



Online Teaching Readiness, Challenges and Satisfaction as Perceived by Nursing Faculty Members during COVID -19 Pandemics

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ABSTRACT

Background: Faculty members must be prepared to teach online as a strategy during the current COVID-19 epidemic. There is a rising demand and necessity for online teaching at higher education institutions. A crucial success factor for online education is the government's proactive efforts in analyzing educator readiness, problems, and satisfaction. **Aim:** the present study aimed to assess online teaching readiness, challenges and satisfaction as perceived by nursing faculty members during COVID -19 pandemics. **Research Design:** Descriptive correlational design was used in this study. **Setting:** different universities included in the study (Cairo, Beni Suef , Ain Shams, Port Said, South valley and Zagazig). **Sample:** Convenient sample (n= 203) of faculty members from different universities who agreed to participate in the study and experience online teaching were involved in the study. **Tools of data collection:** data collected using three questionnaires Include: 1-: Online teaching readiness questionnaire, 2- Challenges of online teaching questionnaire and 3-Online satisfaction questionnaire. **Results:** Data revealed that nursing faculty members had high level readiness regarding online teaching. They all agreed that there is inadequate technology support and frequent technology failures. The highest percentage of them was satisfied with on-line education to a moderate degree. There was a statistically significant positive correlation between study subject perception of readiness and satisfaction with online teaching. **Recommendation:** Universities should provide educators with ongoing training on how to teach online courses. To facilitate online education, educators should be provided with appropriate infrastructure (laptops, technical support, etc.). University leaders should develop a strategy to address the problems of online teaching and create strategies to boost instructors' satisfaction with online teaching.

Keywords: COVID -19 Pandemics, Challenges, Nursing Faculty Members, Online Teaching, Readiness, and Satisfaction.

Introduction

In many nations, online education is required at most universities. Faculty must be well prepared to deal with the transition from traditional to online teaching (Phan & Dang, 2017). The spread of COVID-19 has had a significant impact on all parts of human existence, including higher education. Universities must respond to rigorous criteria that have compelled them to strengthen the higher education system. Digital educational technologies and core credentials of

professors and students are the emphasis (Bahasoan, Ayuandiani, Mukhram & Rahmat, 2020).

Online learning has opened up education to those who were previously unable to do so due to factors such as geography or work. Any form of learning and teaching that takes place synchronously or asynchronously in a virtual environment (e.g. via Blackboard, Moodle, etc.) that involves interaction between learners and their educational materials and activities, as well as involvement with peers and tutors,

is referred to as "online learning" (Mubarak, Cao, & Zhang, 2020).

Learning experiences that employ various electronic devices (e.g. computers, laptops, smart phones, etc.) with internet access in synchronous or asynchronous environmental conditions are referred to as online learning. Delivering the curriculum to students in rural and remote places, online delivery of courses is cost-effective and convenient. To counteract the situation, colleges have introduced a variety of innovative techniques, including leveraging software/apps such as Google Classroom, Zoom, and Microsoft Teams to take online classes. During the COVID-19 pandemic, a virtual e-learning class was started to help students gain confidence in their professors (Agarwal & Kaushik, 2020).

Because of the rapid growth of internet use, online learning has become one of the most rapidly rising areas of educational technology (Bates, 2019). Online learning is also becoming a burgeoning subject of study. Much research has attempted to analyze the aspects that contribute to online learning's success or failure, as well as the essential factors that influence learner satisfaction in an online learning environment (Weidlich & Bastiaens, 2018).

The concept of e-learning readiness is defined as "being psychologically and mentally prepared for the experience of e-learning." Online readiness can be defined as the ability to see opportunities that allow for the utilization of electronic resources such as the internet. E-readiness is one of the important elements to be emphasized in the design and organization of e-learning so that distance education becomes effective and students become successful. Identifying e-readiness allows us to efficiently apply the goals of computer and communication technologies and design comprehensive e-learning strategies (Oducado & Estoque, 2021). The

literature review mentions factors that affect readiness, such as attitude, teacher competencies and skills to adapt to pedagogy, new roles, training, and time constraints (Phan & Dang, 2017 and Paliwal & Singh, 2021).

According to Gillett-Swan (2017), many academic staff members face obstacles in the online world, which increasingly requires higher levels of technology expertise and ability in addition to their regular academic burden. Geographical locations and lack of experience with the use of online tools were recognized as the key barriers to online education, according to Muflih, Abuhammad, Karasneh, Al-Azzam, Alzoubi, & Muflih, (2020). According to Sandars & Patel (2020), the difficulty can be overcome by paying close attention to the design of online learning and including all stakeholders in a rapid iteration process.

Teacher satisfaction is receiving more attention because it is linked to their retention, as well as their well-being, loyalty, and devotion, as well as the improvement of the teaching profession's status. There was a link between working conditions in the institution and teacher satisfaction (Toropova, Myrberg & Johansson, 2021). For a good and effective learning process, faculty satisfaction is critical. It's an attitude formed as a result of a review of a student's educational experience, facilities, and services. Professors' satisfaction is defined as the belief that online teaching is efficient, effective, and helpful to both students and faculty (Kim & Park, 2021).

In an online teaching and learning environment, faculty satisfaction is critical. Three key elements influenced instructor satisfaction: instructor-student contact, technology involvement, and institutional support (Blundell, Casta, & Lee, 2020). Personal characteristics had no direct influence on their pleasure, but platform availability had the greatest impact. Chen,

Peng, Yin, Rong, Yang, and Cong are all members of the Chen, Peng, Yin, Rong, Yang, and Cong (2020). A study done by Hixson (2021) concluded that the main factors that affect online faculty satisfaction include: their job experience (i.e., demographics), online design assignments, initiatives, and methods. Therefore, the purpose of this study is to assess online teaching readiness, challenges, and satisfaction as perceived by nursing faculty members during the COVID-19 pandemic.

Significance

The outbreak of COVID-19 has had an impact on the educational system around the world; it has forced the closure of educational institutions, which has had a negative impact on students all over the world. Computer-based learning has emerged as the closest equivalent to off-line instruction in the absence of traditional classroom teaching and one-to-one engagement (Martin, Budhrani & Wang 2019 and Ferdig, Baumgartner, Hartshorne, Kaplan-Rakowski & Mouza 2020).

Through researchers experience, it was found that recently, online teaching was compulsory at all educational levels as a result of the COVID-19 outbreaks. Online teaching is viewed as an attractive method for students as it offers flexible learning opportunities and it is becoming increasingly widespread across the higher education sector. Therefore, higher education faculties need to prepare for and enhance motivation for online teaching. Moreover, faculty members are faced with challenges. Results of the present study will shed light on faculty members' perceptions regarding their own readiness for online teaching, as there are many aspects of teachers' online preparation still unclear, and provide a clear picture of what extent educators master needed online competencies and skills and how they modify their

roles to keep up-to-date and adapt to their new role. Moreover, the data from the present study will guide universities to plan to overcome challenges faced by educators during their online experience and will direct their efforts on how to improve educators' satisfaction with online teaching to keep pace with rapid change.

Subjects and Methods

Aim of the study:

To assess online teaching readiness, challenges and satisfaction as perceived by nursing faculty members during COVID -19 pandemics

Research Questions:

- What is the readiness level for online teaching among faculty members?
- What are the challenges related to online teaching among faculty members?
- What are the levels of online teaching satisfaction among faculty members?
- Is there a relationship between online teaching readiness, challenges, and satisfaction as perceived by nursing faculty members?

Research Design:

A descriptive correlational research design was used in this study.

Setting:

The study was conducted at the Faculty of Nursing at different universities, include (Cairo, Beni Suef , Ain Shams, Port Said, South valley, and Zagazig)

Sample:

The study included a convenient sample (n= 203) of faculty members from various institutions who were working at nursing faculties at the time of data collection and had prior experience with online education.

Tools of data collection :

The following three tools were used to collect the data as follows:

The first questionnaire is the online teaching readiness questionnaire, which is used to assess faculty members' readiness for online teaching. It is composed of two parts, as follows:

The first part includes the following personal data: the name of the university, specialty, educational degree, age, gender, marital status, years of teaching, and internet skills.

The second part is the online teaching readiness questionnaire. It was developed by researchers guided by (Holsapple & Lee-Post 2006 and Gay 2016). It is composed of 18-items divided into three domains: technical preparedness (7 items), lifestyle (5 items) and educational preparedness (6 items).

Scoring system: Participants' responses were graded on a three-point Likert scale (Agree = 3, Uncertain = 2, and Disagree = 1). The study sample's overall readiness level for online teaching was measured as follows: low readiness (0–33%), medium readiness (33%–66%), and high readiness (66%–100%).

The second questionnaire, the challenges of online teaching, was developed by researchers guided by (Lloyd, Byrne & McCoy, 2012). It was used to assess the participants' challenges to online teaching. It is composed of 18 items and one open ended question.

Scoring system: Participants' responses were graded on a two-point scale (Yes = 1 and No = 0).

The third questionnaire was the online satisfaction questionnaire, which was developed by researchers guided by Bolliger & Wasilik (2009) and Bolliger, Inan & Wasilik (2014). It was used to assess faculty members' satisfaction with online teaching. It

included 27 items divided into five dimensions as follows; instructor to student (6 items), interaction and institutional support (6 items), affordances (5 items), student to student interaction (5 items), and course design (5 items).

Scoring system: Responses of participants were against three point Likert scale (Agree=3, Natural =2 and Disagree= 1). Overall scores were summed up and divided into categories according to cut points that indicate the study sample's satisfaction with online teaching as follows: Low satisfaction (0– < 33%), medium satisfaction (33% – < 66%), and high satisfaction (66%–100%).

Validity

After the translation of the questionnaires to Arabic, content validity of the questionnaires was confirmed by three academic experts in nursing administration. Based on their recommendation little modifications were made.

Reliability:

Cronbach's alpha was used to calculate the reliability of the three questionnaires, and the results showed that online teaching readiness, challenges, and satisfaction were (0.81, 0.83 and 0.93) respectively. It was established that questionnaires were extremely trustworthy.

Pilot study

Following the construction of the questionnaires, a pilot study was conducted with (n= 20) faculty members to assess the clarity and application of the questions as well as the time required to complete them. The average time spent filling out the questionnaires was between 25 and 30 minutes. The study's findings contained data.

Ethical consideration

All faculty members were informed about the study's purpose and scope. They all volunteered to participate, promised that their information would be kept private and used solely for the purposes of the study.

Procedure

To conduct the current study, each participant's permission was sought, and the nature of the investigation was fully explained to all participants prior to their involvement in the study by the researcher. A researcher created an electronic version of the questionnaires and sent them to those faculty members who were willing to respond by email or Whatsapp, and others were given printed copies and collected after one to two days. During the academic year 2020-2021, data was collected throughout three months, from January to March.

Statistical design:

Statistical Packages for Social Science were used to organize, categorize, tabulate, and analyze the data collected (SPSS, 21). Descriptive statistics were used to provide the data in the form of numbers, percentages, mean, and standard deviation. The t-test and one-way analysis of variance were used for statistical analysis (ANOVA). The significance threshold that was chosen was $p \leq 05$.

Results

Table (1): Frequency Distribution of Study Subjects according to their Personal Characteristics (n=203)

Variables	No.	%
University		
Cairo	32	15.8
Beni-Suef	39	19.2
Port Said	35	17.2
Ain Shams	32	15.8
South valley	30	14.8
Zagazig	35	17.2
Department		
Medical Surgical Nursing	18	8.9
Pediatric Nursing	15	7.4
Obstetric Nursing	36	17.7
Psychiatric Nursing	18	8.9
Nursing Administration	96	47.3
Community Health Nursing	20	9.9
Job Title		

Clinical instructor	7	3.4
Assistant Lecturer	55	27.1
Lecturer	66	32.5
Assistant Professor	53	26.1
Professor	22	10.8
Gender		
Male	13	6.4
Female	190	93.6
Age		
< -29	44	21.7
30 < - 40	38	18.7
40 < -50	75	36.9
≥ 50	46	22.7
Marital Status		
Single	54	26.6
Married	149	73.4
Years of Experience		
< -5	32	15.8
5 < -10	42	20.7
≥ 10	129	63.5

Table (1) displays that (19.2%) from Beni-Suef University, (47.3%) from the nursing administration department, and (32.5%) were lecturers. The highest percentage (93.6%) was female. More than one-third (36.9%) of them had 40 <- 50 years old, and (63.5%) had > 10 years of experience.

Figure (1) Frequency distribution of study sample regarding receiving education for online teaching courses (n=203)

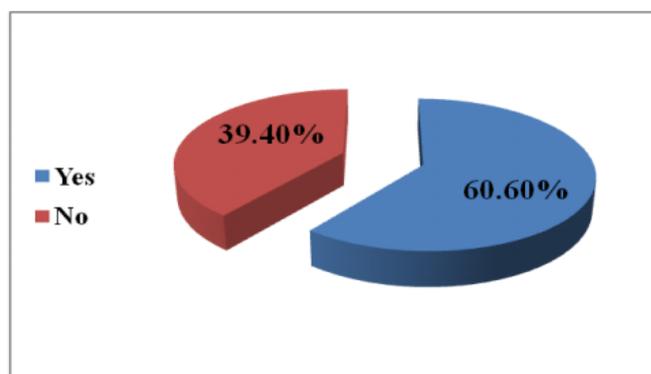


Figure (1) displays that (60.60%) of study subjects had education about online teaching. While (39.40%) had no knowledge of online teaching.

Figure (2) Frequency distribution of study sample regarding computer use competency y (n=203)

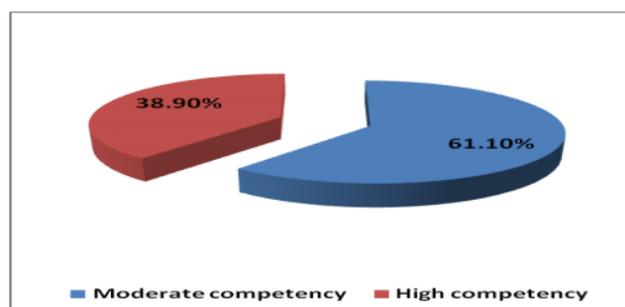


Figure (2) illustrates that (561.10%) of study subjects had moderate computer competency. Only around one third (38.90%) of them had high computer competency.

Figure (3) Frequency distribution of numbers of online courses taught by study sample (n=203)

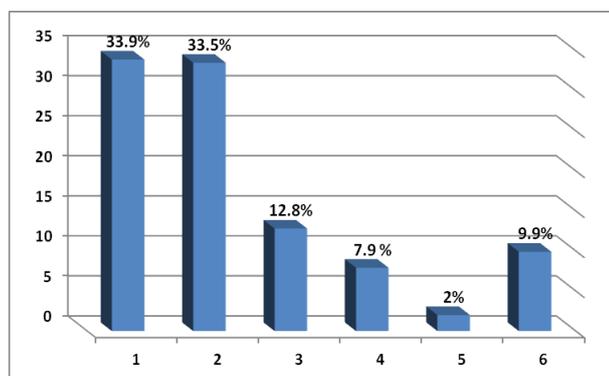


Figure (3) summarizes that (33.9% and 33.5%) of study subjects teach one and two online courses respectively. While, only (2%) of them teach five online courses.

Table (2) Mean and Mean Percent of Study Subjects Regarding their Online Teaching Readiness (n=203)

Online teaching readiness domains	Max	\bar{x}	SD	\bar{x} %
Technical Preparedness	21.00	17.17	3.36	81.76
Lifestyle	15.00	11.48	2.53	76.53
Educational Preparedness	18.00	15.38	2.05	85.44
Total	54.00	44.04	6.24	81.55

Table (2) displays that faculty members had high readiness regarding online teaching (total mean % = 81.55). Also, they highly perceived educational preparedness (total mean % = 85.44). While the overall mean percentage for lifestyle was 76.53%.

Table (3) Levels of online teaching readiness as Perceived by Study Subjects (n=203)

Levels of online teaching readiness	No	%
High	135	66.5
Low	68	33.5

Table (3) shows that more than two thirds (66.5%) of study subjects had a high level of readiness regarding online teaching, while (33.5%) were at a low level.

Table (4) Frequency Distribution of Study Subjects Regarding their Challenges to Online Teaching (N=203)

Items	Yes		No	
	NO	%	NO	%
1- Lack of personal relationship with students .	136	67.0	67	33.0
2- Impersonal .	80	39.4	123	60.6
3- Lack of quality of course .	62	30.5	141	69.5
4- Lack of visual cues from students	142	70.0	61	30.0
5- Lack of social interaction within the class	133	65.5	70	34.5
6- Lack of policies or standards for online courses	154	75.9	49	24.1
7- Lack of control over property rights .	143	70.4	84	41.4
8- Lack of faculty involvement in course decision making	119	58.6	84	41.4
9- Online work not valued for promotion and tenure.	97	47.8	106	52.2
10- Inadequate instructor training	165	81.3	38	18.7
11- Inadequate technology support.	175	86.2	28	13.8
12- Frequent technology failures.	171	84.2	32	15.8
13- Rapidly changing software or delivery systems.	143	70.4	60	29.6
14- Increased workload.	149	73.4	54	26.6
15- Time commitment.	143	70.4	60	29.6
16- Inadequate time for grading and feedback .	130	64.0	73	36.0
17- Inadequate compensation for instruction	141	69.5	62	30.5
18- Eigen values	140	69.0	63	31.0
19- Others	-need training in young age - lack of interaction between both teacher and students			

Table (4) illustrates that the highest percentages (86.4% and 86.2%) of respondents agreed that there is inadequate technology support and frequent technology failures respectively. While, around half (69.5% and 52.2%) of them disagreed that a lack in quality of course and online work is not valued for promotion and tenure, respectively.

Table (5): Mean and Mean Percent of Study Subjects Regarding their Online Teaching Satisfaction (n=203)

Online Satisfaction	Max	\bar{x}	SD	\bar{x} %
Instructor to student interaction	18	11.41	3.12	63.38
Affordances	15	10.52	2.96	70.13
Institutional Support	18	10.68	3.75	59.33
Student-to-Student Interaction	15	10.38	2.78	69.2
Course Design	15	10.23	2.20	68.2
Total	78	53.25	11.94	68.27

Table (5) declares that the majority (70.13% and 69.2%) of respondents' mean percent were regarding affordances and student to student interaction domains respectively, while institutional support has the lowest mean percent (59.33%).

Table (6) Frequency Distribution of Satisfaction Level with Online Teaching as Perceived by Study Sample

Satisfaction level with online teaching	No	%
High	31	15.3
Moderate	156	76.8
Low	16	7.9

Table (6) shows that (76.8%) had a moderate satisfaction level with online teaching. While, the lowest percentages (15.3% and 7.9%) reported high and low levels of satisfaction, respectively.

Table (7) Correlation among Readiness, Challenges and Satisfaction of Study Subjects perception to online teaching (n=203)

Variables		Readiness	Challenges
Readiness	R	1	-0.04
	P		0.53
challenges	R	-0.04	1
	P	0.53	
Satisfaction	R	0.32**	-0.08
	P	0.00	0.21

**Correlation is significant at the 0.01 level (2-tailed).

Table (7) displays that there was a statistically significant correlation between study subject perception of readiness and satisfaction ($r = 0.32$ and $P = 0.00$) toward online teaching.

Table (8) Correlation among Studied Subjects Personal Characteristics and their Perception to Readiness, Challenges and Satisfaction of Online Teaching (N=203)

Variables	Test	Readiness	Challenges	Satisfaction
University	f	4.32	2.87	0.37
	p	0.00	0.02	0.83
Specialty	f	11.48	1.67	2.47
	p	0.00	0.14	0.03
Teaching degree	f	3.99	7.78	2.97
	p	0.00	0.00	0.02
Gender	t	-0.35-	-0.35-	-0.34-
	p	0.72	0.72	0.73
Age	f	4.48	4.89	2.168
	p	0.00	0.00	.093
Marital status	f	5.32	.52	1.30
	p	0.00	0.59	0.27
Years of experience in teaching	f	6.52	13.19	0.77
	p	0.00	0.00	0.46
Internet skills	f	10.46	0.43	0.19
	p	0.00	0.50	0.65

Table (8) illustrates that there was a positive statistically significant difference between the study subject's university, specialty, educational degree, age, marital status, years of teaching, and internet skills and their perception of online teaching readiness. Also, there was a positive statistically significant difference between their university, age, and years of experience in teaching and their perception to online teaching challenges. While, there was only a positive statistically

significant difference between specialty, educational degree, and the perceived study subjects' satisfaction with online teaching .

Discussion

Many colleges have a substantial presence in the field of online education. The abrupt transition from traditional to online education revealed the need to assess educator preparation as well as the limitations of online teaching (Hosny, Ghaly, AlSheikh, Shehata, Salem, & Atwa, 2021). The findings of this study demonstrated that study subjects had high level of readiness regarding online teaching. This could be explained by the fact that online teaching is one of the prerequisites for university accreditation. This finding was consistent with findings from studies conducted by Ventayen (2018) and Mursalin, Sarkadi, and Hidayat (2021), which revealed that the majority of respondents are prepared to learn online.

Concerning challenges to online teaching present study results illustrated that the highest percentage of respondents agreed that there was inadequate technology support and frequent technology failures. This could be due to lack of infrastructure preparation in some universities for online education, as well as a lack of technical assistance for faculty members, in addition to the need to increase their knowledge and skills in online teaching. This was in line with Rosalina, Nasrullah, and Elyani (2020) and Hamsan, (2021), who revealed that respondents faced a number of problems, including a bad internet connection, physical distractions, a lack of enthusiasm, and power outages. Furthermore, Bhuana & Apriliyanti (2021) and Efriana (2021) found that technology, course material, students, and internet connectivity being the most common issues teachers' faced during online learning.

Furthermore, the findings revealed that more than two-thirds of study subjects disagreed that there was a lack of quality in online courses. This could be explained by the fact that the course's content was structured across classes. The same context, a study by Xu & Xu (2019) discovered that online instruction had an impact on educational access, affordability, and course quality. Furthermore, more than half of the study participants disagreed that their work is not valued for promotion and tenure. In agreement with Vezne's (2020) findings, which indicated that the internet, had a good impact on educators' personal and professional growth, in addition, Zalat, Hamed, and Bolbol (2021) discovered that respondents valued the ease of using and accepting online learning?

Concerning online teaching satisfaction, study results revealed that the majority of respondents' mean percent were concerned with affordances and student to student interaction domains. while the mean percent for institutional support is the lowest. This could be attributed to the enrolment of a diverse group of students who have travelled abroad and have different experiences with different programmers, as well as the students' rapid adaptation to technological advances. This is in line with a study conducted in Saudi Arabia by Al-Zahrani, (2015), who discovered that instructors in Saudi Arabia were extremely satisfied with online education in terms of student-to-student engagement, instructor-to-student interaction, and affordances. They also expressed dissatisfaction with institutional help. In contrast to earlier findings, a study by Blundell, Casta, and Lee (2020) found that institutional support had the least impact on instructor satisfaction.

As regards to study subjects' satisfaction levels with on line teaching, study results showed that the highest percentage had a moderate satisfaction level. From researchers, this could be related to the

integration of online teaching into a greater scope at Egyptian universities, and there were numerous issues and difficulties that needed to be addressed and planned in order to improve teacher satisfaction. In the same vein, Gorain & Pal (2021) conducted a study whose findings revealed that respondents were moderately satisfied with online instruction. In the same vein, Elshami, Taha, Abuzaid, Saravanan, Al Kawas, and Abdalla (2021) discovered that only 41.3 percent of students were satisfied, compared to 74.3 percent of staff members.

Also, present study results showed that the lowest percentage expressed dissatisfaction with online education. In the same line, a study by Guest, Rohde, Selvanathan, and Soesmanto (2018) found that online teaching is likely to be a less enjoyable learning experience for study participants. In contrast, Stickney, Bento, Aggarwal, and Adlakha (2019) and Hampton, Culp-Roche, Hensley, Wilson, Otts, Thaxton-Wiggins, and Moser (2020), Wang, Yu, Liu, and Qian (2021) found that overall, participants were pleased with their online experience. Howe, Chen, Heitner, and Morgan (2018) discovered that professors who received mentoring, release time, and technical support for software, hardware, and training on management systems were more satisfied than those who did not.

Results displayed that there was a statistically significant correlation between study subject readiness and satisfaction. In the same context, a study conducted on students by Kirmizi (2015), Adnan (2018), and Kumar (2021) found a strong association between student preparation and satisfaction. Finally, there was a positive statistically significant difference between the study sample, specialty, university, educational degree, age, marital status, and years of experience in teaching and internet skills and their perception of online teaching readiness.

Similarly, according to Ventayen (2018), there is a considerable disparity in teachers' readiness for and experience with online instruction. In the same vein, Martin, Wang, Jokiah, May, and Grübmeier (2019) discovered a disparity between United States faculty preparation for online education and German educators. Furthermore, Velasco & Maria Cristina (2020) discovered that faculty perceptions of preparation for online teaching range significantly by academic department, age group, and gender. In contrast to the previous finding, Ranganathan, Singh, Kumar, Sharma, Chua, Ahmad, and Harikrishnan (2021) discovered that institutional and gender had no significant effect on the level of preparation for online learning among physiotherapy undergraduates.

Also, present results found that there was only a positive statistically significant difference between specialty, educational degree, and study subject satisfaction with online teaching. In the same context, a study done by Al-Zahrani (2015) found a statistically significant difference between faculty satisfaction with online instruction and their gender, position, and teaching experience. Gorain and Pal (2021) also found that respondent satisfaction with online teaching did not differ significantly by gender or specialization.

Conclusion:

According to the findings of this study, nursing faculty members had high level of readiness regarding online teaching. They agreed that there was inadequate technology support and frequent technology failures. The highest percentage of them had a moderate satisfaction level with online teaching. A positive statistically significant correlation was found between the study subjects' perception of readiness and satisfaction toward online teaching.

Recommendation

Based on the findings of this study, the following recommendations were made:

- Universities should provide educators with ongoing training on how to teach online courses.
- To facilitate online education, educators should be provided with appropriate infrastructure (laptops, technical support, etc.).
- University leaders should devise a strategy to address the problems of online teaching.
- University leaders should devise strategies to boost instructors' satisfaction with online teaching.
- Future studies should include the following:
 - Replicate the study with a larger sample size.
 - A study should be conducted to analyze students' perceptions of online teaching
 - A comparison of traditional and online instruction should be conducted.
 - A qualitative study is needed to look into different specialties, the nature of topic content, and the challenges of online teaching.

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