koriya
146	Kota
147	Kottayam
148	Krishna

149	KUPWARA
150	Kurnool
151	Lakhimpur
152	Lakhisarai
153	Latur
154	Lower Subansiri
155	Lucknow
156	Madhubani
157	Madurai
158	Mahaboobnager
159	Mahabubabad
160	Mahabubnager
161	Maharajganj
162	Mahoba
163	Malappuram
164	Malda
165	Mandi
166	Mandsour
167	Mathura
169	Mau
170	Mayurbhanj
171	Medak
172	Medchal
173	Medchal Malkajgiri
174	Medinapur
175	Medinipur West
176	Midnipur west
177	Mohali
178	Moradabad
179	Morena
180	Motihari
181	Mumbai
182	Mumbai City
183	Mumbai Suburbs
184	Munger
185	Murshidabad
186	Muzaffarpur
187	Mysuru

189	Nadia
190	Nagarkurnool
191	Nagpur
192	Nalanda
193	Namakkal
194	Nawada
195	Nellore
196	Neudh
197	New Delhi
198	NIZAMABAD
199	North. 24 Parganas
200	Palwal
201	Paschim Burdwan
202	Paschim Medinipur
203	Patna
204	Peddapalli
205	Poonch
206	Prakasam
207	Pune
208	Purba Barddhaman
209	Purba Medinipur
210	Purnia
211	Purulia
212	Purva Bardhaman
213	Raebareli
214	Raichur
215	Raigad
216	Raipur
217	Rajanna Sircilla
218	Rajgarh
219	Rajouri
220	Ramgarh
221	Ranchi
222	Ranga Reddy
223	Rohtak
224	Rohtas
225	Sahibganj
226	Samastipur

227	Sambalpur
228	Sangareddy
229	Saran
230	Satna
231	Seraikella Kharsawan
232	Sheopur
233	Siddharthnagar
234	Siddipet
235	Sikar
236	Sirsa
237	Sitamarhi
238	South 24 Paraganas
239	South Delhi
240	South Tripura
241	Sriganganagar
242	Srikakulam
243	Sundargarh
244	Supaul
245	Surat
246	Suryapet
247	Tapi
248	Thane
249	Thiruvananthapuram
250	Thrissur
251	Tonk
252	Tumkur
253	Udupi
254	Uluberia
255	UMARIA
256	Unnao
257	Uttar Dinajpur
258	Vadodara
259	Vaishali
260	Vasco da gama
261	Visakhapatnam
262	Vizianagaram
263	Wanaparthy
264	Warangal

265	Warangal Urban
266	West Champaran
267	West Godavari
268	West Midnapur
269	West Singhbhum
270	West Tripura
271	Yamunanagar
272	YSR Kadapa

5.3)   Rural, Urban Representation in the Study -

Out of the total sample, almost 71.1 % comprised the Urban sample, amongst them 60 % of respondents are from Small Towns and cities and 27.7 % of total respondents formed the Rural sample.

Place of living: Village/ Town/ Metropolitan City —————————
1,037 responses

- Village
- Town
- City
- Metropolitan City
- Campus
- Muzaffarpur
- Old City falaknuma
- jammu and kashmir: dist.DODA

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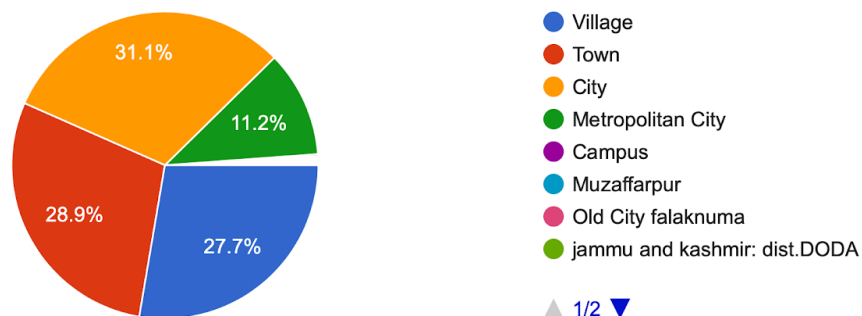
5.4) Colleges, Institutes and Universities involved in the Study

For this study responses were received from the following 26 Universities, Institutes and colleges from all across India. Details are as following -

| S.No	Universities/Institutes/Colleges etc involved in the study
1	Indian Institute of Technology, IIT Kharagpur
2	Indian Institute of Engineering Science and Technology ,IIEST, Shibpur
3	Aligarh Muslim University
4	Asutosh college, Kolkata
5	Babasaheb Bhimrao Ambedkar University Lucknow
6	Bethune College, Kolkata
7	Motilal Nehru National Institute of Technology, MNNIT Allahabad
8	Vignan university
9	IIIT Hyderabad
10	VFSTR UNIVERSITY
11	Scottish Church College , Kolkata
12	IIT Bhubaneswar
13	Indian institute of Science
14	Indian Institute of Technology Hyderabad
15	Kakatiya Institute of Technology Sciences

16	Kl University
17	Lady Brabourne College , Kolkata
18	Osmania University
19	Rabindra Bharati University
20	Sachidanand Sinha College, Bihar
21	SRFTI, KOLKATA
22	Ushangini Balika Vidyalaya
23	VFSTR, Guntur
24	Vidyasagar College, Kolkata
25	Visva-Bharati University
26	Maulana Azad National Urdu University, Hyderabad

5.5) Gender Representation in the Study

Out the total 1037 responses received, 78.6 % were males and 21.4 % females.

Gender:

1,037 responses
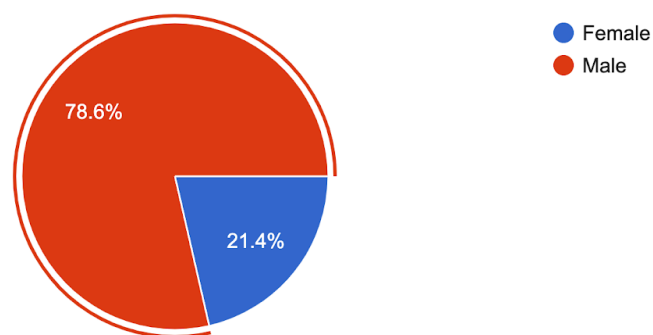
6.   Infrastructure Availability for online Education

The concept of Online education is dependent on IT based technology which involves computer, internet, knowledge of digital platforms and training / skill to deliver and access the online education. These are the mandatory infrastructure interfaces without which online education can not be delivered.

Since, this section of the study involved the study of infrastructure which is the basis of online education, a wide range of questions dealing with tools, infrastructure and related questions were put up under this section to understand the availability of desired infrastructure amongst the   research universe.

Study under this section was completed with seven subsections starting with the availability of electricity in the area, internet availability , digital devices availability etc.
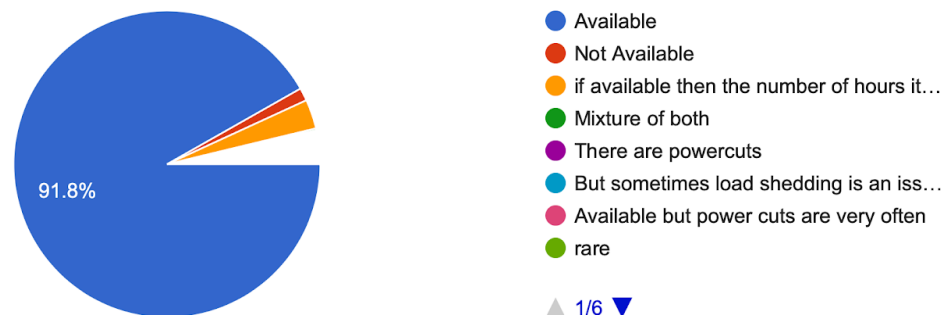
6.1   Electricity availability in the area

Electricity is the prerequisite to access online education as IT equipment required for online education cant run without electricity, hence it is important to find out if the students has access to the power supply.

In response to the question 91.8 % students confirmed that they have electricity in their area, however 1.4 % students said that electricity is not available in their area. Approximately 4 % students responded that though electricity is available in their area there are frequent cuts or it is available for less number of hours. There was a section of students, approximately 0.1% who are using Kerosine Oil and Solar lamps.

But this data suggests that over 90% of students have proper electricity supply in their area which is an encouraging sign for Online Education.

Electricity availability in your area
1,037 responses

- Available
- Not Available
- if available then the number of hours it…
- Mixture of both
- There are powercuts
- But sometimes load shedding is an iss…
- Available but power cuts are very often
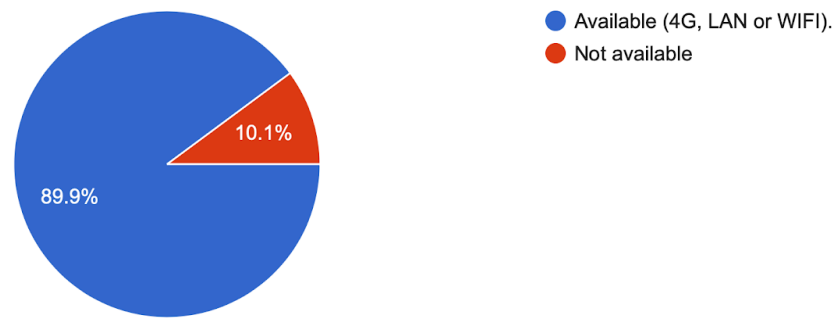- rare

△ 1/6 ▽

91.8%

6.2 Internet facilities in the area

After power availability, internet availability in the area is another important factor for online education. The concept of online education does not exist without the availability of the internet in a given area.

Response to this question indicates that almost 90 % students have internet facilities in their areas.

Internet facilities in your area

1,037 responses

6.3   Internet facilities at your home

Students might have the internet connectivity in their area but whether the internet facilities were available at their homes or not was another important factor for students to continue their studies online.

This figure dropped almost 10 % in comparison to the internet availability in students areas. In an earlier question, students indicated that 89.9 % students have internet connectivity in their area but internet connectivity at their home was 79.6% and 20.4 % students don't have internet connectivity at their homes.

Internet Facility at your home
1,037 responses
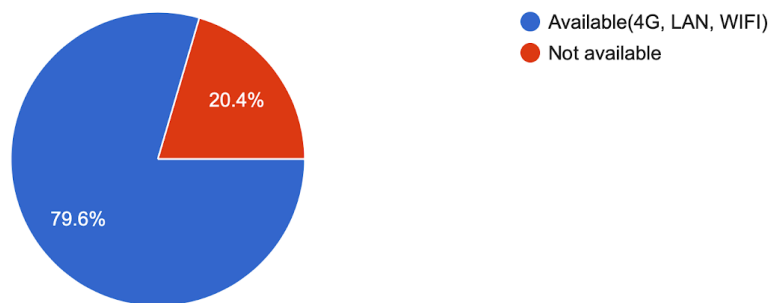
6.4 Electronic Devices availability at Home or with you

Besides power and internet availability, students need an electronic device such as laptop, desktop, mobile, tablet etc to access the online content.

Responding to this question, 96.8 % students indicated that they have a mobile with them and there is a sizable population of students which has 2-3 electronic devices such as mobile, laptop and desktops with them. Only 0.8 % indicated that they don't have any device with them.

Electronic Devices availability at Home or with you

1,037 responses
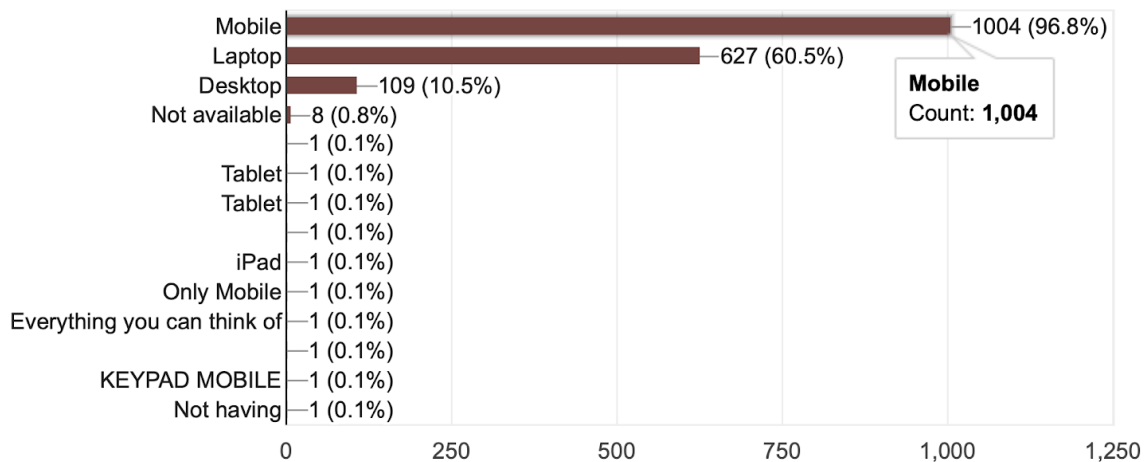
6.5   Internet Access pattern for online teaching

It was important to find out the Internet Access pattern for online teaching for a simple reason that how students accessed the Online education during lockdown, which devices they used during the lockdown, whether those devices were suitable for online education or those were used due to the availability of single devices only.

In response to this question students indicated that 75.4 % of the students used their mobile to access the internet for online learning and along with mobile students also used laptop and desktop as well. Suitability of these devices has been analysed in coming chapters.

How do you access internet for online learning?
1,037 responses
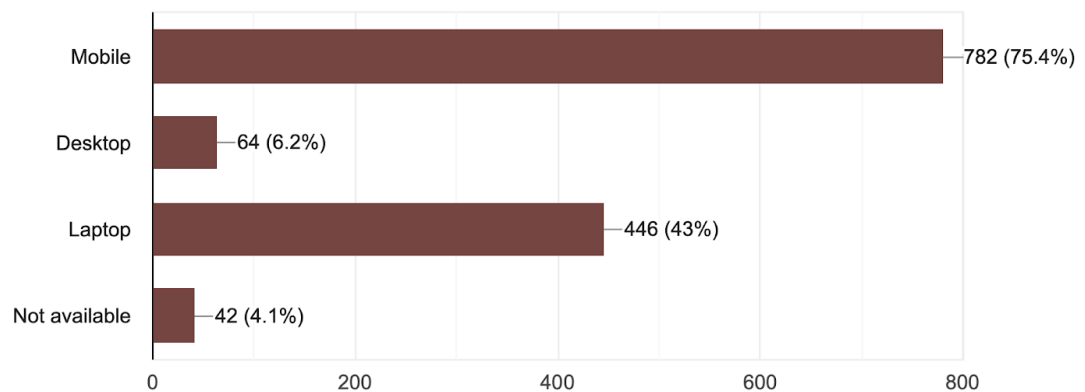
6.6   Do you have a Mobile Phone?

Many researches show that a large amount of content is accessed through Mobile devices and in this study as well it was important to find out if the content is being accessed through mobile and if the target group has access to mobile.

In response to this question, 96.4 % students indicated that they have a mobile phone, 3.2 % said that they use their family members mobile phone and only 0.4 % said that they don't have a mobile phone.

Do you have a Mobile Phone?

1,037 responses

- Yes
- No
- I use my family member's mobile

96.4%
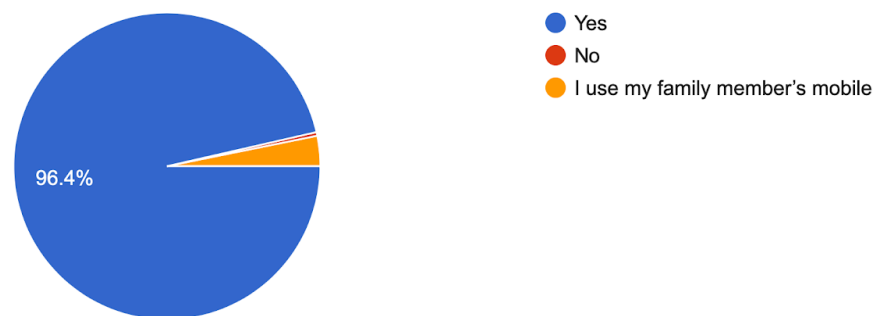
6.7   Do you have a SMART/Android Mobile Phone?

To access the online content one needs a Smart/ Android Mobile device otherwise it is difficult to access the online content on a normal mobile, hence this question was pertinent to the study.

In response to this question, out of the sample of students who have a mobile, 98.1 % of these students confirmed that they have a Smart/ Android mobile phone.

Do you have a SMART/Android Mobile Phone?

1,037 responses

- Yes
- No

98.1%
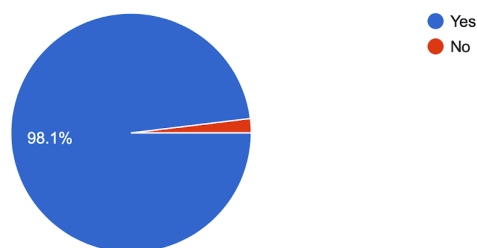
7.   Awareness and Experience of Using Online Platforms

In this Section of the study it was analysed that if the students were already aware about the digital learning platforms and what was their level of awareness ? Besides the awareness, the students were also asked about their experience of using various digital learning platforms.

This Section of the study is divided into 12 following chapters .

7.1   Are you aware of online learning platforms?

The first obvious question of this section was to find out if the students were already aware about the concept of Online learning platforms and later it helped to further analyse the level of their awareness by quoting few important digital learning platforms to the students.

In answer to the awareness about the online learning platforms, 89 % students responded that they are aware about the Online learning platforms while 11 % were not aware of those platforms.

Are you aware of online learning platforms- Yes/No

1,037 responses
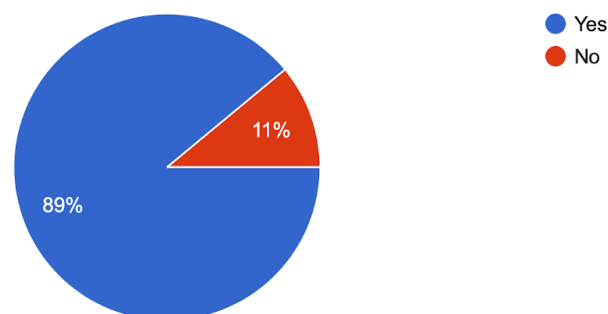
7.2   Is this the first time you have attended online Classes?

Though students may be aware of the Online Learning platforms but did they really attain the online classes earlier or COVID 19 lockdown was their first experience of attending the Online classes.

In response to this question, 67.2 % students said that it was their first experience of attending online classes during the lockdown and 27.9 % students said that it was not their first time while 4.9 % were not sure.

Is this the first time you have attended online Classes? Yes/No
1,037 responses
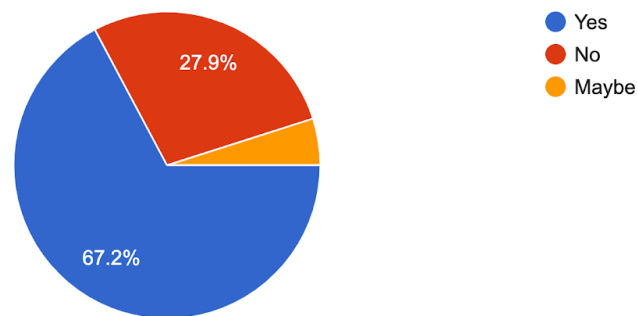
7.3   You accessed online learning platforms yourself or those were shared by your teacher

COVID 19 lockdown was an extraordinary situation which triggered students' teachers to hook on to various online platforms. In this context, the students were asked to share whether during the lockdown they accessed the online platforms on their own or those were shared by their teachers.

In response to this question, 70.6 % students said online platforms were shared by their teachers and 25 % students accessed them on their own. 1.4 % students indicated that they access their own as well as provided by the teachers as well. While a small group of students could not accessed due to the lack of internet or poor internet connectivity.

Do you access online learning platforms by yourself or those which are shared by your teachers?
1,037 responses
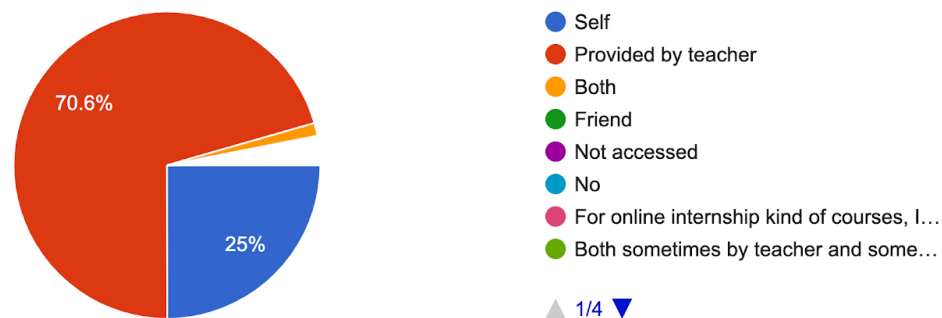
## 7.4   What is Percentage of Teachers who are taking online Classes?

Since, students were cut off from the face to face classes during the lockdown, so it was important to find out if all the teachers were engaged in online teaching or only a section of teachers were taking online classes.

This study received multiple responses. Only 14.9 % students have indicated that 100 % teachers were taking online classes, while 26.6 % students said that only 75 % of their teachers took online classes. Amongst them 23.8 % students indicated that only 50 % of their teachers were taking online classes while 24.3 % students said that only 25 % teachers were taking online classes.

A small section of students indicated that online classes were not taken but study material was sent through   mail while few other students quoted the unavailability of the internet.

What percentage of teachers are taking online classes?

1,037 responses

- 100 %
- 75 %
- 50 %
- 25 %
- 0%
- 0
- 10%
- None

△ 1/10 ▼
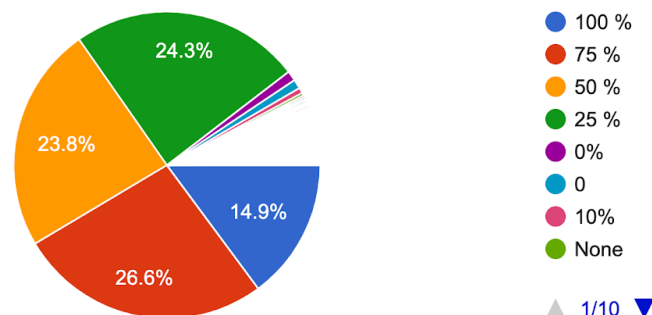
7.5 Which of the Platforms/apps did your teacher used while taking live class?

This is one of the most important aspects of the study which showcases the digital platforms/apps which were used for online classes. For online/live classes, a digital platform is mandatory and study of this particular finding indicates that lots of different platforms were used by the teachers. ZOOM platform tops this chart which was used by 56.6 % teachers to impart online education followed by YouTube live 17.4 % and Google meet by 14.2 % teachers. Other platforms as mentioned below were also used for live classes.

Which of the following platforms/apps did your teacher use while conducting live classes?
1,037 responses
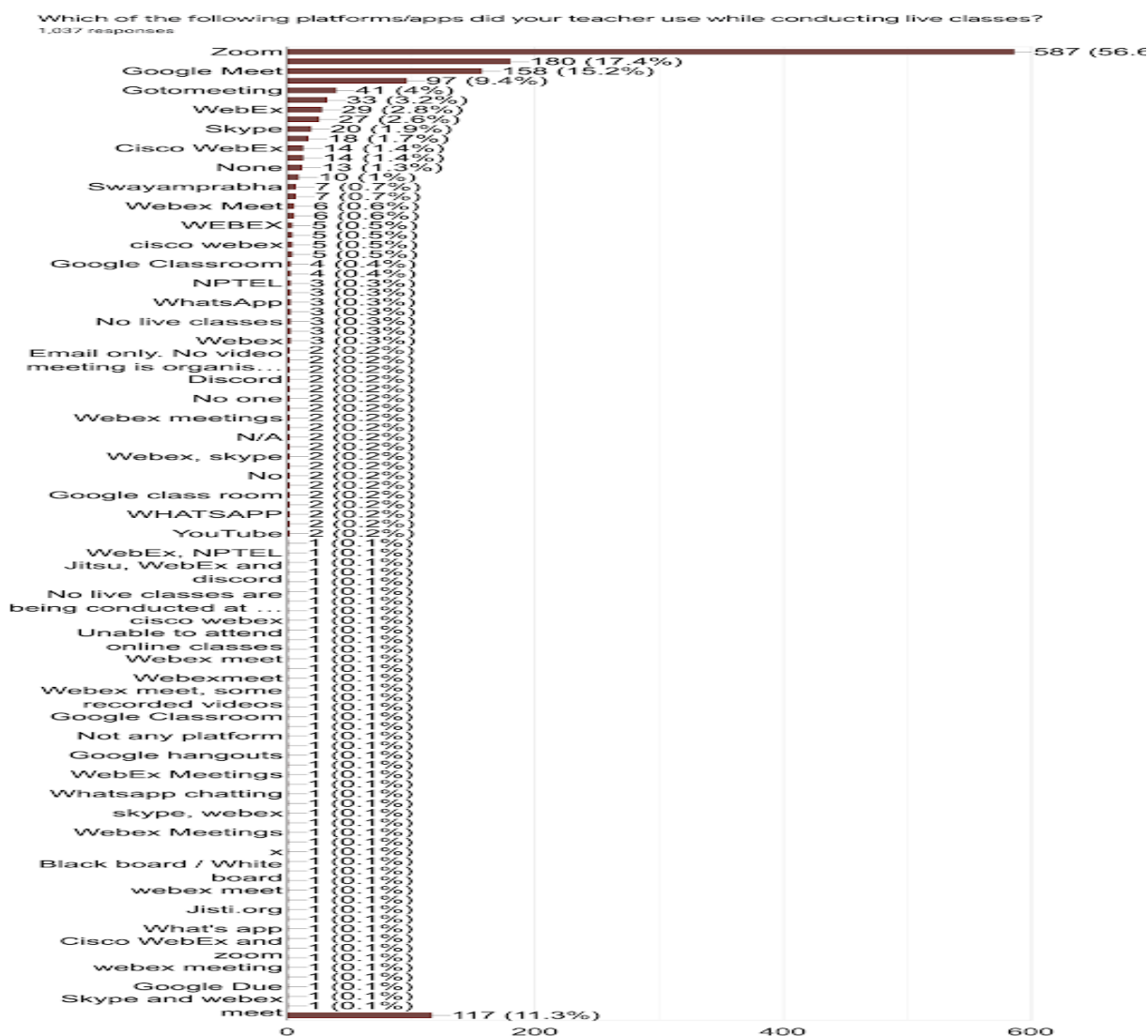
7.6 Did your teacher use any of the LMS(Learning Management System)?

While finding out the specific Learning Management Systems which were used by the teachers during lockdown, it was found out that Google Classroom was used by 39 % of the teachers and Moodle was used by 31.3 % of the teachers.

Approximately 4.8 % students indicated that no LMS was used during online teachings, while others responded that the platforms like Webex, Vimeo, Zoom, whatsapp were also used as LMS.

Did your teacher use any of the following LMS(Learning Management System)?
1,037 responses
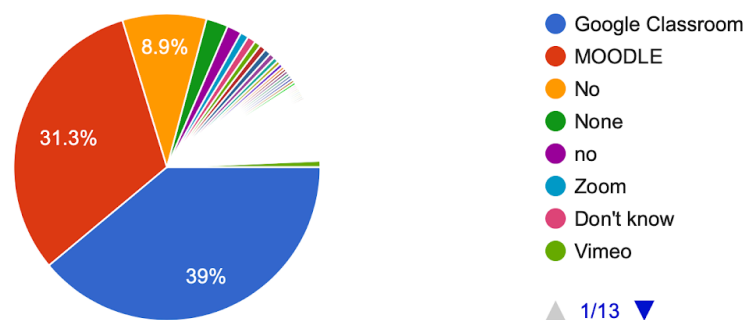
7.7   How was your experience using online learning platforms ?

Though students might have been acquainted with the online platforms earlier as well but COVID 19 situation enforced the extensive use of online learning platforms hence it was important to find out the experience of students while using these platforms.

Responding to this question, 41 % of students felt that their experience of using online platforms was good while almost 50 % of the students did not like the online learning experience. Others had mixed feelings and quoted the internet speed issues.

How was your experience using online learning platforms ?
1,037 responses

- Good
- Not Good
- Average
- Average
- None
- Not bad
- No experience
- Ok ok

▲ 1/12 ▼
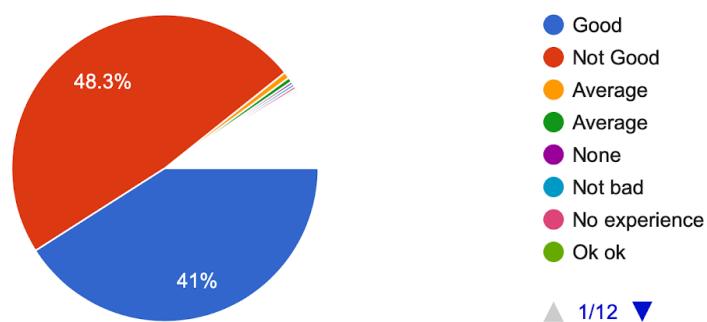
7.8 Do you think Online Class is better than face-to-face Learning in Classroom?

After finding out the online learning experience of the respondents it was important to make a comparative study between online and face to face learning.

Only 15.2 % students felt that Online class is better than face to face learning while 79.3 % students say online learning is not better than conventional mode of learning. Others felt that Online class can never be better than face to face learning, Will be good if proper internet facilities, yes, but with certain conditions,like internet and infrastructure .

Do you think Online Class is better than face-to-face Learning in Classroom?
1,037 responses

- ● Yes
- ● No
- ● Yes, when it is face to face, we can as…
- ● Sometimes
- ● There is a problem of internet speed a…
- ● Intermediate
- ● Not sure
- ● It depends on physical and mental he…

△ 1/8 ▼

7.9 Are you aware of SWAYAM online courses platform?

This study also tried to find out if the students are aware of Government of India's flagship digital learning platforms such as SWAYAM which is a free online MOOCs platform.

Study reveals that only 32.6 % students are aware of the SWAYAM online platform while 67.4 % students are not aware of this platform.

Are you aware of SWAYAM online courses platform?
870 responses

- ● Yes
- ● No
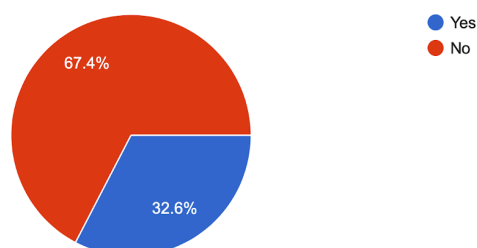
7.10   Have you enrolled yourself for any course on SWAYAM?

In response to this question it was found out that only 13.5 % of respondents have enrolled for the SWAYAM courses and 86.2 % of them have not yet enrolled for any SWAYAM courses.

Have you enrolled yourself for any course on SWAYAM?
1,037 responses

- Yes
- No
- If yes, Course Name
- I have not enrolled any course on swayam
- I am a TA in one course
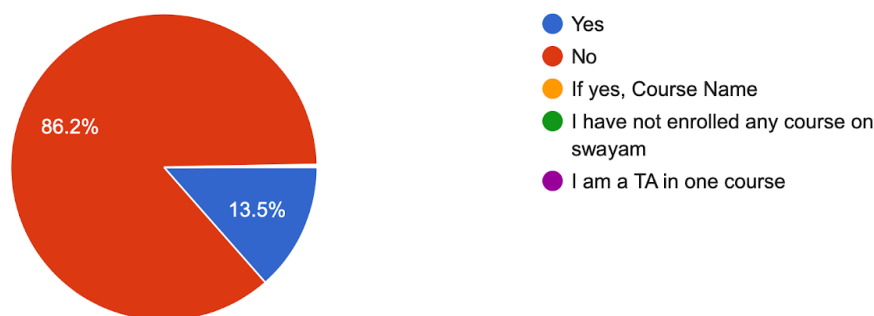
7.11   Are you aware of SWAYAM PRABHA?

It was also intended to enquire that if the students are aware of another Government of India's digital learning platform Swayam Prabha which has a bouquet of over 30 educational channels dedicated to various subjects.

In response to this question, it was found out that 21.5 % respondents are aware of the Swayam Prabha Channels and 78.5 % students are not aware of this platform.

Are you aware of SWAYAM PRABHA?
1,037 responses

- Yes
- No
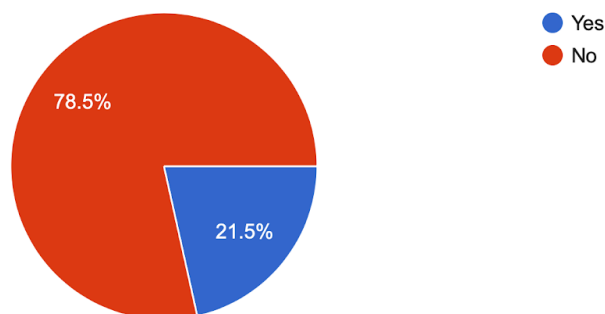
7.12   Have you ever watched a video lecture(s) on Swayam Prabha?

In response to this question, only 12.4 % students said that they watch educational videos on Swayam Prabha while 87.6 % of students do not watch videos on this platform.

Have you ever watched video lecture(s) on Swayam Prabha?
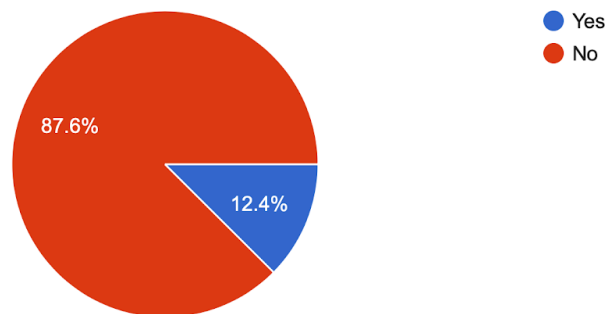1,037 responses

7.13 Are you aware of IMC MANUU YouTube Channel ?

This question was specifically addressed to MANUU students to understand the awareness of the channel amongst the students. Maulana Azad National Urdu University (MANUU) Hyderabad has its own YouTube Channel (www.youtube.com/imcmanuu) on which Higher Education Audio-Video programmes along with general enrichment programmes are being regularly uploaded for the benefit of students.

In response to the questions 81.5 % of the students confirmed that they are aware of IMCMANUU YouTube channel.

Are you aware of IMC MANUU YouTube channel (This question is only for MANUU, Hyderabad students)?

No
18.5%

Yes
81.5%
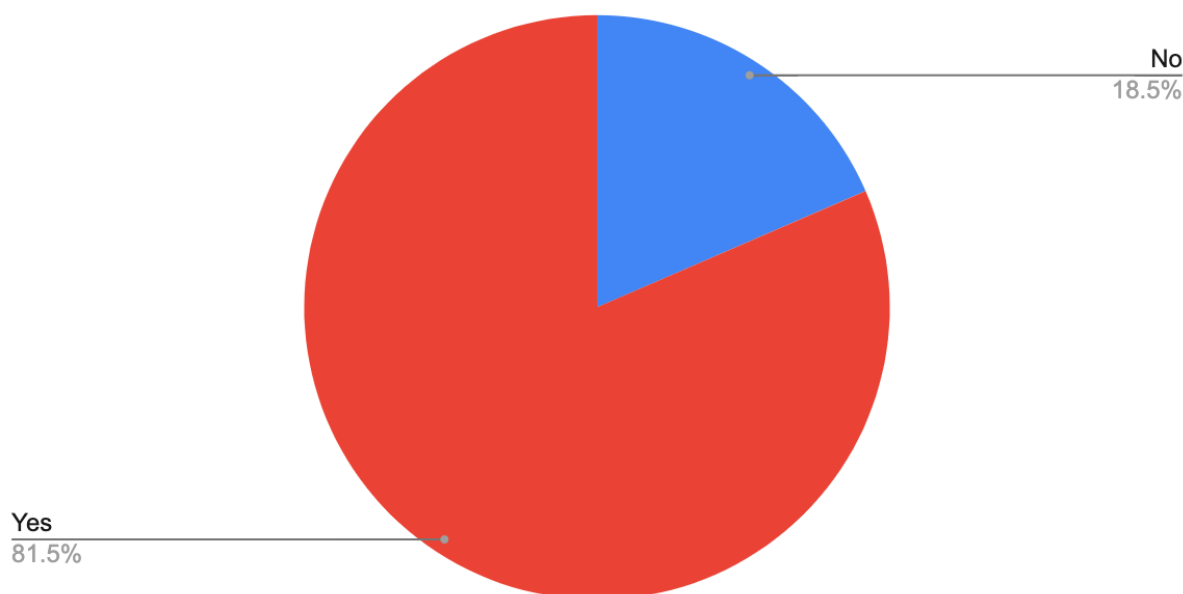
7.14 Have you ever watched videos on IMC MANUU YouTube Channel ?

This question was again addressed to MANUU, Hyderabad students to understand the awareness of the channel amongst the students.

Though 81.5 % of the students confirmed that they are aware of IMCMANUU YouTube channel but only 69.9 % respondents are watching the videos on the IMC MANUU YouTube Channel.

Have you ever watched video lectures on IMC MANUU YouTube Channel (only for MANUU, Hyderabad students)?

No
30.1%

Yes
69.9%
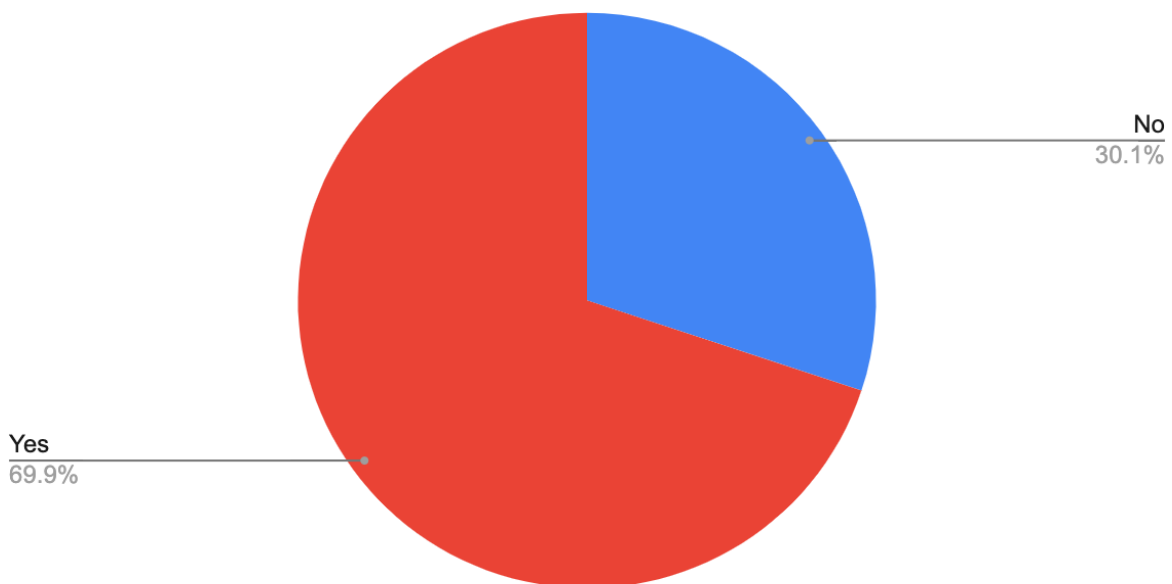
8.   Online Platform Access, Preferences and Expectations

This section of the study was basically designed to understand the pattern of online platform access, difficulties faced by the students during the online learning process, what are the expectations and preferences of students from the teachers , digital platforms during the online learning process and suggestions etc

This is the biggest section of the study and has been divided into 29 subsections/chapters as follows.

8.1   Did your teacher share content/Notes/Study Material online with you?

The basic workflow of the online education is utilizing an online platform for interacting and sharing the content online with the target audience.

In response to this question, 97.1 % students confirmed that their teachers shared the content with them online while 2.9 % said no.

Did your teacher share content/notes/study material online with you?
1,037 responses
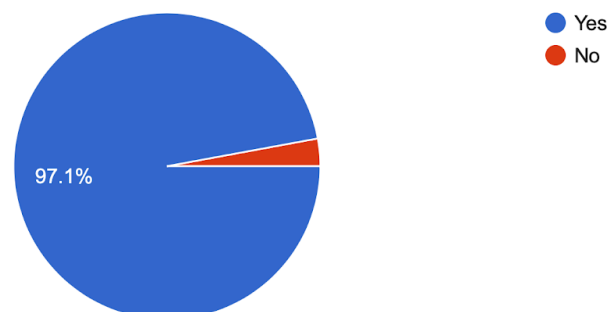
8.2   How did your teacher share study material?

Since teachers use multiple platforms to share the study material therefore in this question, respondents were given a choice of choosing more than one platform. In response to this question, most of the students opted for more than two platforms but email remains the most used platform for sharing the study material followed by whatsapp and Google Classroom. This study shows that teachers used more than one platform to share the study material with students and 76 % students said that study material was   shared by the teachers through email.

How did your teacher share study material?

1,037 responses
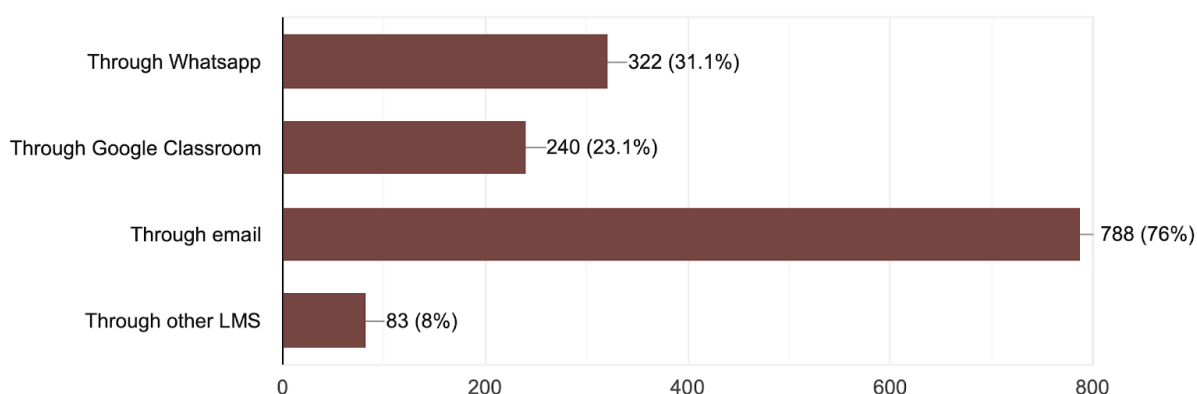
8.3   Does your teacher conduct any online exam?

In response to this question, 58.6 % students said that no online exams were conducted by their teachers while 41.4 % said that online exams were conducted by their teachers.

Does your teacher conduct any online exam?

1,037 responses
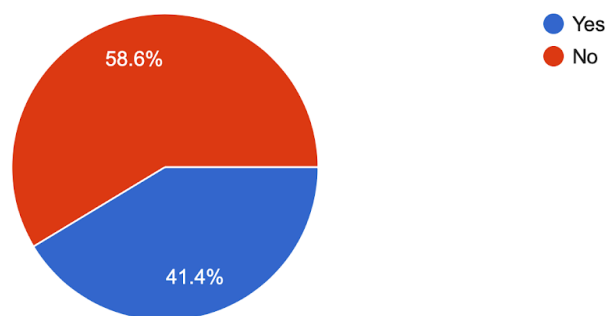
8.4   During lockdown, how many hours per day did you spend on the internet?

This question elicited multiple responses and the per day internet usage ranged from two hours to 12 hours.

During lockdown, how many hours per day did you spend on the internet?

1,037 responses

10 hours

8 hours

5 hours

6 hours

2 hours

4 hours

12 hours

4-5 hours

3 hours

8.5   During lockdown, how many hours per day did you spend on Online Learning?

This question also elicited multiple responses and the per day online learning ranged from one hour to 6 hours.

During lockdown, how many hours per day did you spend on Online Learning?

1,037 responses

2 hours

1 hour

3 hours

4 hours

5 hours

1-2 hours

2 hours

1- hour

6- hours

8.6   Which online learning mode do you prefer?

In response to the question 39.1 % students said that they prefer the recorded videos through whatsapp while 34.9 % students preferred live class through video conferencing. There are 20.3 % students who prefer to get printed notes through whatsapp. Some students prefer a combination of both and video sharing through YouTube and other means.

Which online learning mode do you prefer?
1,037 responses

- Live class through video conferencing
- Recorded videos shared through what…
- Printed Notes shared through whatsa…
- YouTube
- All of above
- I can't access online learning mode
- And recorded video including present…
- PDFs shared online, plus scope for int…

1/8

8.7 Do you think online class is a good substitute for face to face learning with a teacher ?

In response to the question 61.8 % students said that online class is not a good substitute for face to face learning with a teacher while 15.7 % students said yes online class is a good substitute for face to face learning and 22.5 % said it may be a good substitute for face to face learning.

Do you think online class is good substitute to face to face learning with teacher
1,037 responses
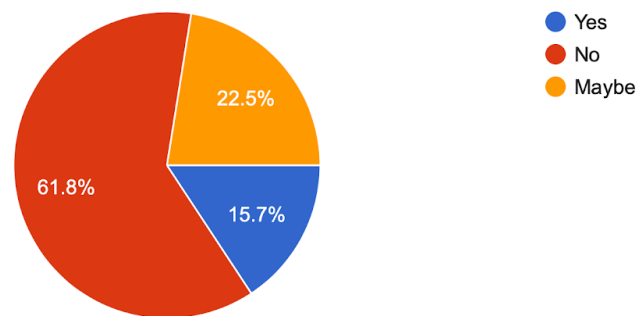
8.8   Do you think teachers require training to conduct online classes?

In response to the question 60.8 % students said that yes teachers require training to conduct online classes while 16 % students said that teachers don't need any training.   23.2 % of students felt that teachers may require training.

Do you think teachers require training to conduct online classes?
1,037 responses

- Yes
- No
- Maybe

16%
23.2%
60.8%
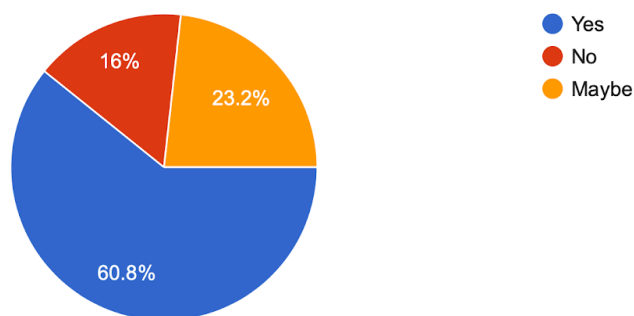
## 8.9   Do you think students need training to access online classes?

In response to the question 45.3 % of students felt that yes students require training to access online classes while 34 % students said that students don't need any training. 20.6 % students were not sure about it.

Do you think students need training to access online classes?
1,037 responses

- Yes
- No
- Maybe

34%
20.6%
45.3%
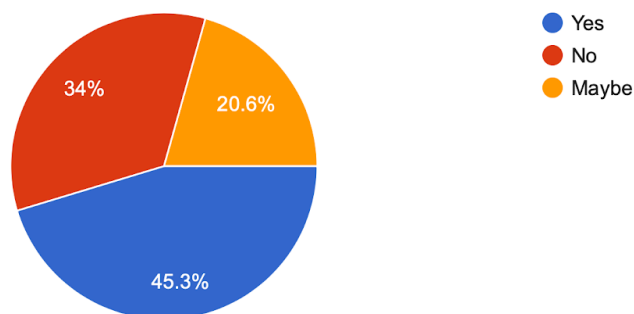
8.10   Do you think attending online/live class is a boring task?

In response to the question 44.6 % of students felt that yes online class is a boring task while 33.8 % students said that online classes are not a boring task. 21.7 % of students were not sure about it.

Do you think attending online/live class is a boring task?
1,037 responses

Yes
No
Maybe

33.8%   21.7%   44.6%

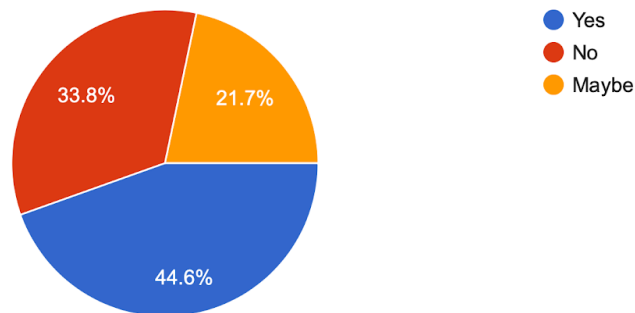## 8.11   Do you think attending online/live classes is stressful?

In response to the question 45.5 % of students felt that online class is not stressful while 37.7 % students said that online classes are stressful. 16.8 % of students were not sure about it.

Do you think attending online/live classes is stressful?
1,037 responses

Yes
No
Maybe

45.5%   16.8%   37.7%
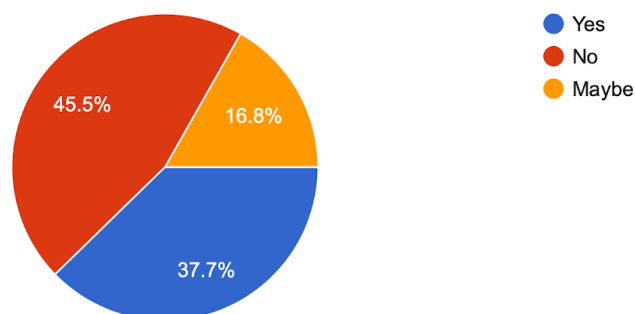
8.12 Attending an online exam is more difficult than an offline exam?

In response to the question 51.2 % of students felt that online examination is more difficult while 28.4 % students said that online examination is not difficult. 20.3 % of students said online exams may be difficult.

Attending online exam is more difficult than offline exam?

1,037 responses
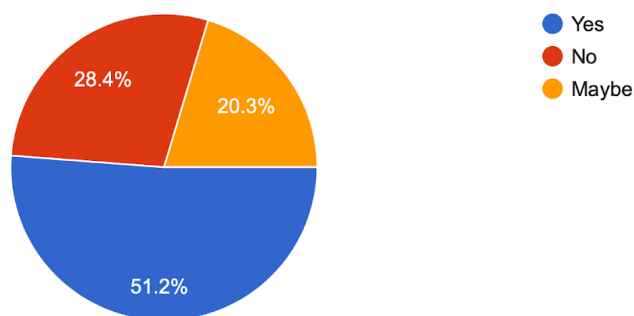
8.13 Concentrating/Paying attention to Online class is difficult?

In response to the question 69.3 % of the respondents felt that paying attention in online class is difficult while 25.3 % students said that it isn't difficult. Others say that it depends on the teacher, the number of lectures happening a day and network quality as well.

Concentrating/Paying attention to online class is difficult?

1,037 responses

8.14 Do you think online classes helped in continuing your studies during lockdown?

In response to the question 50 % of students felt that online class helped them in continuing their studies during the lockdown while 29.5 % students said that it does not. Others are not sure about it.

Do you think online classes helped in continuing your studies during lockdown?
1,037 responses
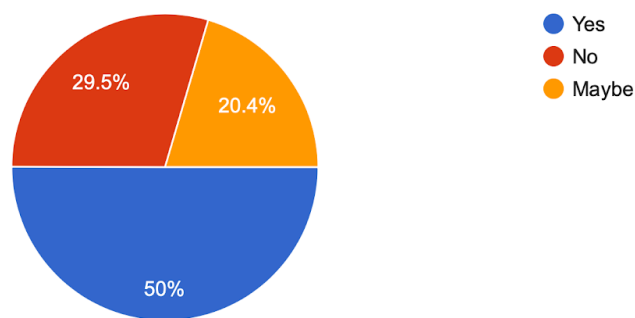
8.15 Is Online Class more effective than face to face mode to understanding concepts?

In response to the question 74.3 % of students felt that face to face class is more effective in understanding the concepts while 12.3 % students said that online classes were better in understanding the concepts. 13.3 % of students were not sure of it.

Online Class is more effective than face to face mode to understanding concepts?
1,037 responses
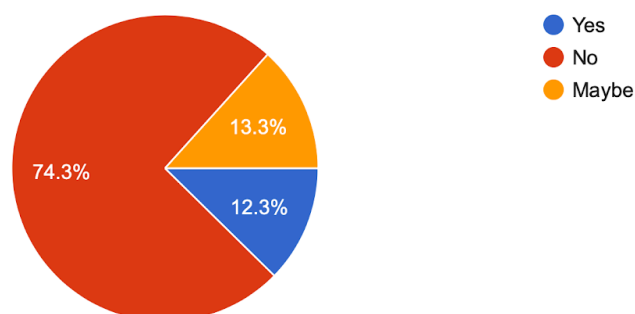
8.16 What should be the combination of Online and Face to Face mode of Classes, in future?

In response to the question 36.7 % of students felt that it should be the combination of 25% Online,75% face to face. and 24.4 % of students felt that it should be 100% face to face. 23.5 % says that 50% Online and 50 % face to face. 12.8 % were of the opinion of 75 % online and 25 % face to face.

What should be the combination of Online and Face to Face mode of Classes, in future?
1,037 responses
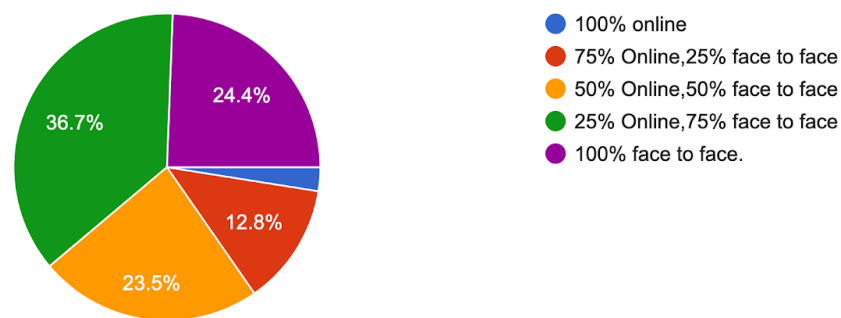
8.17   What are the issues you face while learning online?

In response to this question the majority of students complained about the lack of proper internet connectivity, disturbance of surroundings, unable to interact with the teacher and fellow students, lack of communication devices such as the laptop were few of the major issues quoted by the students.

What are the issues did you face while learning online?(tick all that apply)
1,037 responses

8.18   Which online learning platform is most suitable to you?

In response to this question the majority of students 50.7 % preferred the live class by teachers on a platform like ZOOM, Google Classroom etc while 39.2 % preferred Video lecture/assignment shared on whatsapp. Few students also preferred the Youtube video uploads and live classes through Facebook.

Which online learning platform is most suitable to you -
1,037 responses

- Live class by your teacher on platform…
- Live lecture on Facebook,
- Video lecture/assignment shared on…
- YouTube
- Webex
- webex
- WebEx meet
- Skype

▲ 1/11 ▼
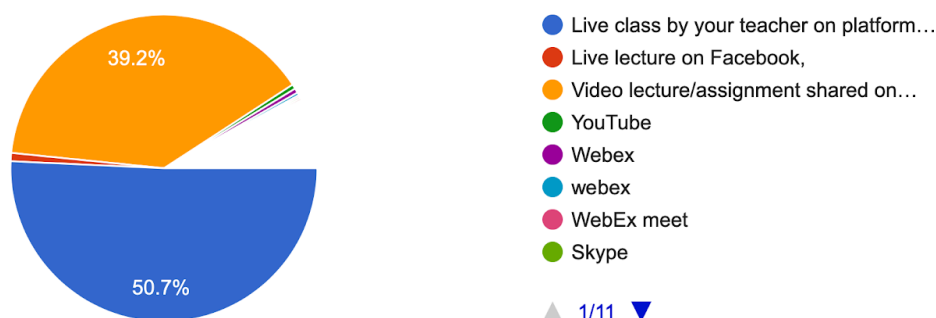
8.19   Is mobile comfortable for online class?

Though mobile was the most used device during the lockdown but in response to this question the majority of students 52.2 % said no to online classes through mobile device while 25.7% found Mobile comfortable for the online classes. 20.3% students were not sure about this but few suggested a bigger screen device like laptop for online classes.

Is mobile comfortable for online class ?
1,037 responses

- Yes
- No
- Maybe
- Laptop
- Yes it is comfortable... But only proble…
- There is a condition occur so far
- Never, it makes me feel lazy.
- Sorry to say this, some questions are t…

▲ 1/3 ▼
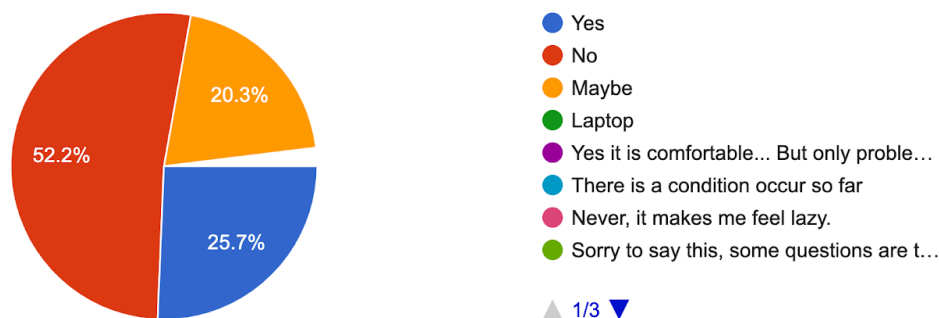
8.20 Do you think online class is a good substitute for face to face learning with a teacher?

In response to this question, 68.9 % students said that Online class is not a good substitute for face to face learning with a teacher while 15.3 % students felt that it is. 15.7% of students were not sure about this.

Do you think online class is good substitute to face to face learning with teacher?
1,037 responses
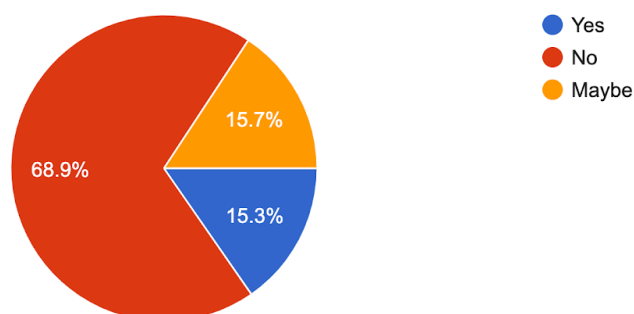
8.21 During lockdown conditions how would you prefer to get online education?

In response to this question, 56.4 % students said that they would prefer sharing video lectures and assignments on whatsapp etc while 38 % students felt that live online class with the teacher is a better option. Few preferred both the options.

During lockdown conditions how would you prefer to get online education-
1,037 responses
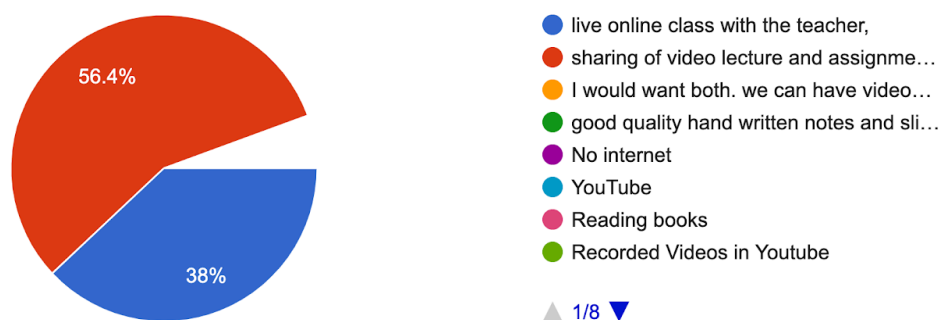
8.22 How can content be shared with your colleagues during lockdown who don't have internet facilities, mobiles or laptops -

In response to this question students have made the following interesting suggestions to share the content with those students who don't have internet facilities, mobiles or laptops.

1.   Make a portal where study materials of all the courses are made available to download so that required students can go to their nearest cyber hub to get those materials printed. An SMS system can also be used to make aware of this portal to all the students and to notify when some new materials are uploaded.

2.   Internet facility is now-a-days one of the fundamental things that a person should have access to, it wouldn't be wrong to say that free internet should be a fundamental right for everyone. In order to tackle the given situation, govt. can open a few centres in every town/city/village to facilitate online learning, where people can go, register themselves, and study online, for a specific amount of time.

3.   Arrange them a mobile and get an internet connection otherwise no one can help.

4.   Temporary mobile phones with internet can be rented to them categorised as essential service.

5.   Small voice messages should be recorded containing important information and sent to students via normal calls as happens in case of government advisories.

6.   Maybe using pen drives or sd cards with video lectures and notes

7.   For those who don't have have an internet plan but own a device: institute should sponsor a data plan; else if there isn't a device too: sponsor renting it

8.   By T. V and Postal services are the only option that I can see in this situation.

10.   Share the content through pen drive as delivered to their respective home address. Also all the recorded classes and study materials should be available in digital medium, so that those students can download the entire contents in one go with the help of one of their nearby friends or neighbours.

11.   I think there should be a library one every village (maybe digital to access most of the text books)

12.   They can be provided with a tablet with installed videos and assignment tests at an optimal price.

8.23 Do you think Online learning should be continued along with conventional learning even during normal circumstance

53.1% of the respondents feel that online learning should be continued after the lockdown as well, while 46.9% say no.

Do you think On Learning learning should be continued along with conventional learning even during normal circumstance?

1,037 responses
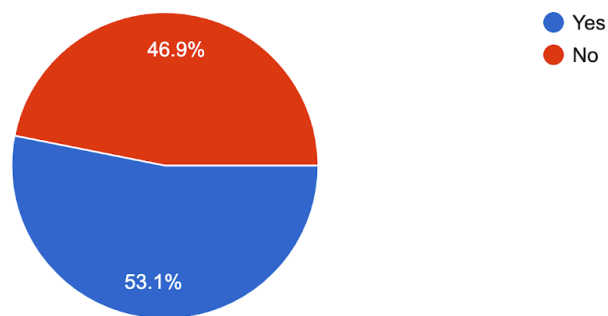
8.24 Do you think exams should be conducted online during lockdown?

63.3 % students feel that online examinations should not be conducted during the lockdown while 18.9% say yes and 17.8% were not sure.

Do you think exams should be conducted online during lockdown?

1,037 responses
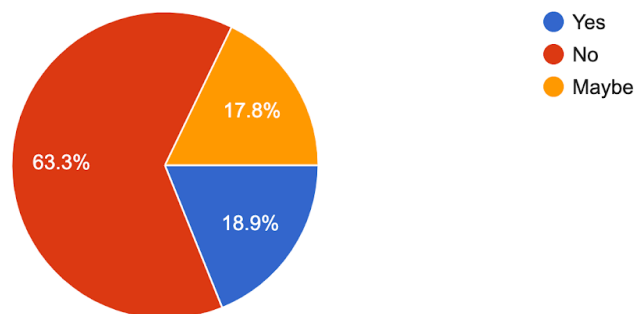
8.25 Do you think July month is a good choice to conduct examinations

40.6 % students feel that examinations can be conducted during July while 31.2 % say no and 28.2 % were not sure.

Do you think the month of July is a good choice for conducting examinations?
1,037 responses

- Yes
- No
- Maybe

28.2%
31.2%
40.6%
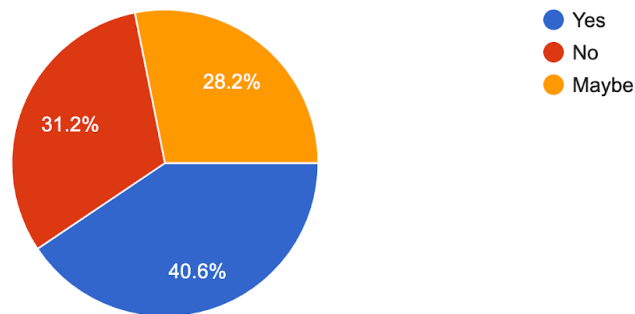
8.26 Do you think September month is a good choice to begin the new academic session

58.7 % students feel that September is a good choice to begin the new session, while 13.4 % say no and 27.9 % were not sure.

Do you think the month of September is a good choice for beginning new academic session?
1,037 responses

- Yes
- No
- Maybe

13.4%
27.9%
58.7%
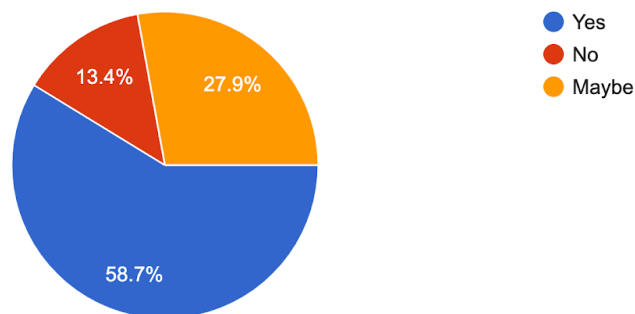
9.   Student's Suggestions

Online education during lockdown was a unique experience for the students, therefore suggestions were invited from the students to know the issues and challenges faced by them during the lockdown and their suggestions thereon.

This section of the study received multiple suggestions from the students out of which few suggestions have been compiled are as follows-

1. If all the students have good unlimited internet connection then only online classes are possible. In this situation many needy students can not afford unlimited internet facilities. So the government should provide some student plans to access unlimited internet during this period.

2. In this lock down period and low internet connection. I want to suggest that WiFi zones should be made all over the places where the internet is not working. If we target only those areas where internet connectivity is zero then then we can say online platforms can help in reducing the educational losses. This should be done by the state government for a temporary basis. After this if required this facility can be utilized in future as well.

3. Sir, we are doing engineering. Yes, a degree is important for us,but the ultimate goal is to settle in life by getting jobs or research etc. In my case, it's job and I got one internship through the campus recruitment process and I don't know if this will be conducted or not. Even, I am seeing that in the final year, we will see a harsh image of unemployment of engineers. So, I request you, not to focus only on exams and completing syllabus. If companies will not recruit us, then where will we see our potential? Degree is not ultimate, to be settled in life is ultimate. We are also worried about our internships, PPOs and Jobs. Sir please, prepare a proper academic calendar which will help us in completing internships (obviously if companies will agree) and learning is also important, focus on it please, but poor internet connectivity is really a problem.

4. a. Don't make the learning process exam oriented at all.
b. Students should be given various options like Report writing, MCQ, Viva on each subject to complete their evaluation process.
c. Recorded classes where the teacher is teaching using whiteboard should be preferred instead of live classes without use of whiteboard.

d. Weekly one must attend doubt clearing class per subject should be conducted to verify the progress of the course.
e. Focus should be on teaching rather than pressurizing students for various exams.
f. Digital content availability on every subject should be improved before forcing students to complete assignments in unreasonable manners.
g. Design better apps which are to be used for these specific type of instances where the live classes feel like face-to-face classes.

5. First of all, colleges and schools shouldn't open as we know the condition so according to that everyone should wait for the vaccine to come and till that teachers can give online materials to students but there are also students who can't even afford that online notes. So, it's better not to take online classes but yes one thing is possible that teachers can give assignments to students and I think everyone is ok with it. Students can tell their friends about assignments on the phone especially to those who don't have the internet in their areas.

6. Pertaining to the current scenario of uneven internet penetration in the country,and also considering that all students do not share the same pace as far as internet access and technical aptitude is concerned,the administration may opt to conduct offline semester exams,post lockdown; while taking all the necessary precautionary measures ,so that no student is at loss.Personally,I am absolutely comfortable with whatever mode the university decides to opt for the exams(offline or online),but we do have to care for those too with whom the conditions are not as favourable as ours.

7. a) Proper training should be given to teachers since most of them are new to this and find it difficult adjusting to this technology.
b) As far as colleges are concerned, live lectures might not show immediate positive response, as there are huge numbers of students who hated going to classes before, and they can always not show up in online classes. So, recorded lectures are a much better way to solve this problem.
c) Offline learning will always be better for labs, doubt clearing and conduction of tests. This should not be replaced.

8. Instead of conducting exams online or offline, some of the following could be done:
a. Grading based upon mid-semester exams and class tests
b. Professors could give some small projects to us to work upon and give grades based on it
c. Universal grading systems could be implemented. Exams delayed till July will create unnecessary stress upon students, especially those in pre-final years as they have to sit for placements next year. So it is better to choose some options from above. A survey could be taken for teachers as well.

9. During lockdown, I suggest students should be allowed some freedom regarding subjects to learn, let them do what they want- pursue their own passion, hobby and also continue online learning giving quality live teaching sessions and interesting assignments. Students are already bored, don't make them more depressed giving more and more pressure. Happy learning, happy day, happy career, happy life. Lastly, Thank you a lot for this initiative to let students express their feelings.

10. As the UGC has provided guidelines for grading to be made for the semester based on internal assessment and previous semester performance, I think it is better to conduct the classes and take short online assessment tests. We have also finished our mid semester examinations. So the final grading can be made based on mid semester performance, internal assessment and performance in the previous semester for the benefit of the students.

11. I think some of the students can't avail the online class because of internet limitations. So it would be good to share notes through email or whatsapp or through Google classroom to avail the course study material for self study and if possible after lockdown students can communicate with teachers face to face regarding any doubts of these courses.

12. You must come up with a proper way to assess what the students have learnt . As most of the students don't have access to lectures, conducting examinations in the month of july is not at all good in any way. According to me, you should grade the students on the basis of the examinations conducted before lockdown.

13. Recorded video lectures where the teacher is teaching on board or on whatever he is comfortable enough to pass all the information to us he wanted to. And then later arrange online classes for doubt clearing sessions. Because we can replay the recorded video lectures, we can get a good grasp on the concept.

14. It would be highly beneficial if the current semester examinations are not taken , instead they can simply consider mid semester examination marks/the marks from the previous semester/s whichever applicable .Also for this end semester syllabus they could give some assignments to consider it's weightage.

15. Teachers shouldn't put the burden of assignments on students, they should understand the condition. Many students are stressed due to the lack of internet connection and the burden of studies. Because many of us haven't notes, laptops or other sources and can't make the surroundings as a hostel.

16. Institute should sponsor/issue data plans for everyone w/o it and ensure that no one is left without proper connectivity. This is the least that should be done before further steps can be taken to continue education online (exams, tests, assignments, even online classes).

17. Cancel the end semester exams. For grading, use the marks of previous semesters and the marks of mid term exams of this semester to award a fair and just grade to the students in this semester. A mathematical model for this would be great and useful in future as well.

18. I support online examinations. This would improve our efficiency, saving a lot of time being creative. At the same time students with no mobile/laptop should be encouraged to have it. Actually it is a wonderful means for education to penetrate into our society.

19. Instead of starting a semester from September ,start the semester from august.Most of time was wasted already and many students have placements also in December. So it's better to start a new semester from august instead of September.

20. Thanks for giving me an opportunity to share our views and feedback to university . During lockdown there is no any loss of students related to course university must provide better learning e-classes to the students.

21. Improve the internet connectivity. Please make sure there is a library in every gram panchayat and improve the NDL library and advertise it i.e. everyone will know about online learning programs.

22. Syllabus for students who are in their present semesters should be decreased. All study materials should be placed in a google drive or any other platform where students can easily access them.

23. Instead of live class recorded video shared on what's up and also sharing of materials through what's up or mail., and periodic Assignments to ensure students are studying properly.

24. Take only 2-3 classes in a day. Students are facing very stressful times during online learning by his smartphone. Online learning by mobile phone directly effect on student health.

25. Firstly, equipping teachers for online classes, and making them aware of the nuances of a virtual classroom. Technological skill building should also be emphasized for them.

26. Online exams should be conducted, online doubt clearing classes only should be conducted only after proper circulation of study materials and class notes.

27. Before online examinations, we should guarantee 100% participation and fairness while conducting examination(availability of resources, malpractices, etc)

28. Create guidelines for video preparations, online exams, assignments, in class problem solving etc

29. Circulars from universities should be issued so that we can be sure about our examination timings.

30. You should follow the guidelines of IIT Bombay, they have given some very useful suggestions.

10. Conclusion and Recommendations by the Researcher

This study on student's feedback on Online education was an attempt to analyse the student's perspective on online education, how did students perceive the online education, issues and challenges they faced during the lockdown and their suggestions thereof.

1069 students of 26 Colleges, Institutes, Universities etc from all across India participated in this study. Few of the prominent institutes from where students forwarded their responses are Indian Institute of Technology, IIT Kharagpur, Indian Institute of Engineering Science and Technology ,IIEST, Shibpur, Aligarh Muslim University, Babasaheb Bhimrao Ambedkar University Lucknow, Motilal Nehru National Institute of Technology, MNNIT Allahabad, Vignan university, IIIT Hyderabad, VFSTR UNIVERSITY, Scottish Church College , Kolkata, IIT Bhubaneswar, Indian institute of Science, Indian Institute of Technology Hyderabad, Kl University, Lady Brabourne College , Kolkata, Osmania University, Rabindra Bharati University, SRFTI, KOLKATA, Visva-Bharati University, Maulana Azad National Urdu University, Hyderabad and more.

One of the most important factors for online study was the Infrastructure Availability for online Education such as electricity, internet and electronic devices availability with the students. **In response to the infrastructure availability, over 90 % students said that they have electricity and internet connectivity in their area**, however 1.4 % students said that electricity is not available in their area. Approximately 4 % students responded that though electricity is available in their area there are frequent cuts or it is available for less number of hours. There was a section of students, approximately 0.1% who are using Kerosine Oil and Solar lamps. As per this study, electricity reaches the maximum/ learners but there is a small section of the students who have responded about the frequent power cuts and in some cases electricity is not available which needs attention.

Electricity and internet access are the prerequisite for online education and the majority of students i.e 79.6% of the students have suggested that internet is available at their homes. However, 20.4 % of the students expressed that they don't have internet connectivity at their homes. It means that 20.4 % of students remain devoid of online learning during the lockdown which is a sizable population. **Also, the majority of students who have internet connection at their home complained about the lack of proper internet speed.**

Since electricity and internet connectivity are the basic requirement for online learning therefore it is recommended that areas where electricity and internet connectivity is not available or has poor connectivity(internet speed) needs to be identified and infrastructure may be upgraded accordingly. Easy way of identifying those areas is to request the basic details from all students at the time of admission such as availability of electricity, internet connection, electronic devices in their area and at their home to enable the Government and Institutions to frame a policy for online education in future.

In today's digital world, the internet and electronic devices like laptops have become an integral part of students' lives as they access a quite good amount of information through digital education resources. It is therefore strongly recommended to provide subsidised educational internet data plan as well as subsidised access of laptop or other devices. Self sustaining institutes may even offer the internet and device access to students free of cost for their home.

The study data shows that the majority of students have a smartphone/android mobile with them and most of them use their mobile devices and laptops to access online learning. Looking at the students choice, digital tablets may be a suitable option to access the online classes in future.

A large section of the students i.e 89 % students expressed that they were already aware about the Online learning platforms and **inorder of their preferences for live classes, students liked online teaching through ZOOM platform followed by YouTube live and Google meet.** Google Classroom was the most used Learning Management Systems by the teachers followed by Moodle.

The study also authenticated that Email was the most used platform to share the study material with students followed by Whatsapp and Google Classroom. The study data also suggested that students prefer the recorded videos and printed notes through whatsapp and live class through video conferencing.

This indicates that during the online learning, students can be engaged constructively by using multiple apps for pre class and post class activities, which also advocate the flipped and blended learning system. This study suggests that Emails and Whatsapp are the best platforms to share preclass and post class study material in form of videos and printed material with the students. Further, to add a new dimension to online learning, study material may be complemented with a live class through an app like ZOOM, YouTube Live or Google classroom can be very rewarding and duration of live classes per day can be one to two hours.

Swayam and Swayam Prabha are two of the major digital education platforms of Govt of India where courses and audio-visual educational resources of almost all disciplines can be accessed free of cost. But most of the students are not aware of these platforms. **Over 65 % students are not aware of digital learning platforms such as SWAYAM and Swayam Prabha. There is a strong need of making students aware of these initiatives which are largely free to use platforms for all grades of the students.**

Also, efforts should be made to create one National e-Learning platform where resources of all subjects and courses can be found on a single platform. This will not only reduce the burden of managing multiple digital learning portals but will also help the students to access all possible resources from a single platform. Creating a single e-learning platform will have a high recall value amongst the students and will be easy to promote. To ensure the effective use of this proposed National e-learning portal, registration to this portal may be made compulsory to all students at the time of admission itself.

Students also suggested that live online learning should not exceed one to two hours a day as it is difficult to pay attention for longer duration during online classes. Since online learning involves the continuous engagement with the computer screen, Institutes need to evolve a policy of delivering online classes keeping the health of the students into consideration.

Majority of students felt that the pedagogy can be a good combination of 25% Online,75% face to face learning and online learning should be continued after the lockdown as well.

A sustained effort by the institutes and teachers is required to make students aware of online learning platforms through blended and flipped mode of learning. Though most of the regular students don't see online learning as replacement for face to face learning as they feel face to face class is more effective in understanding the concepts. Students need to be oriented about the benefits of online learning not only as an alternate way of learning but also to access multiple educational resources and opting for multiple courses outside their institution through online mode.

This study also resulted in both teachers and students requiring training to conduct and access online classes, therefore a regular orientation of teachers and students is required to keep them acquainted and updated with the latest educational technology.

In order to tackle the given situation and to make the maximum use of digital technology in learning, It is recommended that Government can plan E-learning centres cum Digital Libraries in every town/city/village to facilitate online learning, where people can go, register themselves, and study online, for a specific amount of time.

These centres will not only facilitate the e-learning but can also be utilised to address multiple issues related to health, agriculture, environment etc through live talks by eminent experts in the field. We can imagine a digital learning scenario wherein best of the resources in a subject e.g a Physics teacher from IIT teach millions of students through a Youtube live class. A yearly calendar of such e-lectures in various subjects by eminent subject experts may be shared with the students and these resources may be made part of the archive of National Digital Learning Portal.

Our country needs to leverage Digital technology. Initially, small E-Learning Centres/Digital Libraries with minimum digital infrastructure may be started at all villages, towns and city's schools, colleges, institutes etc. As creation of these E-learning Centres doesn't require much funding therefore creation of these digital learning spaces and managing them by the local administration may be made compulsory to all Village Panchayats, Town and District Administrations.

During the study, the majority of students suggested that online examinations should not be conducted during the lockdown. Moreover students also felt that online exams are more difficult than offline exams. While there was no student's consensus on conducting the examination during the month of July (40.6 % says yes, 31.2 % say no and 28.2 % says may be), more than 58.6 % of students suggested that September is a good choice to begin the new session.

This study suggests that there is a need of creating awareness amongst the students about the benefits of online education and best methods of using the digital education platforms. A policy can be developed wherein online education is made the integral part of regular mode of education with adequate training to teachers and students. As online education is dependent on digital interfaces, Institutes can also develop a policy of providing free or subsidised internet connectivity and devices such as tablets or laptops to students to access online education. Strengthening the digital learning infrastructure and its access to students will play an important role in improving the quality of higher education in our country.

STUDENT'S FEEDBACK ON ONLINE EDUCATION
DURING COVID 19
(A National Study)

May 2020

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