

Attitude Of Teachers In Higher Education Institutions Towards Online Teaching And Learning

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Abstract.

The sustainability of higher education institutions (HEI) to provide quality education was challenged during and after the covid-19 pandemic in adopting the new normal. Attitude is one factor in embracing the new normal in the higher education teaching modalities. This study aims to assess the higher education institutions' teachers' attitudes toward online teaching and learning. It will specifically know the difference between the attitude of a private and public HEI teacher and distinguish the attitude of HEI teachers according to gender, academic rank, and the number of years in teaching. Quantitative research was utilized; a sample of 107 HEI teachers are the respondents of this study; they voluntarily participate in the self-administered survey using an online google form and it uses a standardized questionnaire in assessing teachers' attitude in the HEI when dealing with online teaching and learning. The results of the statistical test revealed no significant difference in the attitude of HEI teachers and have an overall favorable attitude towards online teaching and learning with regards to their gender and number of years in teaching. However, there is a significant difference in attitude according to the type of HEI under the responsiveness towards online education with a P-value of 0.004, and academic rank under the appreciation for online teaching and learning with a P-value of 0.037. Post hoc test shows a significant difference in attitude of community colleges with a mean of 3.44, a favorable attitude, and state universities with a corresponding mean of 3.13, a neutral attitude on online teaching and learning. That HEI teachers have an overall favorable attitude in terms of appreciation for online teaching and learning, responsiveness towards online education, proficiency in handling online teaching, and knowledge of technological reforms which indicates their readiness toward future-oriented higher education.

Keywords: Higher Education Institution (HEI), Teacher Attitude, Online Teaching, Online Learning.

I. INTRODUCTION

The success of any online education depends upon the attitude of Higher education institution (HEI) teachers towards online learning to a large extent [1] and this was experienced during the COVID-19 pandemic. Since online education will now be part of the new normal in teaching at the tertiary level. According to [2], attitude is a hypothetical construct invented by psychologists for explaining any phenomenon of interest. A discernment about anything based on the cognitive, affective, and behavioral experience. This is a significant aspect of one's personality that influences the action of a person. Knowledge, desire to learn [3], perceived ease of doing [4], beliefs and external environment are aspects that influence the attitude of a teacher towards the direction of online education. Also, the customs and value pattern, and social environment influences the attitude of a person [5]. [6] revealed a strong association between previous experience with distance learning and willingness to implement this mode of teaching in the future. This was also observed by [7] that teachers with positive attitudes are more familiar with web-based technologies. That e-learning readiness was an effective factor in the adoption of the e-Learning process [8]. Also, there is a high acceptance level to implement distance learning tools [9] and several studies around the world have shown favorable attitudes toward e-learning during the lockdown period of the COVID-19 pandemic of teachers at the school, college, and university levels [10]; [11]. According to [12] that during the pandemic in the tertiary level of education online classrooms were a potential method for teaching and the school system adjusted to fit the new situation, and teachers need the training to boost their confidence to deal with the new condition imposed by the pandemic [13]. [14] studied how teaching and learning can continue after the COVID-19 confinement. It shows that universities worldwide were shifting toward distance learning.

In this regard, online classes may be helpful for both students and teachers, but need to focus on issues related to their attitudes [15]. Even, students' attitudes toward technology may be influenced by the method of teaching used by their teacher [16], and student accessibility and motivation played a crucial role

in the integration of ICT in learning [14]. Though, teachers with positive attitudes toward e-Learning criticize only external obstacles, while the ones with negative attitudes pointed out both internal and external factors. There are different internal and external obstacles that hinder teachers' use of e-Learning platforms this included but are not limited to poor digital infrastructure, lack of constant Internet access and digital skills, and disciplinary issues are the main obstacles faced by teachers [17];[18]. These challenges created a negative impact on teachers' attitudes toward the e-teaching experience during the pandemic. Despite some drawbacks of online teaching and learning it is still a promising mode of delivery for HEI tertiary education [17]. Most teachers have the belief that technology can be proved a useful tool with adequate training [19]. Therefore, teachers must be provided with more opportunities of applying new technology periodically in order to develop a positive attitude towards technology [20]. This was also supported by the researcher's belief that the best substitute for classroom teaching is online teaching and learning which can deal with the limitations of accessing education [21];[22]. Several teachers trust that traditional methods are not adequate for the students in today's era [23]. Technology integration can help in better learning of students [24];[25];[26];[27]. Hence, the use of technology by the teacher cannot be ignored and digital literacy has become one of the prerequisites of the teacher's competency.

Besides, [28], findings that teachers' attitudes towards online classes transformed meaningfully and were observed as interactive and participatory. In addition, in periods of unexpected change, teachers were not well prepared to teach online [29]; [30] but cope up with the current situation. Since some teachers were less skilled in sophisticated computer and Internet-related tasks; they favored the instructional methods of learning the course guidelines (e.g., face-to-face) relatively more than online learning instruction [31];[32]. However, online instruction is now very important and helps students learn without limitations. Furthermore, virtual education is flexible to meet the individual needs of the learners [33] and both teachers and students can easily be benefited from several technological innovations online [34]. Given this situation, there is a need to study the attitude of higher education institution (HEI) teachers toward online teaching and learning if this will now become the new normal in tertiary level of education. The attitude of the teachers in HEI will play a significant role in shaping the future-oriented education in the HEI. This study aims to assess the attitude of higher education institutions' teachers toward online teaching and learning in terms of the four factors such as factor 1 - appreciation for online teaching and learning, factor 2 -responsiveness towards online education, factor 3 - proficiency in handling online teaching, and factor 4 -knowledge of technological reforms. Specifically, it aims to answer the following objectives: to know the difference between the attitude of a private and public HEI teacher to online teaching and learning; to distinguish HEI teachers' attitude to online teaching and learning with regards to their gender, academic rank and number of years in teaching; and to assess the overall teacher's attitude to online teaching and learning.

II. METHODS

The study was conducted in the different higher education institution (HEI) in the Philippines using google forms. The respondents of the study are the teachers in the higher education institution in the Philippines. Higher education institution includes the private higher education institution, state college universities and community colleges in the Philippines. The study utilized a quantitative-survey research design to assess the higher education institutions' teachers' attitudes toward online teaching and learning in terms of the four factors such as appreciation for online teaching and learning; responsiveness towards online education; proficiency in handling online teaching; and knowledge of technological reforms. It assesses the HEI teachers attitude using a standardized questionnaire that was based from a published journal with the consent of the author. The questionnaire is composed of 30 statements and it uses a five Likert scale such as strongly agree, agree, neutral, disagree and strongly disagree. The collection of data for the study uses online survey through google forms. Data was collected through a survey with a structured questionnaire, interview, and observation. It will use a five Likert-type test based on scale from "strongly agree to strongly disagree" to assess the higher education institutions' teachers' attitudes toward online teaching and learning in terms of the four factors such as appreciation for online teaching and learning; responsiveness towards online education; proficiency in handling online teaching; and knowledge of technological reforms using

standardize questionnaire. Virtual consent was asked from the HEI teachers' respondent before they participated in this study after providing a brief orientation of the research objectives. Confidentiality was assured on their responses and the voluntary nature of the survey.

The research questionnaire used in this study was developed based on published literature on attitude of teachers towards online teaching and learning. The first part of the questionnaire was the demographic profile of the respondent that includes gender, type of HEI, academic rank and number of years in teaching. Followed by the attitude scale towards online teaching and learning for higher education teacher's questionnaire with 30 items to measure the four factors with different indicator statement. These attitude scale towards online teaching and learning for higher education teachers include four factors such as appreciation for online teaching and learning; responsiveness towards online education; proficiency in handling online teaching; and knowledge of technological reforms [35]. Attitude scale were interpreted using the following: 5.00-4.21: Highly Favorable, 4.20- 3.41: Favorable, 3.40-2.61: Neutral, 2.60- 1.81: Unfavorable, 1.80-1.00: Highly Unfavorable Attitude. This study uses a descriptive of the frequency and percentage for the demographic profile of the respondent. T-test for independent samples was apply to determine the difference on attitude of HEI teachers towards online teaching and learning according to gender. This test is used to determine significant difference between two groups of data that are not related. One-factor Analysis of Variance (ANOVA) was used to determine the differences according to the type of HEI, academic rank and number of years and Tukey's Post hoc analysis was apply to groups that are significantly different. Lastly, weighted mean and percentage was obtain to explain the overall attitude of teachers on online teaching and learning. The significance of the relationship was based on a 0.05 level of significance.

III. RESULT AND DISCUSSION

Profile Of Respondent

The profile of the respondent of this study is reflected in table 1. The higher education institutions teachers are the respondent of this study. HEI teacher's respondent is mostly from private university, followed by state university and the community college with 56%, 36% and 8% respectively. It was observed that in the Philippines majority of HEI are private university. In terms of gender, majority of the respondent are female with 65%, and 42% of their counterpart. For academic rank, majority of the respondent are instructor with 37%, followed by assistant professor, associate professor and professor with 35%, 21% and 7 % respectively. As to the number of years in teaching, majority of the respondent have a range of 11 to 15 years in teaching, followed by 6 to 10 years, 3 to 5 years and 16 to 20 years with 18%, 15% and 14% respectively.

Table 1. Demographic Profile of the Respondent

Variable	F (n=107)	P
<i>Type of Higher Education Institution</i>		
Community College	9	8%
Private University	60	56%
State University	38	36%
<i>Gender</i>		
Male	42	39%
Female	65	61%
<i>Academic Rank</i>		
Instructor (40)	40	37%
Assistant Professor (38)	38	35%
Associate Professor (22)	22	21%
Professor (7)	7	7%
<i>Number of Years in Teachings</i>		
Less than 3 years (16)	16	15%
3-5 years (12)	12	11%
6-10 years (19)	19	18%
11-15 years (20)	20	19%
16-20 years (15)	15	14%

21-25 years (12)	12	11%
Above 25 years (13)	13	12%

The differences on the attitude towards online teaching and learning were valuated according to gender, types of HEIs, academic rank and number of years. There is significant difference if alpha 0.05 is greater than the p-value.

Attitude of a private and public HEI teacher towards online teaching and learning.

The result of one-factor analysis of variance (ANOVA) is reflected in table 2. Post hoc test revealed significant difference on attitude between community college (mean= 3.44) and state universities (mean=3.13). For community college, data revealed that most indicators of factor 2 responsiveness towards online education are practiced or manifested among its respondents. This means that HEI teacher in community college have a favorable on the responsiveness towards online education. While for state universities data shows that indicators of factor 2 responsiveness towards online education the respondents have a neutral attitude.

Table 2 also revealed that there is no significant difference on the attitude of HEI teachers in community college, private universities and state university in terms of factor 1 appreciation for online teaching and learning, factor 3 proficiency in handling online teaching and factor 4 knowledge of technological reforms. It was noted that HEI teachers attitude regardless of the type of higher education institution are just the same in the appreciation for online teaching and learning and proficiency in handling online teaching which they have neutral to favorable attitude and for the knowledge of technological reforms they have favorable attitude.

Table 2. Differences on Attitude towards Online Teaching and Learning Between Private and Public HEIs

Type of Higher Education Institution	Mean Attitude towards Online Teaching and Learning				
	Factor 1 Appreciation for online teaching and learning	Factor 2 Responsiveness towards online education	Factor 3 Proficiency in handling online teaching	Factor 4 Knowledge of technological reforms	Over-all Mean
Community College	3.38	3.44 _A	3.35	3.87	.68
Private University	3.56	3.33 _{AB}	3.48	4.08	.82
State University	3.67	3.13 _B	3.63	3.94	.80
<i>P-value</i>	<i>0.06</i>	<i>0.004</i>	<i>0.311</i>	<i>0.251</i>	<i>.379</i>

Legend: 5.00-4.21: Highly Favorable, 4.20- 3.41: Favorable, 3.40-2.61: Neutral, 2.60- 1.81: Unfavorable, 1.80-1.00: Highly Unfavorable

Attitude of HEI teachers towards online teaching and learning according to their gender.

Table 3 indicates the results of one-factor analysis of variance (ANOVA) which shows that there are no significant differences on the attitude of HEI teachers in terms of the four factors such as factor 1 appreciation for online teaching and learning, factor 2 responsiveness towards online education, factor 3 proficiency in handling online teaching and factor 4 knowledge of technological reforms between male and female teachers. It was observed that the attitude of female and male HEI teachers towards the four factors of online teaching and learning are just the same. That they have favorable attitude towards appreciation for online teaching and learning, proficiency in handling online teaching and knowledge of technological reforms. However, they have neutral attitude on the responsiveness towards online education. This finding is similar to the several research studies that have found that gender does not influence online behavior [36]; [37]; [38]. However, this is in contrast to the study of [39] that determined gender as a factor in use of online education and female teachers had shown more favorable responses for online education.

Table 3. Differences on Attitude of HEI Teachers towards Online Teaching and Learning according to Gender

Gender	Mean Attitude towards Online Teaching and Learning				
	Factor 1 Appreciation	Factor 2 Responsiveness	Factor 3 Proficiency	Factor 4 Knowledge of	Over-all

	for online teaching and learning	towards online education	in handling online teaching	technological reforms	Mean
Male	4.19	3.30	3.56	3.98	3.76
Female	4.08	3.36	3.48	4.07	3.74
<i>P-value</i>	0.211	0.561	0.534	0.339	0.677

Legend: 5.00-4.21: Highly Favorable, 4.20- 3.41: Favorable, 3.40-2.61: Neutral, 2.60- 1.81: Unfavorable, 1.80-1.00: Highly Unfavorable

Attitude of HEI teachers towards online teaching and learning according to their academic rank.

Result of one-factor analysis of variance (ANOVA) is reflected in table 4. Post hoc test revealed significant difference on attitude between assistant professor (mean= 4.27) and instructors (mean=3.99) for factor 1 appreciation for online teaching and learning. It shall be noted that assistant professor has higher extent of attitude for factor 1 appreciation for online teaching and learning compared with instructors. Almost all of the indicators of Factor 1 appreciation for online teaching and learning are practiced by assistant professors while instructors practiced at most 80% of them. Post hoc test also shows that there is a significant difference on attitude between assistant professor (mean = 3.63) and professor (mean = 3.16) for factor 3 proficiency in handling online teaching. It shall be noted that assistant professor has favorable attitude and practice 73% of the indicators of factor 3 proficiency in handling online teaching as manifested among its respondents. While for professors' data shows that they have neutral attitude and utilize 63% of the indicators of factor 3 proficiency in handling online teaching.

Table 4 also revealed that there is no significant difference on the attitude of HEI teachers in terms of academic rank for factor 2 responsiveness towards online education and factor 4 knowledge of technological reforms. It was noted that HEI teachers attitude regardless of academic rank are just the same for factor 2 and 4 and they have neutral to favorable attitude for responsiveness towards online education and favorable attitude for knowledge of technological reforms.

Table 4. Differences on Attitude towards Online Teaching and Learning According to Academic Rank

Type of Academic Rank	Mean Attitude towards Online Teaching and Learning				
	Factor 1 Appreciation for online teaching and learning	Factor 2 Responsiveness towards online education	Factor 3 Proficiency in handling online teaching	Factor 4 Knowledge of technological reforms	Overall Mean
Instructor	3.99 _B	3.23	3.49 _{AB}	4.00	3.68
Assistant Professor	4.27 _A	3.47	3.63 _A	3.98	3.84
Associate Professor	4.19 _{AB}	3.23	3.49 _{AB}	4.05	3.74
Professor	4.26 _{AB}	3.41	3.16 _B	4.09	3.73
<i>P-value</i>	0.037	0.091	0.014	0.937	0.097

Legend: 5.00-4.21: Highly Favorable, 4.20- 3.41: Favorable, 3.40-2.61: Neutral, 2.60- 1.81: Unfavorable, 1.80-1.00: Highly Unfavorable

Attitude of HEI teachers towards online teaching and learning according to their number of years in teaching.

Table 5 indicates the results of one-factor analysis of variance (ANOVA) which shows that there are no significant differences on the attitude of HEI teachers in terms of their number of years in teaching for the four factors such as factor 1 appreciation for online teaching and learning, factor 2 responsiveness towards online education, factor 3 proficiency in handling online teaching and factor 4 knowledge of technological reforms towards online teaching and learning. It was observed that regardless of the number of years in teaching attitude of HEI teachers towards the four factors of online teaching and learning are just the same. That they have favorable to highly favorable attitude for appreciation for online teaching and learning, neutral to favorable attitude for responsiveness towards online education, and favorable attitude for both proficiency in handling online teaching and knowledge of technological reforms. This is in contrast to the

findings of [40] that younger teacher with less teaching experience have shown more positive attitude towards professional development activities.

Table 5. Differences on Attitude towards Online Teaching and Learning According to Number of Years in Teaching

No. of Years in Teaching	Mean Attitude towards Online Teaching and Learning				
	Factor 1 Appreciation for online teaching and learning	Factor 2 Responsiveness towards online education	Factor 3 Proficiency in handling online teaching	Factor 4 Knowledge of technological reforms	Over-all Mean
Less than 3 years	3.96	3.13	3.53	4.03	3.66
3-5 years	3.99	3.26	3.45	3.98	3.67
6-10 years	4.20	3.42	3.59	4.11	3.83
11-15 years	4.40	3.44	3.45	3.99	3.82
16-20 years	4.21	3.21	3.43	4.07	3.73
21-25 years	4.06	3.38	3.58	4.02	3.76
Above 25 years	4.08	3.38	3.64	3.85	3.74
<i>P-value</i>	0.075	0.408	0.927	0.879	0.486

Legend: 5.00-4.21: Highly Favorable, 4.20- 3.41: Favorable, 3.40-2.61:

Neutral,

2.60- 1.81: Unfavorable,

1.80-1.00: Highly Unfavorable

Overall attitude of HEI teachers towards online teaching and learning.

Table 6- A to 6-D shows the overall attitude of HEI teachers per factor of online teaching and learning using weighted mean and percentage of responses of agree to strongly agree. In table 6-A shows the HEI teachers attitude for factor 1 appreciation for online teaching and learning. Using weighted mean, among the ten 10 indicators of factor 1 HEI teachers rank 1st digital competence as an important 21st century skill for every teacher, followed by every teacher should be digitally updated in order to stay relevant, and online teaching has offered new ventures of creativity and opportunities for a teacher & online education system provides a great opportunity to a teacher for creating and sharing his/her presentations, video, handouts and weblinks which rank 2nd and 3rd respectively. While using the percentage of responses of agree to strongly agree, HEI teachers rank 1st every teacher should be digitally updated in order to stay relevant, followed by digital competence as an important 21st century skill for every teacher, and online teaching has offered new ventures of creativity and opportunities for a teacher & they appreciate the use of online teaching in present time which rank 2nd and 3rd respectively. It was noted that using both weighted mean and percentage HEI teachers have a common set of top three indicators for factor 1 with little difference.

Overall, the HEI teacher's attitude is favorable to highly favorable to the ten (10) indicators of factor 1. They have a highly favorable attitude to four (4) indicators of factor 1 and the rest of the indicators the HEI teachers have a favorable attitude.

Table 6-A Factor 1 Appreciation for online teaching and learning

Indicators	Weighted Mean	Rank	% Agree (n)	Rank
8. Online teaching has offered new ventures of creativity and opportunities for a teacher.	4.38	3	93% (100)	3
17. Every Teacher should be digitally updated in order to stay relevant.	4.58	2	96% (103)	1
21. I believe that digitally literate teachers have better future	3.84	7	68% (73)	8
23. Students can learn at their own pace via online learning.	3.87	8	75% (80)	7
24. One can work collaboratively through online platforms	3.99	6	80% (86)	6
25. Digital Competence is an important 21st century skill for every teacher	4.59	1	95% (102)	2

26. Online education system provides great opportunity to a teacher for creating and sharing his/her presentations, video, handouts and weblinks	4.34	3	90% (96)	4
28. I take interest in attending workshops/ training programmed related with online teaching and MOOCs.	4.18	5	86% (92)	5
29. Online teaching is very economical.	3.36	9	46% (49)	9
33. I appreciate the use of online teaching in present time.	4.37	4	93% (99)	3
Over-all Mean	4.15 Favorable			

Legend: 5.00-4.21: Highly Favorable, 4.20- 3.41: Favorable, 3.40-2.61: Neutral, 2.60- 1.81: Unfavorable, 1.80-1.00: Highly Unfavorable

Table 6-B, shows the HEI teachers attitude for factor 2 responsiveness towards online education. Using weighted mean and percentage of responses of agree to strongly agree both have the same results that among the seven 7 indicators of factor 2 responsiveness towards online education, HEI teachers rank 1st they feel more comfortable in classroom teaching than online teaching, followed by online teaching provides more flexibility to the students and online teaching can never replace conventional mode of teaching which rank 2nd and 3rd respectively.

Overall, the HEI teacher's attitude is neutral to favorable to the seven (7) indicators of factor 2. They have a favorable attitude to four (4) indicators of factor 2 and for the rest of the indicators, the HEI teachers have a neutral attitude. It was noted that HEI teachers have a neutral attitude and response on the following: online teaching is more interesting than classroom teaching; students participate more actively during online teaching; and student progress can be tracked more efficiently during online teaching.

Table 6-B Factor 2 Responsiveness towards online education

Indicators	Weighted Mean	Rank	% Agree (n)	Rank
6. Online teaching is very good platform for teachers and students	3.66	4	63% (67)	4
12. Online teaching is more interesting than classroom teaching.	2.76	6	18% (19)	6
14. Online teaching provides more flexibility to the students.	3.80	2	67% (72)	2
15. I feel more comfortable in classroom teaching than online teaching	3.91	1	70% (75)	1
18. Students participate more actively during online teaching.	2.49	7	17% (18)	7
19. Student progress can be tracked more efficiently during online teaching	2.89	5	31% (33)	5
20. Online teaching can never replace conventional mode of teaching.	3.77	3	65% (70)	3
Over-all Mean	3.32 Neutral			

Legend: 5.00-4.21: Highly Favorable, 4.20- 3.41: Favorable, 3.40-2.61: Neutral, 2.60- 1.81: Unfavorable, 1.80-1.00: Highly Unfavorable

Table 6-C shows the HEI teacher's attitude for factor 3 proficiency in handling online teaching. Using weighted mean and percentage of responses of agree to strongly agree both have the same results that among the eight (8) indicators of factor 3 proficiency in handling online teaching, HEI teachers rank 1st online teaching is more challenging, followed by they believe that digitally literate teachers have better future and online learning is difficult for students which rank 2nd and 3rd respectively. Overall, the HEI teacher's attitude is neutral to highly favorable to the eight (8) indicators of factor 3. Majority of the eight (8) indicators of factor 3, the HEI teachers have a neutral attitude and one (1) highly favorable, and three (3) favorable attitude. It was noted that HEI teachers have a neutral attitude and responses on the following: I don't feel comfortable while preparing video lectures; I find it difficult to teach through online mode; I feel stressed about the use of different Learning Management System (LMS) for teaching, and availability of

many online teaching tools creates confusion about their usage. Table 6-D shows the HEI teacher's attitude for factor 4 knowledge of technological reforms. Using weighted mean and percentage of responses of agree to strongly agree both have the same results that among the five (5) indicators of factor 4 knowledge of technological reforms, HEI teachers rank 1st they keep themselves updated with new technological innovations in the field of teaching, followed by they have sufficient knowledge about different internet tools required for conducting online classes and they have good command over LMS like Google Classroom which rank 2nd and 3rd respectively.

Table 6-C Factor 3 Proficiency in handling online teaching

Indicators	Weighted Mean	Rank	% Agree (n)	Rank
3. Online teaching is more challenging.	4.50	1	93% (99)	1
4. I don't feel comfortable while preparing video lectures.	3.12	6	41% (44)	6
7. I find it difficult to teach through online mode.	3.09	7	38% (41)	7
9. Online learning is difficult for students.	3.73	3	66% (71)	3
10. I feel stressed about the use of different Learning Management System (LMS) for teaching	3.03	8	37% (40)	8
16. Online teaching is time consuming.	3.48	4	51% (55)	4
31. I believe that digitally literate teachers have better future.	3.95	2	72% (77)	2
22. Availability of many online teaching tools creates confusion about their usage.	3.27	5	46% (49)	5
Over-all Mean	3.52 Favorable			

Legend: 5.00-4.21: Highly Favorable, 4.20- 3.41: Favorable, 3.40-2.61: Neutral, 2.60- 1.81: Unfavorable, 1.80-1.00: Highly Unfavorable

Overall, the HEI teacher's attitude is favorable to highly favorable to the five (5) indicators of factor 4. Majority of the five (5) indicators of factor 4, the HEI teachers have a favorable attitude and one (1) highly favorable. It was noted that HEI teachers have a highly favorable attitude and response to this: that they keep themselves updated with new technological innovations in the field of teaching.

Table 6-D Factor 4 Knowledge of technological reforms

Indicators	Weighted Mean	Rank	% Agree (n)	Rank
1. I keep myself updated with new technological innovations in the field of teaching.	4.58	1	98% (105)	1
2. I have sufficient knowledge about different internet tools required for conducting online classes.	4.16	2	91% (97)	2
5. I have good command over LMS like Google Classroom.	4.05	3	84% (90)	3
11. I have clear idea about the use of various tools required for preparing e-content.	3.80	4	74% (79)	4
13. I know about different Open Educational Resources (OERs).	3.48	5	54% (58)	5
Over-all Mean	4.01 Favorable			

Legend: 5.00-4.21: Highly Favorable, 4.20- 3.41: Favorable, 3.40-2.61: Neutral, 2.60- 1.81: Unfavorable, 1.80-1.00: Highly Unfavorable

Table 7 reflects the top 10 attitude of HEI teachers towards online teaching and learning and considering the indicators of the four factors. Using weighted mean, HEI teaching rank 1st digital Competence is an important 21st century skill for every teacher, followed by they keep myself updated with new technological innovations in the field of teaching; every teacher should be digitally updated in order to stay relevant; and Online teaching is more challenging which rank 2nd and 3rd respectively. While using percentage of responses of agree to strongly agree, HEI teaching ranks 1st they keep myself updated with new technological innovations in the field of teaching, followed by every Teacher should be digitally updated in order to stay relevant; and digital Competence is an important 21st-century skill for every teacher which rank 2nd and 3rd respectively.

Table 7. Top Ten Attitude of HEI Teachers towards Online Teaching and Learning

Indicator /(Factor)	Weighted Mean	Over-all Rank	% Agree (n)	Over-all Rank
1. I keep myself updated with new technological innovations in the field of teaching.(F4)	4.58	2	98% (105)	1
17. Every Teacher should be digitally updated in order to stay relevant. (F1)	4.58	2	96% (103)	2
25. Digital Competence is an important 21 st century skill for every teacher. (F1)	4.59	1	95% (102)	3
8. Online teaching has offered new ventures of creativity and opportunities for a teacher. (F1)	4.38	4	93% (100)	4
33. I appreciate the use of online teaching in present time. (F1)	4.37	5	93% (99)	5
3. Online teaching is more challenging. (F3)	4.50	3	93% (99)	5
2. I have sufficient knowledge about different internet tools required for conducting online classes. (F4)	4.16	8	91% (97)	6
26. Online education system provides great opportunity to a teacher for creating and sharing his/her presentations, video, handouts and weblinks. (F1)	4.34	6	90% (96)	7
28. I take interest in attending workshops/ training programme related with online teaching and MOOCs. F1)	4.18	7	86% (92)	8
5. I have good command over LMS like Google Classroom. (F4)	4.05	9	84% (90)	9
24. One can work collaboratively through online platforms	3.99	10	80% (86)	10

Legend: 5.00-4.21: Highly Favorable, 4.20- 3.41: Favorable, 3.40-2.61: Neutral, 2.60- 1.81: Unfavorable, 1.80-1.00: Highly Unfavorable

Table 8 reflects the top 10 least attitude of HEI teachers towards online teaching and learning and considering the indicators of the four factors. Using weighted mean and percentage of responses of agree to strongly agree both have the same results which HEI teachers rank 1st as their least attitude where students participate more actively during online teaching, followed by online teaching is more interesting than classroom teaching, and student progress can be tracked more efficiently during online teaching which rank 2nd and 3rd respectively.

Table 8. Top Ten Least Attitude of Teachers towards Online Teaching and Learning

Indicator /(Factor)	Weighted Mean	Rank	% Agree (n)	Rank
18. Students participate more actively during online teaching. (F2)	2.49	1	17% (18)	1
12. Online teaching is more interesting than classroom teaching. (F2)	2.76	2	18% (19)	2
19. Student progress can be tracked more efficiently during online teaching. (F2)	2.89	3	31% (33)	3
10. I feel stressed about the use of different Learning Management System (LMS) for teaching. (F3)	3.03	4	37% (40)	4
7. I find it difficult to teach through online mode. (F3)	3.09	5	38% (41)	5
4. I don't feel comfortable while preparing video lectures. (F3)	3.12	6	41% (44)	6
22. Availability of many online teaching tools creates confusion about their usage. (F3)	3.27	7	46% (49)	7
16. Online teaching is time consuming. (F3)	3.48	8	51% (55)	8
13. I know about different Open Educational	3.48			

Resources (OERs). (F4)		8	54% (58)	9
6. Online teaching is very good platform for teachers and students. (F2)	3.66	9	63% (67)	10

Legend: 5.00-4.21: Highly Favorable, 4.20- 3.41: Favorable, 3.40-2.61: Neutral, 2.60- 1.81: Unfavorable, 1.80-1.00: Highly Unfavorable

IV. CONCLUSION

Assessing the HEI teacher's attitude toward online teaching and learning will help in the development of capacity training for HEI teachers to be more equipped and embrace online teaching and learning as part of the new normal after the covid19 pandemic in the tertiary level of education and readiness toward future-oriented higher education. That HEI teachers have an overall favorable attitude towards the four (4) factors of online teaching and learning such as an appreciation for online teaching and learning, responsiveness towards online education, proficiency in handling online teaching and knowledge of technological reforms.

It was noted that HEI teachers have favorable attitude in improving their knowledge of technological reforms, appreciating online teaching and learning, and proficiency in handling online teaching. However, they have neutral attitude in responding towards online education. It was also observed that teachers in the community college and state university have a different attitude in their response towards online education. Also, teacher with academic rank of assistant professor and instructor have different attitude in appreciating online teaching and learning. While assistant professor and professor have different attitude on proficiency in handling online teaching. Therefore, HEI teachers need capacity training to improve their attitude towards responsiveness to online education.

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