

A Study of Effectiveness of Online Mode of Education in Pune Region.

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Abstract

*In today's scenario, where all the facets of life such as the means we work, we live, we pray and we learn have been touched by the Covid – 19 pandemic, as the Pandemic bottoms out, the research scholars wish to understand the effectiveness of the online mode of education so as to offer insights to weigh out the advantages and challenges. **Initially learning online was considered a panacea to all the challenges at the start of the pandemic and in due course the online learning became the current norm to prevent the loss of educational year to all the students.** This paper investigates the impact of online education during COVID 19 crises in professional courses.(MBA, MCA and Engineering) colleges of Pune Maharashtra*

Key Words: *Online Education, Corona Virus Disease (COVID 19), Lockdown education*

Introduction

Online learning, ideally means Educational technology is the combined use of hardware, software, and educational theory and practice to facilitate learning. Educational technology creates, uses, and manages technological processes and educational resources to help improve user academic performance¹. The precursor to the online mode was the mode of video education disseminated through Gyan Darshan channels of Doordarshan (official broadcasting agency of India). The telecom revolution in India and the availability of internet became a extremely potent methodology for growth in education , and was a milestone in the rapid expansion and growth of online teaching and learning. You tube is an another platform wherein there are numerous videos and courses, but they provide knowledge but no certificates or degrees. Before the pandemic many governing institutes such as UGC & AICTE, IITs had already started pushing concept of Massive open online course (MOOCS) , with the platforms like Swayam, NPTEL. Also there has been an advent of many private learning platforms such as Coursera, Udemy, LinkedIn learning in the same gambit. The acceleration of the Online mode of education which was by choice , has become mandatory in the present situation.

Literature review

Ms.Swati Agarwal and Dr.Jyoti Dewan who have tried to understand the impact of Online Learning in Colleges of Uttar Pradesh during the COVID 19 Lockdown focussing primarily on problem faced, attendance feedback and impact of online classes on students .The authors have tried to conclude that the adaptability and pandemic are closely related for the success of the online mode of education (Ms.Swati Agarwal, Volume XII, Issue V, 2020)²

Denise Finch and Karen Jacobs (2012) in their earlier work found out the various advantages such as reduced time and costs for travel; opening up of opportunities to access and collaborate with proficient professionals in a international range; providing students with flexibility to access courses at their suitability; and allowing adjustments to subjects and contents need. ³

A great source of understanding and detailed work has been done by Marianne Bakia Linda Shear Yukie Toyama Austin Lasseter in the formulation of their report titled “Understanding the Implications of Online Learning for Educational Productivity adopted by the U.S. Department of Education . Their work covers details of the estimation of outcomes, learning pedagogy and additional resources for the subject. ⁴

Tuan Nguyen in his work tried understand the effectiveness and sustainability of online education in the long term and equivalence of learning on the both the classroom and online formats. The author in his paper sustaintiates the use of technology in learning to improve educational outcomes.⁵

Zahoor Ahmad Lone in his work talks about the challenges such as 1. Lack of Infrastructure and hardware facilities which hamper reliability of online learning 2. Problem in finding willing skilled manpower to training illiterate rural areas of India. 3. No or very less computer-based courses/skills taught to students in government primary schools to increase their knowledge about ICT importance in rural development, which prevents India from becoming a Global leader in digital society and knowledge based economy.⁶

Bodzin & Park, (2000) assert that, feedback from students and teachers get derailed in many cases in the online mode. Even getting basic knowledge sometimes becomes a problem due to a lack of personal interaction. Thoughtful discussions are a problem too. Many times, students lack motivation and determination too, so despite getting a lot of time, they are unable to follow punctuality and maintain productivity which may be harmful for internalization of concepts. ⁷

Objectives of the study

A study by KPMG along with google in may 2017⁸, expects that the online education end users would be around 96 lakh users in 2021. The estimate of enrolment in higher education was around 57 lakh students was reported in 2016 in an survey conducted by All India survey of higher education in 2016 conducted by Ministry of human resources (Government of India) ⁹. Considering the above two figures we can sufficiently say that around 75 lakh users have been utilizing the online mode during the pandemic.

The objectives of the study is enumerated as below

1. To understand the advantages and effectiveness of online education in context of the Higher education paradigm.
2. Perception of knowledge transfer from teachers / professors to students / learners in online mode.
3. To understand the challenges faced by professors and learners in online education.
4. Post pandemic way forward for online education.

Research Methodology

The use of primary and secondary methods were used for the formulation of this paper. A questionnaire was circulated on various social forums such as facebook, Whatsapp and twitter along with a few online interviews. The sample is 100 numbers, collected from students 73 nos and teachers 27 nos. A few interviews were conducted to understand their reasoning for response to the questions

Research Gap:

No sufficient data is available for the feedback on the research for the above topic in areas limited to Pune.

Scope of the Study:

The scope of this study is limited to professional courses such as MBA, MCA, Engineering students and professors only.

Sampling methodology

For the study, Random sampling was formulated which is a way of selecting a sample of observations from a population in order to make inferences about the population. An online form was created in Microsoft forms and was circulated to various student and teacher groups. A response was received from 73 students and 27 professors

Limitation of the sampling

The following are the limitations of the study-

1. Limited to the twin cities of Pune and Pimpri-Chinchwad only.
2. Questionnaire taken in online and telephonic mode only.

Key findings

1. 90% students have started the online mode of learning and 74% professors have started the online mode of teaching, during this pandemic.
2. 84 % of students understand the concepts taught to them through online mode.
3. 64 % of teacher feel that the students understand the concepts provided through online mode.
4. A very few colleges have their own learning management system and are mostly dependent on the platforms of Google meet, Microsoft teams, Whatsapp and you tube.
5. It is been observed that 34% students and 35% teachers cite technological hurdles as the main impediment in online education.

Detailed Findings and Suggestion

The following are the findings as below -

Respondent profile and Demographics

A wide variety of respondents responded to the said questionnaire. The bar chart below shows the bifurcation of the same. There is skewness of response in the professor respondents is towards female as there is more participation of women in the teaching profession, while a greater number of male respondents were observed in the students.

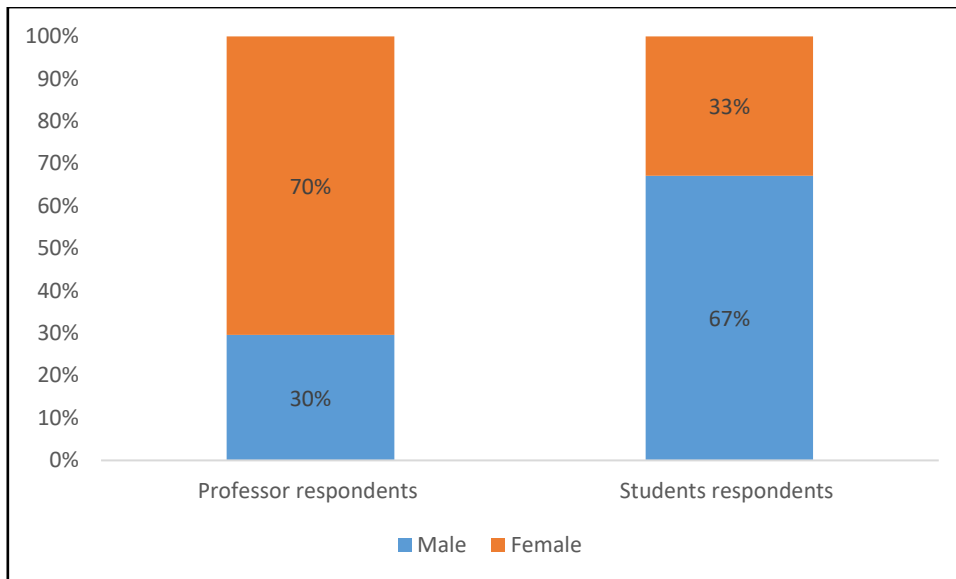


Figure 1 : % break up of surveyed sample

The age bracket of the respondents is as below, which represents a majority of the millennials who are more comfortable with technology

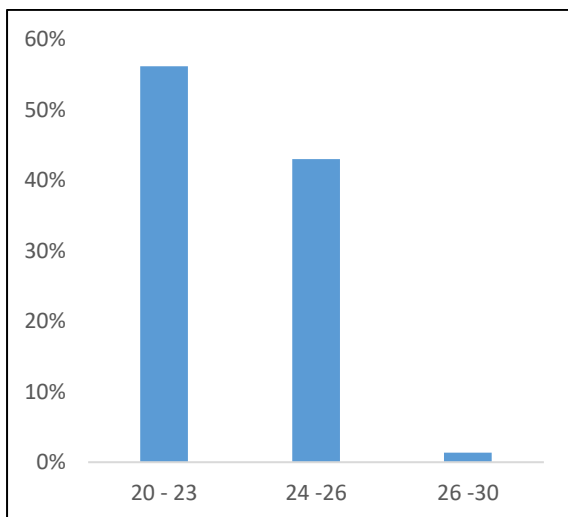


Figure 2 : Age bracket of surveyed students

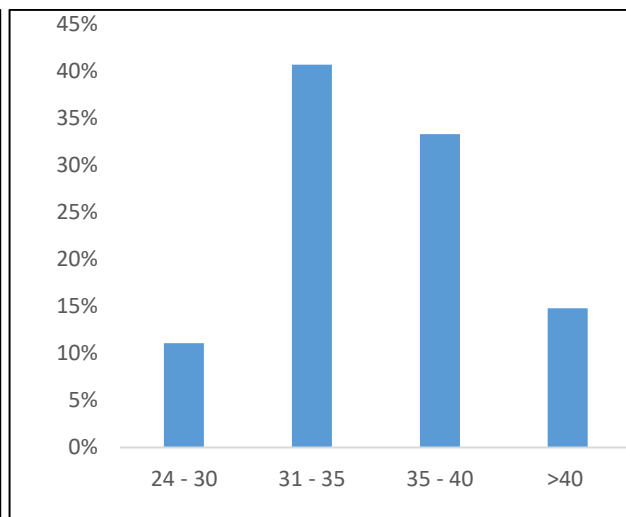


Figure 3 : Age bracket of surveyed professors

Prior experience of online learning & Teaching-

Considering the pre pandemic and current scenario, it was relatively more difficult for the students as compared with the professors, which is just evident from that 90 % students have first time experience in terms of online learning, whereas 74% professors have a first time experience in online teaching. This below graph shows that it is difficult for both teachers and students. A few of the professors – 15% have had previous experience of around delivering online lectures for greater than 4 years.

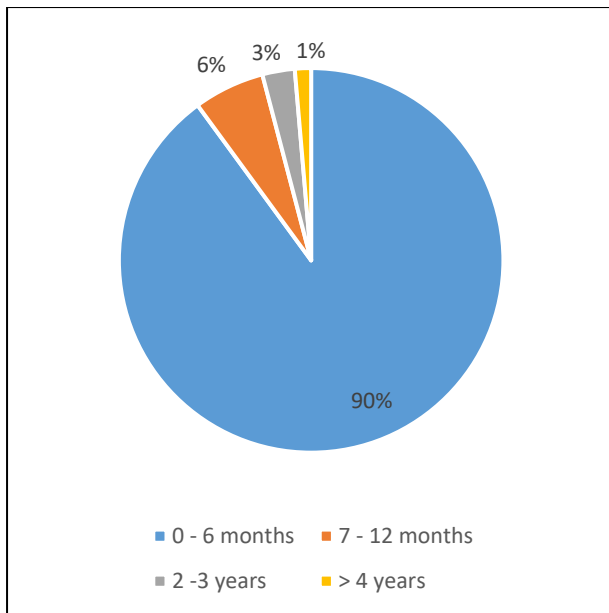


Figure 4 :Number of students with prior experience

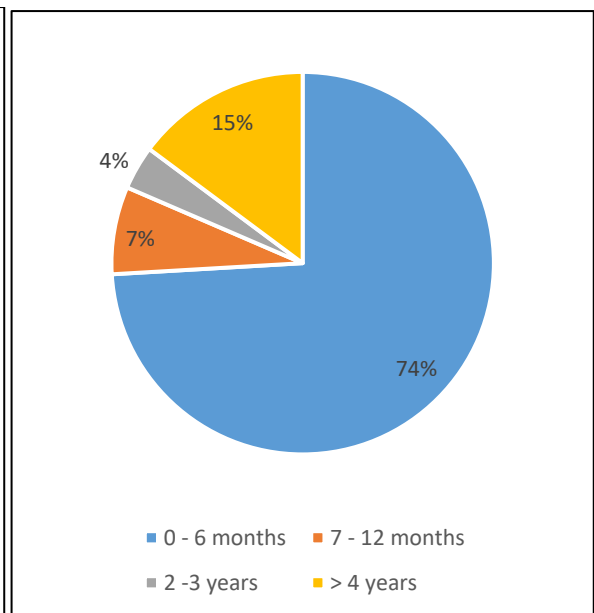


Figure 5 : Number of professors with prior experience

Understanding of concepts through online mode -

The questionnaire to understand the grasping of learning was put forward differently for students and teachers.

1. For professors - Please share us , whether the concepts are grasped by Students through online medium of delivery, with the options of Yes, No and Maybe
2. For students - Please share us , whether the concepts are grasped by you through online medium of delivery, with the options of Yes, No and sometimes

The response of Maybe and sometimes have been given a weightage of 50 % each for yes and no and have been distributed accordingly.

RESPONSE	TOTAL RESPONDENT, STUDENTS
Yes	67%
Sometimes	33%
No	0%

RESPONSE	TOTAL RESPONDENT, PROFESSORS
Yes	41%
Maybe	48%
No	11%

Table 1

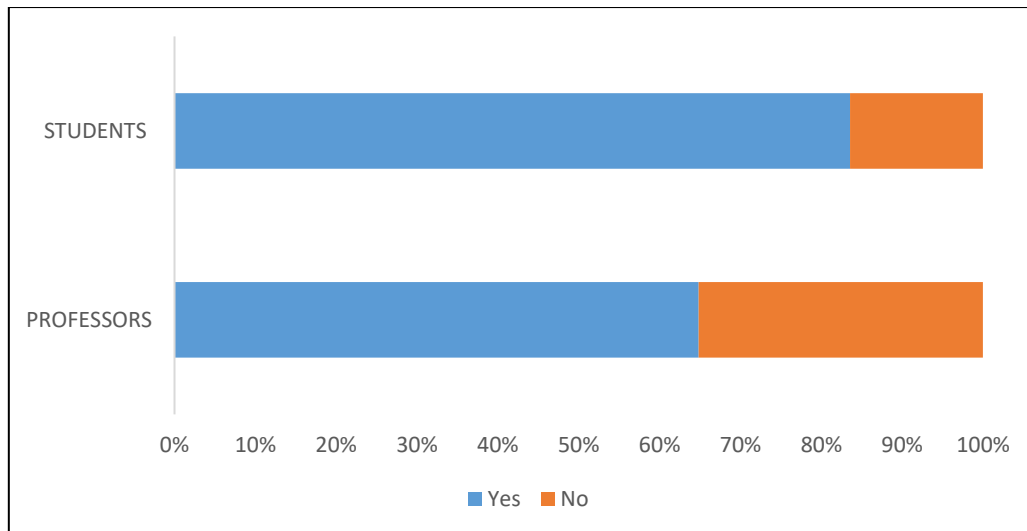


Figure 4 : understanding of learning of concepts

It is evident from the above data that 84% of students understand and grasp the concepts through the online mode of education, whereas professors perceive that only 64% of the students understand the concepts. This gap between the understanding shows that the students are more receptive to the idea of online education for the same. The same shows a gap of effectively evaluating students during their review via online mediums when compared to classroom evaluations.

Preferred mode of online learning -

There is a plethora of the modes / tools and technologies for online learning and teaching, which was initially developed for the corporate world to ease the business. There is wide variety of learning and teaching platforms being used by both students and teachers. The most used platforms by professors are Google meet, Microsoft teams and zoom. The most used platform used by students are Microsoft teams, whatsapp and you tube. There would be a wide variety of imported technological tools until there is construction, distribution and usage of a unified indigenous learning management system.

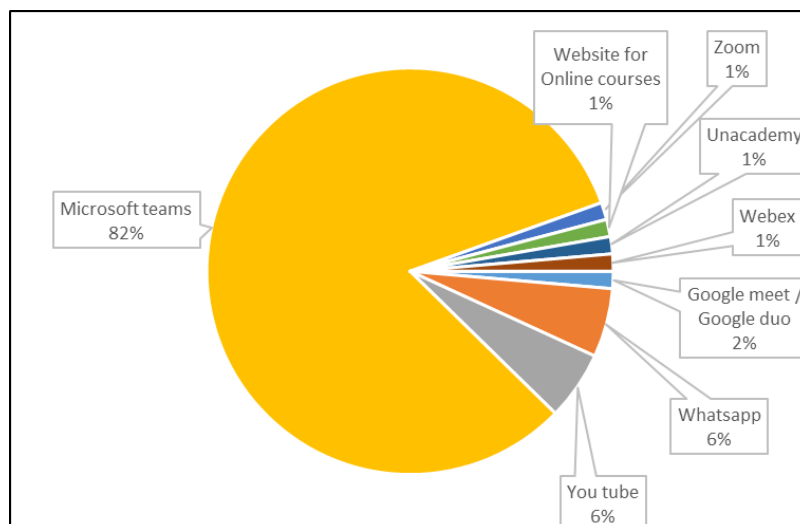


Figure 5 : Preferred mode of learning for students

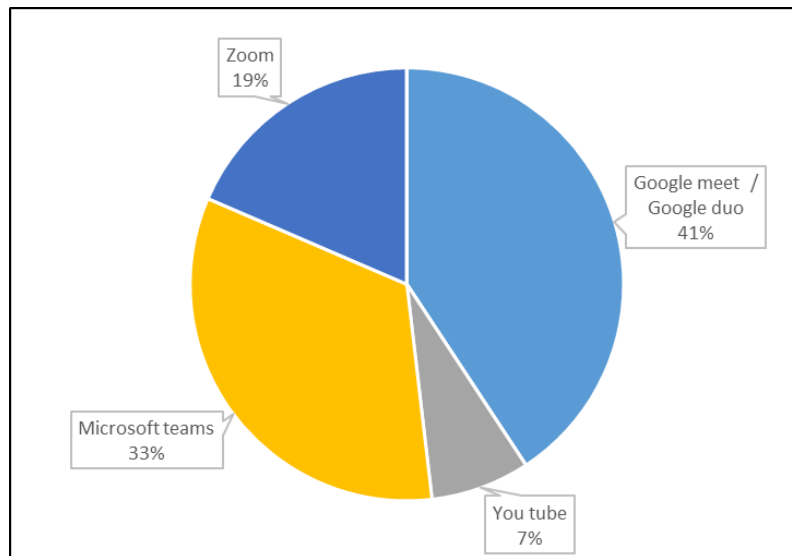


Figure 6 : Preferred mode of teaching for professors

Challenges faced during online learning

The Likert rating scale ranking was used to understand the challenges faced by students and professors altogether, with a weightage assigned to the choices made by the them

CHALLENGES FACED BY STUDENTS	1st choice	2nd choice	3rd choice	4th choice	WEIGHTED AVERAGE
Weightage	50%	25%	15%	10%	
Technology - Problems faced with platforms like Zoom, Teams etc	48%	37%	11%	4%	35%
Non familiarity of such pedagogy of teaching	26%	48%	19%	7%	28%
Student created hurdles	19%	7%	33%	41%	20%
Frequent interruptions	7%	7%	37%	48%	16%

Table 2

CHALLENGE FACED BY PROFESSORS	1st choice	2nd choice	3rd choice	4th choice	WEIGHTED AVERAGE
Weightage	50%	25%	15%	10%	
Technology - Problems faced with platforms like Zoom, Teams etc	45%	33%	14%	8%	34%
Non familiarity of such pedagogy of teaching	34%	41%	23%	1%	31%
Student created hurdles	10%	14%	34%	43%	18%
Frequent interruptions	11%	12%	29%	48%	18%

Table 3

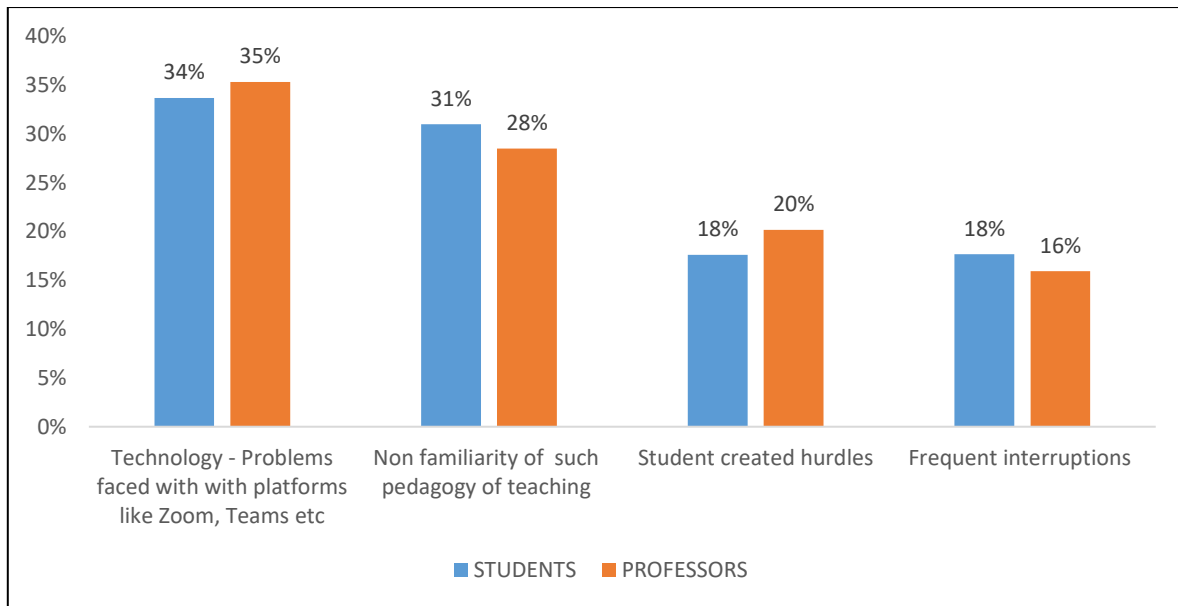


Figure 7

The major challenge faced by both students and professors is with technology impediment during online teaching which is around 34% and 35 % respectively, the second challenge faced by both students and professors is the non-familiarity of the teaching pedagogy , as no one had experienced it before.

Post Pandemic way forward

The colleges have not been able to start their regular classroom teaching due to veracity of the pandemic, still out there. The safety of the students and professors alike is extremely crucial, to the country and society. We tried to understand the feedback from both the students and professors, and we found that around 66 % of students and 59% of professors want a combination of online and offline classes post the pandemic. This opens a new paradigm in the field of education. Although there were many IIT, IIM and other institutes imparting online education, but because of the pandemic, online education has gained more acceptance both among the students and academia.

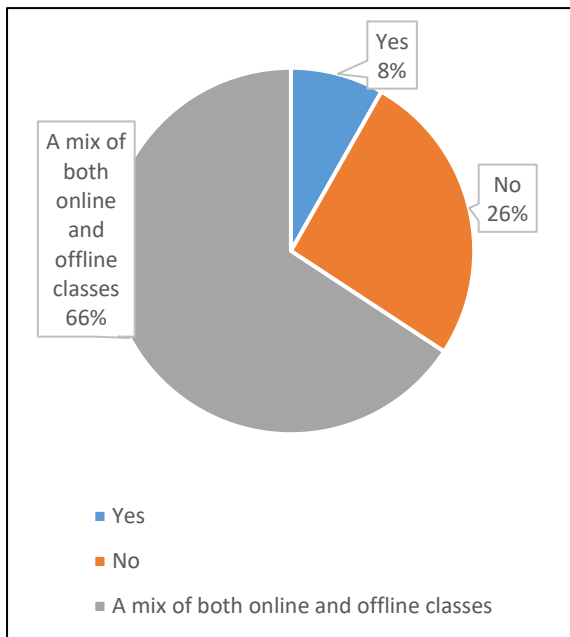


Figure 8 : Students feedback

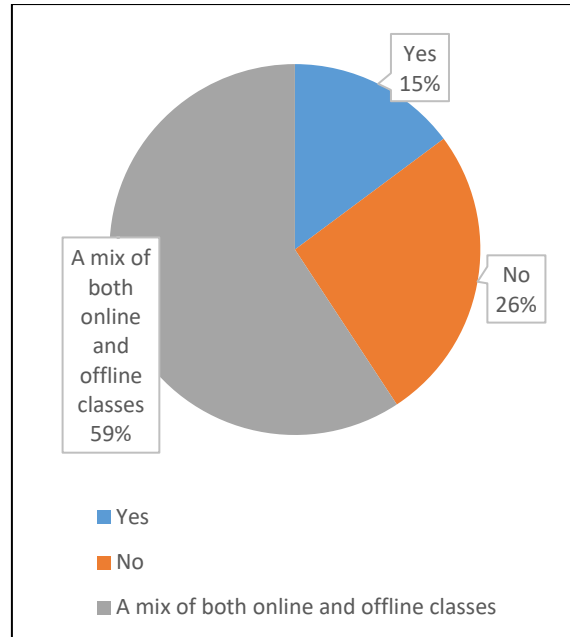


Figure 9 : Professor feedback

Advantages of online learning

A descriptive question was put forward to both the teachers and students regarding the advantages of online education. Their responses have been bracketed in various heads and the findings are enumerated as below;

Table 4 : Advantages of online learning : students

POINT	CONVENIENCE AND COMFORT	RECORDINGS ARE AVAILABLE	TRAVEL TIME REDUCED	WORK LIFE BALANCE	FOCUS OF TEACHERS	NO ADVANTAGE
NO OF RESPONSES	34	32	17	1	2	6

The following can be inferred from the responses enumerated in Table 4

1. Majority of the students found that the concept of online learning is convenient and comfortable, helping them to choose the setting and atmosphere to learn. Majority of the students cited the Covid pandemic for the same.
2. The second most response was received that the students can record the lectures or have the recordings provided to them to assist them with the learning, when compared to the classroom settings.
3. Travel time reduced from getting up, travel and move to the classrooms for the lectures.
4. A few of the responses cited no advantage in the field of online learning.

Table 5 : Advantages of online learning : teachers

POINT	WORK LIFE BALANCE	FLEXIBILITY	SAFETY - PANDEMIC	TECHNOLOGY - RECORDINGS	NO ADVANTAGE	COST EFFECTIVE
NO OF RESPONSES	3	13	6	6	3	1

The following can be inferred from the responses enumerated in Table 5

1. Most of the responses were found to advocating the option of flexibility to teachers in terms of online learning. For a majority of the same was linked to the adequate work life balance.
2. The teachers and professors are extremely worried about the future of the students and were happy to do something for them, during the rages of the pandemic.
3. The teachers could also understand the importance and availability of the recordings for students to undertake their academic pursuit.

Disadvantages to online learning

Though online education or learning has its advantages, there are a few disadvantages from the perspective of the students and teachers.

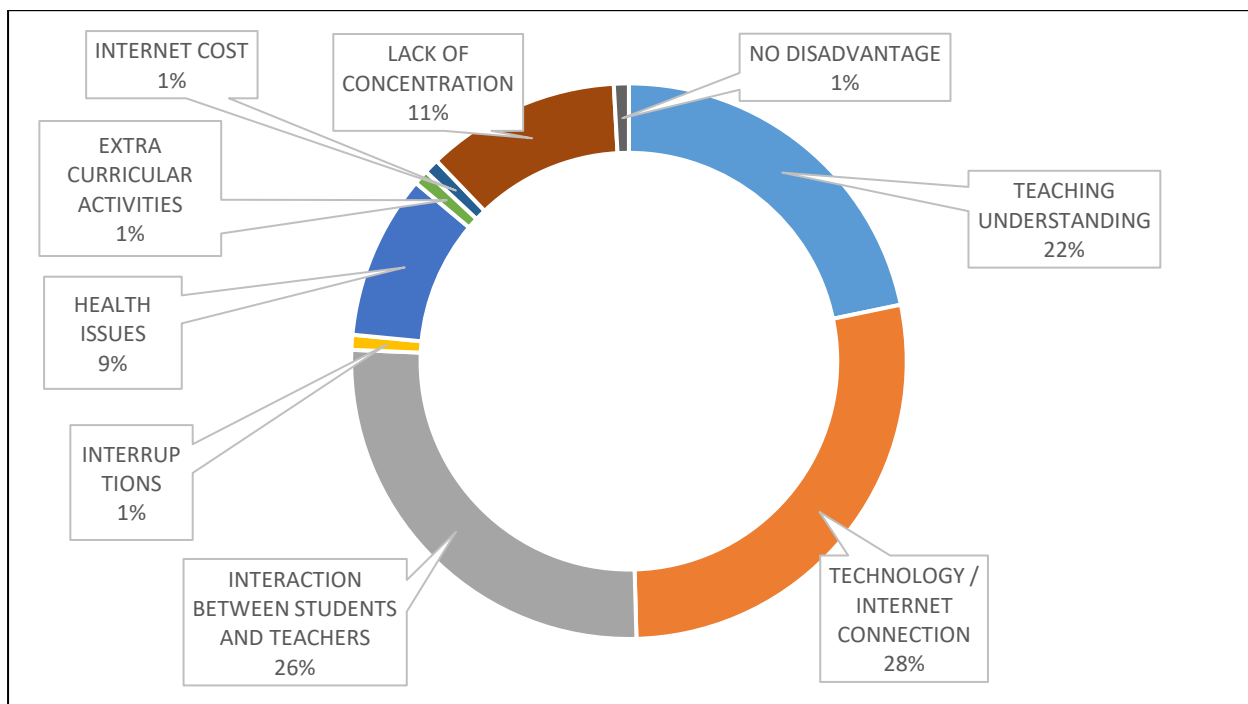


Figure 10 : Disadvantages faced by students

The following can be inferred from the responses enumerated in the graph above

1. Around 22 % of the responses from students that they faced the challenge of understanding from the online lectures, also 28% of the responses informed that the interactions of the students and teachers was inadequate in the online form.11 % of the student responses were that they were not able to concentrate on the online classes

- 28% students felt that the technology (computer, mobiles, tablets etc) and the internet connection was a constant source of impediment for learning
- 9% of the students responding facing some or the other health issues with regards to back aches, eye strain, blurry vision due to sitting in front of the devices or long hours

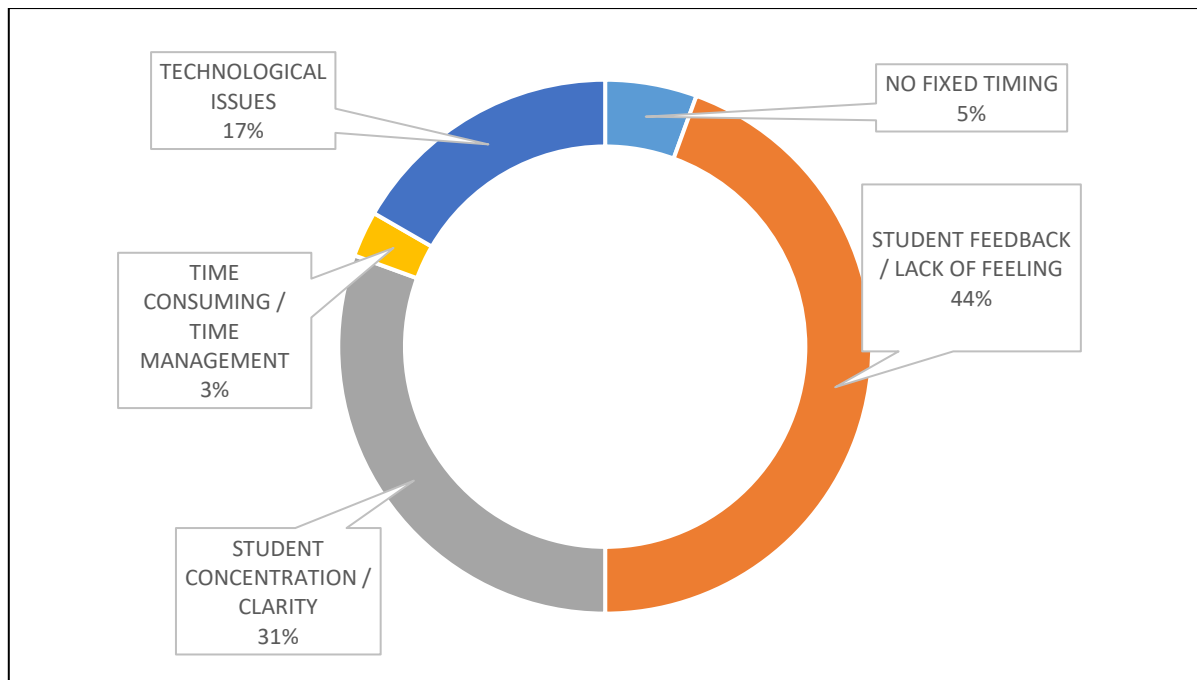


Figure 11 : Disadvantages faced by teachers

The following can be inferred from the responses enumerated in the graph above

1. Around 44 % of the responses from teachers that they faced the challenge of understanding the grasping of the knowledge by students given by them through online lectures. According to verbal feedback taken, most of them concurred that the feedback is immediately available in a classroom setting and necessary concepts can be revisited by them immediately, but in case of the virtual media the same becomes extremely difficult. The same is also because of first time experience in such a teaching pedagogy
2. 31% of the respondents felt that they were not sure about the level of concentration of students during the online lectures, which may be because of many reasons.
3. 17% of them felt that the technology (computer, mobiles, tablets etc) and the internet connection was a constant source of impediment for learning

Lacking due to online mode of education

Colleges, Universities had not limited themselves being a temple of education but had a wider area of influence in terms of other things than learning, the scholars wished to understand that the things missed by both teachers and students in the current scenario.

1. For students the top three concerns were the following
 - a. Lack of extra circular activities: Colleges have evolved to provide a platform for not only education but other areas like sports, quizzes, case study and paper presentations, which is missed by most of them
 - b. Secondly the students missed was the lack of interaction between the teachers and them, which is an essential part in the academic life.

- c. The third and fourth heads are similar with lack of peer to peer interactions and opportunities to make new friends. This is not possible during, online lectures as students join the lecture and move out or end the meeting once the lectures are done.

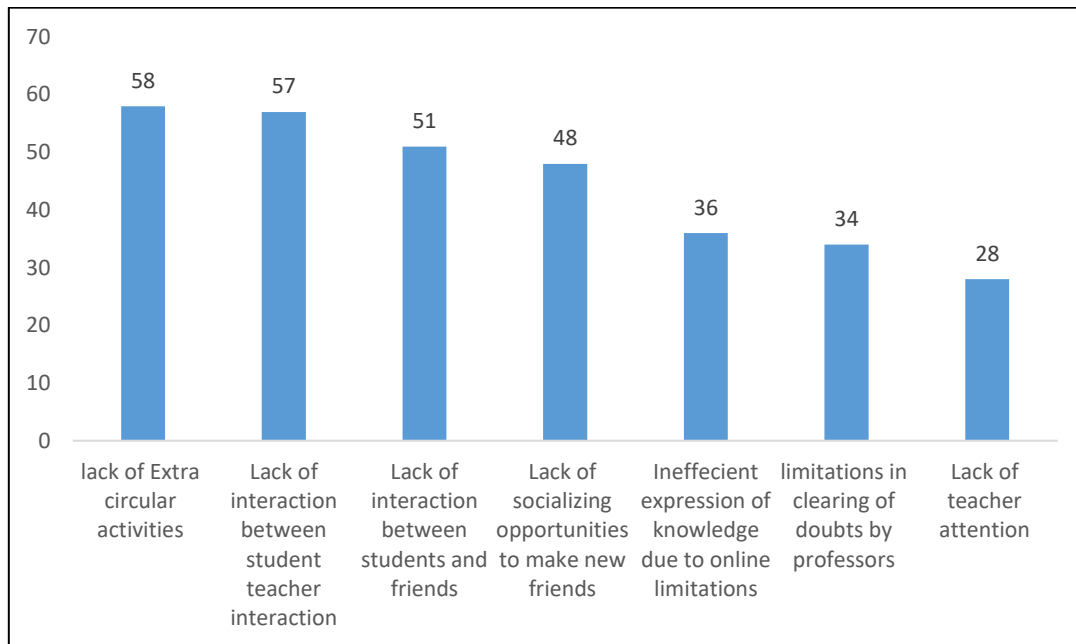


Figure 12 : Missed most by students

2. For teachers the main concerns were the following

- The main thing that the teachers / professors missed was the lack of interaction between them and students, this point is primarily important because the non-availability of instant feedback in the online lectures.
- The second challenge which they faced was not being able to effectively judge the students based on online performances, due to ineffective technological tools.

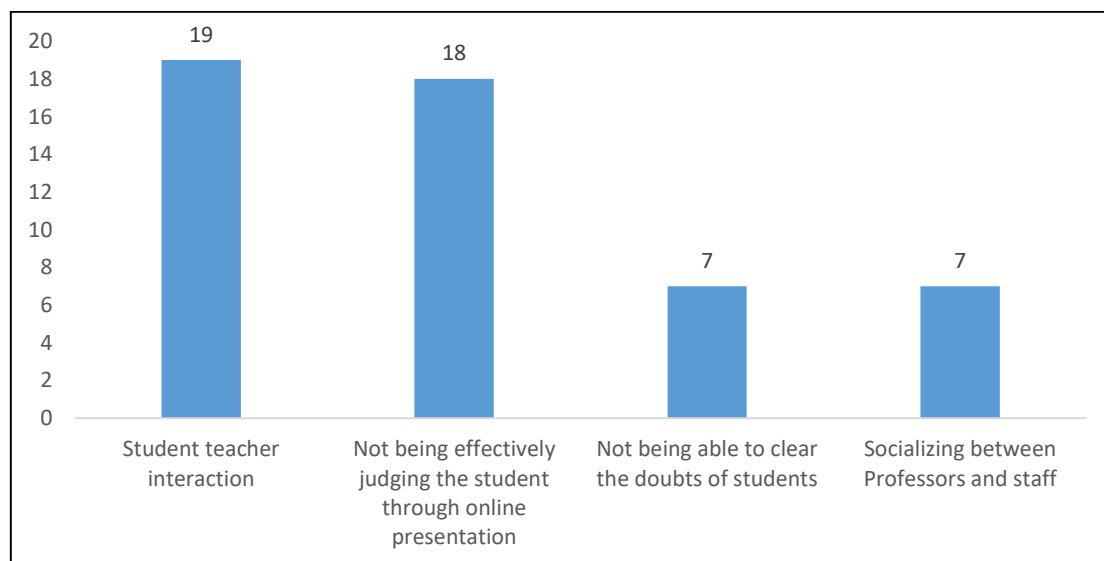


Figure 13 Missed most by teachers

Conclusion and Recommendations

The general consensus among all the teaching staff was that they were extremely worried about the future of their students. It was observed that most of the teachers and students in a very short span of time adapted themselves to the new online mode of learning, during the lockdown and Pandemic situation. The online learning is well received by all the stakeholders, parents, colleges and students themselves. The authors opined that the online mode of learning shall continue post the pandemic considering its advantages over the current classroom based learning pedagogy. It is developed by the respective universities or colleges themselves. A few recommendations are as follows;

1. A strategy for online education to be formulated by every university in India, led by All India Council of Technical education or by University Grants commission under the aegis of Ministry of Human resource development Government of India.
2. A unified learning management system to be developed and utilized which will provide flexibility to students for learning. The multitude of platforms for the same such as Microsoft teams, Google meet, Webex and Zoom would dominate the online mode of learning till a unified learning management system is developed.
3. A guideline to be prepared for Professors and teachers with a process to conduct online classes and lectures and should be mandated by All India Council of Technical education or by University Grants commission.
4. A chair in the university / colleges / Institutes for online education and creating a platform for sharing the best practices, lessons learnt, would take this concept ahead in the foreseeable future.
5. The concept of technology and Online education should be engrained in any future discussions on overhaul of higher education in the near future.

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