Implementing Online Educational Program about Head Nurse Role for Nurses Intern at Benha University Hospital

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Abstract

Background: To date, online learning has received considerable attention as a mean of providing alternatives to traditional instructor-led education and it is expected to continue to hold a major place in higher education institutions. ***The study aimed to*** determine the effectiveness of implementing an online educational program about head nurse role at Benha University Hospital. ***The included subjects*** were all available Benha Faculty nursing interns who enrolled in 2015/2016 internship year at Benha University Hospital, their number were 39. ***Four tools were used for data collection***; Knowledge, Technological skills, Attitude and Evaluation questionnaire sheets. **The study results** revealed; *firstly*, implementing the online educational program about head nurse role was effective i.e. there was a general improvement in nursing interns' knowledge about head nurse roles, technological skills, attitude toward online learning after implementing the online program, *secondly*, nursing interns had a positive attitude to online learning and *thirdly*, the highest percent of nursing–interns rated the program as "a good level" through their evaluation at post program and follow up phases. **The study recommended**, integration of online learning into teaching plans for various study stages, and conducting continuous training programs for teaching staff members about online learning design and implementation by experts in this field.

 Key words: Online learning, Head nurse role, Benha Faculty of Nursing

Introduction:

Education is a light that shows the human person the right directions for the life. It is an engine for the growth and progress of any society. The purpose of education is not just making a student literate, but adds rational thinking, knowledgeability, and self-sufficiency, but is also responsible for building human capital which breeds, drives and sets technological innovation and economic growth. In today's era, information and knowledge stand out as very important and critical input for growth and survival **(Arockia & Ruban, 2013).**

Nursing is the largest and most trusted occupation within the health care workforce and also considered to be among the most versatile jobs. It is one of the medical professions that has an important role in the health of the community. A good learning process for nursing students is needed, so that the expected result which is professional nurses would happen and public health would be achieved **(Salehi, Naji S. A. and Afghari P, 2016)**.

Nursing education concentrates principally on transmitting nursing knowledge and assisting nursing students in acquiring the necessary skills and attitudes associated with nursing practice. To meet the diverse needs of today's educational climate, nursing educators must develop an understanding of a variety of learning environments and skills in contemporary teaching strategies **(Mohamed, 2013)**.

Electronic learning (E-learning) is one of the innovative approaches to learning which challenge the traditional style of teaching and change the lecturers' work patterns. It is defined as the use of modern ICT and emerging media such as Internet, Satellite broadcast, interactive TV and so on to deliver information, instructions and learning content. It also provides new channels and approaches instead of the traditional method of teaching and learning **(Essam &Al-Ammary, 2013).**

E-learning is well documented in the IT literature, it has increasingly provided as an entirely new environment and experience of learning that goes well beyond the classrooms, curricula and text-based formats. It is a cognitive tool for learning, enabling a variety of teaching-learning approaches. The term E-learning has several synonyms as; online learning (OL), web-based learning (WBL), Internet-based training (IBT), computer-assisted learning, or internet-based learning, advanced distributed learning (ADL), web-based instruction (WBI) and open/flexible learning (OFL) **(Kala et al. 2010, Ramaya&Lee, 2012)**.

Significance of the study: Online learning has played an increasing role in higher education in the development of the internet and the world-wide web. In addition, today's educators need to embrace flexible teaching strategies to better engage students. So, it is necessary to implement an online program to fulfill the ever changing needs of students besides meeting the growing expectation of learning experience.

Aim of the study: The study aims to determine the effectiveness of implementing online educational program about head nurse role at Benha University Hospital through:

Research Questions:

1. Designing and implementing online educational program about head nurse role for nurses intern.
2. Determining the effectiveness of the designed online educational program about head nurse role on nurses intern knowledge through the program.
3. Identifying nurses intern attitude toward online learning through the program.
4. Identifying nurses intern evaluation of the online educational program about head nurse role.

Subjects & methods:

Design: Quasi experimental design was used to achieve the aims of the present study.

Setting: The current study was conducted at Benha University Hospital which included the Medical and Surgical Clinical Departments of where intern- nurses were trained.

Subjects: The subjects who participated in this study were nursing interns who were enrolled in the internship year 2015/ 2016 at the Faculty of Nursing. The total number of nurses interns was (120). Seventy five of them were excluded as transferred to other hospitals to complete their internship year .Also, four interns refused to participate. So the actual nurses interns who participated in this study were of "41". During the implementation of the course (2) nurses interns did not complete the program because of problems with their internet connections. The final subjects who participated in the study were (39 nurses interns)

Tool of data collection: four tools were used in this study:

1-Head nurse role knowledge questionnaire sheet: This sheet was developed by the researcher based on the review of the current related literature in the field **(Pillay, 2011& Rashed et al., 2015)**. The sheet was developed to assess the nurses interns' knowledge regarding head nurse role. It consisted of (31) items that covered the head nurse's roles and functions with regards to managing the work (21 items) and managing the relations (10 items). (Appendix I)

2- Technological skills questionnaire sheet: A Structured questionnaire that was developed by **(Ismail, 2014)**, it was modified and used by the researcher to define nurses- intern' technological skills for using online learning, It covered (11) items.

3- Attitude toward Online learning questionnaire sheet: A Structured questionnaire that was developed by the researcher to determine nurses interns' attitudes toward online learning, the researcher depended on what was published in the literature **(Suri1& Sharma, 2013, Wong & Fong, and Ismail, 2014)**. It covered (30 items) with regards to four dimensions; confidence (7 items), usefulness (9 items), learning motivation (6 items), and satisfaction (8 items).

4- Evaluation of the online program about head nurse role questionnaire sheet:A Structured questionnaire was developed by the researcher in order to identify nurses intern' evaluation of online educational program, the researcher depended on what was published in the literature **(International Journal for e-Learning Security 2011 Cheng, 2013, Culver, 2012)**. It consisted of 59 items based on three dimensions: the program involves (41 items) with regards to five sub-dimensions; design (7 items), content (10 items), format (7 items), presentation (9 items), usefulness (8 items), the facilitator (14 items), and Interacting with the materials and fellow students (4 items)

♦ **Implementation and evaluation phases**

Data of the current study were collected from May 2016 and continued till July 2016. The researcher held meetings with subject groups who accepted to participate in the study. The intent of the meeting was to clarify and explain the nature of the program, the aim, teaching methods, evaluation methods, and timing for sending answers of the program to ensure maximum cooperation of the participants. During the meetings, the participants were informed of the arrangements for being online and their rights to withdraw from the study at any time without the need for giving any reason. In addition, confidentiality and anonymity of the subjects were assured through coding of all data.

At first, there was an orientation (face to face) session held by the instructor at one of the training classes in Benha university hospital, the instructor presented instructional video about "how to use the course", database sheet involving subjects' phone numbers and face book accounts were made then face book group was created and all the subjects were added to it. Subjects were divided into five groups, each group includes (٨) intern- nurses. Groups were informed about the timing of the first lesson that will be synchronous (subjects and the instructor are online on the same time) and other three lessons will be a synchronous (subjects and the instructor are not online on the same time) and timing for sending lesson answers.

Intern- nurses were instructed to use the Online learning program (opening the program link, moving among lessons and topics, opening (links, quizzes, discussion forum, and chat room), sending questions and closure of the program). Care was taken to ensure that each nurse-intern can use the program. Attitude toward Online

learning and knowledge about head nurse role, technological skills questionnaires were distributed to the subjects in paper form to be completed before beginning the program. This pre-study questionnaire were designed to allow the researcher collect a base line assessment of intern-nurses' knowledge, technological skills and attitude in order to compare it with immediate and follow-up questionnaires. Intern- nurses participating in the study were observed by the researcher with assistant of one instructor from the same department.

After knowledge, attitude and technological skills questionnaires were completed, first lesson of the program was synchronous and implemented with the help of the researcher, it took five days for the five groups.While the other three lessons were a synchronous. The total program took about two weeks to complete lessons and sending the answers according to pre-determined sechdule.

 Pilot study: Pilot study was conducted in May 2016 to assess tools and the online educational program clarity and applicability. It has also served for estimating the time needed for filling the questionnaires. It was 10% of the total nursing-interns participated in the pilot study. The time needed for answering head nurse role questionnaire sheet was (10-15) minutes. The time needed for filling attitude toward Online learning, evaluation of online program and technological skills questionnaires were about 5-8 minutes. The time needed to review the online site was (30-45) minutes, respectively.

 III-Administrative design:

An official approval letter was obtained from the dean of Benha faculty of nursing to include intern nurses in the study as subjects and the director of Benha university hospital to use educational classroom for the study, after clarifying the aim of the study. Also, acceptances of the nurses-intern to participate in the study were obtained.

IV-Statistical design:

Data were verified prior to entry into the computer. The Statistical Package for Social Sciences (SPSS version 18.0) was used for that purpose, followed by data analysis and tabulation. Descriptive statistics were applied (e.g., mean, standard deviation, frequency and percentages,). (paired(t) test) was used to compare mean scores between the same sample at different study phases. (Spearman test) was used to define correlation among socio-demographic characteristics and the study sample at different study phases A significant level value was considered when $p \leq 0.05$ and A highly significant level value was considered when $p \leq 0.01$.

Results:

Table (2): Mean scores of nursing interns' knowledge regarding head nurse role throughout the program phases (N=39)

This table shows that there was improvement in mean score of nursing interns' knowledge regarding head nurse role at immediate post program implementation as compared to the pre -program phase (120.41±7.64& 76.56±19.53 respectively). However, a slight mean decline (106.51±12.48) occurred during follow-up phase. Also, the table shows that there was a highly statistical significant difference between nursing interns' total knowledge regarding head nurse role in managing the work and the relations throughout program phases (p <.001**).

Table (3): Mean scores of nursing interns' technological skills throughout the program phases (N=39)

This table shows that there was improvement in mean score of nursing interns' technological skills at immediate post program implementation phase as compared to the pre program phase(32.25±1.185&19.58±0.677 respectively). However, a slight mean decline occurred during follow-up phase (29.30±1.83). Also, this table shows that there was a high statistical significant difference between nursing interns' technological skills throughout the program phases (p ≤ 0. 001).

Table (4): Mean scores of nursing interns' attitude toward online learning throughout the program phases (N=39)

This table illustrates that there was improvement in mean scores of nursing interns' total attitude toward online learning at immediately post program implementation phase as compared to the pre-program phase (76.66±5.50& 56.33±7.01 respectively). However, a slight mean decline occurred during follow-up phase (72.05±6.977). Also, this table shows that there was a highly statistical significant difference between total score of nursing interns' attitude throughout the program phases (p ≤ 0.001).

Table (5): Mean scores of nursing interns' evaluation of the online educational program about head nurse role after implementation of the program (N= 39)

This table shows there was a slight mean decline in nursing interns' evaluation of the online educational program about head nurse role occurred during follow up phase (161.33±9.68) as compared to post immediate phase (164.33 ±9.48). With statistical significant difference (t=1.42 p=.05) throughout the two phases of the program.

Table (2): Mean scores of nursing interns' knowledge regarding head nurse role throughout the program phases (N=39)

Items of knowledge	Program phases			Paired t test(1)	(p) Value	Paired t test(2)	(p) Value
	Pre program (N=39)	Immediate post (N=39)	Follow up (N=39)				
	Mean ± SD	Mean ± SD	Mean ± SD				
Managing work	30.07±9.92	53.76±4.048	48.51±4.216	12.339	<.000**	8.911	<.000**
Managing relations	00±7.863	00±1.919	22.58±4.805	6.896	<.000**	2.642	.012
Total score	76.56±19.53	120.41±7.64	106.51±12.48	11.84	<0.001**	6.59	<0.001**

Table (3): Mean scores of nursing interns' technological skills throughout the program phases (N=39)

Item	Program phases			Paired t test(1)	(p) Value	Paired t test(2)	(p) Value
	Pre program (N=39)	Immediate post (N=39)	Follow up (N=39)				
	Mean ± SD	Mean ± SD	Mean ± SD				
Total Score	19.58±0.677	32.25±1.185	29.30±1.83	58.007	<0.001**	33.08	<0.001**

(*A statistical significant difference P≤ 0.05,**A highly statistical significant difference P ≤ 0. 001)

Paired t test (1) : between pre-program and immediate post program
Paired t test (2) : between pre-program and follow up program

Table (4): Mean scores of nursing interns' attitude toward online learning throughout the program phases (N=39)

Items	Program phases			(p) Value	Paired t test(1)	(p) Value	Paired t test(2)
	Pre program (N=39)	Immediate post (N=39)	Follow up (N=39)				
	Mean ± SD	Mean ± SD	Mean ± SD				
Confidence	12.666±3.1063	17.94±1.904	18.384±1.114	7.776	<.000**	10.112	<.000**
Usefulness	16.923±2.6792	25.15±1.77	21.692±5.356	4.601	<.000**	4.723	<.000**
Motivation	10.666±1.7371	15.58±1.816	15.205±1.688	4.676	<.000**	12.364	<.000**
Satisfaction	16.307±4.4018	18.10±1.803	17.128±1.779	2.526	.016	1.067	.293
Total Score	56.33±7.01	76.66±5.50	72.05±6.977	13.75	<0.001**	9.79	<0.001**

(* A statistical significant difference P ≤ 0.05, **A highly statistical significant difference P ≤ 0. 001)
Paired t test (1) : between pre-program and immediate post program
Paired t test (2) : between pre-program and follow up program

Table (5): Mean scores of nursing interns' evaluation of the online educational program about head nurse role after implementation of the program (N= 39)

Items	Immediate post (N=39) Mean ± SD	Follow up (N=39) Mean ± SD	Paired t test	(p) Value
Program phases				
The total	164.33 ±9.48	161.33±9.68	1.42	>.05
I.The program	110.84±7.00	114.53±5.41	2.60	0.011
A. Design	19.230±1.898	20.307±1.379	2.986	.005*
B. Content	27.33±2.286	28.7692±1.870	3.973	.000*
C. Format	16.717±1.834	17.6154±.846	2.788	.008*
D. Presentation	26.205±1.341	26.282±1.168	0.307	.760
E. Usefulness	21.359±1.966	21.564±1.095	0.582	.564
II.The facilitator	39.794 ±3.027	40.205±2.429	0.646	.522
III.Interacting with the materials and fellow students	10.666±1.3045	12 0.8462±1.42420	0.557	.581
Total score	164.33 ±9.48	161.33±9.68	1.42	.05

(* A statistical significant difference P ≤ 0.05)

Discussion: The aim of the present study was "Determining the effectiveness of implementing an online educational program about head nurse role for nursing interns at Benha University Hospital"

Nursing interns' knowledge regarding head nurse role throughout the program phases It was revealed from the study that there was improvement in nursing interns' knowledge regarding the head nurse role after implementation of the online educational program as compared to the pre program phase. In addition, there was a highly statistical significant difference among nursing interns' knowledge throughout program phases.

The result of the present study agreed with **Bigeni, Bilocca and Balzan (2012)** concluded that most trainees had acquired new knowledge through the online learning. In the same line, the study conducted by **Ünlü and Karataş, (2016)**, As a result of their study a statistically significant difference was determined with an online learning environment in terms of academic success of students. The result of the current study contradicted with **Cao and Sakchutchawan (2011)** who concluded that there is not significant differences in overall success rates between those who have taken online and traditional courses.

Nursing interns' technological skills throughout the program phases

The current study indicated that there was improvement in mean score of nursing interns' technological skills at immediate post program implementation phase as compared to the pre program phase. However, a slight mean decline occurred during

follow-up phase. In addition, the study showed that there was a highly statistical significant difference in nursing interns' technological skills throughout the program phases.The result of the current study is in the same line with the study conducted by **Tubaishat&Lansari (2011)** who showed that E-learning has improved students' technical skills. Also, the result of the current study is consistent with the study conducted by **Larson, 2011** who concluded that online learning classrooms are beneficial to students as they are building important skills needed for their professional work world.

Nursing interns' attitude toward online learning during pre, post and follow up of the online educational program

It was demonstrated from the study that there was improvement in mean scores of nursing interns' attitude in the immediate post program implementation phase as compared to the pre-program phase. In addition, there was a highly statistical significant difference among subjects' attitude throughout program phases. This result is in accordance with **Astani, Ready &Duplaga, (2010)** They reported that students who are taking online courses for the first time are more uncomfortable with the online learning system and have more negative perceptions than students who have used the system before. Therefore, when students become more comfortable with online learning, their learning experience tends to improve.

Nursing interns' evaluation of the online educational program about head nurse role after the program and in follow up phase

The result of the current study indicated that the highest percent of nursing–interns evaluated the program as "a good" through their evaluation after completing the program and at follow up phase. This may be due to the researcher keep the program simple and organized as possible, enriched it with instant discussion forum with real time feedback, various channels for communicating the instructor (Phone number, Chat room, Messenger services, E-mail) with on-time support which reassure the students and relieve any ambiguity of the program. This result is in accordance with the study by **Wong, (2012)** who concluded that students expressed a high level of satisfaction with the overall quality of the website. In the same line, **Aixia and Wang, (2011)** who concluded that the vast majority of students are satisfied with the e-learning environment.

Conclusion

The present study concluded that the online educational program about head nurse role was effective i.e. there was a general improvement in nursing interns' knowledge about head nurse role, technological skills, and attitude toward online learning after implementing the program as compared to pre-program phase, the highest percentage of nursing interns had a positive attitude toward online learning throughout program phases and the highest percentage of nursing interns evaluated the program as "a good" after implementing the program and at follow up phases.

Recommendations
In the light of the findings obtained from the present study, the following points are recommended;

Firstly: for teaching staff

- Faculty should provide continuous training programs about online learning design and implementation with assistance of experts in the field.
- Faculty should provide equipments (Example; constant high internet access… etc.) needed for effective implementation.

Secondly: for students

- Faculty should develop a system for monitoring students' complaints or problems with online courses and providing immediate help.
- Faculty should allow time for students in the daily study schedule to apply online learning

   Thirdly: for further research

- Studying factors affect nursing students' success in online learning
- Developing high quality standards for designing and implementing online programs

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