ORIGINAL RESEARCH ARTICLE

FACULTY PERCEPTION TOWARD ONLINE EDUCATION DURING THE COVID-19 PANDEMIC

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ABSTRACT

Background: COVID-19 outbreak has changed the education system from traditional class-room to online education across the world. Due to need for social distancing, countries were bound to close the educational institutions and adapt online learning as the only means available for learning. Although, this has provided teachers an opportunity to work from home, at the same time it has brought many challenges. Therefore, understanding faculty perception is an important aspect for successful implementation of online education. Thus, this study aimed to identify the faculty perception toward online education during COVID-19 pandemic.

Methods: Cross-sectional online survey was conducted from December 2020 to September 2021 during both the 1st and 2nd wave of COVID-19 Pandemic and lockdown in Nepal. Convenience sampling was used to select the faculty members from different universities across different places of Nepal. Self-developed five-point Likert scale was used to assess faculty perception toward on-line education. Data was analyzed using Statistical Package for Social Sciences (SPSS) version 16 using statistical tool like frequency, percentage, mean and standard deviation.

Results: Total 394 faculty members participated in the study. More than half 271 (68.8%) of the respondents had positive perception, whereas, only 123 (31.2%) had negative perception toward online education. The mean score of perception of was 3.14±0.279.

Conclusions: More than half of the faculty had positive perception toward online education, which concludes that, online education can be an effective means of continuing education during the crisis situations like COVID-19 pandemic. However, the finding of this study offers useful suggestion for policy makers and stake holders to develop proper strategies and on-going professional development courses and training programs to successfully implement online education program.

INTRODUCTION

COVID-19 outbreak has changed the education delivery system from traditional classroom teaching to online education across the world. This transition was brought rapidly as a response to need for social distancing and we were forced to adapt online education as the only means available for learning.[1]

On 11th March 2020, WHO declared COVID-19 outbreak as a pandemic, therefore, Nepal Government has declared a Nation-wide lockdown from 24th March 2020, which has significantly affected the education system. Thus, to mitigate this effect, various universities and educational institution across Nepal has implemented online education to provide continuity to the delivery of education.[2, 9, 12]

Although, online education has provided teachers with the opportunities to learn and incorporate the technology in the education system, it has brought many challenges to them.[3] The technological advancement requires a faculty to prepare themselves to effectively deliver online education. and face the challenges that are imposed by it. Therefore, studies of faculty perception regarding online education are important as this provides a means to identify the need for initiating the training and professional development programs.[4, 11]

The academic success depends upon both the teacher's and student's satisfaction, however, unfortunately, we can find that, many scholars have primely focused on identifying the student's perception for analyzing the factors that determines the success of online education while ignoring teacher's perception.[5] Hence, a clear gap has been identified in the knowledge of the critical challenges faced by the faculty and the factors that facilitates the effective implementation of online education from teacher's perspective.

METHODS

A cross-sectional web-based survey was carried out from December 2020 to September 2021 during both the 1st and 2nd wave of COVID-19 Pandemic and lockdown in Nepal. Non-probability convenient sampling technique was used for the study. Faculty members from different academic discipline providing online education to students of higher education

of different universities across different places of Nepal were included in the study. The sample size for the study was 404 faculty members calculated by using a single population proportion formula by making the following assumptions: prevalence (assume) faculty perception toward online education; 50% (p=0.5), level of significance 5% (α=0.05), 95% confidence interval (z α/2=1.96) and absolute precision or margin of error 5% (d=0.05) adding 5% non-response rate.

Data was collected online through the questionnaire prepared in google form. A five-point Likert scale was used. The tool was self-developed by the researcher based on the review of literature. Questionnaire consisted of two parts that is demographic variables, and faculty perception of online education. Pre-testing of the instrument was done among 10% of the total sample who were excluded from the main study. Data collection was proceeded after establishing validity of the tool using Cronbach's alpha test result that is 0.965.

Questionnaire was mailed to the 404 faculty members based on the contact of the investigators. However, only 394 faculty participated for the study. Ethical clearance for the study was obtained from Institutional Review Committee of College of Medical Sciences, Teaching Hospital (Ref no.2020-099 Date: 21st December 2020). Data collection was done after taking consent for the study by thoroughly explaining the objective of the study. Anonymity of the respondents was maintained by not including name in the questionnaire. Confidentiality of the data was maintained by using data for research purpose only. The data was checked for accuracy and analyzed using Statistical Package for Social Sciences (SPSS) version 16. Statistical tool like frequency, percentage, mean and standard deviation were used to describe the data.

Faculty perception of online education was assessed based on the mean score of the Likert scale. Negative scoring was done for the negative statement in perception scale. Cut off point for scoring was done based on mean value and standard deviation of total score. Grand mean of the score of each statement related to perception was derived and level of perception was categorized as: positive perception ≥3 score and negative perception <3 score. Chi-square test, was used to examine the association between perception of faculty toward online education with the selected demographic variables.

RESULTS

A total of 394 faculty members participated in the study. The mean age of the respondents was 38.23±8.273. Half of the respondents, 209 (53.0%) were of 31-40 years. Majority of the faculty, 327 (83.0%) had Master's degree education. 123 (31.2%) of the respondents were from nursing and 110 (27.9%) of the respondents were from humanities academic discipline. More than half of the faculty, 229 (58.1%) were lecturer.

More than half, 253 (64.2%) of the faculty had 1-10 years of academic experience. The mean year of experience was 9.44±6.602. Half of the respondents, 203 (51.5%) were affiliated

to Tribhuvan University. Less than half 181 (45.9%) of the faculty were teaching to the undergraduate level of students. More than half of the faculty, 244 (61.9%) had received training for online education and less than half of them, 178 (45.2%) had received training from the institution they were working. Majority of the faculty 368 (93.4%) had no previous experience of online education.

Table 1: Sociodemographic variables: age, education, academic discipline, academic rank   n=394

Variables	Frequency (%)
Age	
20-30	62 (15.7)
31-40	209 (53.0)
41-50	83 (21.1)
>50	40 (10.2)
Mean±SD: 38.23±8.273	
Education	
Bachelor's degree	42 (10.7)
Master's degree	327 (83.0)
Doctorate degree	25 (6.3)
Academic discipline	
Nursing	123 (31.2)
Medical	25 (6.3)
Science	45 (11.4)
Humanities	110 (27.9)
Business studies	69 (17.5)
Engineering	17 (4.3)
Others	5 (1.3)
Academic rank	
Professor	6 (1.5)
Associate professor	37 (9.4)
Assistant professor	58 (14.7)
Lecturer	229 (58.1)
Instructor	61 (15.5)
Others	3 (0.8)

Table 2: Sociodemographic variables: academic experience, university, level of students teaching, training, previous experience of online education   n=394

Variables	Frequency (%)
Academic experience	
1-10	253 (64.2)
11-20	124 (31.5)
>20	17 (4.3)
Mean±SD:9.44±6.602	
University currently working	
Tribhuvan university	203 (51.5)
Kathmandu university	51 (12.9)
Pokhara university	37 (9.4)
Purbanchal university	21 (5.3)
CTEVT	45 (11.4)
Patan Academy of Health Sciences	15 (3.8)
Others	22 (5.6)

Level of students teaching	
Undergraduate	181 (45.9)
Graduate	134 (34.0)
Post-graduate	79 (20.1)
Training on online education	
No	150 (38.1)
Yes	244 (61.9)
If yes, received training from (N=244))	
From institution currently working	178 (45.2)
From webinar through different agencies	37 (9.4)
Self-learned through internet	28 (7.1)
Previous experience of online education	
No	368 (93.4)
Yes	26 (6.6)

Faculty perception related to online education during COVID-19 pandemic was assessed on a 5-point Likert scale. 157 (39.8%) of the faculties strongly agreed that online education as a viable alternative to classroom teaching and half of the faculties, 200 (50.8%) perceived online education as a good platform to work from home during pandemic. 148 (37.6%) of the faculties agreed that there is a high degree of depersonalization among teachers and students and less than half, 183 (46.4%) of them agreed that there is more opportunity for academic dishonesty in online education. 120 (30.5%) of the faculty disagreed that online classes are convenient to conduct, whereas, 187 (47.5%) of the faculty perceived it improves technological knowledge and skills. Less than half, 194 (49.2%) of the faculty agreed that there is less professional satisfaction in online education while, 145 (36.8%) of them agreed that preparation of online teaching tool is difficult as well as time consuming.

Table 3: Faculty perception related to online education during COVID-19 pandemic   **n=394**

Perception statements	SD N(%)	D N(%)	N N(%)	A N(%)	SA N(%)	Mean±SD
Viable alternative to classroom teaching	17(4.3)	28(7.1)	43(10.9)	149(37.8)	157(39.8)	4.02±1.08
Good platform to work from home	16(4.1)	10(2.5)	28(7.1)	200(50.8)	140(35.5)	4.11±0.94
High degree of depersonalization	33(8.4)	89(22.6)	81(20.6)	148(37.6)	43(10.9)	3.20±1.15
More opportunities for academic dishonesty	32(8.1)	60(15.2)	57(14.5)	183(46.4)	62(15.7)	3.46±1.16
More convenient to conduct	43(10.9)	120(30.5)	70(17.8)	110(27.9)	51(12.9)	3.02±1.24
Improves the technological skill	23(5.8)	30(7.6)	63(16.0)	187(47.5)	91(23.1)	3.74±1.07
Less professional satisfaction	25(6.3)	61(15.5)	54(13.7)	194(49.2)	60(15.2)	3.52±1.11
Tools preparation is difficult and time consuming	30(7.6)	81(20.6)	73(18.5)	145(36.8)	65(16.5)	3.34±1.19

Note: SD=strongly disagree, D=disagree, N=neutral, A=agree, SA=strongly agree

Table 4: Faculty perception related to online education during COVID-19 pandemic   **n=394**

Perception statements	SD N(%)	D N(%)	N N(%)	A N(%)	SA N(%)	Mean±SD
Hesitant and anxious at the beginning due to lack of technological knowledge	46(11.7)	115(29.2)	73(18.5)	89(22.6)	71(18.0)	3.06±1.30
Motivated due to duties and obligations	9(2.3)	37(9.4)	62(15.7)	183(46.4)	102(26.1)	3.85±0.99
Implemented without training or orientation program	30(7.6)	89(22.6)	71(18.0)	110(27.9)	94(23.9)	3.38±1.27
Cannot conduct fair assessment	14(3.6)	65(16.5)	32(8.1)	162(41.1)	121(30.7)	3.79±1.15
Technology is difficult	17(4.3)	73(18.5)	52(13.2)	196(49.7)	56(14.2)	3.51±1.08
No proper internet signals	9(2.3)	22(5.6)	26(6.6)	206(52.3)	131(33.2)	4.09±0.90
Lack of administrative support	17(4.3)	39(9.9)	44(11.2)	187(47.50)	107(27.2)	3.83±1.06
Institution must provide training	9(2.3)	17(4.3)	54(13.7)	146(37.1)	168(42.6)	4.13±0.96

Note: SD=strongly disagree, D=disagree, N=neutral, A=agree, SA=strongly agree

The study resulted that, only 115 (29.2%) of the faculty disagreed that they were hesitant and anxious at the beginning of online classes due to lack of technological knowledge and skills. Less than half, 183 (46.4%) of the faculty perceived duties and obligations as a motivating factor for adopting online education. 110 (27.9%) of the faculty responded that they have not received training or orientation program for online education. Less than half, 162 (41.1%) of the faculties agreed that they cannot conduct fair assessment in online education, similarly, 196 (49.7%) of the faculties agreed that the online technology is difficult to manage. More than half, 206 (52.3%) of the faculties agreed that they had no proper internet signals to conduct online classes, while, less than half, 187 (47.50%) of the faculties agreed that, they faced difficulties due to lack of administrative support from the institution. Less than half, 168 (42.6%) of the faculties agreed that institution must provide training related to online education.

Out of 394 faculty participated for the study, more than half 271 (68.8%) had positive perception, whereas, only 123 (31.2%) of the faculty had negative perception related to online education during COVID-19 pandemic.

Table 5: Level of perception toward online education during COVID-19 Pandemic   n=394

Level of Perception	Frequency	Percent
Positive perception (mean ≥3)	271	68.8
Negative perception (mean <3)	123	31.2

Mean±SD: 3.14±0.279

DISCUSSION

The finding of the study showed that more than half of the faculties had a positive perception, toward online education during COVID-19 pandemic, which was reflected by their perception of online education as a useful method of providing continuity to the education and a viable alternative to classroom teaching during the crisis situation of COVID-19 pandemic. The finding of this study is similar to the finding of the study conducted in China, where majority of teachers support online teaching programs as an epidemic prevention and control initiative [10] Similar finding has been showed by the study conducted in Saudi Arabia which concluded that majority of the teachers held a positive perception about e-learning[13]. Whereas in contrast, the study conducted in Philippines resulted that, faculties were undecided if they are in favor of online education and considered online education to result in more academic dishonesty, impersonal and lack feeling compared to face-to-face classes, and difficult to manage in terms of technology[3]. Likewise, the study conducted in Jordan concluded that, even though faculty perceived online learning as a temporary alternative due to COVID-19 pandemic, it could not substitute face-to-face learning and perceived online education as less effective than online classes[14].

This study highlighted the faculties need for training and professional development program for successful implementation of online education. The study resulted that, although faculties were motivated to conduct online classes because of their duties and obligations, at the same time they faced many challenges, including lack of administrative support and technological difficulties. The finding is similar to the study conducted in Pakistan, which resulted lack of faculty training and institutional support, internet connectivity issues, maintaining student engagement, online assessments, and problems with understanding the unique dynamics of online education as a challenges and difficulties faced by the faculties to conduct online classes.[6] Likewise, a study in India also resulted that, although teachers were cooperative in implementing online education, the university needs more technical preparedness with necessary online educational resources and training programs.[7] A study from Italy highlighted the teacher's difficulties in term of both technical and psychological aspect of distance education. The psychological factors such as the discomfort of "speaking in the void", the absence of "face-to-face" eye contact with the students was complained by majority of teachers. The teaching load in hours was also perceived as an influencing factor of disadvantages and contributed to a lower appreciation of distance education.[15]

Although, this study resulted a positive perception of faculties regarding online education, it showed no significant association between the selected sociodemographic variables of the faculties like age, education, academic rank, academic experience, training, and previous experience of online education with their perception of online education during COVID-19 pandemic. The result of our study is similar to the finding of the study conducted in the United States, which showed no significant associations between faculty's years of online teaching experience with attitude towards online teaching. However, the results suggested statistically significant associations between faculty's years of online teaching experience and their perception of ability to teach online[4]. On the contrary, a study conducted in Philippines revealed a significant association in the perception toward online education among faculty in terms age, educational attainment, teaching experience, academic rank, and the level of student taught. Whereas, on the other hand, the study result supported the finding of our study and revealed no significant association in faculty's perception of online education according to the attendance to training in online teaching[3]

CONCLUSION

More than half of the faculty had positive perception toward online education, which concludes that, online education can be an effective means of continuing education during the crisis situations like COVID-19 pandemic. However, the finding of this study offers useful suggestion for policy makers and stake holders to develop proper strategies and on-going professional development courses and training programs to successfully implement online education program.

CONFLICT OF INTEREST: None

FINANCIAL DISCLOSURE: None

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