The Effectiveness of Virtual Education "Health Needs Assessment Program" on the Performance of Health Supervisory Experts

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Abstract
Background and Objectives: Health needs assessment can improve the quality of service delivery. The aim of This study was to compare the effect of Elearning and workshop training methods on the performance of experts.

Introduction

Due to advances in information technology, the use of new educational methods such as e-learning in increasing the knowledge, skills and quality and effectiveness of health care systems is undeniable. The purpose of this study was to compare the performance of virtual training and workshop training on the performance of supervising experts.

ICT(information & communication technology) has a great impact on contemporary society and can change the way we communicate and work and have fun. Education is one of the areas where ICT applications can be widely used, starting with the age of the computer , scientists have discovered the potential for economically and managerially computer-based learning, for example, electronic and digital content can be made available to a large number of learners [1].

Many scholars define e-learning as a range of online technologies used to achieve knowledge acquisition, but this definition has changed over time and today e-learning is using digital technology defines to support enhance of Teaching – learning process . It is a key term for many educational approaches, concepts, methods and technologies of digital education hosts, including online and offline computer-based digital mass training, virtual reality, virtual patients, mobile lending, gamification and training. Psychological skills [2].

Today, e-learning has evolved into three major groups:
- Basic type (online pages with evaluation) online pages with assessment
- types of interactive (using multimedia and interactive texts) use of multi-media or interactive texts advanced type (virtual worlds with avatars(
- Hitch ones like vws populated by avatars

The tools used in e-learning can be the Internet, audio and video tools, multimedia systems, CDs, animations, video conferencing; interactive telephones, etc. One of the new educational methods is multimedia or multimedia education [4].

Multimedia is the term used for content consisting of audio, animations, photographs and text is used simultaneously to convey concepts to the audience. In this program, the interaction element plays an important role, meaning that it tries to communicate with the audience simultaneously through several communication channels in order to increase productivity over other ways [5].

In this inclusive teaching method, while having five senses in learning, he will find the opportunity to practice further to reach mastery. Also in this teaching method, facilitating participation to link concepts and facilitating repetition of lessons for reuse and flexibility can

provide learners with indirect learning [6].

Encourages creativity and innovation and enables the exchange of information with other learners and individuals. Learning is far more attractive than traditional classroom instruction, and the ability to teach in retention power of the learner by using various elements such as: audio and video, short exams and interacting with learners, and others to re-emphasize targeted learning, while the learners missed a part of one item, they can refer to that and learn at the right time, and learning each section is allowation entry into the next section [8].

E-learning is an important part of training and upgrading the human resources of organizations. Learning at any time and place makes flexibility inherent in it and less costly than face-to-face training makes it attractive to organizations [10 - 9].

A multimedia environment significantly enhances the quality of co(CME) field is one of the most important areas in which e-learning and learning can play an important role. The community is undergoing extensive medical education. Learners have different learning interests and, given that continuing education practitioners have empirical backgrounds, they are the best target group for distance education using information technology and networking [11].

Tehran University of Medical Sciences Continuing Education System (http://cme.tums.ac.ir) (Provides interactive online continuing education programs to the medical community according to the needs of the medical community. Interaction in this system is merely an interaction between the learner and the learner. Learning content is e-learning in a completely independent environment, although some critics believe that individual and computer education approaches are dry and inhumane, mechanical and inhumane educational situations, and critical and spontaneous interaction between professors. And the student does not exist even among the learners themselves [12].

The United Nations and WHO have adopted e-learning as a useful tool to meet the educational needs of health care workers, especially in developing countries [14-13].

Human health as one of the pillars of sustainable development is one of the issues that is nowadays considered by the politicians and officials of different countries, especially the health care sector. Shed is the health sector.

A need assessment program is one that helps people and health care providers to better understand their needs and their communities so that they can take the actions needed to achieve the highest level of health in line with their social care plan.The importance and sensitivity of the needs assessment process increases when we consider the limited budgets allocated to the process of medical education in most countries. In this case, the issue of priorities and necessities arises, and policymakers and educational planners have to choose between Due to the lack of resources and facilities for staff training, in order to make the best use of the limited facilities, it is necessary for health staff to become familiar with the needs assessment and implement the needs assessment program in practice. Currently, the Faculty / University of Medical Sciences has stated that they are conducting a need assessment program in person and should be implemented in accordance with the national guidelines for need assessment program in all health centers and bases.

Due to the problem of lack of time and work, there is not enough opportunity to attend the workshop, so it was suggested to hold a virtual program to gradually replace the workshop method if the workshop was to be effective. different and unlimited demands [15].

Based on literature review of comparative study of virtual teaching method with face-to-face methods on knowledge and attitude of health care workers, so far, it has been reported [16, 17] but very few studies have investigated the effect of virtual method on performance [18] and based on the findings of the study, the researchers did not conduct a study on the need for performance assessment.

Therefore, due to the necessity of the needs assessment and the benefits of virtual education and considering the infrastructures available at the University of Tehran, we decided to conduct this study with the aim of comparing the effect of virtual training with in-person workshops on

the accuracy of performance of health surveillance experts.

Method
This study was an interventional, two-group experimental study with post-test. The study population consisted of all observer experts working in Islamshahr city (n = 60) who were selected by census method. The names of all the observer experts working in the centers, bases, and houses were taken from Islamshahr Health Network headquarters (one observer from each center), then randomly assigned to groups was randomly divided into two groups of thirty.

The randomization of the modules and their placement in the virtual training group and the workshop training group was done by naming the individuals by number, then the number of individuals was written on the paper and placed in a container, then randomly assigned 30 papers. The container was removed and placed in the intervention group (virtual training) and the next 30 numbers were assigned to the control group (workshop training).

In the workshop training group, the training program was conducted in two sessions for four hours in a routine and in-person training. Workshop training was held as a workshop and provided by PowerPoint presentations by staff experts. In the first session, the concept of need assessment and necessity of need assessment and in the next session was taught about the needs assessment process and how to complete forms and minutes.

In the virtual education group, the virtual educational content was implemented in the university continuing education system, so that the electronic content of the health needs assessment program in the continuing education system was posted to the address http://cme.tums.ac.ir. Students enrolled in the program participated in the program so that students were able to log in and study the program every hour of the day after connecting to the Internet and entering a user ID and password.

Developing a Community Health Needs Assessment Program in the continuing education site had 5 main parts that initially provided an educational scenario that included the following sections:

• **Study guide**
In this part of the program the audience is introduced to the program and how to present it. The study guide included the title, target community, and cost, authors' names and specifications, program goals, and brief introduction to the program .

• **B: Electronic Content**
After the introductory explanation, the two electronic content were taught as multimedia content in the field of health needs assessment, the educational content was the same as the content taught in the workshop. It was prepared by two senior experts of the Department of Health Education and Health Promotion Unit and according to the authoritative books and educational pamphlets of the Ministry of Health in the form of story line. In the first part of the content, in accordance with Meyer's principles of multimedia preparation before entering the main content, first the key concepts and learning objectives for acquaintance with the needs assessment topic are explained. In the second part, the stages of implementation of the needs assessment program at different levels of the network and how to complete the forms and instructions in audio and video (electronic content) were taught.

• **Interactive part of the program**
The questions were designed in a four-way format. Inter-program questions were designed according to the goals of the program and the key points contained therein. In fact, the learners achieved the educational goals by reading the interactive questions and answering them and receiving immediate feedback and explanation as to why the answers were correct. At the end of each question, a summary of the content was provided and feedback, the font used was of the appropriate type and size, and the content was edited and grammatically correct.

• **End-of-question questions**

The number of terminative questions was considered 15. It was necessary for learners to answer 70% of questions correctly for getting the passing certificate. Standards of examination designing were used for design the exam and the exam was not just in four-choice format and other forms like true and false were applied for examination design too. The final exam was comprehensively designed according to career goals.

• **Program Evaluation**

At the end of the training program, program evaluation was incorporated by the site administrator, the results of which were reported to the program authors at intervals.

Educational content was evaluated qualitatively in terms of content validity by three senior experts of university health education and promotion unit. The scenario of layout of electronic content and interactive questions in the content was revisited and finally formulated and organized. The instrument used in this study was a performance observation checklist and how to collect the interview and view documentation available by the researcher. The checklist was a two-part researcher-made performance checklist. The first section included demographic information on age, sex, marital status, and employment status, area ofservice and work experience, and number of non-attendees and the second part had there were 23 questions about specific goals and research variables. The questions in this section were prepared in accordance with the Executive Order of the Ministry of Health's Health

Needs Assessment Forms, including questions on forming a 4-question Health Needs Assessment Team, identifying a list of problems, and prioritizing them in the Headquarters Team, the Authorities Team, and

Local trustees and the health team had 3 questions, 8 health questions prioritized and prioritized, and 23 experts rated the performance of the 23-item performance checklist.

The action has not been completed (Score 0), the expert observer verbally states that he has taken the action but there is no evidence (Score 1), the action taken and the documentation available but not complete. Score 2 (Documentation is also complete and pending) Score 3(

Eventually the score was calculated as a hundred. , In which the individual score was divided by the total number of questions multiplied by 100, describing 50-50% poor performance, 50-75% average performance, and over 75% favorable performance. The validity of the checklist was confirmed by ten professors and experts of Tehran University of Medical Sciences. The reliability of the tool was confirmed by Cronbach's alpha of 93%.

Two months after the training to evaluate the effect of intervention and the effect of this training on the performance of supervised experts by performance checklist, performance of both groups was compared and compared. In this way, the researcher, by using a checklist in person and viewing the documentation, verifies the overall performance of the supervising experts in the different areas of prioritizing and identifying problems and forming a needs assessment team and submitting the form to higher levels and intervening in resolving the problems in each covered area. Two groups were examined.

Results

In this study 60 supervisory experts in both groups were randomly assigned to workshop and virtual education with written informed consent. There was no significant difference between the two groups in this regard. Demographic information is provided in Table 1.

Majority of the units under study Virtual education (53.3%) and in-person workshop (60.0%) were in the age range of 25-35 years and in terms of mean age, the two groups were almost similar (virtual education = 46.35 and workshop education = 31.63) and chi-square test. (p = 0.95) also did not show significant difference in age grouping in two groups.

The majority of research units in the Workplace Training and Virtual Training Department have formal employment experience of less than 20 years and previous in-service training. The results of the chi-square test show that there is a discrepancy between the two groups. There is no

meaning. There was no statistically significant difference between the scores of the total performance checklist of experts in the two groups of virtual education and workshop education (p = 0.08). The mean scores of the accuracy of the two groups in the form of the Needs Assessment Team are 8.33±3.40 and 6.97±2.97 in the fields of virtual training and workshop training respectively. The squared K does not show significant differences in the field of the health demands and their prioritize (p=0.06 and x2=10.2), and also in the field of determination the factors affecting on problems which have more priority (p=0.28 and x2=10.86) (Table2).

Teble1. Demographic information of two groups of virtual education and workshop education

Group	Properties	Workshop		Virtual	
		Number	Percent	Number	Percent
Gender	25-35	18	60	16	53.3
	36-40	4	13.3	5	16.7
	41-45	6	20.0	7	23.3
	Over 46	2	6.7	2	6.7
Work experience	Under 20	28	93.3	23	76.7
	Over 20	2	6.7	7	23.3
Marital status	Married	20	66.7	27	90.0
	Single	10	33.3	3	10.0
Virtual in-service training	Yes	16	53.3	18	60.0
	No	14	46.7	22	40.0
Job status	Governmental	14	43.3	17	56.7
	service commitment	3	10.0	2	6.7
	K coefficient	6	20.0	5	16.7
	Other	8	26.7	6	20.0

Teble2. Comparison of accuracy of total performance of supervisor experts in the field of assessment program for two groups (total performance)

Total Performance	Workshop education (In-Person)	Virtual education	Statistical test (t)	sig
1. Forming a Needs Assessment Team	6.96	8.23	1.66	0.102
2. Implementation of training programs	15.3	16.43	4.64	0.105
3. Determine health needs and prioritize them	13.96	16.53	1.63	0.108
4. Identify the effective factors in prioritizing problems	4.56	4.76	0.26	0.79
5. Interact with the city health center	1.77	1.90	0.41	0.68
6. Attracting public participation	2.53	2.93	2.83	0.006
Total performance (sum), mean and standard deviation	40.46±12.97	52.76±33.15	1.73	0.08

Discussion and conclusion

The findings of the present study showed that electronic intervention using continuous education system on the performance of experts and centers and health centers of Islamshahr was as effective as workshop education. The results showed that there was no significant difference between the scores of the two groups of e-learning and workshop education.

This is consistent with the findings of Mari Lahti and colleagues in 2014 on the study of the impact of e-learning on nursing students' knowledge and skills and satisfaction. They performed on the knowledge, skills and satisfaction of nursing students and students .

All of the RCT studies examined the effectiveness of e-learning and the distinction between traditional learning practices among nurses. They conducted 11 randomized controlled trials

(RCTs) on 2491 nurses and concluded that there was no statistically significant difference between traditional learning and learning groups regarding the knowledge and skills of nursing students (p = 0.13, MD 0.03, 95 % CI −0.09 to 0.69) However, this study recommends e-learning as an alternative to traditional teaching [16].

Also, the results of a study by Jalil Kouhpiezadeh et al. Showed a comparison of two methods of traditional and virtual education in learning the course "Understanding Dental Supplies and Equipment" of Dental Students of Shahid Beheshti University of Medical Sciences in 2015, although The final awareness scores were higher in the traditional group students than in the virtual group, but this difference was not significant (p = 0.177). The mean of the virtual group showed no significant difference in the performance measures scores of 05.8 with the mean of 02.8 [17].

On the other hand, according to the studies of Mohsen Aminzadeh and his colleagues regarding the comparison of two methods of traditional and virtual education in the functional skills of paramedical technicians, it can be said that although e-learning increases awareness but does not affect performance improvement, so the increase Information does not necessarily lead to improved performance, and this training can be used as a supplement to traditional training in clinical skills training [18].

Obviously, manual skills cannot be taught with eLearning alone, but performance skills based solely on theoretical knowledge, such as those considered in this study, show that similar to in-person and workshop training, eLearning can be improved. It can be a good alternative to in-person training. Researcher's experience of implementing such programs, which are newly communicated to the health system, shows that employees are usually confused prior to training, and because they do not have enough information about the program, they are not performing well enough to get things done Therefore, to achieve a better performance, training is needed. If the training be targeted and accompanied with planning, it can help to increase staff's businesses skills and it makes them ready to accept more duties. Thus, in the field of need assessment, it was also necessary for practitioners to provide the needs of the staff more easily by conducting workshops and seminars and other in-service training programs. In fact, the skill and performance after training will be increased both. So the researcher considers the benefits of virtual education such as learning more than traditional education, avoiding time wastage and reducing the cost of absenteeism, providing sufficient opportunity to study, facilitating and accelerating the educational process, Review curricula and be inclusive, This method of education and health promotion training to the Department of Health recommended.

In this study, designing and formulating virtual health needs assessment program in the form of multimedia interactive content and interactive questions and answers done on university continuing education system: http://cme.tums.ac.ir. Interaction with this system is simply the interaction between the learner and the e-learning content, and the learner has the power to control his or her own learning environment in which learners can enter anytime and anywhere they wish after entering their username and password. Internet access to content will be achieved by studying interactive topic questions and answering them and receiving feedback on answers to educational goals.

One of the important benefits (…advantage) of e-learning is that learners have control over the content, learning setting, sequential learning, time and the ability to choose different and appropriate learning styles. [19,20] E-learning improves the quality of access to educational materials through access to important e-learning resources created. Another benefit is that e-learning technologies are being revised and updated, and e-learning materials are being updated more easily and faster than print materials [21]. e-learning also creates new learning environments and is a method that creates more opportunities for learners and their activities [22].

In fact, the majority of participants are able to use this training program without worrying about leaving work, making the most of their time, stressing the costs of accessing and accessing

resources and content at the desired time, repeatedly using resources and content, and applying the method. Interaction in scenario design and the use of multimedia content highlighted the major benefits of this study ,and the lack of interaction between learner and trainer and the emergence of technology disruption, including disconnecting the Internet and viruses, were the disadvantages of this type of training.

In general, the program consisted of 4 domains and the validity of the needs of experts in the field of needs assessment (forming a needs assessment team, determining health needs and prioritizing them, identifying the effective factors in prioritizing problems and overall performance).

In the first part, "Performance Monitoring Experts in Post-Training Needs Assessment team training in two Groups of Workshop Training and Virtual training" was reviewed. In fact, in the study of Malek Afzali & co, community participation and stakeholder participation in effective need assessment have been identified [23].

The findings of this table show that the performance of experts in the field of need assessment teams in the field of need assessment team after training intervention is the same in both groups. The significance level of the questions was greater than the significance level of 0.05 which was not statistically significant between the two groups. All media were individually accessible and downloadable in this program, the visual and aural elements adhered to Mayer's multimedia principles, as well as these elements were tailored to the content objectives and the cognitive level of the learner.

The colors used in the images and text were proportional to the background and appealing, and could not attract the general interest, nor did they require special expertise or other software to run the content.

In the second part of the study, "the accuracy of supervisors' performance in determining health needs and their prioritization after training in both groups" was investigated.

In this section, prioritizing the health needs of the three local authorities, trustees, and health teams based on the instructions. The findings of this table show that the level of significance obtained in Questions 6,7 and 8 (Frequency Listing Questions). List of Health Needs in Headaches Team ($p = 0.02$), Priority Rating in Local Government and Headaches Team ($p = 0.03$, and Final Priority Calculation ($p = 0.04$) is lower than the significance level of 0.05, in these questions people's opinions and priorities The final ranking has been taken into consideration Since people in their community are struggling, so this facility is designed to provide planners with a better environmental level. In fact, health education is successful when it is based on facts and needs. Collecting various resources In this regard, it can be said that the performance of the experts in the e-learning department seemed to be better than that in the continuing education system of the University of Tehran, a needs assessment program was designed according to the opinions of the staff and their job needs, The title of the lesson was perfectly consistent with the content and objectives, the final designed environment was user-friendly and could interact with the audience, and the user could take notes on the lesson while reading, the content could motivate and motivate the learner. It was organized in a logical way, as well as examples of raw form, tables, and visual elements were used.

On the other hand, in this type of learning, according to the theory of active processing assumption & Meaningful learning, the learner is responsible for their own learning and is independent, Badie & co. In their study conclude that since the learner is actively engaged in Information processing deals this method enhances learning and preserves learners' knowledge in an interactive learning process through learning that integrates previous knowledge with new knowledge to deepen learners [24]. And it is better able to pass on this knowledge to others.

The third section examines the accuracy of the performance of experts in identifying the effective factors in prioritizing problems. The findings of this table show that the performance of experts in the two groups of virtual education and workshop education is the same; the behavioral

and non-behavioral risk factors are the same. This program is based on a study conducted in 2010 and prioritized problems based on criteria such as: magnitude, urgency of the problem, cost savings, persistence and the ultimate impact on health. The final score for each problem was the sum of the problem scores on each criterion multiplied by weight Benchmark was obtained [15].

In the fourth section, "Percentage of total performance accuracy in the field of need assessment" is observed that in the total performance score in the workshop training group was 40.46 12 12.97 and in the virtual training group 52.76 33 33.15 greater than the significance level of 05 The difference between the mean scores of total performance in workshop and virtual groups is not significant and the results are the same for both groups. To improve learning in virtual education, programmers should use learner-centered approaches to design multimedia applications because technology-based approaches do not improve learning.

In the workshop learning method, learners also actively participate in learning. Lecture as one of the traditional methods while having educational benefits also has disadvantages It should be acknowledged that although the method of implementation is easy to implement, it has cost effective long history in the educational system but as a The teacher-centered approach will result in low fatigue and dependency on time and place and inactivation of learners' fatigue [25].

As Internet use is widespread in today's world, e-learning as a flexible, inclusive method enables access to educational content and materials at any time and place, but as more people become involved in virtual education. Being able to attend training courses Using virtual training methods is a priority.

Therefore, considering the results of the present study and the efficiency of the health transformation system and considering the wide range of virtual education, it is necessary for the medical universities and authorities to decide and use different methods of e-learning.

Finally, the shift from face-to-face training to the e-learning environment requires planning, design, and time-consuming implementation support for e-content production and teacher training and staff engagement.

References
[1] Learning and ICT in Education Technological, Pedagogical and Instructional Perspectives. Panagiotis Politis Department of Primary Education University of Thessaly Volos, Greece Springer Science Business Media New York 2014
[2] Car J, Carlstadt-Duke J, Tudor Car L, Posadzki P, Whiting P, Zary N, et al. Digital education for health professions: methods for overarching evidence syntheses. J Med Internet Res 2019:2018 (forthcoming). [doe: 10.2196/preprints.12913]
[3] Research methods, pedagogy engaging, psychology students in research methods and statistics, edited by Lynne D Roberts; published in: frontiers in psychology 2016-Article 339 page 21
[4] Islami K, Koti L, Nouri A. Various methods of virtual medical education used in Iran and their effectiveness, review: 2016.
[5] Mishra, Sanjaya and Sharma, Ramesh C. Interactive multimedia in education and training. Idea Group Publishing. 2005.
[6] Ahdaparast, Hakimeh, Baghmalaei M, Mahbab, Pour R, Sadeghi. Comparison of the effect of teaching irregular heart training in two methods of lecturing and multimedia software on the permanence of nursing students' knowledge. Scientific-Research Quarterly Journal of Jundishapur Education Development. 2015; 6 (2): 115- 21.
[7] Ali Nejad M. The process of research in the field of e-learning in Iran with a meta-analysis approach. Scientific-Research Quarterly, Research in School and Virtual Learning. 2014; 1 (3): 28-19
[8] Shah Beigi F, Nazari S: Virtual Education: Benefits and Limitations: Yazd Medical Sciences Education Studies and Development Center, Volume 6, Issue 1 (Winter 2012) 47-54 No. 1.

[9] Atack L. Web-based continuing education for registered nurses: clinical application and learners' experiences. [Unpublished].

[10] Johnson SD, Aragon SR. An instructional strategy framework for online learning environments. New Direct Adult Continue Edu. 2003; 10:31-44.

[11]   NaderiFar.m , GHaljaei. F, Jalalodini.A, Rezaie.N: Challenges of E-learning in Medical Sciences: A Review Article. Quarterly Journal of Journal of Medical Education Development university of zahedan . Volume 9, Issue 23 (2016) , 102-111

[12] Hashemikamangar SS, Yazdanpanah F, Mirzaii M, Yazdani R, Karazifard MJ, Yasini E. Efficacy of E-Learning via the Website of Tehran University of Medical Sciences for Diagnosing Tooth Discolorations and Treatment Planning by Senior Dental Students. Acta Medica Iranica. 2016 Sep 17;54(8):536-41

[13] Al-Shorbaji N, Atun R, Car J, Majeed A, Wheeler E (ads). E-learning for undergraduate health professional education - a systematic review informing a radical transformation of health workforce development. World Health Organization, Geneva, 2015. Available from: http:// whoeducationguidelines.org/ content/e-learning-report. Accessed June 18, 2016.

[14] George PP, Papachristou N, Belisario JM, Wang W, Wark PA, Cotic Z, et al. Online e-learning for undergraduates in health professions: A systematic review of the impact on knowledge, skills, attitudes and satisfaction. J Glob Health. 2014; 4:10406.

[15] Tavakoli ... [and others]: Under the supervision of Ali Akbar Sayari ... [and others], Community Health Needs Assessment Program: Executive Procedure / Order of the Ministry of Health and Medical Education, Office of Health Education.

[16] Lahti M, Hätönen H, Välimäki M. Impact of e-learning on nurses' and student nurses knowledge, skills, and satisfaction: a systematic review and meta-analysis. International journal of nursing studies. 2014;51(1):136-49.

[17] Kuhpayehzadeh.J,Khoshnevisan.M, Beyranland. A.Comparison of the two Virtual and Traditional teaching methods in learning the course of the "Introduction to Dental equipment and their maintenance" for the students of the PhD General dentistry at Shahid Beheshti University of Medical Sciences. Razi Journal of Medical Sciences
Iran University ,Volume 23, Issue 143 (5-2016)

[18] Aminizadeh .M. Investigation and comparison of two methods of virtual and traditional education in performance skills of paramedical technologies in pre-hospital emergency: Journal of Medical Education Studies and Development Center 2018.: Volume 12, Number 2, pp. 398-388,

[19] Hassanzadeh A, Kanaani F, Elahi SH. Amodel for measuring e-learning systems success in universities. Expert systems with Applications, 2012:39(12):10959-10966.

[20] Shih-Wei Chou & Chien-Hung Liu, Learning effectiveness in a Web-based virtual learning environment: a learner control perspective. Journal of Computer Assisted Learning.2005: 21(1):65–76.

[21] Zehry Kh, Halder N, Theodosiou L, E-learning in medical education in the United Kingdom. Social and Behavioral Sciences. 2011: (15): 3163-3167.

[22] Khalifeh G, Razavi SA. Quality assurance and evaluation in electronic learning using the importance-performance analysis model. Media. 2012; 3(1):41-50. [Persian]

[23] Malek Afzali.H, Bahreyni.F.A.S., Alaaldini. F, Forouzan. A.S. Health System Priorities Based on Needs Assessment & Stakeholders Participation In I.R. IRAN. Hakim Research Journal . Spring 2007 , Volume 10 , Number 1; Page(s) 13 To 19.

[24] Badiei M, Gharib M, Zolfaghari M, Mojtahedzadeh R. Comparing nurses' knowledge retention following electronic continuous education and educational booklet: a controlled trial study. Medical journal of the Islamic Republic of Iran. 2016; 30:364.

[25] Mohammadi. B, Vahedparast. H, Ravanipour. M, Sadeghi. T. Comparing the Effects of Heart Dysrhythmia Training Through both Lecture and Multi media Software Approaches on the Knowlege Retention of Nursing Students. Educational Development of JurndiShapur Summer 2015 , Volume 6 , Number 2; Page(s) 115 To 121.