

The impact of online learning during COVID-19: students' and teachers' perspective

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ABSTRACT

The purpose of this study was to conduct an online survey regarding teacher's and student's perception and experience related to online classes. Delivery of classes through online medium has been a recent modification brought out by the education system in India in the wake of the current pandemic situation. Thus, this survey describes college and university teachers and students' perceptions and concerns with regard to taking online classes that have been made mandatory in the wake of COVID19. The sample consisted of 70 teachers and 407 students from colleges and universities in Bangalore city. Online survey method was used for the purpose of data collection. The findings show that the following areas are important for teacher and student satisfaction with online classes, these areas are: quality and timely interaction between student and professor, technical support availability, structured online class modules, and modifications to accommodate conduction of practical classes.

Keywords: Online classes, COVID-19, Survey, Teachers' Perspective, Students' Perspective

Online learning and classes are increasingly becoming part of the education system worldwide. Online channel has made education convenient and easily accessible by one and all. Education sector in India has been an ever-growing entity. India has been one of the largest sectors in the world when it comes to higher education. Though online and distance courses have been there from a long time, introduction of the online mode of taking classes in comparison to the traditional face to face classroom approach in universities and colleges have been considered only in the last few years in India. When it comes to the Indian educational system, face to face classroom approach has always been the most prominently used. Familiarity and ease of using offline methods and lack of requirement for online channels of teaching has been the major barriers for adoption of online channels of education. However, in the wake of current COVID-19 pandemic situation conduction of online classes at college and university level has been made mandatory by the educational boards. Covid-19 has brought out a drastic change in the educational system not only in India but rather the entire world. Universities across India as well as around the globe have moved to the virtual classes suspending physical classrooms. Online education in India is at an early stage of development. In India, while this transition has been a mixture of both

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positives and negatives for most private universities, the government colleges and universities are still adapting. While technology makes things accessible and easier, it can also be limiting, especially in India, where many students face a challenge in terms of access to the internet. This in turn leads to issues with attendance and participation in online sessions, thereby making the adaptation of online channels of education a challenge.

Meanwhile, face-to-face classroom setting can provide immediate feedback to faculty members and students about the quality of lesson, delivery, and experience. In a classroom setup a teacher can observe student's body language and these non-verbal cues helps the teacher to immediately make adjustment in their teaching approach to best suit the needs of the students. Additional questioning and individualized attention in classroom environment to gain a more detailed idea about the student's clarity with concepts being taught is a major advantage when compared to online channels. What might be easily perceived and approached in the classroom requires a little more probing and alertness in an online class. Investigating and analyzing how online classes should be designed and arranged by taking into consideration the students' and teachers' perspective should be an integral part of building online teaching methodology as well as learning. Previous research studies have investigated student's perception and satisfaction toward online learning and face-to-face learning. Fortune, Spielman, and Pangelinan (2011) investigated 156 students who took and enrolled in either an online learning section or face-to-face learning of the Recreation and Tourism course at multicultural university in Northern California, United States and found that no statistically significant difference in learning preference was found between those enrolled in the two different learning modes. Another study by Tratnik (2017) indicated significant differences in student satisfaction levels when online classes were compared to face-to-face learning of English as a foreign language. Students taking the face-to face course were found to be more satisfied with the course compared to their online counterparts.

When it comes to the Indian educational setup, online classes are a newly introduced mode of teaching and not something that has been a part of regular classes. Investigating and analyzing how online classes are being perceived and experienced by students and faculties across different colleges and universities in India will help educational experts to understand and make modifications to suit the needs of both, teachers and students. Consequently, educational institutions and management who would be the future deliverers of online learning need more understanding of how students as well as teachers perceive and react to online classes as a learning mode to apply these approaches most effectively. Another important thing noticed in the review of previous studies was that when evaluating online mode of education, student's perspective has been given importance and taken into consideration over teacher's perspective. Teacher's perspective is equally important because if they as provider of education are not satisfied and find the online mode unsatisfactory then the educational base itself becomes weaker. This new introduction of online classes has been equally challenging for teachers, who are also struggling to learn this new way or methodology of teaching. Therefore, the significance of this research lies on exploring the Teachers and students' perception toward online classes in comparison to face-to-face classes. The survey focused on teachers and students from colleges and universities in Bangalore city. Bangalore being the technology hub could shed light on how the online classes are perceived. Thus, the following article describes the results of the survey which was done to understand how well this new method is being taken by both teachers and students, what are the general problems faced by them while taking online classes so as to help educational instructors and facilitators and college and university managements to

understand the modifications that can be brought to make online teaching more effective so that in future it can be integrated along with classroom teaching. The responses from this survey will help to improve or enhance online mode of classes in order to provide a better learning experience for students and a better teaching experience for the teachers.

METHODOLOGY

For this study, the author formed two short survey's: one for the teachers and the other one for the students. The survey questions assessed the general perception and experience of both students and teachers about online classes. The teacher survey had a cross-section of 6 demographic questions and 26 questions regarding teacher's perception about taking online classes. Out of the 26 questions 3 items were open ended wherein the teachers were asked to tell what according to them were the positive and negative aspects of online teaching and what were the applications usually used by them to take online classes. The students survey consisted of 6 demographic questions and 19 questions regarding student's perception about online classes. Two open ended questions regarding the positive and negative aspects about online classes were kept. Response choices consisted of pre-defined options of agree, disagree and neutral. The purpose of the survey was not to collect psychometric data and thus the survey did not make use of validated psychometric tools. Due to the current COVID-19 situation, the survey was conducted online using google forms. The form was made available online on 2nd May'20 for 2 weeks. Teachers and students from Bangalore colleges and universities which were conducting online classes were approached and asked to complete the survey. A total of 76 teachers and 412 students participated in the survey. For the teacher's survey 70 teachers completed the entire survey i.e. 92.1% of the total sample, whereas for the students 407 of them completed the entire survey i.e. 98.7% of the total sample. Hence the data of only 70 teachers and 407 students were considered for the analysis. No incentives were offered for responding to the survey. The details about the survey was shared with the respondents. Completion of the survey was taken as a form of consent to participate.

Participant demographics

Table 1: showing demographic details for teachers

Teachers Demographic Details (n=70)			
Gender	Male: 10% (n=7)		Female: 90% (n=63)
Age	24-35yrs: 56.9%	36-50yrs: 32.7%	Above 50yrs: 10.4%
Type of educational institution	College: 80.3%	University: 19.7%	Private institution: 90.8% Government institutions: 9.2%

Table 2: showing demographic details for students

Students Demographic Details (n=407)			
Gender	Male: 12.03% (n=49)		Female: 83.04% (n=338) Prefer not to say: 4.91% (n=20)
Age	16-18yrs: 7%	19-23yrs: 88.3%	23yrs-27yrs: 4.7%
Type of educational institution	Private institution: 83.5%		Government institutions: 16.5%
Course	Pre-university college: 8.7%	Undergraduate: 74.5%	Post-graduate: 16.7%

Data analysis

The main purpose of the study was to gather evaluative feedback from university students and faculty on their experience about online mode of teaching. A descriptive approach for data analysis was considered. Responses to the open-ended questions were transcribed, coded, and categorized within each question to determine similar answers. Repetitive content of responses was identified. Finally, frequency counts of frequently occurring responses were tabulated and converted to percentages for reporting purposes. The section below describes the detailed findings of the survey.

RESULTS

The survey was done to get an understanding of the experience and perception of teachers and students about the recently introduced online mode of teaching. The survey results are divided into two sections, namely, perception of teachers and perception of students about online classes. The results for both are discussed separately.

Teachers perception about online classes

The teachers survey had items assessing three dimensions: online v/s classroom mode, personal factors and students' factor during online classes. The results of the survey showed that 86.9% of the teachers reported that they preferred classroom teaching method more than online teaching mode. 11.8% preferred online classes.

Table 3: Survey items on teachers' perception of online classes

Online v/s classroom teaching mode		
Online classes are more effective than classroom mode	Agree	32.9%
	Disagree	53.9%
Online classes are more convenient than classroom method	Agree	46%
	Disagree	22.3%
There is lack of teacher-student interaction in online classes	Agree	76.3%
	Disagree	10.5%
It is difficult to engage students in online classes	Agree	56.5%
	Disagree	22.4%
Online classes are fun and interactive than classroom method	Agree	13.1%
	Disagree	72.3%
Teacher- students disconnect is felt low in online classes compared to classroom method	Agree	17.1%
	Disagree	65.8%
Online classes are not safe and secure method	Agree	39.4%
	Disagree	31.6%
Difficult to keep classes for longer duration during online classes	Agree	71.1%
	Disagree	17.1%
It is difficult to control group interaction during online classes	Agree	76.4%
	Disagree	15.8%
Online classes help me to	Agree	50%

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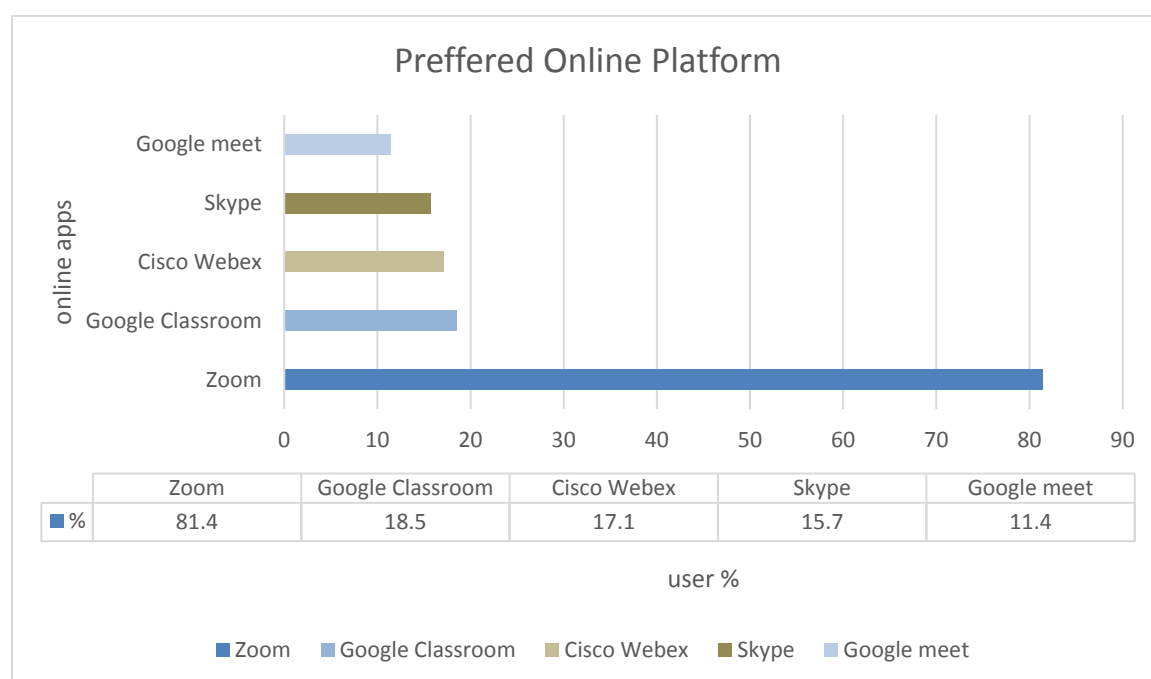
Online v/s classroom teaching mode		
use innovative teaching methods	Disagree	25%
Technical issues effect the flow and pace of online classes	Agree	90.8%
	Disagree	3.9%
Personal factors in online teaching		
Lack of computer skills makes it difficult for me to use the online teaching method effectively	Agree	32.9%
	Disagree	43.5 %
There is lack of work satisfaction while taking online classes	Agree	63.1%
	Disagree	21.1%
Online classes make me conscious about my teaching skills	Agree	34.2%
	Disagree	32.9%
I feel lack of motivation to take online classes	Agree	42.1%
	Disagree	35.5%
I get easily distracted during online classes	Agree	27%
	Disagree	47.3%
Online classes trigger anxiety in me	Agree	31.6%
	Disagree	50%
I feel my skills as a teacher has improved through online teaching method	Agree	38.2%
	Disagree	26.3%
I am finding it difficult to adapt to the online teaching mode	Agree	32.9%
	Disagree	43.4%
Online teaching has boosted my confidence as a teacher	Agree	42.1%
	Disagree	22.4%
Student factors in online classes		
Students do not take online classes seriously	Agree	76.3%
	Disagree	10.5%
Students make lot more excuse for not attending online classes and the reliability of it cannot be assessed	Agree	78.9%
	Disagree	6.6%
Students show lack of interest and involvement during online classes	Agree	75%
	Disagree	13.1%

Teachers felt that even though online classes were convenient, could be taken from the comfort of their homes, saving travel time, it did not seem to be effective when compared to classroom method. Teacher- student disconnect, lack of interaction, inability to engage the

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group, technical issues were found to be the main issues. 39% of the sample felt that online classes were not very safe and secure as a medium. However, teachers did agree to the fact that this new opportunity of conducting classes through online channel have increased their confidence and helped them to explore and use innovative teaching methods. Lack of work satisfaction while taking online classes was also reported. Some of them even felt that their lack of computer skill came in the way of using the online teaching platform effectively. Lack of student interest and involvement was reported by a majority of teachers. They reported that during online classes the main issue they faced were that students made a lot of excuses about not being able to attend classes, for e.g., network issue, dysconnectivity, poor audio and video quality, etc. and it is difficult for them to know if they are giving genuine reasons or just escaping from attending the classes. With classes and assignments using online channels, education technology apps are gaining popularity amid COVID-19 pandemic. The survey also explored what were the online platforms preferred by teachers for taking classes and assigning work online.

Graph 1: shows the applications frequently used by teachers for online teaching



Apart from the ones mentioned above some other platforms reported to be used by teachers were: google duo, YouTube, Moodle, Jitsi, Microsoft team, WhatsApp, Lark and Avaya Space.

When asked about the problems generally faced by them while taking classes online or what were the negative aspects of online classes, majority of them (64.2% of the sample) reported technical issues like poor connectivity, power cuts, broadband issue, poor audio and video quality as the main issue. 37.1% of the teachers reported lack of student involvement and engagement in the classes as a problem. They reported that students during online classes made a lot of excuses and showed lack of seriousness. This in turn tends to make the teachers feel demotivated. 15.7% reported that poor attendance due to reasons like some students being in their hometown where connectivity issues are there, followed by lack of motivation from students' side to attend classes was another issue faced. Some of the other

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negative aspects of online teaching reported by teachers were: some of them found online teaching more time consuming as it required them to prepare ppt and extra materials for the classes, some reported that the online mode seemed too formal and lacked personal touch and did not seem lively. Difficulty in assessing concept clarity by students and to know if they are understanding what is being taught was another issue experienced. Inability to monitor and control students behavior, lack of work satisfaction, background distractions, time restraints in using online apps, delay in starting the class due to students taking a lot of time to join, inability to assess if students are mentally present in the class or have just logged in were the other issue reported. Another major issue reported was the problem of taking practical subjects online. As per the teacher's theoretical subjects were easier to take but when it comes to practical subjects like design, accounts, math, and others, they found it difficult to take the class.

The teachers were also asked to report what according to them were the positive aspects of online teaching. Majority (37.1%) felt that online classes were flexible and convenient, could be easily accessed, can be scheduled as per their convenience and made evaluation and grading work easier. 22.8% reported that online teaching has helped them to upgrade their skills as a teacher, they have become technically more skilled, has helped them to learn innovative teaching methods and has boosted their confidence. 15.7% felt that online teaching saved time, can be taken from the comfort of their homes which in turn saved travel time. Other positive aspects reported were: online classes seemed more structured in approach, lesser disturbance, innovative tools like screen share can be used, promotes using more graphs, charts and videos, can preserve the content of the classes for future reference and use, rather than taking the class again for students who missed the class the classes can be recorded, makes teaching more systematic.

Students perception about online classes:

The students survey had items assessing two dimensions: online v/s classroom mode and personal factors during online classes. The results of the survey showed that 87.1% of the students reported that they preferred classroom teaching method more than online teaching mode. 12.9% preferred online classes.

Table 4: Survey questions on Students perception of online classes

Online v/s classroom teaching mode		
Online classes are more effective than classroom mode	Agree	19.9%
	Disagree	54.9%
There is lack of interaction during online classes	Agree	60.4%
	Disagree	16.6%
Online classes are more convenient than classroom method	Agree	21.6%
	Disagree	56.8%
Quality of discussion is low in online classes	Agree	79.8%
	Disagree	9.9%
Learning and knowledge transfer happens more in online classes	Agree	13.8%
	Disagree	68.2%
Online classes are less structured than classroom mode	Agree	70.6%
	Disagree	9%

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Online v/s classroom teaching mode		
Online classes save time	Agree	49.7%
	Disagree	29.8%
Technical issues disrupt the flow and pace of online classes	Agree	84.2%
	Disagree	4.8%
It is difficult to clarify doubts in online classes compared to classroom mode	Agree	67.5%
	Disagree	17.1%
Personal factors in online classes		
Lack of computer skills makes me uncomfortable during online classes	Agree	40.8%
	Disagree	35.2 %
I feel more comfortable to participate in online class discussions compared to classroom	Agree	16.8%
	Disagree	59.4%
I find it difficult to understand and follow online classes	Agree	68.4%
	Disagree	16.3%
I feel less anxious in online classes	Agree	46.1%
	Disagree	27%
I get easily distracted and have difficulty concentrating during online classes	Agree	61.6%
	Disagree	19.2%
I feel lazy and disinterested during online classes	Agree	59.3%
	Disagree	20.1%
I do not feel motivated to participate in online class discussions	Agree	59.5%
	Disagree	19.9%

Looking at table 4, it can be seen that when it came to online classes, students perceived the online classes to lack quality. Things such as technical issues, lack of structure, disturbance in the flow of classes, problems in clarifying doubts, lack of interest and motivations to attend the classes were some prominent factors reducing the effectiveness of online classes. Even though today's generation is technologically well versed still the survey showed that majority of the sample reported that somewhere they felt their lack of computer skills made it uncomfortable for them to use the online channel.

The students were also asked 2 open ended questions about the pros and cons of online mode of classes. When asked about the problems generally faced by them during classes online or what were the negative aspects of online classes, majority of them (55.7% of the sample) reported technical issues like poor network connectivity, power cuts, broadband issue, poor audio and video quality, problems with the app, getting disconnected in between the classes and finding it hard to log in again as the main issues. 23.3% reported that they found it difficult to concentrate during online classes, distraction at home were more, no structured learning environment makes it harder for the students to focus during the class. They also reported that being at home makes online classes burdening for them as they are

unable to manage both house work and college work at the same time. Some of them even reported that having lack of supportive home environment and family issues makes it harder for them to fully involve themselves during online classes. 22.1% reported that online classes were difficult to understand and follow especially when it came to practical subjects, lack of concept clarity, no structured format or time scheduled followed. According to them too many subjects are scheduled on the same day which makes it difficult for them to stay alert and active. They feel information overload and fatigued. 15.4% reported the online classes to be less interactive, no communication between students or with teachers and makes it harder to participate. Thus, the online classes they felt were less lively, lacked friendly atmosphere and social interaction. 12.7% of them felt lack of motivation and interest to attend online classes. They felt that online classes make them less serious and they just attend the class for attendance and feel bored and lazy. Some of the other issues reported were financial constraints. Students reported that the online classes increased their expense by recharging the data frequently, due to which they felt burdened, especially for students who come from financially fewer stable homes. Next concern was that online facility and tools were not accessible for students coming from economically disadvantaged backgrounds which again adds on to the burden of buying a smartphone which is financially burdening for some. Students felt that when classes are taken through online channels, teachers do not teach effectively, they run through the syllabus and students feel they are being overloaded with information. Security concerns about using online apps were also reported. Last but not the least, students reported a lot of physical issue due to online classes. According to them continuous use of mobile phones and earphones caused issues like, eye strain and pain, ear pain, backache, headache. They felt stressed and strained both mentally and physically. The constant pressure of completion of assignments was reported by students that induced a lot of stress in them. They felt that no learning or transfer of knowledge was taking place.

When it came to the positive aspect of online classes majority found it to be time saving, as it could be done from the comfort of the home which save time to travel and commute, don't have to rush to reach college. Other positive things reported were: faster completion of syllabus, recording of classes helped in referring to it later. The recorded classes could be watched again and again until the concept is clear. Classes can be attended anywhere, anytime thus, giving flexibility. Lesser disturbance from classmates, less anxiety in asking doubts and queries were also added among the others.

DISCUSSION

The result of this study indicates that face- to- face learning was perceived more positively than online learning in term of social presence, interaction, satisfaction and overall quality. Even though online classes were reported to be convenient in term of saving time, still both teachers as well as the students perceived it to be less effective and structured when compared to classroom mode of learning. Technical support was found to be an important factor critical to determining satisfaction with online classes. Yang and Cornelius (2004) in their study had reported similar findings. They found that students showed dissatisfaction with their courses when instructors were unavailable to provide technical support. Students also reported dissatisfaction when they had limited technical skills (Zeng & Perris, 2004). Thus, these findings from previous studies are in tandem with the current survey results where technical issues were found to be the most influential factor when it came to satisfaction with online classes. The results found here will thus allow college administrators to determine how technical support can be expanded and extended to reach all students and teachers, thereby, improving their experience and making the classes more effective.

Another finding from the current survey which is found to be consistent with previous research (O'Malley & McGraw, 1999), was that students when enroll for online classes they initially feel that they are unable to learn as much in online courses as they used to in face-to-face courses. This dissatisfaction further effects the learning process. Zeng and Perris (2004) also reported similar findings. Therefore, the educational institutions should provide opportunities for students to become comfortable with the medium before they take online classes. Results of the current study indicate that student and teachers' perceptions are valuable to educational institutions planning to adapt online mode of teaching in the future. However, this survey has its limitations. The small sample may not be completely representative of the majority of students and teachers taking online classes. Social desirability might have colored the test taking behavior of the subjects.

CONCLUSION

Higher education in India is currently restricted by lack of clarity when it comes to regulating online channels of education. Teachers and students' comfort with online class design, structure, level of interaction between students and faculty, the quality and amount of class content, technical support, and overall experience with online class delivery impact the overall teaching and learning experience and determines the ultimate success or failure of online mode of education. Thus, awareness needs to be increased focusing on the convenience and accessibility aspect in order to increase the adoption of online channels by students and teachers. Frustration with class structure and design may translate into a poor learning outcome for students. Improving the quality of online classes with the help of various service providers, along with support from different colleges and universities can help in making online mode of education more effective and easily acceptable all over India. The concerns suggested by teachers and students point towards the fact that more research and study should be conducted to provide more detailed information for changes to occur within design and methodology of online classes. Establishing a structured and user-friendly environment for online mode of education, one that is accessible for all without putting financial burden on students and teachers should be the main criteria in the minds of college and university management while promoting online education. Also, the need for providing adequate technological training to teachers about method of conducting online classes should be prioritized as it is found to be a pre-requisite for successful online class implementation. Although the sample size is small to generalize to the larger online higher education population, the information can throw light on the general issues faced by teachers and students during online classes. Online mode of higher education is still in the early stage of development in India, therefore having clarity about the problems experienced and the expectations of students and teachers will help to plan out effective and structured strategies for taking online classes. It is important to note that the survey showed agreement between faculty and student perceptions of online mode of teaching. The opinion of both were reflective and supportive of one another.

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Conflict of Interest

The author declared no conflict of interest.

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