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RESEARCH ARTICLE

FACULTY PERCEIVED BARRIERS OF ONLINE TEACHING IN THE ERA OF COVID-19

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ABSTRACT

The Covid-19 pandemic has disrupted the education sector globally. Classes have been suspended to enforce social distancing and educational institutions, universities have shifted to online methods of teaching and evaluation. Online class challenges linked to lack of teacher preparedness. While children face issues in accessing education digitally, teachers face issues in delivering education through digital mediums. **Aim:** A descriptive study was conducted to assess the barriers perceived by faculties regarding online teaching in the era of Covid-19. **Methodology:** Purposive Sampling technique was used to select the sample size of 109 faculties of different colleges of Delhi-NCR teaching through online mode. Multiple choice questions and Likert scale were used for data collection through electronic survey. Descriptive and inferential statistics were used for data analysis. **Results:** The findings depict that majority of faculties (72%) perceived most prevalent barriers in conducting online mode of teaching while some (27%) felt neutral and few (1%) perceived no barriers of online teaching. Barriers were classified as personal, institutional and technical. The most prevalent barriers perceived by the faculty in these areas were difficulty in demonstration of practical skills (88%), increased workload (69%) and frequent change in software/application creates a fuss (73%). Chi square test showed the significant association of perception score with gender, faculty status and designation of the faculty. **Conclusion:** In order to improve the online education outcome, the universities/colleges are advised to promote the facilitating factors and cope with the barriers, by providing administrative support, adequate training, technology support, help in dealing with the anxiety.

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INTRODUCTION

On March 12th, 2020, the World Health Organization (WHO) declared that the outbreak of coronavirus disease (COVID-19), which is caused by the SARS-CoV-2 virus and which was first identified in Wuhan, China, had reached the level of a global pandemic. Less than one week later, on March 18th, 2020, UNESCO reported that an estimated 107 nations had closed all schools/colleges due to the pandemic. The closures have affected approximately 862 million school students, which represents almost half of the school-age population worldwide¹. Online education can also be designed to accommodate a variety of learning styles among students. As educators, it is likely that we will have to put in additional efforts to incorporate online learning programmes into the curriculum in the most suitable manner. Online training programmes are helping teachers/educators advance their skills in curriculum implementation, policy, education systems and leadership, both independently and with the support of their institutions.

It lets them collaborate with their peers and learn new instructional skills that are relevant to their career. These programmes can help them develop new skills and capabilities in their students with the help of technology and interdisciplinary approaches. As the overlap of the traditional and online modes of education is becoming more and more inevitable, we owe it to our students to make their education relevant to their future through ingenuity, passion, and careful planning².

NEED OF THE STUDY

Learner satisfaction and teacher satisfaction, which relate to their attitudes towards the education experiences and the achieved education outcomes, are among the "five quality pillars" in the quality framework of the Online Learning Consortium and are thus highly predictive of the quality and outcome of the online courses. Therefore, exploration of learners' and teachers' online education satisfaction and the influential factors can provide important guidance and

reference for the improvement of the online education outcomes³. The Covid-19 pandemic has disrupted the education sector globally. Classes have been suspended to enforce social distancing and educational institutions, from schools to universities, have shifted to online methods of teaching and evaluation. Online teaching is something many institutions are contemplating, but do the Indians have the bandwidth for online learning? Preliminary data analysis indicates that online teaching is a hurdle for teachers as well. Online class challenges linked to lack of teacher preparedness. The online survey conducted by Learning Spiral showed that while children face issues in accessing education digitally, teachers face issues in delivering education through digital mediums. A staggering 84% of teachers reported facing challenges in delivering education digitally with close to half the teachers facing issues related to the internet both signal issues and data expenses. Two out of every five teachers lack the necessary devices to deliver education digitally; the situation is particularly grave in UP and Chhattisgarh where 80% and 67% of teachers respectively lack the requisite devices to deliver education online.

The challenges are directly linked to a lack of teacher preparedness -- less than 20% of teachers reported receiving orientation on delivering education digitally while in Bihar and Jharkhand, the figure was less than 5%.⁴ Other than the technological issues various other hurdles faced during online classes were figuring out online class etiquette, parents hovering during online classes are an issue, maintaining discipline online is tough, etc.

Teachers mostly face challenges like lack of IT support, continuous technological changes, unequal access for all students, unoptimized software for mobile devices and security issues. Therefore this study sought to identify the most prevalent barriers to online instruction for the faculty as well as to identify prevalent barriers for faculty groups in an effort to inform administrative decisions concerning policy, training, and compensation as well as to facilitate involvement for specific types of online instructors. The results of this study may be of use to other institutions as they develop training programs and faculty recruitment strategies for online education to meet a growing demand for this type of instruction.⁵

STATEMENT OF THE PROBLEM

A descriptive study to assess the faculty perceived barriers of online teaching in the era of covid-19, in selected colleges of Delhi-NCR with the following objective:

-) To assess the faculty perceived barriers of online teaching in the era of covid-19, in selected colleges of Delhi-NCR.
-) To find the association of perception score of faculties regarding the perceived barriers of online education with their selected demographic variables.

HYPOTHESIS

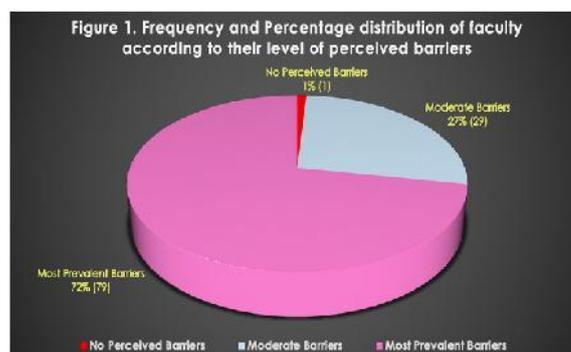
H₁: There will be a significant association of levels of faculty perceived barriers of online education with their selected variables at 0.05 level of significance.

MATERIAL AND METHODS

A non-experimental study using Survey approach and descriptive research design was conducted for 109 faculties of different colleges of Delhi-NCR teaching through online mode. Purposive Sampling technique was used to select the study sample. A combination of Multiple-choice questions and Likert scale were used for taking information related to demographic profile and barriers perceived by the faculty respectively through electronic survey. Informed consent was taken from the study sample regarding their willingness to participate in the research study and the purpose for carrying out research study was explained to the participants. Confidentiality of the information of the sample was maintained. Data was analysed by descriptive and inferential statistics i.e., frequency and percentage distribution, mean percentage, median and chi square test.

RESULTS

Frequency and percentage distribution of faculty revealed that maximum faculty (90%) were in the age group of 22-41 years, The faculty 47% were in the age group between 42 to 51 years while very few 3% of the faculty were between 52 to 61 years of age. Most (85%) of the faculty were female while few (15%) were male. The results indicated that most of the faculty (70%) had professional qualification till post-graduation, some (15%) were graduate, 14% had doctoral qualification while only one faculty had the professional qualification till post-doctoral level. Majority (87%) of the faculty were teaching full time, percent of the faculty were teaching as part-time while very few 6% of the faculty were teaching on tenure basis in their respective universities. The data further shows maximum number of the faculty (49%) were lecturer/ tutor, some faculty (30%) were working as assistant professor, 9% of the faculty were working on the designation of associate professor, 8% of the faculty were working as instructor, while very few faculties (4%) were working on the designation of professor. The results showed that most (40%) of the faculty had 1 to 5 years of work experience, some (35%) of the faculty had the work experience of 6 to 10 years, 21% of the faculty had the experience of more than 10 years while very few (4%) faculty had less than one year of work experience. Maximum (66%) of the study sample had not taken any online courses while few (34%) of the faculty had taken online courses.



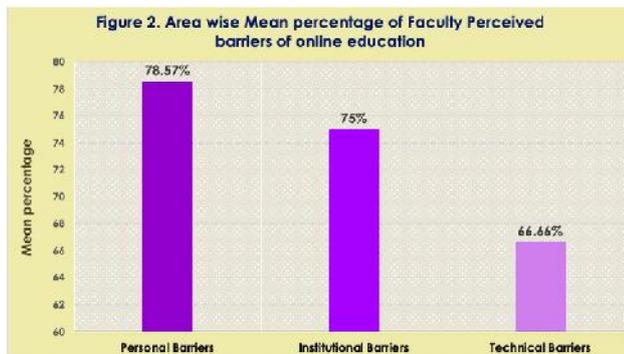
The data in the Figure 1 indicates that the majority (79%) of the faculty faced the most prevalent barriers during online teaching, some of the faculty (27%) felt moderate barriers while only 1% of faculty had not perceived any barriers of online education in the era of Covid 19.

Table 1. Mean, Median, Standard Deviation and Range of Perception Score of Faculty Perceived barriers of online education

N=109

Descriptive Statistics	Range	Mean	SD	Median
Perception Score	6-28	21	4.78	22

Maximum score: 28, Minimum score: 0



The data in the table 1 indicates that the mean of the perception score of faculty was 21 with the score of range between 6 to 28. The standard deviation of the perception score of the faculty was 4.78 while the median of the score of the faculty perceived barriers of online education was 22. The data in the Figure 2 indicates various types of Faculty perceived barriers of online education in the era of Covid 19. Based on the calculated mean percentage, faculty perceived personal barriers had the highest (I) rank, the institutional barriers had the II rank while the technical barriers received by the faculty during online education had the lowest (III) rank. Therefore, the data in the table 4 depicted that the personal barriers were found to be the most prevalent barriers perceived by the faculty during online education followed by institutional

practical practical (88%), lack of visual cues from the students (87%) and lack of bond in mentor mentee relation (83%). Some of the faculty had not perceived barriers of anxiety in using new tools for online teaching (34%). In the institutional barriers, the most prevalent barriers perceived by the faculty during online education were increased workload (70%) and lack of policies or standards for online courses (67%) while some of the faculty felt the moderate barriers like in adequate instructor training in conducting online education (37%). In the technical barriers most of the faculty (74%) perceived the most prevalent barriers like frequent change in the software or application creates a fuss and some (59%) of the faculty felt the frequent technology failures as the most prevalent barrier during online education whereas some of the faculty perceived moderate barriers in the technical area like in adequate technology support while co (28%) conducting online education. Therefore, the data in the table 3 indicates that maximum number of the faculty perceived the personal barriers were the most prevalent barriers and the most affected area while conducting online education as compared to the institutional and technical barriers. The results also indicated chi-square value computed to determine the association between the levels of perceived barriers and the various selected variables of the faculty. The result depicts that there was not a significant association between the scores of perceived barriers and Age (4.678), Professional qualification (11.97), Work experience (3.754) and taken any online course (1.415) while there was a significant association between the score of perceived barriers and Gender (6.22, p value 0.044), Faculty status (12.894, p value 0.011) and Designation of the faculty (18.526, p value 0.017) at 0.5 level of significance therefore null hypothesis H01 is rejected research hypothesis H1 is accepted. This means that the gender, faculty status and designation of the faculty had the major impact on their perceived barriers of online education.

Table 2. Item wise frequency and percentage of Faculty Perceived barriers of online education

N=109

Q No.	Questions	Agree		Neutral		Disagree	
		frequency	Percentage (%)	frequency	Percentage (%)	Frequency	Percentage (%)
1.	PERSONAL BARRIERS						
	Difficulty in Evaluation of assignments/test papers	75	69	22	20	12	11
2.	Lack of Bond in Mentor- mentee Relation	91	83	12	11	6	6
3.	Lack of Visual Cues from Student	95	87	8	7	6	6
4.	Difficulty in demonstration of Practical Skills	96	88	8	7	5	5
5.	Lack of Control over students	78	71	16	15	15	14
6.	Anxiety in using new tools for online teaching	38	35	34	31	37	34
7.	Difficulty in Time Management	65	60	21	19	23	21
8.	INSTITUTIONAL BARRIERS						
	Lack of Policies or standards for online courses	73	67	22	20	14	13
9.	Online work not valued for promotion and tenure	66	61	23	21	20	18
10.	Inadequate Instructor Training	47	43	40	37	22	20
11.	Increased Workload	76	70	19	17	14	13
12.	TECHNICAL BARRIERS Inadequate Technology Support	56	51	30	28	23	21
13.	Frequent Technology Failures	64	59	27	25	18	16
14.	Frequent change in software/Application creates a fuss	80	74	20	18	9	8

barriers while the faculty faced the least barriers in the technical area as compared to the personal and institutional barriers. The data in the table 3 identifies three types of faculty perceived barriers of online education that is personal barriers, institutional barriers, and technical barriers. In all the three types of barriers, the faculty perceived the barriers of the most prevalent nature while conducting online education for the students. In the personal barriers, the most prevalent barriers faced by the faculty were difficulty in demonstration of

DISCUSSION

The present study shows that majority (47%) of the faculty were in the age group of 32- 41 years of age, majority (87%) of the faculty were working as full-time faculty and most (72%) of the faculty had not taken any online course which is in accordance with the findings of the study conducted by Steven A.

Lloyd et al which shows majority(41%) of faculty were in the age group of 30 to 44 years, maximum (91%) number of faculty were working full time and most (33%) of the faculty had not taken any online course.⁵ A study conducted by Wen Li et al (2021) indicated that maximum faculty phased the stressful workload for online teaching and the absence of experimental/practical classes which is common with the findings of the present study that depicts maximum number of faculty (70%) perceived increase in the workload and majority (88%) of the faculty faced the barriers like difficulty in demonstration of the practical skills while conducting the online education for the students.² A study conducted by Doyumgaç, Ibrahim et al (2021) indicates that during online education the most important barriers faced were lack of technological resources (47%) which is like the findings of the present study as it depicts that majority (59%) of faculty perceived frequent technology failures during online teaching.⁶

CONCLUSION

This study has identified the various barriers (personal, institutional and technical barriers) which have influenced the faculty towards the online education in the era of Covid 19. This information can be used to inform the universities/colleges across the country on how to improve their online teaching delivery in a similar crisis in the future and enhance their education outcome. The current COVID-19 crisis significantly affects the outcome of online education in terms of difficulty in demonstration of practical skills, lack of visual cues from the students and lack of bond in mentor mentee relation, increased workload and lack of policies or standards for online courses, frequent technology failures. In order to improve the online education outcome, the universities/colleges are advised to promote the facilitating factors and cope with the barriers, by providing administrative support, adequate training, technology support, help in dealing with the anxiety. a holistic approach is necessary to adequately address these barriers for eg. ensure open communication channels among administrators, educators, and students. Guidelines and expectations must be clear, with provisions for improvement or worsening of the pandemic situation. To sustain the online curriculum, it is extremely important to support and train faculty on content creation, management, and delivery.

Investment in technical support is the key facilitator to tackle the barriers faced by the faculty. Putting up simulation laboratories and other infrastructure that will allow face-to-face interaction with social distancing will help in improving the experience faculty engaged in online teaching.

RECOMMENDATION

- J) This study recommends that central education department must conduct such kind of surveys to explore the barriers in successful implementation of online classes. So that online learning can be a routine part of curriculum.
- J) Future research could explore the perceived benefits and barriers as perceived by students as well as formally linking student learning outcomes with online teaching skills of faculty.

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