



Original Research Article

Challenges faced in teaching learning process by the students and teachers during the pandemic: A cross-sectional study

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ABSTRACT

Background: The COVID pandemic has caused drastic changes in education systems in the world. The government enforced the restriction of all the educational institutions all over the country and also throughout the world. Due to shut down of institutions, the mode of learning shifted from on-site, in person learning to online, virtual mode. Thanks to the advancement of the technology and sciences, we were able to connect students to their professional world virtually. The study intends to acknowledge the student's mentality while attending online classroom and also highlighting the challenges faced due to the online education.

Materials and Methods: The study was based on descriptive cross-sectional study and conducted through consented online survey where forms were distributed via social media. A total of 320 participants consented for the survey and willingly participated for it.

Results: The survey showed that though the online mode of study was helpful in keeping up with the education, barriers can lead to obstruction for the fluidity of education.

Conclusion: We should come up with more innovative ideas to connect students and professors with minimal barriers between them.

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1. Introduction

The COVID-19 pandemic was started in early months of 2020 that has caused the world to cease their activities. The global health crisis caused by the COVID-19 pandemic that began in 2019 threw higher education into a challenging arena all over the world. Schools were forced to move rapidly to an exclusively online teaching mode. The daily number of cases is accelerating and the number of deaths is wildly increasing. As of 29 April 2021, the current COVID positive cases in India are 18.8 million with daily rise of

cases of 3.87 lakhs. Amidst the chaos, the world has to take measures to somehow control the chaos. This includes lockdown, curfews, restrictions, maintains safe distance as much as possible, promoting use of face mask, sanitizers and washing hands.

But there is a huge impact in the field of education due to lockdown. The students are in panic about their studies and examinations. The teachers are worried about the completion of syllabus. It is all thanks to the developed technology and network that the students can virtually interact with the teachers while sitting at home. Various platforms are available for students to fill the gap that is formed by the lockdown in the education. Be it

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Zoom meetings, Google classroom, Google meet, various education apps, course specific apps, or web pages, the educators are trying to fill the void that possibly created due to pandemic.

But the problems do not end here. Since India is a developing country, the lack of knowledge and affordability to the latest technology seems to be the hindrance to the teaching- learning process. Also, the network problem where a family has to go some distance to catch upon the internet is pretty common here. Thus, it is our duty to assure people of all socio-economic groups about the education system in pandemic and help them as possible.

Faced with this reality, some US based multinational companies, such as Microsoft or Google, resurrecting concepts based on remote teaching and e-learning, offer platforms and web-based services that aim to streamline file- sharing and to manage student and teacher communications.

The COVID-19 pandemic has allowed teachers to reinvigorate distance learning in new ways, and this experience can be used in the post-pandemic period and similar special cases.¹ But there is minimum study done that shows where the students are facing problems or the discussions about how to resolve the issues due to which the students cannot conduct their study efficiently at home. Thus, to bring this issue in highlight, the presenting research was conducted.

This study is conducted on a small scale pattern for about four to five months. The purpose of the research is to evaluate the knowledge of the students about the online platform of education and to highlight the complications faced by them and the professors due to abrupt cessation of on-site mode of education and executing online education.² While doing the research and to keep its efficacy, the following things were kept in the mind:

1. Do online based education platform a real replacement to on-site mode of education?
2. Does online based education platform have same efficacy to enhance practical knowledge of the students as on-site learning?
3. What implications does the research bring about for the refinement of action plan?

2. Materials and Methods

In response to the challenges faced due to COVID-19 pandemic in education system, an active research-based study was adopted to limelight the problems of the students faced in online education. After IEC approval (NKPSIMS/ IEC/UG/10/2021 dated 24/6/2021) a qualitative case study approach was adopted in context to the delivery of the report of the case. An informed consent was taken from the participants prior to the filling of the survey from those who were willing to participate in the research. Also consent was

taken from the head of the institute to initiate the survey in the college. The study was a descriptive cross-sectional study conducted at the institute level.

2.1. Sample size

The Google forms were circulated in about 760 students and 280 professors in NKPSIMS, Nagpur and about 50 participants from other institutes. Out of which, 320 participants responded to the survey positively.

2.2. Instrument

The survey was conducted on the basis of Google forms that were circulated via Gmail or WhatsApp. Consent was filled by each participant for the further questioning for the survey. The questions were mostly of multiple-choice type and some of them were verbal questions that allowed participants to freely express their opinion. The survey was conducted for about 5 weeks. An informed consent was taken from the head of the institute to initiate the survey for the research.

2.3. Procedure

The present survey study was conducted in a stepladder manner and was divided into five stages:

1. Social background and demographics of participants:
2. Knowledge about online resources and access to various media for teaching learning process.
3. Technical issues faced during online classes (includes access to technology, knowledge to use that technology, access to internet and other resources etcetera.)
4. Mental aspects of students using online classes.
5. Problems faced by the professors in online mode of education.

3. Results

The cross-sectional study was conducted following the topic via an online survey among 320 participants, who positively participated in the survey conducted for 5 weeks. Prior to the survey, the consent was taken by each participant to use their choices as data.

3.1. Social demographics

Out of the participants, 70% of them are females (224) while 30% of them are males (94). The highest response we received was among the age group of 20-24 year (about 84.3%). Most of the students are studying medical courses at college level. Spatially, among the participants, 63.7% reside in urban areas (204), 18.1% reside in semi- urban and sub-urbs (58) while the rest 18.1% reside in rural areas (58).

3.2. Knowledge about online resources

It is necessary to know about the knowledge of the participants for the various online resources and their usage. Thus, a certain set of questions were included in the survey that can analyze about how much of the online resources the participants are aware of. According to the survey, 91.9% of the participants concluded that online meeting platforms such as Zoom meetings, WebEx meetings, etcetera., is convenient to use. It is also the most frequently used platform of online education by the institutes.

Questions were asked about the assignments too. On an average, 271 students receive one to four assignments per week while 42 students receive five to nine assignments per week. Out of them, 180 students can complete their assignments on time while the rest often does it or do not complete it at all. One of the reasons can be due to the difficulty level of the assignment. Out of 320 participants, only 100 participants consult their respective subject professors to clear their doubts. 248 of them use online resources such as web browsing, eBooks, and educational applications etcetera. To solve the difficult parts of the assignment while 219 participants ask their friends/colleagues for the help to complete it (Figure 1).

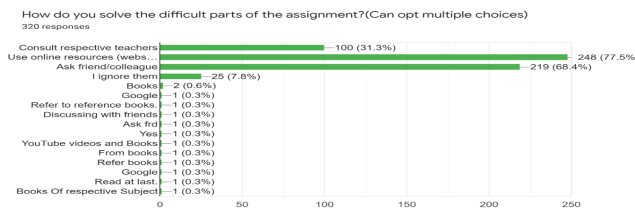


Fig. 1: Students responses to solving online assignment

3.3. Technical issues faced during online classes

While the questions being asked in the survey, it was kept in the mind that the participants must fully express their views. Among the survey, 138 participants feel that usage of online platforms in learning process are not interactive while 113 of them thinks that they are less interactive as it should be. Online education has indeed done a great job in connecting students to the education during pandemic. But the biggest threat is in the practical knowledge of the same students. According to the data, according to the scale of one to five with the one being least and five being most, 40% of the participants feels that they receive least practical knowledge while 25.9% of them feels that they get moderate practical exposure using the online resources (Figure 2).

Participants were asked about the review about the online examinations. 41.3% of the participants feel that online exams are less convenient than offline exams. 52.2% of the participants reported that their study hours have increased

How much of the practical knowledge do you gain using online platform?

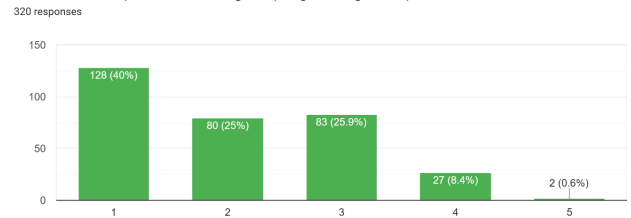


Fig. 2: Students responses to knowledge gained using online platform

than before pandemic while the 32.2% of them reported that it has decreased (Figure 3).

When using online platform to learn, are you:

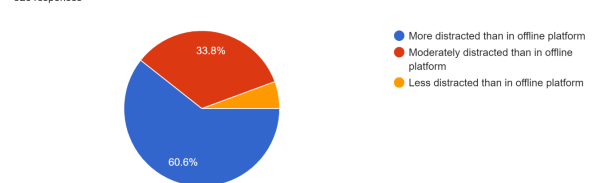


Fig. 3: Level of distraction in students between online and offline T-L process

3.4. Mental aspects of students using online classes

Many of the students complain that they are more distracted in study via online mode than offline mode. 60.6% of the students (194) of them claim that they cannot focus to their study when they use online learning. Students reported the home-learning program to be more stressful than regular classrooms. 49.1% participants feel more stressed while preparing for online exams. On asking via survey, participants were given multiple choices for how do they deal with this stress? 70% of the participants deal with this stress by talking to their friends, family and colleagues while 70.6% participants listen to the music. 85.3% of the participants experience that exercising regularly helps to deal with the stress. About 50% of the participants exercise regularly for one to two hour per week. 19.4% participants do not exercise at all (Figure 4).

3.5. Problems faced by the professors in online mode of education

Since the research not only focus in view of students but also professors, a special set of questions were prepared for them. 80.4% of the professors concluded that the online education is less convenient than offline classrooms. They

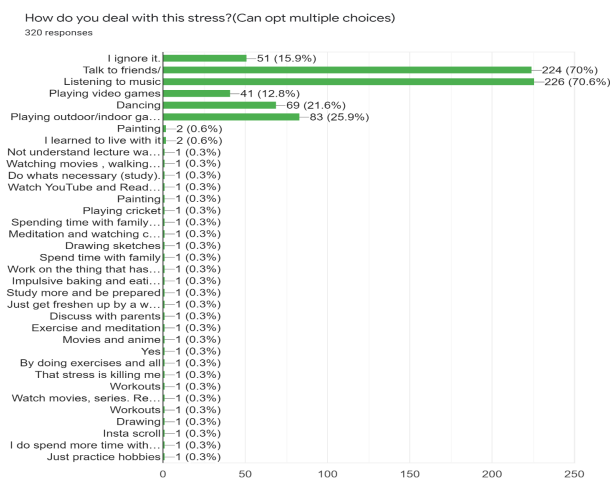


Fig. 4: Mental aspects of students using online classes

are finding problems in motivating students for the class. 72.2% of the professors claimed that they motivate their students by keeping the online classes interactive. 54.4% of the professors conduct small group discussions to interact with students more efficiently while 51.9% professors provide short interactive videos to the students (Figure 5).

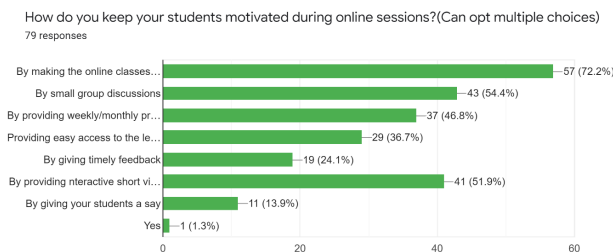


Fig. 5: Different aspects by teachers to keep students motivated during online classes

On a scale of one to five with one being ‘strongly agree’ and five being ‘strongly disagree’, 25.9% professors strongly agreed that their mental health is highly affected during pandemic. 48.2% professors find it difficult to maintain professional and personal life.

4. Discussion

The presented research highlights the new study pattern adopted due to COVID 19 and the difficulties associated to students as well as while using this mode. While concluding that the institute is making its best to use various educational platforms during pandemic, it is also kept in mind that these resources are provided to the students to its potential.

Similar results were concluded in various other studies.

Teachers are the closest witnesses of the challenges the pandemic has brought for their students, for themselves, and for their professional and personal life. According to research conducted by Saadet³ the schedule is not followed as in conventional teaching. Majority of students were found to have lack of motivation during online sessions due to many reasons, such as no face interaction and eye contact with trainer, and sometimes, there are voice issues, and due to having no mutual discussion section, lectures become non-understandable.^{3,4} These also leads to loss of concentration and interest of students for attending online classes.

The practical classes are the most difficult to be taught via online mode. It is because it is believed that it is essential to have hands-on experience. Software developed for practical learning can be an option that might include three-dimensional space modules and procedures. According to research conducted by Sandhu P (5) the online teaching and learning was essential during pandemic. It was also deduced that applying online mode of education was helpful choice. However, the workload of assignments was challenging, mainly because of non- availability of appropriate environment at home, network issues etc.

The current situation leads us to discover the digital networks and its potential for teaching and learning education. But digitalization of the education needs knowledge and experience by the users of such methods so as to access to its full potential. General challenges faced in digitalization of education like network, connectivity, technical access etc.^{5,6} All these must be considered since India is developing country. Our study also indicates that the students also find it stressful to maintain online classes and online assignments on daily basis. This is also responsible for the associated stress in the students.⁷⁻¹⁰

Therefore, we need to do further studies to assess the views of the students as well as professors for online education system on the wider population. The online knowledge and learning method is not a substitute for regular classroom teaching and clinical postings in medical educational setup. However, during the COVID pandemic it can be an addition to the routine teaching.¹¹ Most of the students (90%) were facing some kind of difficulty in the online learning process due to unplanned and sudden shifts. Therefore, it is necessary to identify and eliminate the various barriers to make online learning effective. The institutions should train professors as well as students about the technical aspects of online learning and how to use virtual learning modules.

5. Conclusion

The results from the study show that students were aware of the various platforms of the online education. Students efficiently used online platform of education and hence are

able to connect to their professors. Online education helped students to connect to their education virtually when there was complete shutdown of institutions.

But the problems are faced by them as there was no 'proper' guidance for using online platform as a media of education. Students find it stressful to maintain online classes and online assignments on daily basis. Lack of 'Digital Literacy' of the students as well as teaching staff is the major barrier behind all these challenges. Even the teaching staff found it difficult to interact with every student online unlike in offline education. Hence, we should come up with more innovative ideas to connect students and professors with minimal barriers between them.

6. Authors' Contributions

Dr. Madhur Gupta: Contributed to the design and implementation of the research, to the analysis of the results and to the writing of the manuscript.

Ms. Saumya Awasthi: Contributed to implementation of the research and the analysis of the results.

Dr. Arti Kasulkar: Contributed to the design of the research, to the analysis of the results and to the writing of the manuscript.

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8. Conflict of Interest

The authors declare they have no conflict of interest.

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