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Perception of Faculty towards Online teaching and learning: A case study of online training program of Univeristy of Delhi during Covid 19 pendamic

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Abstract

The focus of the research work is to understand the perception of faculty towards online learning and teaching. Due to COVID 19 and lockdown, the trend of learning and imparting knowledge has taken a new shape from face to face teaching to online teaching. The study has been designed to understand how faculties' demographic factors are related to faculty perception in terms of comfort level in online teaching, students' learning outcomes, and delivery of academic tasks. The study also elaborates the faculty perceptions of the comfort level towards teaching online and students' learning outcome and faculty perceptions towards delivery of academic tasks. University of Delhi has taken a lot of initiative to bridge the gap of learning crises. An online training program has been initiated to promote online teaching tools and techniques among faculty members. Data has been collected from 64 participants out of 83 faculty participants who had attended online teacher training program during May 2020 at CPDHE in University of Delhi on Google meet. The data has been collected through an online Google form on an existing perception scale. The scale consists of three factors and sixteen items to capture the perception of faculty members towards online teaching. The perception of the participants has been measured on three factors – comfortable level, students learning outcomes, and delivery of academic tasks. To measure these factors, the items have been tested on reliability chronbach alpha. The MANOVA test has been conducted to elaborate and analyse the perception of faculty members in terms of Gender, Age, Online teaching

experience, and their total experience. Despite the difference in variables, the result shows that the perception of faculty members is positive in terms of implementing the online tools, and desire to teach online in the future. Despite the differences in age, gender, online teaching experience, and total teaching experience, all the faculty members has shown positive perception towards online teaching in terms of benefits to students and enhances students' services. The lecture mode of teaching has been ranking highest to teach in online mode in comparison to case studies, research, and group discussion. The faculty members have given their opinion as recommendation in terms of advantages, disadvantages, and barriers to online teaching and learning.

INTRODUCTION

Coronavirus disease 19 (COVID 19) crisis has stimulated learning crisis in the global education system, but has provided very unique opportunities to higher education institute in the country and abroad to use online technology for teaching and learning. Schools, Colleges, and educational institutions are closed since mid of March 2020 in the country. Teaching learning is taking place in virtual format on digital platforms. The ministry of Health and Family welfare, Government of India has recorded 467882 active cases, and 885576 discharged or cured cases and 32,063 death cases due to COVID- 19 as on July 26, 2020. According to The Indian Express, Globally, nearly 16 million people have been infected and 6.4 lakh people have succumbed to the virus.

Indian Universities have been facing an unpredictable learning crisis. Few Universities has taken initiative to start online teaching and learning. Indian Government has already been promoting an online teaching learning platform 'SWAYAM' to promote self-learning in online distance format. In short-period 3-4 months a lot of webinar has been organized by educational institutions to teach and learn in online mode. However, the interaction between teacher and students are missing due to mindset and infrastructure problems like internet connection, non-availability of devices like laptop, desktop and smart phone. The review of literature explained that dropout rates in online courses are high which suggest reviewing the online teaching learning approach (Hachey, Conway, & Wladis, 2013). The demand of online courses in India has increased the demand of instructors to teach online. However, despite the benefits of online teaching, faculty members don't want to learn online teaching techniques (Wade W. FISH, Peggy B. GILL 2009).

Matthew J. Koehler (2002) argued that faculty development program to train faculty on online teaching technology are ill-suited to develop their perception towards teaching pedagogy and technology. Faculty is the key to implement the online quality teaching. Hence, the previous research on the faculty development shows that perception issue, how faculty perceive and react to online teaching is more important technical and structural barriers in the use of technology in higher education (Dillon & Walsh, 1992; Clark 1993).

METHODOLOGY

The main objective of this research paper is to understand the perception of faculty members towards online teaching. Research has collected 64 responses out of 83 from faculty members who had attended faculty development program at University of Delhi in May 2020. The already tested scale to measure faculty perception towards online teaching has been adopted. The scale or instrument consisted of a questionnaire which allowed participants to provide input pertaining to online instruction in reference to the following: (a) background information, (b) comfort levels and training, (c) student learning outcomes, (d) delivery of academic tasks and (e) perceived advantages, disadvantages and barriers. The open-ended questions like advantages, disadvantages and barriers to online teaching and tools have been asked to understand faculty perception. The data was collected in a questionnaire form developed in Google form and distributed among the faculty members who attended faculty development program.

RESEARCH QUESTIONS:

1. What online training program faculty demographic factors are related to faculty perception towards comfort level in online teaching, students' learning outcomes, and delivery of academic tasks?
2. What are online training program faculty perceptions on the comfort level and teaching online?
3. What are online training program faculty perceptions on students' learning outcome?
4. What are online training program faculty perceptions towards delivery of academic tasks?

Faculty demographic profile:

In total 84 participants from different colleges across India have participated in the training program to learn online teaching tools and techniques. Information has been collected from 64 faculty members who replied on online Google form questionnaire. The demographic information like gender, age, online teaching experience, and their total teaching experience have been collected. The detail of the demographic profile of the participants has been elaborated in table 1.1:

Variable	Options	Frequency
Gender (64)	Male	40.6%
	female	59.4%

Variable	Options	Frequency
Age	20-25	00
	26-30	9.4%
	31-35	25%
	36-40	17.2%
	41-45	21.9%
	46-50	5.3%
	51-55	17.2%
	56-60	2%
	60 and above	2%
Online teaching experience (64)	Positive	84.4%
	Negative	3.1
	No experience	12.5%
Teaching experience	1-3	21.9%
	4-6	18.8%
	7-9	6.2%
	10-12	17.2%
	13-15	12.5%
	16-18	5.5%
	19-21	5.5%
	22-24	4.1%
	25-27	2.5%
	28-30	2%
	31-33	2%
	34-36	2%
	37-40	00

Table 1.1 Demogrpahic profile of faculty members

Measuring perceptions' factors and items:

The perception of the faculty members has been captured with three factors; Comfort level, students learning outcome, and delivery of academic task. These all factors have their items which capture these factors and finally all these factors capture the perception of faculty member towards online teaching. The description of all the factors and their items has been depicted in table 1.2

Comfort level and training	Strongly disagree to Strongly agree				
	1	2	3	4	5
Comfortable implementing	1(1.6%)	0 (0%)	10(15.6%)	19(29.7%)	34 (53.1%)
Consider self-qualified	2 (3.1%)	1 (1.6%)	7(10.9%)	25(39.1%)	29 (45.3%)
Sufficient training	2(3.1%)	2(3.1%)	9(14.1%)	25(39.1%)	26(40.6%)
Desire to teach online	2(3.1%)	1(1.6%)	8 (12.5%)	13(20.3%)	40(62.5%)
Future plan to teach online	3(4.7%)	0(0%)	7(10.9%)	11(17.2%)	43(67.2%)
Students' learning outcomes					
Advocate for online teaching	3(4.7%)	3(4.7%)	16(25%)	17(26.6%)	25(39.1%)
Equivalence to traditional learning	12(18.8%)	10(15.6%)	16(25%)	13(20.3%)	13(20.3%)
Beneficial to most students	8(12.5%)	10(15.6%)	10(15.6%)	14(21.9%)	22(34.4%)
Complement adult learning	2(3.1%)	6(9.4%)	19(29.7%)	16(25%)	21(32.8%)
Most student prefer online	7(10.9%)	9(14.1%)	23(35.9%)	13(20.3%)	12(18.8%)
Enhances students services	6(9.4%)	8(12.55)	16(25%)	13(20.3%)	21(32.8%)
Delivery of Academic tasks					
Lecture	3(4.7%)	3(4.7%)	15(23.4%)	21(32.8%)	22(34.4%)
Case studies	4(6.3%)	4(6.3%)	17(26.6%)	19(29.7%)	20(31.3%)
Group discussion	7(10.9%)	7(10.9%)	18(28.1)	14(21.9%)	18(28.1%)
Group activities	6(9.4%)	10(15.6%)	19(29.7%)	15(23%)	14(21.9%)
Research	2(3.1%)	8(12.5%)	16(25%)	22(34.4%)	16(25%)

Table 1.2 Descriptive statistics of faculty perception factors on survey responses by items

Reliability test:

To test up to what extend items capture the construct – perception, reliability test has been done. In reliability test, first measure the factors with the attached items and check how close these items are and capturing the factors. Cronbach's alpha was calculated for unidemintional factors like comfort level training (table 1.3), students learning outcomes (table 1.4), and delivery of academic tasks (table 1.5). A combined alpha was also calculated to find the closeness of items (table 1.6):

Comfort level and training

Alpha reliability = 0.8865			
Standardized alpha = 0.8897			
Reliability deleting each item inturn			
	Alpha	Std.Alpha	r(item, total)
Comfortable Implementing	0.8351	0.8366	0.859
Consider Self Qualified	0.8666	0.8715	0.7046
Desire to Teach Some Online	0.8505	0.8559	0.773
Future Plans to Teach Online	0.8801	0.8822	0.6525
Sufficient Training	0.8765	0.8798	0.6628

Table 1.3 Reliability test for comfort level and training

Student Learning Outcome

Alpha reliability = 0.932			
Standardized alpha = 0.9338			
Reliability deleting each item inturn			
	Alpha	Std.Alpha	r(item, total)
Advocate for Online Teaching	0.9218	0.9231	0.788
Beneficial to Most Students	0.911	0.9144	0.8654
Complements Adult Learning	0.9216	0.9229	0.7904
Enhances Student Service	0.9256	0.9275	0.7545
Equivalent.to Traditional	0.9203	0.9228	0.7989
Most Students Prefer Online	0.9158	0.9189	0.8303

Table 1.4 Reliability test for student learning outcome

Delivery of academic tasks:

Alpha reliability 0.999			
Standardized alpha = 0.9116			
Reliability deleting each item inturn			
	Alpha	Std. Alpha r	(item, total)
Case.Studies	0.8936	0.8951	0.7533
Group Activities	0.8852	0.8898	0.7943
Group Discussion	0.8913	0.8938	0.7722
Lecture	0.88	0.8802	0.8261
Research	0.8987	0.9001	0.729

Table 1.5 Reliability test for delivery of academic tasks

Combined test for comfort level, students' learning outcomes, and delivery of academic task.

Alpha reliability = 0.9484			
Standardized alpha = 0.9497			
Reliability deleting each item intern			
	Alpha	Std.Alpha	r(item, total)
Advocate for Online Teaching	0.9435	0.945	0.791
Beneficial to Most Students	0.9432	0.9449	0.8043
Case.Studies	0.9447	0.9464	0.7305
Comfortable Implementing	0.9442	0.9444	0.8044
Complements Adult Learning	0.9439	0.9454	0.7728
Consider Self Qualified	0.9472	0.9485	0.61
Desire to Teach Online	0.9474	0.9486	0.5955
Enhances Student Service	0.9431	0.9448	0.8014
Equivalent to Traditional	0.945	0.9464	0.7314
Future Plans to Teach Online	0.9464	0.9477	0.6482
Group Activities	0.9467	0.9481	0.6474

Group Discussion	0.9465	0.9477	0.6608
Lecture	0.9439	0.9455	0.7725
Most Students Prefer Online	0.9439	0.9457	0.7696
Research	0.9446	0.9461	0.7391
Sufficient Training	0.9477	0.9491	0.5779

Table 1.6 combined alpha for perception towards online teaching

Demographic Factors and Faculty Perceptions of comfortable teaching, students' learning outcome, and students' academic task to teach Online:

Differences in gender, teaching online experience, age, and total teaching experience were examined using MANOVA. Results show no significant differences in gender and delivery method and age of faculty.

GENDER

A gender faculty perception was not significantly different on Comfortable implementation of online teaching. No significant difference was found between female and male faculty's perception on the confortable implementation of online teaching.

There was no statistically significant difference in the gender perception based on the comfortable implementation of online teaching, F (5, 58) = .34, P<.0005, Wilk's A = 0.972, Partial η2 =0.13.

There was no statistically significant difference in the gender perception based on the students learning outcome F(6, 57) = 088, P>0 .0005; Wilk's A = .915, partial η2 =.09.

There was no statistically significant difference in the gender perception based on the students' academic task, F (5, 58) = .841, P>0.0005; Wilk's A = 0.932, partial η2 = .69.

AGE

There was no statistically significant difference was found in the age of the faculty members on perception towards comfortable level, training of online teaching, F(35 221) = 1.50; P>.0005, Wilk's A = .407,partial η2 = .96.

There was no statistically significant difference was found in the age of the faculty members on the perception towards students learning outcome F (42 242) = 1.0; P> 0.0005, Wilk's A = 0.473, partial η2 = 0.18.

There was no statistically significant difference was found in the age of the faculty members on perception towards delivery of academic task F (35 221) = 1.37; P>0.0005 Wilk's A = .0.437, partial η2 =0.15.

ONLINE TEACHING EXPERIENCE

There was no statistically significant difference between online teaching experience of faculty members towards comfort level and training of online teaching, F (10, 114) = .939, P>0.0005, Wilk's A = 0.854, Partial η2 = 0.76.

There was no statistically significant difference between online teaching experience of faculty members towards students learning outcome F (12, 112) = 1.09; P > 0.0005, Wilk's A = 0.801, partial η2 = 0.11.

There was no statistically significant difference between online teaching experience of faculty member towards delivery of academic tasks F (10, 114) = 1.13; P>0.0005, Wilk's A = 0.828, Partial η2 = 0.09.

TOTAL TEACHING EXPERIENCE

There was no statistically significant difference between total experience of faculty member on comfort level and training of online teaching, F (50, 226) = 0.598, P>0.0005; Wilk's A = 0.568, partial η2 = 0.11.

There was no statistically significant difference between total experience of faculty members on students learning outcome F (60, 256) = 0.883, P>0.0005; Wilk's A = 0.374, partial η2 = 0.15.

There was no statistically significant difference between total experience of faculty members and their perception towards delivery of academic tasks, F (50, 226) = 1.39; P>0.0005, Wilk's A = 0.295, partial η2 = 0.28.

FINDINGS AND DISCUSSION:

Highest rated perception:

Comfortable implementation, consider self-qualified, sufficient training, desire to teach online, and future plan under comfort level of faculty were the perceptions which faculty marked highest. It means faculty perception is positive towards online teaching and they wanted to implement and feel confident and have desire to teach online in future.

Advocate for online teaching, equivalence to traditional learning, beneficial to most students, complement adult learning, and enhances students services were the highest positive perception of faculty towards students' learning outcome. Faculty has developed a perception that online teaching will be beneficial to students in learning and will complement to adult learning and will enhance the student's services. Now faculty will advocate the online teaching to the students.

Lecture mode of teaching has been ranked highest in the delivery of online teaching in comparison to case study, group discussion, group activities, and research as per the analysis.

Demographic factors and Perception:

Gender profile and perception: As per the analysis there was no significant difference between male and female faculty participant's perception towards online teaching and learning. Male and females are not differing in their perception in terms of comfort level and training of online tools and techniques. They are not differing in their perception towards student learning outcomes and delivery of academic tasks.

Faculty age and perception: There was no significant difference between age of faculty members towards their perception on online teaching and learning. Age was not a limitation in developing positive perception towards online teaching, students learning, and delivery of academic tasks. Faculty have developed a positive perception towards online teaching and now they are confident, feel self-qualified, and can advocate the online tools and learning. As per the analysis, faculty can learn and teach online tools and techniques and age is not a barrier.

Teaching online experience: whether faculty has been teaching online or not or whether they had positive experience or not and whether they had no online teaching experience. These all statements do not become hurdles in faculty perception towards online teaching. As per the analysis, faculty with online experience, no experience and negative experience have had positive perception towards online teaching and learning.

Total teaching experience: The teaching experience of faculty members also does not show any barriers in adopting online teaching tools and techniques. Faculty with all level of teaching experiences have shown a positive perception towards online teaching and tools and have been advocating for online teaching.

Recommendations:

On the basis of open-ended questions, faculty members have recommended following advantages, disadvantages, and barriers in online teaching and learning:

Following advantages of online teaching have been recommended by faculty member:

- Save time in attendance, travelling and arrangement of class and available 24/7
- Effective: Effective way of teaching learning process, can complement classroom teaching very well, teacher availability at all times to clear doubts with no distance barriers also make effective teaching support in terms of videos, PPT and other means.
- Flexibility: Students have the freedom to juggle their careers and school because they aren't tied down to a fixed schedule and teacher Can deliver lecture through various modes unlike the only chalk n talk method of classroom teaching.

- Location: it is easy and convenient to teach students at any time and at anywhere and can teach many students at a time irrespective of their location, Easy to reach a large number of students during this lockdown.
- Online teaching and learning helps in keeping an interaction between the students and teachers during difficult situation like the present Covid-19 pandemic scenario.
- Study material and OER can be shared very effectively.

Following disadvantages have been observed by faculty members:

- Impersonal: There is no face to face contact with students. The teaching-learning process is rendered futile. No control on keeping the student available for the class and limited control on stopping their distraction. Students use excuses of non-availability of internet for not attending classes.
- Interaction: Peer group interaction missing that is required for personality development, physical and cultural activities are completely missing.
- Intense: Intense requirement for self-discipline, even more intense requirement for self-direction.
- Poor connectivity: From students point of view in case of poor connection or remote area this poses challenges. Some students lived in remote that might have network problem.
- Infrastructure: Since, online teaching and learning needs adequate infrastructural facilities like computer, laptop and internet connection; therefore, its accessibility is relatively poor to those who don't have those facilities.

Following barriers have been mentioned by faculty members:

- Infrastructure and training, poor time management, Lack of motivation, Technical issues, attitude and negative thinking.
- Latest tools of online teaching not clear to many teachers.
- Unavailability of power, internet connection speed and basic infrastructure facilities like mobile and laptop devices put some barriers to online teaching.
- Senior teachers are not familiar with online teaching and Traditional teaching is best for learning the students. Lack of Awareness of ICT tools and Very few trained for it.

CONCLUSION

The research analyse the pandemic COVID – 19 situations which has impacted teaching and learning in India. Presently it’s not a knowledge or educational crisis rather it’s learning crisis where transfer of knowledge or learning has been broken

down. During this period, online teaching and learning has been adopted by different universities and colleges in the country. It's a kind of transition phase from face to face learning to online learning where the role of a teacher or faculty member becomes more important than ever. The study shows that faculty members have reflected on current situation in a very positive manner and showing positive perception in the adoption of online teaching tools and techniques. Despite different gender, age groups, teaching experiences, and online teaching experience, faculty members have shown a positive perception in terms of comfortable implementation of online teaching, and have shown a desire to teach online in future. As per the finding faculty members also advocating online teaching and perceive it as beneficial to most of the students in terms of enhancement of students services. The lecture mode of transferring knowledge has been preferred by faculty members for online teaching in comparison to case study and group discussion method. The faculty members have also reflected on advantages, disadvantages, and barriers in online teaching and learning.

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