

IMPACT OF E-LEARNING AS A TEACHING STRATEGY IN THE NURSING EDUCATIONAL PROGRAM DURING COVID-19 PANDEMIC ON NURSING STUDENTS AND INSTRUCTORS

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ABSTRACT

Background

During this pandemic, e-learning platforms play a critical role in helping instructors, schools, and universities enable student learning during times of university and school closure. COVID-19's safety features have made online learning a valuable and practical instrument for curriculum delivery throughout the globe.

Objectives

E-influence learning's on nursing students and instructors during the COVID-19 epidemic was the focus of this research.

Methods

Descriptive research was conducted at Hawler Medical University, College of Nursing. Self-administered surveys were utilized to gather information. Due to the accuracy of the study's findings, the used questionnaire was validated. In addition, the questionnaire was trustworthy since it consistently returned the same results throughout the trial. The research included 90 nursing students and 30 faculty members. For both students and instructors, frequency and percentage were used to examine the data.

Results

The majority of students and instructors firmly agreed that they were pleased with the employment of digital technology in class. Students and instructors have traditionally found the travel costs reduced by taking online classes. However, this is not always the case. It was common knowledge among both students and instructors alike that they were pleased to work online while caring for their families.

Conclusion

This research found that E-learning, when employed as a teaching method tool in nursing education programs, significantly impacted curriculum improvement. To ensure the safety of nursing teaching staff and students during the COVID-19 pandemic, E-learning as a teaching technique is essential.

Keywords: *E-learning, COVID-19, Nursing Education, Pandemic, Teaching Strategy.*

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INTRODUCTION

All types of learning may benefit from e-learning, m-learning, or digital learning, “any sort of learning that is supported by technology or by instructional practice that effectively utilizes technology” and happens in all areas and domains of learning. Digital learning (d-learning) is an amalgamation of e-learning and digital learning (m-learning). It is becoming more commonplace to refer to d-learning instead of e-learning, which refers to ICT use in open and remote learning ⁽¹⁾.

Many universities and health care facilities have had difficulties since the COVID-19 (coronavirus disease 2019) pandemic. The human infrastructure was not prepared for such an occurrence, and educational leaders have attempted to handle the issue. The interruption in classroom instruction necessitated e-learning in medical schools. Therefore, conventional courses have been substituted by e-learning. Medical schools will be affected by these quick and broad changes in teaching and learning methods. Online learning has become a viable and practical tool for curriculum delivery because of COVID-19 safety precautions ⁽²⁾. It has been shown in the literature that online learning provides several benefits for students, including ease of access to knowledge and appropriate distribution of information. Online training helped combat the COVID-19 epidemic ⁽³⁾.

During a lockdown, colleges and universities leave their doors open to students to limit the spread of illness among students. Even though online learning is the sole option during the COVID-19 epidemic, student and instructor satisfaction is essential to a healthy and effective learning process. An assessment of educational experience, facilities, and services may be used to measure student and instructor satisfaction ⁽³⁾.

The worldwide spread of COVID-19 is triggering many public health actions. Closing schools and universities is one of the most visible social (and physical) distance measures used to restrict the spread of this deadly illness. The closing of schools has been implemented in several nations in Asia and Europe and certain United States school districts and states. As a result, students cannot interact, which lowers the number of incidents ⁽⁴⁾.

Students and instructors benefit from the widespread use of e-learning technologies during this epidemic since it enables them to study throughout times of

university and school closures. As a bonus, many of these programs are free, which may help guarantee that people can keep studying during this pandemic. Any information system’s success is directly related to its users’ use of the system. Therefore, students’ widespread use and acceptance of the e-learning system should be considered while considering e-learning during a pandemic. However, there are difficulties for both students and instructors when it comes to learning and teaching from home ⁽⁵⁾.

E-learning in a developing nation like Iraq-Kurdistan may be hindered by a lack of technical, educational, and socioeconomic resources. Previously, internet skill was not widely used in schools and colleges as it is now. Furthermore, more than half of Kurdistan’s population has an internet connection, with the majority of those people living in metropolitan areas ⁽⁶⁾. Thus, the purpose of this research was to examine the effects of E-learning on nursing students and instructors during the COVID-19 pandemic.

METHODS

The study was a quantitative descriptive study. Participants were 90 students and 30 instructors. Non-probability convenience sampling method was used for data collection. Inclusion criteria were 3rd and 4th stage of nursing and midwifery students and instructors. The exclusion criteria were 1st and 2nd stage of nursing and midwifery students because they didn’t have enough knowledge and experience about E-learning. This study was carried out in Hawler Medical University/College of Nursing. Socio-demographic data were collected using a designed questionnaire through a face-to-face interview. A research approval letter was taken from the scientific committee in Hawler Medical University/ College of Nursing, and formal consent was taken from the students and instructors before data collection. The Statistical Package for Social Science Software (SPSS version 23) was used for data processing and statistical analysis of the data by frequency and percentage.

RESULTS

In Table 1, 50% of the university instructor’s aged between 36 and 40 (56.7 %). The vast majority of participants in the research were undergraduates (98.7%). Even though almost all of the students in this age group (97.8%) were female (49.5%) (Table 3).

Some students (37.40 %) always preferred attending classes at home than school (Table 4). However, most instructors (40%) mentioned that they chose to take

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their courses from home rather than in the classroom (Table 2).

The majority of students (56 %) and instructors (80%) strongly agreed that they were pleased with using digital technology in the classroom. In addition, most students (60 %) and instructors (63%) have consistently decided that online classes save money since they don't have to drive to school (Table 2 &4).

Most students and instructors (50 %) felt delighted to participate in online classes while caring for their families (Table 2 &4).

Students (57%) and instructors (56.7%) were both stated that internet problems caused disruptions in their online classes, with the former being more often (Table 2 &4).

The majority of students (57%) and the majority of instructors (73.3%) have always believed that they have a complete understanding of the media used for online education (such as joining, recording, mute-unmute, leaving, and so forth) (Table 2 &4).

Some students (25.3%) said they always felt that they could communicate well with their instructor during the online class. Even yet, most instructors (53.3%), thought that they were able to effectively communicate with their students in an online setting (Table 2 &4).

Of the students surveyed, the majority (51.6 %) agreed that instructors should continue to provide them with notes and lecture materials even if they cannot participate in an online class. Students who were unable to attend my online class were given notices and lecture materials anyhow, according to the majority of instructors (46.7%). On the other hand, 57.1% of students said they never had any problems finishing homework or assignments following online classes since they always agreed (Table 2 &4).

Of the students surveyed, 39.6% said they were always pleased when their instructor provided comments on homework or assignments they had turned in. In addition, the majority of instructors (40 %) always stated that they observe students on projects and homework (Table 2 &4).

Almost half of the students (45.1%) displayed that they suffer from eye/headaches as a result of taking online classes. In addition, many instructors (76.7%) have mentioned that they suffer from eye/headaches due to their online courses (Table 2 &4).

Students and instructors perceived e-learning as a teaching approach in the nursing education program quite differently.

Table 1. Socio demographical characteristics of instructors.

Socio demographical characters		Frequency(n=30)	Percentage (%)
Age	25-30	1	3.3
	31-35	4	13.3
	36-40	15	50.0
	41-45	6	20.0
	46-50	3	10.0
	51-60	1	3.3
Gender	Female	13	43.3
	Male	17	56.7
Residence	Urban	27	90.0
	Rural	3	10.0
Marital state	Single	5	16.7
	Married	25	83.3
Family income	High	3	10.0
	Medium	27	90.0
	Low	0	0
Level of study	graduate	30	100.0

Table 2. Instructors knowledge about E-learning.

Statement	Never No. (%)	Always No. (%)	Sometimes No. (%)
A: Part I: Respondents' perceptions of the benefits of e-learning (Teachers)			
1. I prefer taking classes at home over going to school.	8(26.7)	12(40.0)	10(33.30)
2. It was difficult for me to deal with so many people at school, but now that I have an online class, it is much easier.	11(36.7)	13(43.3)	6(20.0)
3. I'm delighted I'm up to date on the digital technologies used in class.	2(6.7)	24(80.0)	4(13.3)
4. Online classes save me time, allowing me to do more of my other tasks.	4(13.3)	19(63.3)	7(23.3)
5. I am pleased that I can participate in an online program while also caring for my family.	7(23.3)	15(50.0)	8(26.7)
6. I save money on travel because I don't have to commute from home to college when I take an online class.	8(26.7)	19(63.3)	3(10.0)
7. Because I do not go from home to college, taking an online class reduces my risk of an accident.	5(16.7)	18(60.0))	7(23.3)
B: Part II: Respondents' activities/problems with E-learning (Teachers)			
1. I have internet access at home for online classes 2. I am bothered by	2(6.7)	20(66.7)	8(26.7)
2. Due to a power outage, I am unable to attend an online lesson.	3(10.0)	21(70.0)	6(20.0)
3. Due to an internet difficulty, I am unable to attend an online lesson.	4(13.3)	17(56.7)	9(30.0)
4. For online classes, I utilize an internet data pack.	6(20.0)	18(60.0)	6(20.0)
5. I am well-versed in the media utilized in online education (like joining, Recording, mute-unmute, leaving etc.)	4(13.3)	22(73.3)	4(13.3)
6. During online classes, I am upset by students leaving and entering in the middle of my session.	8(26.7)	15(50.0)	7(23.3)
C: Respondents' activities/problems with E-learning (Teachers)			
1. When I raise a question in between online classes, I get a response from my classmates.	6(20.0)	17(56.7)	7(23.3)
2. I keep track of attendance, and all of the students participate in the online class.	10(33.3)	11(36.7)	9(30.0)
3. Through online classes, I am able to answer my students' questions about the course.	8(26.7)	12(40.0)	10(33.3)
4. I can send alternative notes to my students if they are having trouble joining an online class.	8(26.7)	14(46.7)	8(26.7)
5. During online classes, I am able to maintain effective communication with pupils.	7(23.3)	16(53.3)	7(23.3)
6. I provide students with feedback on their assignments/ homework.	5(16.7)	12(40.0)	13(43.3)
7. Because of the online lesson, I feel like I have an eye problem/headache	6(20.0)	23(76.7)	1(3.3)

Table 3. Socio demographical characteristics of students.

Socio demographical characters		Frequency(n=90)	Percentage (%)
Age	19-24	89	97.8
	25-30	1	1.1
Gender	Female	45	49.5
	Male	45	49.5
Residence	Urban	50	54.9
	Rural	40	44.0
Marital state	Single	89	97.8
	Married	1	1.1
Family income	High	10	11.0
	Medium	72	79.1
Level of study	Undergraduate	90	98.9

Table 4. Students' knowledge about E-learning.

Statement	Never No.(%)	Always No. (%)	Sometimes No.(%)
A: Part I: Attitude of respondents towards benefits of E-learning (Students)			
1. I prefer taking classes at home over going to school.	45(49.5)	34(37.40)	11(12.1)
2. I'm delighted to be up to date on the digital technology that is used in class.	30(33.0)	51(56.0)	9(9.9)
3. Online classes save me time, allowing me to do more of my other tasks.	24(26.4)	63(69.2)	3(3.3)
4. I am pleased that I can participate in an online program while also caring for my family.	35(38.5)	50(54.9)	5(5.5)
5. I save money on transportation because I don't have to drive from home to school for online classes.	25(27.5)	60(65.9)	5(5.5)
6. Because I do not have to go from home to school for online classes, I am less likely to be involved in an accident.	33(36.3)	45(49.5)	12(13.2)
B: Part II: Problems / Activities of Respondents during E-Learning (Students)			
1. I have internet access at home for my online class.	27(29.7)	45(49.5)	18(19.8)
2. Due to a power outage, I am unable to attend my online lesson.	28(30.80)	56(61.5)	6(6.6)
3. Due to an internet outage, I am unable to attend my online lesson.	28(30.8)	57(62.6)	5(5.5)
4. I am well-versed in the media utilized in online education (like joining, Recording, mute-unmute, leaving etc.)	28(30.8)	57(62.6)	5(5.5)
5. I have no questions about the entire course (material) supplied by the teacher during the online class.	59(64.8)	22(24.2)	9(9.9)
6. In an online class, I don't feel like I'm getting the teacher's complete attention.	31(34.1)	48(52.7)	11(12.1)
C: Part III: Activities/Problems of respondents regarding E-learning (Students)			
1. During my online class, I am able to communicate effectively with my teacher.	54(59.3)	23(25.3)	13(14.3)
2. I am not interested in enrolling in my online class, even if it is not an issue for me to do so.	26(28.6)	51(56.0)	13(14.3)
3. Even if I am unable to attend my online class, I receive notes/lecture materials from the teachers.	34(37.4)	47(51.6)	9(9.9)

4.	Doing homework/assignments after an online class is not an issue for me.	33(36.3)	52(57.1)	5(5.5)
5.	I appreciate my teacher giving me feedback on my homework/assignment.	41(45.1)	36(39.6)	13(14.3)
6.	Because of my online class, I feel like I have an eye problem/headache.	35(38.5)	41(45.1)	14(15.4)
7.	I'm worried about an internet/electricity outage during my online lesson.	26(28.6)	53(58.2)	11(12.1)
8.	I am concerned because I am unable to comprehend the entire course (material) supplied by the teacher in my online class.	30(33.0)	49(53.8)	11(12.1)

DISCUSSION

The majority of students (56 %) and instructors (80 %) strongly agreed that they were pleased with using digital technology in the classroom. In Iran, similar research found that students were better able to use and implement the e-learning approach than in the current study. During the "Maternal Child Nursing Care" course, this research compared the efficiency of e-learning and face-to-face teaching approaches ⁽⁷⁾.

Many students and instructors reported that their online classes were disrupted due to internet issues in this research. The research was done in the United States, and Slovenia found that Slovenian nurses are more afraid of technology than American nurses, while American nurses had more difficulty using the internet than Slovenian nurses. Most students (57%) always agreed that they have complete knowledge of media used for online education (including joining, Recording and mute-unmuted). In contrast, most instructors (73.3%) always agreed that they have full knowledge of media used for online education (like joining, Recording, mute-unmute, leave, and so on)⁽⁸⁾.

This survey found that 25.3 % of the students always felt that they could communicate well with their online instructors. Even yet, most instructors (53.3%) thought that they could communicate with their students in an online setting effectively. Research done in Iran

found that group interactions are a critical factor in the effectiveness of online learning, corroborating the conclusion above. It is common in the electronic education environment for learners to engage with one other and with instructors ⁽⁹⁾.

In Egypt, the research found that most students were proficient in the use of the web browser, chatting, and emailing, but fewer than one third was fluent in the use of telnet. Many of those who participated in the study could use mobile and computer apps, which suggests that they have a strong grasp of both software and hardware. The study aimed to examine the effects of online, remote education on nursing students' learning ⁽¹⁰⁾.

According to this survey, both students and instructors (50 %) said they were delighted to participate in online classes while caring for their families. Research in Turkey found that E-learning was favourably affected by its flexibility in time management, learning speed, self-direction, and broadening access to knowledge. Researchers wanted to find out how e-learning affects undergraduate nursing education in the United States ⁽¹¹⁾.

A whopping 51.6% of students in the current poll said they always accepted to get notes and lecture materials from lecturers even if they couldn't participate in an online session. In addition, E-learning has been shown

to boost students' access to other learning resources in research done in Nepal. Therefore, the study's goal was to find out how nursing students felt about using e-learning in the context of COVID-19 ⁽¹²⁾.

Most of the students in this study did not believe that their instructor offered feedback on their homework/assignment throughout this research. However, according to research done in German, due to the virtual classroom's lack of physical interaction, students are more likely to seek out more regular feedback and reinforcement. Because of this, the instructors will have to spend more time online if they want to give enough assistance ⁽¹³⁾.

CONCLUSION

This study supports E-learning as a teaching strategy in nursing education programs during the COVID-19 pandemic. Also, students and instructors mentioned that E-learning encourages self-directed learning. In addition, they stated that E-learning decreases travel frequency on-campus university and save time for them.

Limitations of the Study and Recommendations

The most apparent limitation of the present study is the small sample size. Additional studies are recommended with larger sample size. Another limitation is that the geographical area consists only of the College of Nursing-Hawler Medical University,

conflict of interest

The author declared that there is no conflict of interest to this study

REFERENCES

- 1- Basak SK, Wotto M, Be'linger P. E-learning, m-learning and d-learning: conceptual definition and comparative analysis. *E-Learning and Digital Media* 2018; 15(4):191-216. DOI: 10.1177/2042753018785180.
- 2- Hayat AA, Keshavarzi MH, Zare S, Bazrafcan L, Rezaee R, Faghihi SA, Amini M, Kojur J. Challenges and opportunities from the COVID-19 pandemic in medical education: a qualitative study. *BMC Medical Education* 2021; 21 (247): 2-13. DOI:10.1186/s12909-021-02682-z
- 3- Elshami W, Taha MH, Abuzaid M, Saravanan C, Al Kawas S, Abdalla ME. Satisfaction with online learning in the new normal: a perspective of students and faculty at medical and health sciences colleges. *Medical Educational Online* 2021; 26 (1): 1-10. DOI: 10.1080/10872981.2021.1920090.

- 4- Bayham J, Fenichel EP. Impact of school closures for COVID-19 on the US health- care workforce and net mortality: a modelling study. *Lancet Public Health* 2020; 20 (5): 271-278. DOI: 1016/2468-2667(20)30082-7

- 5- Almaiah MA. Acceptance and usage of mobile information system services at the University of Jordan. *Education and Information Technologies* 2018; 23 (5): 1873-95.

- 6- Invest in the group. Plugging in: telecom and internet 2018. [updated October 2018; cited July 2021]. Available from: <https://investingroup.org/review/242/plugging-in-telecom-and-internet-kurdistan/>

- 7-Mehrdad N, Zolfaghari M, Bahrani N, Eybpoosh, S. Learning outcomes in two different teaching approaches in nursing education in Iran: E-learning versus lecture. *Acta Medica Iranica* 2011; 49(5) :297-301.

- 8-Blažun H, Mičetić-Turk D, Patricia A., Ulica Z. E-learning in nursing education – challenges and opportunities. *Stud Health Technol Inform.* 2006; 122 :387-90.

- 9-Abbaszadeh A, Sabeghi A, Borhani F, Heydari, A. A comparative study on the effect of e-learning and instructor-led methods on nurses' documentation competency. *JNMR/Summer* 2011; 16(3):235-243.

- 10- Ali KA, Khalil HM, EI-Sharkawy FM. Impact of remote online education on the learning process among nursing students. *Open Journal of Nursing* 2020; 10(9): 810-830. DOI: 10.4236/ojn.2020.109057

- 11- İlkey AO, Zeynep CO. Impacts of e-learning in nursing education: in the light of recent studies. *International Journal of Nursing and Health Sciences* 2014; 8(5):1285-1287.

- 12-Thapa P, Bhandari SL , Pathak S. Nursing students' attitude on the practice of e-learning: A cross-sectional survey amid COVID-19 in Nepal. *PLOS ONE* 2021; 16(6): 1-17. Doi:org/10.1371/journal.pone.025365.

- 13- Koch LF. The nursing educator's role in e-learning: A literature review. *Nurse Education Today* 2014; 34: 1382-1387. Doi:org/10.1016/j.nedt.2014.04.002.