

Nursing Educators' and Students' Perspectives Regarding Online Learning During the Pandemic in Saudi Arabia

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Purpose: The study aimed to determine nursing educators' and students' perspectives concerning the shift of teaching methodologies to online learning platform in nursing education during the COVID-19 pandemic.

Materials and Methods: The cross-sectional study investigated nursing educators' and students' perspectives on online learning. Non-probability convenience sampling technique was used to recruit 120 educators and 350 students, who answered the Test of e-Learning Related Attitudes scale. The data collection was conducted from November to December 2020 in five selected colleges and universities in Saudi Arabia.

Results: The findings of the study revealed that the overall mean score of the nursing educators' perspectives on online learning based on the 4 dimensions were 4.18 with a SD of 0.57 and an overall mean score of 4.22 with a SD of 0.61 for the students. Furthermore, the perspectives of both participant groups on challenges and benefits dimensions shows that there was significant difference as supported by a p-value of <0.001 and 0.046. However, it shows in the attitude and interest dimensions that there was no significant difference as supported by a p-value of 0.313 and 0.088, respectively.

Conclusion: Nursing educators and students shows an agreement on their perspectives on online learning in terms of attitude and interest dimensions. However, they show their disagreement in terms of challenges and benefits dimensions. Unfortunately, the current COVID-19 pandemic situation could persist for several years. But modern technologies can partially solve current problems in nursing education.

Keywords: COVID-19, nursing education, online learning, teaching and learning, methodologies

Introduction

The coronavirus disease 2019 (COVID-19) pandemic has presented a major challenge in all professional fields, including nursing, by greatly limiting human interaction. Furthermore, the pandemic hindered the ability to train future healthcare providers and, thereby, address insufficiencies in the nursing workforce. Many educational institutions have had to transfer their students to online learning platforms, while others have been employing a social distancing approach and decreasing the number of students sharing a single physical space.

Yet others have been adopting a hybrid form of learning by merging in-classroom and online learning approaches.¹ Students frequently experience hindrances, such as those self-regulations in online learning. Conversely, educators are generally concerned about how technology is being used for teaching. Establishing appropriate online teaching resources and providing support to educators are the foremost challenges encountered by educational institutions.² But there are concerns regarding the strategies that should be used for effective online teaching. For example, communication with students may be hindered by educators not being able to perceive their non-verbal reactions in tandem with the lack of techniques to engage students online.³

It remains unclear when COVID-19 will be eliminated. Nevertheless, the demand for nurses will continue to grow. Furthermore, nursing professionals must be prepared for similar future scenarios. Thus, higher education institutions offering a bachelor's degree in nursing must be able to satisfy the forthcoming increased demand for nursing graduates. Simultaneously, nursing colleges need to guarantee the quality of online nursing education. Although lack of access to classrooms could be potentially compensated for by providing students with digital study materials and organizing interactive online lectures and group discussions, access to the laboratory and clinical training component might represent a greater impediment. The COVID-19 pandemic has led to the following problems in education: loss of instructional time, loss of access to educational materials and peers, inability to develop practical skills, and lack of connection to the educational process.⁴

New forms of education and cooperation have been established during the COVID-19 outbreak, including online learning, remote working, and e-collaborations.⁵ Similar pandemics are possible in the future and nursing educators must be prepared. Consequently, it is critical to distinguish all the challenges associated with a pure online learning system during the COVID-19 pandemic; this will help inform education theory.

The major theory underlying the present study is a framework of self-regulated understanding among trainees. Self-regulated learning (SRL) encompasses the cognitive, metacognitive, behavioral, motivational, and psychological features of learning.⁶ It is vital to acknowledge SRL as an umbrella term comprising many variables (eg, cognitive strategies, self-assessment, self-learning); hence, SRL represents an all-natural technique.

In SRL, students prepare their tasks, check their progress, and analyze outcomes themselves. This procedure can be replicated throughout the representation stage, wherein students prepare themselves for future events that may result in class disruption. Particularly, this strategy is reliable when the use of technologies in a course transforms student into independent collective learners.⁷ Moreover, the application of SRL requires self-monitored peer interaction.⁸ SRL presupposes self-evaluation and self-motivation since it is based on an individual's attitudes as well as liabilities. Perspectives related to SRL have been assessed among distance learning trainees, revealing that SRL might potentially improve goal-setting, time-management abilities, and autonomous control and effort-regulation capacities. SRL is applicable for trainees in higher instructional institutions, as their inspiration and self-regulation are greater than those of younger pupils.⁹

Nursing is a demanding profession that prioritizes patient needs. Modern nursing practice is a multidimensional profession with various responsibilities as well as complex systems of accountability. Contemporary nurses are expected to not just provide treatment but also secure individual's rights, generate research, lead healthcare provision, and create significant partnerships with individuals.^{10,11} The four main perspectives concerning professional nursing methodologies include a focus on patient-oriented treatment, advocacy for patients' legal rights, monitoring ethical issues of clinical institutions, and showing leadership in healthcare provision.

Nursing focuses on the provision of high-quality, patient-centered care. Patient-centered care needs to account for various factors affecting the client, including hospitalization, diagnosis, care, and communication with family members.^{12,13} Leadership in healthcare provision requires registered nurses (RNs) to ensure that individuals have positive experiences through the healthcare system, evidence-based modifications are made to organizational policies, and healthcare facilities are maintained for meeting high standards.^{14,15}

Online education has also experienced major challenges, including the unequal distribution of IT infrastructure, digital divide, digital illiteracy, and technology cost for schools and students.¹⁶ Existing technical issues could be easily solved by adding infrastructure and installing new hardware; nevertheless, access to real-life clinical experiences remains a relevant issue for nursing schools. Some medical educational institutions have adopted clinical immersion and in-classroom clinical practice with a lower density of learners; however, this solution remains problematic. Usually, clinical immersion through online modalities is implemented via virtual simulations of either real-life cases or content developed specifically for students.¹⁷ For instance, a randomized controlled trial strongly posited that incorporating high fidelity simulation as a supplemental component of hands-on training can enhance nursing students' clinical performance.¹⁸ Nevertheless, the delivery of such educational programs requires significant improvement. Educators need to adequately deliver information, develop students' clinical skills, and aid knowledge retention.¹⁹ Similarly, a study evaluated interdisciplinary clinical immersion simulation, finding improvements in interdisciplinary knowledge and skills.²⁰

Furthermore, the students were more motivated and satisfied to learn through simulations as opposed to receiving information through lectures. However, the study did not compare the simulation to real-life experiences of clinical immersion, in which nurses interact with real patients and observe the work of experienced nurses. Simultaneously, the study determined that simulated clinical immersion increased cognitive load and stress levels among nursing students as compared to real-life clinical experience where the students were more focused on clinical reasoning. Thus, some simulations could be relatively demanding and stressful for students, which could be explained by the need to maintain a high level of digital literacy and ensure a prompt reaction to the simulated environment and adaptation to the virtual space.²¹

Teachers and students using simulations and other online immersion experiences require a high level of digital literacy and knowledge regarding the specific program used during the learning experience. Students emphasize the importance of pre-briefing activities, in which they learn what the clinical immersion simulation entails, how it works, and how they can use it on their own. Overall, such simulations allow students to study in safe environments without medical errors and teach them how to address emergencies.²² Visual demonstrations equivalent to those of virtual environments are impossible in real-life clinical settings. Accordingly, simulations of clinical immersion could potentially expand the hands-on knowledge of nursing students. Other studies have highlighted the same advantages of virtual simulations; such simulations help students training to be nurses in the future understand what could occur when a healthcare provider makes a fatal error.^{17,20} A simulated clinical environment is beneficial for nurses who cannot currently access real-life clinical experiences. Nevertheless, nursing schools must be prepared to implement virtual simulation programs and prepare students and educators regarding their use. Researchers remind that the WHO determined that the pandemic posed a contemporary threat to the whole of humanity and considered the crisis-response migration methods provided by educational institutions, with few scholars to none having imagined that this situation was a possibility in this era or anticipated that this can happen to humanity.²³

Another paper considered the negative sides of e-learning and, based on learner's responses, reported that, in contrast to professors, students are not satisfied with online learning; however, the paper indicates the neutral or positive attitudes of students toward the same.²⁴ Implementation of new technologies could require additional investment, training, and preparation. However, it is unclear how programs are to be implemented amid the shortage of educators. For example, in Canada, all nursing colleges decided to remove students from classrooms and clinical programs to prevent the spread of COVID-19. At the same time, nursing schools encountered a serious problem as most faculty were called to hospitals to assist with patient care.²⁵ The COVID-19 situation remains unstable and unpredictable as of today.

Therefore, this study sought to determine nursing educators' and students' perspectives concerning the shift of teaching methodologies to online learning platform in nursing education during the COVID-19 pandemic.

Materials and Methods

Design

This study used a cross-sectional design to obtain answers that describe the current situation regarding online teaching amid the COVID-19 pandemic. The study design permitted familiarization with the general situational details as it made few assumptions; the results may help determine whether future studies are feasible.

Sample

Of 150 educators and 500 students contacted through e-mail or social media, 470 individuals consented to participate, namely, 120 nursing educators and 350 students from five colleges and universities in Saudi Arabia. The researcher made sure that the response rate is not less than 10% from the total population of educators and students respectively. However, all the responses received by the researchers have been included in the study to provide more accurate mean values. The study was conducted online owing to the ongoing pandemic. All respondents had experience of either teaching or learning from nursing courses through remote mechanisms prior to and during the COVID-19 pandemic.

Instruments and Procedure

We adopted a modified version of the Test of e-Learning Related Attitudes (TeLRA) Scale, developed by Kisanga and Ireson. The scale is composed of 36-items questions with 4 dimensions including challenges of e-learning (12 items), benefits of e-learning (9 items), attitude on using computer system (6 items) and interest on e-learning innovations and use of computers (9 items). The tool underwent minor modifications upon the author's approval particularly on the terminologies used to suit the teachers and students' perspectives on online learning. The modified questionnaire underwent pilot study for reliability and consistency in a pre-test with 20 educators and 25 students who were not part of the main survey (coefficients of 0.8234 and 0.8454, respectively). The modifications in the instrument were made in the items under challenges and benefits dimensions (rewording only) to suit the current background of the respondents.

Data Collection and Analysis

The data collection was conducted from November to December 2020 in five selected colleges and universities in Saudi Arabia that used pure online teaching during the peak of the COVID 19 pandemic. The data collection was conducted online using a google form that consisted of the consent and questionnaire together, due to the restrictions and health protocols implemented in the Saudi Arabia. The consent was required to be filled up by the respondents as an agreement that they are voluntarily participating in the study. Of the 500 potential participants (150 educators and 350 college and university students) who were sent the forms through the link and followed up with through email and their social media accounts, the researchers received a total of 470 responses (120 educators and 350 students). The quantitative data were assessed using statistical software IBM SPSS Statistics 20. Data were summarized using descriptive statistics (eg, frequency, percentage and means) and *t*-tests were used to determine the statistical significance of differences. Before the analysis, all responses were coded as 1= Strongly disagree, 2 = Disagree, 3 = Agree and 4 = Strongly agree for positive worded items. Afterwards, responses were reversed coded as 1= Strongly agree, 2 = Agree, 3 = Disagree and 4 = Strongly disagree for all negative worded items, then the mean was calculated. The responses of both students and educators were calculated separately according to the 4 dimensions of TeLRA scale and their responses were compared. This is to assess the differences between the perspectives of both users (educators and students) of online platform in teaching and learning.

Ethical Considerations

Ethical approval [159/IRB/2021] for this study was obtained from the institutional review board of [the name of the institution was blinded for review]. Participation was voluntary and anonymous. All respondents were given an explanation about the study and informed about their right to withdraw at will, after which they provided written informed consent.

Results

The survey investigated the perspectives of nursing educators and students concerning online learning for teaching nursing courses during the COVID-19 pandemic according to the following dimensions: challenges, benefits, attitude, and interest.

Table 1 shows the demographic information of the 120 educators; 31.66% were males and 68.34% were females. Their teaching experience was spread as 1–5 years (20.83%), 6–10 years (63.3%), 11–15 years (13.33%), and more than 16 years (2.54%). Among the students, 12.85% were males and 87.15% were females. The year level were spread as first-year (22.83%), second year (53.43%), third year (3.43%), and fourth-year (20.29%) (see Table 1).

Table 2 shows the perspectives of nursing educators and students on online learning in nursing education according to the 4 dimensions: challenges, benefits, attitude, and interest. The nursing educators reported a mean score of 4.29 with a SD of 0.44 on challenges, a mean score of 4.21 with a SD of 0.86 on benefits, a mean score of 4.09 with a SD of 0.50, and a mean score of 4.12 with a SD of 0.50 on interest. Moreover, the overall mean score of nursing educators' perspective was 4.18 with a SD of 0.57. Additionally, the students reported a mean of 4.03 with a SD of 0.83 on challenges, a mean of 4.38 with a SD of 0.66 on benefits, a mean score of 4.21 with a SD of 0.50, and a mean score of 4.27 with a SD of 0.43 on interest. Furthermore, the overall mean score of students' perspectives was 4.22 with a SD of 0.61 (see Table 2).

Table 1 Demographic Information of Respondents

Group	Variable	Category	Frequency	Percentage
Educators	Gender	Men	38	31.66
		Women	82	68.34
	Teaching experience (years)	1–5	25	20.83
		6–10	76	63.3
		11–15	16	13.33
		16+	3	2.54
Students	Gender	Men	45	12.85
		Women	305	87.15
	Educational level (year)	First	80	22.85
		Second	187	53.43
		Third	12	3.43
		Fourth	71	20.29

Table 2 Perspectives of Nursing Educators and Students on Online Learning Mean

Dimensions	Educators		Students	
	Mean	SD	Mean	SD
Challenges	4.29	0.44	4.03	0.83
Benefits	4.21	0.86	4.38	0.66
Attitude	4.09	0.50	4.21	0.50
Interest	4.12	0.50	4.27	0.43
Overall	4.18	0.57	4.22	0.61

Table 3 shows the differences of nursing educators' and students' responses on their perspectives on online learning based on the 4 dimensions: challenges, benefits, attitude, and interest. In terms of challenges, nursing educators reported a mean score of 4.29 and the students reported a mean score of 4.03 with a mean difference of 0.26 supported by a p -value of <0.001 , which indicates a significant difference using t -test as a statistical tool. In terms of benefits, nursing educators reported a mean score of 4.21 and the students reported a mean score of 4.38 with a mean difference of -0.16 supported by a p -value of 0.046, which indicates a significant difference using t -test as a statistical tool. In terms of attitude, nursing educators reported a mean score of 4.09 and the students reported a mean score of 4.21 with a mean difference of -0.11 supported by a p -value of 0.313, which indicates that there is no significant difference using t -test as a statistical tool. In terms of interest, nursing educators reported a mean score of 4.12 and the students reported a mean score of 4.27 with a mean difference of -0.14 supported by a p -value of 0.088, which indicates that there is no significant difference using t -test as a statistical tool (see Table 3).

Discussion

The study investigated the perspectives of both the educators and students of nursing colleges in Saudi Arabia pertaining to the drastic shift in the mode of learning owing to the pandemic. Different views between faculty and students were

Table 3 Comparison of Nursing Educators' and Students' Perspectives Toward TeLRA Dimensions

Dimension	Mean		Mean Difference	p ^a
	Educators	Students		
Challenges	4.29	4.03	0.26	<0.001
Benefits	4.21	4.38	-0.16	0.046
Attitude	4.09	4.21	-0.11	0.313
Interest	4.12	4.27	-0.14	0.088

Note: ^ap < 0.05.

Abbreviations: SRL, self-regulated learning; RNs, registered nurses; HFS, high fidelity simulation; TeLRA, Test of e-Learning Related Attitudes; LMS, Learning Management Systems.

obtained on the 2 dimensions of TeLRA, mainly with respect to the challenges and benefits dimensions. Educators acknowledged that there were profound challenges associated with teaching online during the COVID-19 pandemic rather than benefits; these included limitations with respect to online methodologies, poor assessment of students' understanding of topics, and communication-related issues. However, students strongly recognized the benefits of online learning compared to the challenges.

Nursing education is all about utilizing cognitive, affective, and psychomotor learning domains through structured healthcare education.^{26,27} Nurse educators have a great role to play in turning the uncertainty into opportunity by adapting to the "new normal," utilizing their expertise to prepare the next generation of nurses and nursing students to face global health challenges.²⁷

Online education is a long-term goal at most higher-education institutions but very few faculty members have sufficient training or knowledge of online pedagogy. Students are not receiving the highest quality education, and institutions are struggling with student retention and the improvement of their distance education programs.²⁸ Regardless of the clear benefits of e-learning, transitioning from traditional to e-learning is not without challenges. Time and demand for students and educators are rising, compelling sectors to develop new approaches to provide a more personalized, self-directed learning experience.²⁹ Furthermore, most studies revealed that technology use and competency were the most common challenges that students face during online classes.²

Online instructional methods have been acknowledged for a long time as an efficient tool for learning;^{30,31} however, online learning can be challenging for students because of the limited non-verbal communication.^{31,32} Other aspects, such as students' and educators' interactions, accessibility of materials, and time management, can also affect the opinions of online education participants.

Additionally, the benefits of the teaching systems used during COVID-19 should be harnessed to enable optimal learning despite the potential disadvantages of the situation, so that weaknesses inherent to online learning can be overcome.

Conclusion

Based on the results of the study, nursing educators and students show an agreement on their perspectives on online learning with regard to the attitude and interest dimensions. However, they show their disagreement with regard to the challenges and benefits dimensions. Unfortunately, the current situation regarding COVID-19 pandemic could persist for several years. But the modern technologies can partially solve current problems in nursing education. Moreover, the main advantages of online learning for educators and students included managing time efficiently, accessibility, and flexibility; disadvantages included technical difficulties, a steep learning curve, and lack of direct educator-student contact.

Data Sharing Statement

The data that support the findings of this study are available on request from the corresponding author upon reasonable request. The data are not publicly available due to privacy restrictions.

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