Academic Staff and Nursing Students Readiness for E-learning

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Abstract: **Academic staff and students are one of the main factors when introducing university-based E-learning programs. It is important to recognize the degree of their preparation in order to be able to develop hard and successful E-learning programs. Aim: study aims to assess students and academic staff readiness for E-learning at Faculty of Nursing, Helwan University. Design: Descriptive study design. Methods: Study was carried out at Faculty of Nursing, Helwan University. Total sample was 302 nursing students, carefully chosen from all academic years and all available academic staff (40) during data collection. Data were collected through a self-administered questionnaire, concerned with E- learning Readiness. Results: There was highly statistically significant difference between academic staff and nursing students regarding to their E- learning readiness. Recommendation: Developing educational programs for students and college personnel in order to assist them to understand E-learning better, Improved internet substructures with additional computer and mobile technology resources will help students improve their level of readiness and E-learning must be introduced for every higher education organization, which seeks recognition as a university of the 21st century.**

Keywords: **Academic Staff, E-learning, Readiness, Nursing student.**

1. INTRODUCTION

The 21st century is marked by the technological imperative that has contributed to the introduction of E-learning in higher education worldwide. The growing movement towards the use of E-learning is motivated by the new political, cultural, technical and social changes that globalization, connectivity and competition bring about. In this sense the preparation of students, lecturers and technology is the most critical element of preparation. The physical limitations of education are therefore overcome, and learning is possible wherever preparation is an influential factor in the successful implementation of E-learning (**Mosadegh, Kharazi, and Bazargan, 2011**).

E-learning technology has central influence on higher education. In this age, learners can flexibly choose the most suitable method of learning according to their preferences or commitments, or both (**Al-Azawei, Parslow and Lundqvist, 2016**). As well as, introducing E-Learning in nursing program is imperative, because it permits students to study in their own time and place. Similarly, although it encourages learners to be self-directed, it also provides them with the opportunity to join online to access tools that are critical for their educational requirements (**Ling, and Moi, 2007**).

E-learning defined as any system of learning that uses network for delivery, collaboration, or simplification and disregards time limitations or geographic proximity. This technology can help both teachers and learners, the former can upload and present learning material, monitor learner behaviors, evaluate learner awareness and keep students up to date on a course. Later, learning material can be accessed anytime and anywhere, connect with peers or mentors, ask questions, and upload their work. Indeed, one can claim with confidence that E-learning will soon be a central tool in existing education systems (**Al-Azawei, Parslow, and Lundqvist, 2016**).

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Centered in E-learning instructor has developed into a student-centric approach. This also offers tremendous versatility in teaching methods, curriculum management, synchronous and asynchronous contact between teachers and students, arrangement and layout of classes, instructional initiatives, and eventually student evaluation. For this form of training the teaching method exceeds the limits of the class (**Rasouli, Rahbania, and Attaran, 2016).**

So, preparation of students and academic staff is a main aspect of influential success or failure in E-learning (**Hussein, 2010**). Therefore, due to the role of learners' requirements in the success or failure of E-learning courses, this research will initially assess the essential skills of these majors' students before implementing E-learning at universities. E-readiness means the capacity of organizations and educational shareholders (managers, key staff, teachers and students) to stake in an electronic situation (**Rasouli, Rahbania, and Attaran, 2016).**

The role of academic staff and student is significant. Consequently, preparatory work should do to incorporate these by generating conductive environment for adoption for E-learning. E-learning preparation is also necessary to ensure that users can use the technologies of the E-learning system in the best possible way. Technically speaking, preparation for E-learning is the willingness of prospecting users of E-learning to use a modern learning environment, as well as use alternative technologies (**Hashim, and Tasir, 2014).**

Significance of the study

Today's learners have experience in old-style classroom settings but do not have online learning experience circumstance. Dynamic is the requirement for students to become interested in these technical platforms. Supporting students in this is seen as helping to develop lifetime skills which they can translate to their practical application in the workplace strategies. New and advancing innovations offer curriculum designers, instructors, students and patients' tremendous chance to interact in thrilling and creative learning experiences. As with any educational intervention, care must be taken to ensure that technology 's accessibility enhances learning and is not just technology in the interests of technology. Co-operative technical approaches have been described as enriching student teaching when properly used in education. regardless of this prevalence of E-learning in both literature and instructional setting, the measure of readiness for new environment for E-learning learners, but academic staff readiness is seldom evaluated.

2. SUBJECT AND METHODS

Aim of the study

Current study aimed to assess readiness of academic staff and nursing students for E-learning at Faculty of Nursing, Helwan University.

Research design:

A descriptive design was used to carry out study.

Setting:

Study was directed at Faculty of Nursing, Helwan University. Faculty of Nursing, Helwan University was established by presidential degree 267 at year 2006, the study started in 2007. The number of studying years is four year in addition to a training year. The Faculty of Nursing contains 6 scientific departments (Adult Health Nursing, Child Health Nursing, Maternal and Newborn Health Nursing, Community health Nursing, Mental Health Nursing and Nursing administration).

Subjects:

The subjects of the present study were consisted of all available academic staff (40), and 302 nursing students selected from all academic years.

Sample size

The sample size was calculated through using MedCalc software as type 1 error was (0.05), type 11 errors (0.10), the proportion was (3.32), and so sample size will be 336.

The total sample was 336 (302+ 34) of all academic year nursing students at faculty of nursing, at Helwan University.

NB: (34) nursing students = 10% number would be excluded in pilot study.

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Tools of data collection:

This study was used one tool.

E- Learning Readiness Questionnaire: included two parts as follow:

<u>**Part 1**</u>**: Personnel characteristics:**

- Regarding student nurses: include name (optional), age, academic level, years of computer experience, past experience of E-learning

- Regarding academic staff: include name (optional), age, educational levels, years of computer experience, and past experience of E-learning

<u>**Part 2:**</u> **E- Learning Readiness Questionnaire:** developed by **(Eidson, 2009)** and **(Becker, Newton and Sawang, 2013).** It assesses the readiness of academic staff and nursing students for E-learning. It consists of 28 statement categories into four items include: personality traits and preferences (12 items), course design (7 items), work environment (4 items) and technological (5 items). Responses of items was calculated on five-point likert scale ranging from strongly agree (5) to strongly disagree (1).

Scoring system:

Total scores were calculated and classified into two levels (readiness ≥ 50% and not readiness< 50%). Studied sample readiness or not readiness was examined in studied by **(Cheon, et al., 2012)**

Ethical consideration:

Participants were informed about the aim, benefits and risks of the study. They were sure that participation in the study was voluntary. Informed consent was obtained from those who acknowledged to take share in the study. Confidentiality of collected data was sustained.

Methods of data collection:

1- An official agreement was attained from Vice Dean of Faculty of Nursing. Helwan University.

2- Tools was translated into Arabic and examined for validity by 3 experts from nursing administration department. The experts asked to answer on four-point likert scale ranging from strongly relevance = 4 to strongly not relevance = 1.

3- A pilot study was carried out on (10%) of nursing students and academic staff to test clarity and simplicity of the questions. Essential modification was done. Students who participated in pilot study were left out later from the main study sample.

4- Nursing students and academic staff recorded answers in the attendance of researcher to agree on all questions was answered. Each respondent took 5-10 minutes to finish questionnaire. It was disseminated at first semester of academic year 2017-2018.

Statistical analysis:

Collected data were organized, tabulated and statistically analyzed using SPSS software (Statistical Package for the Social Sciences, version 22, SPSS.

Studied sample readiness or not readiness was examined in studied by **Cheon et al., (2012).** For quantitative data, the range, mean and standard deviation were calculated. For qualitative data, which describe a categorical set of data by frequency, percentage of each category, comparison between two groups by use Chi-square test ($\chi 2$). For comparison between means of two groups of parametric data of independent sample t-test was used. For comparison between means of two related groups of non-parametric data. Significance was adopted at $p<0.05$ for clarification of results of tests of significance.

Reliability coefficients calculated for the questionnaires of:

➤ Staff readiness concerning E-learning, Cronbach's Alpha was 0.883.

➤ Students' readiness concerning E-learning, Cronbach's Alpha was 0.816.

3. RESULTS

Table (1): Personal characteristics of academic staff. This table illustrate   personnel characteristics of academic staff. The majority of academic staff in age group >40: ≤ 50 was 75%. The most of them was doctorate. 75% in years of computer experience > 10: ≤ 15.

Figure (1): Distribution of academic staff toward experience to usage E-learning. Figure show that 75% academic staff toward have experience to use E-learning.

Table (2): Personal characteristics of nursing students. The table illustrate that majority (33.8%) of nursing student were in fourth academic years with (84.1%) of them years of computer experience was > 5: ≤ 10.

Figure (2): Distribution of students' experience to use E-learning. Figure display that 53 % of students' have experience to use E-learning.

Table (3): Mean and standard deviations of studied sample readiness toward E- learning. The table show that regarding personality traits and performance there are statistically significant in all items of it except the items of use E-learning isn't useful, I feel confident about using the internet, Use of E-learning is stressful also, I preferred toward change learning style accustomed it. While course design there are statistically significant on the items of I prefer to have electronic content in Arabic, view the scientific material on the computer be boring , view the scientific material on the computer be perfect and it is difficult to read data viewed on the screen. Also, there statistically significant with work environment item regard to there is a feed back after finish and E-learning encourage interacting between teacher. Finally, all items of technological are statistically significant except the item of difficult in the download the programs.

Table (4): Subscale of studied sample readiness to E- learning. The table shows that there is statistically significant difference of both student and academic staff in all subscale of E-learning readiness. Also, the highest mean score regard personality traits and preferences while lowest mean score regard work environment to both academic staff and nursing student.

Table (5): Total readiness of studied sample concerning E- learning. There is highly statistically significant difference between total academic staff E- learning readiness and total student E- learning readiness. Furthermore, than half (57%) of academic staff readiness for E- learning while about more than third quarter of student 81.8% readiness for E- learning.

Table (6): Relation between total academic staff readiness toward E-learning with their personal characteristics. The current study shows there is statistically significant difference on age in addition to educational level of personal characteristic and total academic staff readiness toward E-learning.

Table (7): Relation between total students' readiness toward E-learning with their personal characteristics. The current study shows there is no statistically significance among total students' readiness and personal characteristic of all items except past years of experience is significant with more than third quarter of students in fourth year were readiness toward E-learning and also have years of computer experience between five to more than ten year.

Table (1): Personal characteristics of studied academic staff (No = 40).

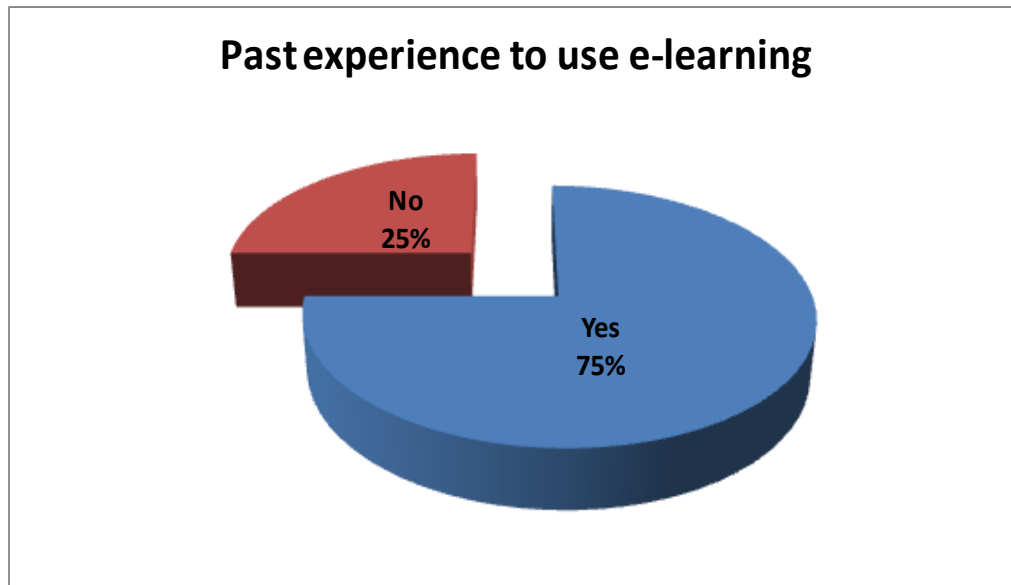| Items	No.	%
Age:		
- 30: ≤ 40	30	75
- >40: ≤ 50	4	10
- >50 -	6	15
Current job		
- Doctorate	30	75
- Assistant professor	4	10
- professor	6	15
Years of computer experience		
- 1: ≤ 5	2	5
- > 5: ≤ 10	28	20
- > 10: ≤ 15	10	75

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Figure (1): Distribution of academic staff toward past experience to use E-learning (N= 40).

Table (2): Personal characteristics of studied nursing students (No=302).

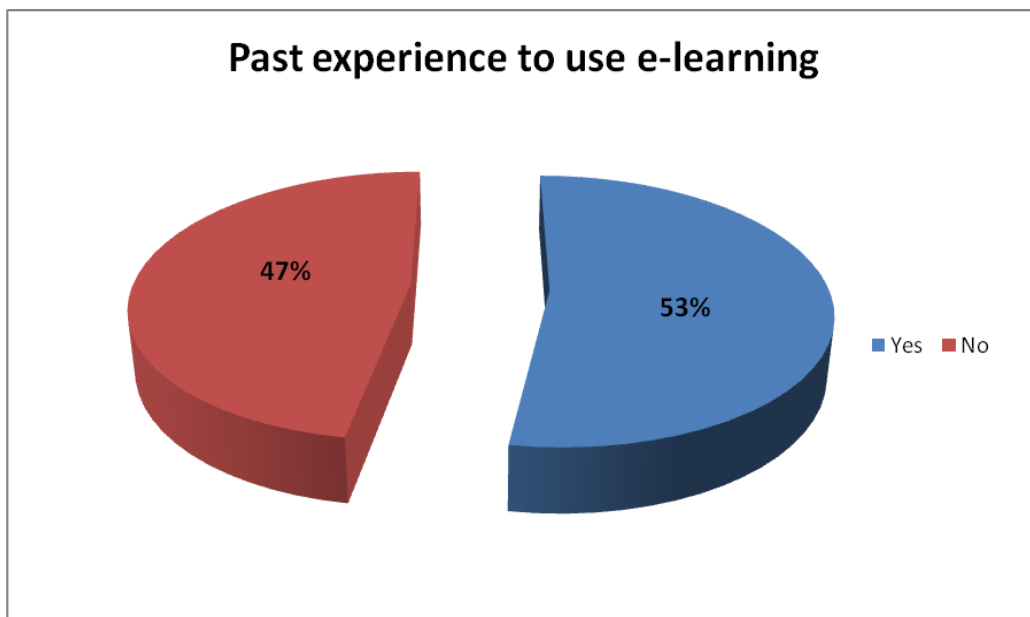| Items	No.	%
Academic year		
- First year	55	18.2
- Second year	98	32.5
- Third year	47	15.6
- Fourth year	102	33.8
Years of computer experience		
- 1: ≤ 5	48	15.9
- > 5: ≤ 10	154	84.1

Figure (2): Distribution of nursing students' past experience to use E-learning (No= 302).

Table (3): Mean and standard deviations of studied sample readiness toward E- learning.

Items	Staff (Mean±SD)	Students (Mean±SD)	Paired T-test P
Personality trait and performance			
Better talking and interacting with students.	0.37±1.005	2.02±1.891	2.130 **0.040***
Using e-learning is difficult	1.65±0.893	2.54±1.509	2.411 **0.021***
E-learning is compatible with my educational methods	2.07±0.656	2.80±1.341	2.831 **0.001***
I feel the motivation that makes me go to e-learning	2.10±0.320	2.76±1.350	2.351 **0.024***
Use e-learning isn't useful	2.05±0.389	2.20±1.076	1.718 0.094
Use of e-learning is dispersed	2.01±0.599	2.58±1.078	2.106 **0.042***
I have enough skill to use computer and internet	3.63±0.740	2.77±1.390	4.061 **0.001***
I feel confident about using the internet	2.13±0.516	2.77±1.317	1.275 0.210
I find it difficult to assess the student	3.70±0.723	2.73±1.031	7.856 **0.001***
The use of e-learning is stressful	2.28±0.554	2.44±1.168	0.363 0.719
I preferred to change learning style accustomed it	2.12±0.607	2.54±1.429	0.176 0.861
E-learning is compatible with what you have learned in school	0.70±1.203	2.69±1.156	6.00 **0.001***
Course design:			
E-learning aid in education process	2.10±0.709	2.77±1.535	0.595 0.555
I prefer to have electronic content in Arabic	0.55±0.815	2.61±1.373	7.687 **0.001***
View the scientific material on the computer be boring	2.01±0.01	2.45±1.154	2.537 **0.015***
View the scientific material on the computer be perfect	2.02±0.01	2.93±1.253	4.775 **0.001***
It is difficult to read data viewed on the screen	1.15±1.122	2.59±1.149	4.188 **0.001***
E-learning aid to use different examples	2.10±0.304	2.93±1.336	1.935 0.060
I find time to use the computer in the learning process	2.80±0.883	2.56±1.202	1.778 0.083
Work environmental:			
I am encouraged to use the computer in the educational process	2.83±0.958	2.67±1.336	0.470 0.641
The environment is compatible with e-learning	2.70±0.966	2.75±1.166	0.766 0.448
There is a feed back after finish	1.85±1.442	2.76±1.143	2.805 **0.008***
E-learning encourage to interacting between teacher and students	1.75±1.971	2.62±1.286	2.667 **0.011***
Use the net in learning process cause economic burden	2.88±0.966	2.67±1.298	1.915 0.063

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Technological:			
The computers are adequate	3.15±1099	2.70±1.156	2.532 **0.015***
The computers are bad	3.22±0.983	2.76±1.298	2.575 **0.014***
Poor the network	3.20±0.992	2.38±1.642	3.617 **0.001***
Difficult in the download the programs	3.01±1.013	2.61±1.478	1.149 0.257

***Significant (P<0.05)**

Table (4): Subscale of studied sample readiness to E- learning.

Subscale readiness items	Academic Staff (Mean±SD)	Nursing Students (Mean±SD)	T test	P value
1. Personality trait and preferences	24.700±2.74749	30.8444±7.3325	194.12 0.444	**0.001***
2. Course design	12.700±1.58842	18.8377±4.97737	87.870 0.365	**0.001***
3. Work environment	9.1250±4.24981	10.7848±3.3346	102.43 0.386	**0.001***
4. Technological	15.4250±4.27807	13.1159±4.7225	105.261 0.243	**0.001***

***Significant (P<0.05)**

Table (5): Total readiness of studied sample concerning E- learning.

Items	Total staff E- learning readiness (No=40)		Total students' E-learning readiness (No=302)	
	No.	**%**	**No.**	**%**
Total readiness:				
Not readiness (< 50%) (0 :< 14)	17	42.5	55	18.2
Readiness (50-100%) (14:< 28)	23	57.5	247	81.8
Range (0-28) Mean±SD	(0-28) 61.9500± 8.10808		(0-28) 73.9214±14.57759	
T test **P**	2.534 **0.001***			

***Significant (P<0.05)**

Table (6): Relation between total academic staff readiness with E-learning and their personal characteristics (No= 40).

Items	Total staff readiness		χ^2	P value
	Not readiness %	**Readiness %**		
Age				
- 30: ≤ 40	33.3	66.7	6.581	**0.037***
- >40: ≤ 50	100	0		
- >50 -	50	50		

Educational level			6.581	**0.037***
- Doctorate	33.3	66.7		
- Assistant professor	100	0		
- Professor	50	50		
Years of computer experience			1.681	0.432
- 1: ≤ 5	0	100		
- > 5: ≤ 10	46.4	53.6		
- > 10: ≤ 15	40	60		
Past Experience with E- Learning			0.034	0.577
- Yes	43.3	56.7		
- No	40	60		

*Significant (P<0.05)

Table (7): Relation between total nursing students' readiness toward E-learning with their personal characteristics (No= 302).

Items	Total students' readiness		χ^2	P value
	Not readiness %	Readiness %		
Academic year			3.622	0.305
- First year	21.8	78.2		
- Second year	12.2	87.8		
- Third year	19.1	80.9		
- Fourth year	18.2	81.8		
Years of computer experience			1.765	0.131
- 1: ≤ 5	25	75		
- > 5: ≤ 10	16.9	83.1		
Past Experience with E- Learning			4.423	**0.025***
- Yes	22.6	77.4		
- No	13.3	86.7		

*Significant (P<0.05)

4. DISCUSSION

Contact to high quality and rich education is a key area of every system of education. Providing quality education is one of the key goals of higher education. E-learning is an appropriate strategy to cultivate the quality of teaching-learning processes **(Rasouli, Rahbania and Attaran, 2016)**. E-learning has also received a great deal of attention from the educators and researchers. The use of E-learning in the field of education has become popular and can be expected to continue with the continued advancement of new technologies **(Becker, Newton and Sawang, 2013).**

In current study, students revealed that E-learning is compatible with their educational method and they prefer to have electronic content in Arabic. This finding supported with **Verazalic, et al (2009)** who stated that students prefer to use the traditional method and talk to their teachers instead of using Moodle, web CT or blackboard. Also, they would prefer to use E-learning in their own language. Also, with **Anderson, Wielicki and Anderson (2010)** who explored that no significant difference was found as regards to work environment and its impact on E-learning. **Pappas (2014)**, on the other hand, does not support this report, which knew five obstacles to staff adoption of technology such as time, funding, templates, infrastructure and culture / tradition.

The result of present study discovered that was statistically difference on all subscale readiness to E-learning between academic staff and nursing student. with highest mean score regard personality traits and preferences while lowest mean score regard work environment to both academic staff and student. That may be due to machine, cellular phone, internet connectivity and use in probing and conversation. Introducing computer education in the introductory and secondary

institutes can also be causative factors. To sum up, students have more experience with basic computer skills (using networks, word processing and other software applications, being able to upload and access information, with the worldwide web and email use, getting into online library and other resource repositories, expertise with online forums and other conversation applications.

This result agrees with **(Demir and Yurdugül, 2015)** that the resource support standings indicated a statistically significant influence on E-learning. Similarly, educational needs for E-learning were seen to have a statistically significant negative effect on the same factor. **Coopasami, Knight and Pete (2017)** also support present study and mentioned that a report on readiness for E-learning in Bangladesh reported that an institution organized to introduce e-learning offers a perfect environment for constant learning. In addition **(Ali, 2016)** who noticed the majority of nursing students discovered complete high score readiness for E-learning. Watching each subscale improved average score, in particular; the average score for technology acceptance was maximum. The average score on motivation was lowest. Extra, study found nursing students of various academic levels from 3rd to 8th level presented statistically indifferent standard score of readiness for E-learning while those with different preference for E-learning displayed statistically statistically different average score of readiness for E-learning. At the other hand **(Azimi, 2013)** who found that there is no substantial difference between colleges regarding their E-learning styles. However, **Qazaq (2012)** did not support the current study and found that there was no difference in the level of preparation of public and private university academic staff to apply E-learning.

The result revealed that there is highly statistically significant difference between total academic staff E- learning readiness and total student E- learning readiness. Furthermore, more than half of academic staff readiness for E- learning while about more than third quarter of student readiness for E- learning. This may be due to the main function requires for two group academic staff and students on use computer for search and study. The result agrees with **(Akaslan and Effie, 2011)** endorsing the present study and suggesting that the student is adequately ready for E-learning, the preparation for E-learning is carefully critical to enhancing the readiness of the student to learn.

In addition to **(Yilmaz, 2017)** consistent with the present study and the indicated readiness of the students for E-learning was a significant predictor of satisfaction and motivation in the flipped teaching classroom model. Also, **(Qazaq, 2012)** agree with the present study and discovered that academic staff readiness towards implementation of E-learning was high. Moreover, the current study finding was in line with the results of **(Iwata, Telloyan and Tamaki, 2011)** The survey aimed at exploring the needs of their medical and nursing students and their preparation for E-learning outcomes comes from the biggest desire of students to use computers or the internet to study their English.

According to **(Siphamandia, Dube and Ngulube, 2014)** Study focused on academics in the Information Science Department highlighting their expectations, level of readiness, and perceived self-efficiency towards E-learning interfaces. This consistent with **(Wattakiecharoen and Nilsook, 2013),** verified in their study that increase mean score of doctorate students ready for E-learning. Also, **(Rasouli, Rahbania and Attaran, 2016)** investigate the effects of the related relationship between the readiness of undergraduates, graduates and postgraduates to apply E-learning. On other hand with **(Unal, Alır and Soydal, 2017)** not support the present study and revealed that most of the faculty departments were not ready for E-learning except for the information management department. Also, **(Pingle, 2011)** who discovered that there was no substantial difference both in the preparation of higher education students for E-learning and in their attitude towards it.

The current study revealed that there is statistically significant difference on age and educational level of personal characteristic and total academic staff readiness toward E-learning. **Qazaq (2012)** did not support this study and claimed that there was no statistically significant difference generated with regard to gender, age, educational level, form of university and ranks in the application of E-learning.

Current study discovered there is no statistically significance between student and personal characteristic of all items except past years of experience is significant with more than third quarter of students in fourth year were readiness toward E-learning and also have years of computer experience between five to more than ten year. This result is consistent with **(Rasouli, Rahbania and Attaran, 2016)** that no significant association existed between the readiness of the students and their gender, university and subject. On other hand **(Pingl, 2011)** who found significant difference was seen in the readiness for E-learning based on age.

5. CONCLUSION

The findings show that highly statistically significant difference between total academic staff E- learning readiness and total student E-learning readiness. Both college personnel involved as well as nursing students are able to learn the E-. Newer coaching tools need to be introduced. E-learning is a method which can be used in undergraduate nursing education. Hence, College must therefore develop E-learning as a resource for students to extend their learning as they are able to learn about their private lives, whether they are at what age or year. Training by E-learning no longer has any difficulties.

6. RECOMMENDATION

- Developing educational programs for students and college personnel in order to assist them to understand E-learning better.

- Improved internet substructures with additional computer and mobile technology resources will help students improve their level of readiness.

- Upgrading computers in university to meet increasing desires for rapidity and efficiency in approving E-learning.

- An institution should consider developing a clearer E-learning plan that will decrease unknown status and anxiety around E-learning.

- E-learning must be introduced for every higher education organization, which seeks recognition as a university of the 21st century.

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