

# Role of New Technologies in Medical Continual Training

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## Abstract

Continual medical training has been regarded as necessary case for preserving and promoting skills of graduates of medicine on which basis continual curricula of medical society are being executed in order to promote job knowledge and skills and improve provision of health-therapeutic services in the country. Now, after some years of continual curricula commencement, this question about effectiveness of the said trainings and its optimization strategies is considered. Goal of this research is to present suitable strategies for holding continual curricula and to increase tendency of the learners to participate in continual curricula.

## Keywords

continual medical training, virtual learning, information and communication technology

## 1. INTRODUCTION

Today's human being experiences Information and Communication Technologies society which has some specifications. Such society is called information society. The requirement of suitable utilization of new educational methods in information era is presence of manpower that has necessary information literacy and computer skills. Application of information and communication technology in learning-teaching process has directed educational

environment to virtualization. In order to promote and expand these trainings, their increasing necessity for training and learning, training specialized and skillful forces, allocation of budget for training and its expansion, accessibility of computer equipment, expansion of telecommunication bandwidth should be considered sufficiently with regard to barriers to holding continual training courses for physicians and nurses. Issue of promotion of medical sciences training quality has been considered and has been increasingly important [2]. Although teaching and learning method has been professor's teaching in classroom, new communication methods and spaces have been provided which can make teaching-learning process possible out of classroom. Recent progresses in computer and information technology, emergence of information networks and communication technologies have provided new methods for designers, planners, managers and executives of educational centers. Penetration of new information technologies to educational centers has changed simple teaching-learning relations. Through development and penetration of communication and information technology in university, it is expected to consider the changed learning models and review of curricula [3].

In face to face training method, the learner is obliged to attend the fixed place punctually at specified hour and receive training face to face, textually and verbally [4]. In this method, training is provided equally for all learners and interaction is done simultaneously and more emphasis is on

acquisition of knowledge [5].

Electronic learning is regarded as an individual training method in which learners are able to achieve educational goals with regard to their talents. In fact, they learn how to learn and this is one of the educational goals (Taylor, 2003). Of the most important achievements of information technology are to increase quality of learning and lessons of the graduates, to have easy access to information in no time, to decrease some educational expenses, to promote quality, accuracy and authenticity of textbook and promote scientific ability of students and teachers[3].

At present, many countries pioneering electronic learning are establishing virtual universities and classes or developing their traditional systems[3]. In Iranian educational system, use of information and communication technology in order to increase access to learners is one of the changes which is has been being made gradually [10].

Computer-aided learning has special limitations for example; it may not be substitute of teacher, human and emotional interactions as well as face to face communication in the classroom. Of other limitations of use of computer in higher education environments in Iran are failure to understand virtual educational spaces and lack of suitable telecommunication substructures and enough bandwidth for transfer and receipt of information. As Money has mentioned in his article, higher education supply and demand system has no accurate understanding of virtual spaces and is not aware of its capabilities and functions and doesn't know basic skill of information technology well. In this system, success of learner depends on his technical skill in application of computer and network.

It takes a lot of time to study the received message and sent replies and it requires information management skills.

With regard to inevitable limitations of electronic methods, teaching through Blended E-Learning system in which advantages of both electronic learning method and face to face classes are used can be regarded as good option for continual training system of the physicians, nurses and pharmacists.

Blended E-Learning system is an educational system consisting of face to face training and e-learning whether simultaneously or not. In teaching the issues of medicine and nursing in other countries, there has been growing movement for converting face to face teaching to e-teaching and especially blended e-learning to fulfill needs of the graduates in order to have easy access to information and other technology capabilities. With regard to long-term trainings during week and teaching theoretical courses in the afternoon and the fact that physicians and nurses have no enough time due to intensive curriculum, it is useful to use blended e-learning in this regard.

## 2. CONTINUAL TRAINING

Continual training is a set of activities, tools, methods and programs with which the employees take step for improvement of awareness level, behavior, tendencies and talents so that they can show their skill and competency for performing their job tasks. Therefore, continual training is one of the manpower improvement methods and the most important experimental training because employees in such training acquire enough experiences and knowledge during working and are turned into self- taught persons. The most common criteria which are used by the medical specialized centers for reconfirmation of medical degrees of the graduates are participation in different continual curricula and acquisition of annual points [22]. Continual medical training means specialized training of physicians which helps them have required qualifications in their specialized field and learn medical news. This training can be presented through publication, audio visual and electronic programs [22].

Medical training in Iran is presented in three Undergraduate Medical Education, Continuing Medical Education and Graduate Medical Education levels like many countries in the world. In order to progress medical education and make necessary change in it, thinkers and trainers of medical education in different gatherings such as meeting 1988 suggested some corrective measures for removing deficiencies in medical education. One of the most important issues raised in this meeting is development of information technology in medical sciences education. Many faculties in the developed countries utilize on-line system for communication with students. Many medical courses are presented on line. Although these effects are being formed more slowly, effort of Iranian faculties of medicine to follow e-learning in strategic plans of these faculties is evident. There have been new movements in some universities in e-learning at least in retraining course and the available potential can expedite electronic path of medical education at least in basic sciences.

## 3. GOALS OF HOLDING CONTINUAL MEDICAL TRAINING COURSES

Continual learning of the graduates is possible in order to fulfill varying social needs through execution of varied continual training courses. For this reason, continual training unit is active aiming at promoting knowledge quality, attitude and performance of medical society by executing continual curricula on the basis of need, determination of goals and titles of the programs [21]. The most important goals of continual education are as follows:

- Promoting knowledge , refining skills and deepening understanding for health cares and vocational practice
- Reinforcing the previous correct lessons
- Updating medical knowledge in order to know scientific and practical medical news and conformity to

needs of society

- Increasing scientific awareness, vocational and communication skills, technical knowledge and medical ethics or reforming attitude of the graduates of medical sciences
- Increasing quality of health, therapeutic and educational services
- Introducing medical society with health and therapeutic policies, orientations and priorities of the country and attracting participation of medical society, planning and execution of face to face and electronic learning and encouraging those subject to law to do research, writing, translation and paper writing activities.

#### 4. REASONS FOR DECREASED TENDENCY OF PARTICIPANTS IN FACE TO FACE CONTINUAL EDUCATIONAL COURSES

- One of the reasons for low motivation of the participants in these curricula is that only attendance of the persons is considered.
- Curricula, low conformity of the subjects mentioned in these curricula with job needs of the persons.
- Unfamiliarity of professors with new teaching methods and models especially participatory methods
- Limited number of persons who assume responsibility of teaching (continual curricula teachers “) have been trained in the field of teaching methodologies.
- Proposed educational activities are not directly related with what the participant really wants to learn.
- Barriers to participation in face to face continual medical courses
- Time limitations and unawareness with time of training
- Lack of enough time for participation in curricula due to job problems
- Long distance between workplace or home and place of holding courses
- Lack of facilities
- Work problems
- Lack of motivation for participation
- Low relationship between educational content and needs of the physicians

#### 5. VIRTUAL TRAINING AND ITS SPECIFICATIONS' DEFINITION

It is a new educational system for orienting learning – teaching process and facilitating communication between teacher and student and proving independent learning op-

portunities and evaluating its results with the learner and educational organization. Virtual education means use of different web-based technological tools or tools distributed for educational goals. Other names such as Learning Distance, Online Learning, educational management system and courses management system etc include different aspects of virtual education which have the following specifications:

- Physical separation of learning from learner
- Interference of an educational organization in teaching –learning process
- Use of new technologies especially communication technology
- Lack of regular team learning classes in order to provide opportunities for learning

#### 6. ADVANTAGES AND REQUIREMENTS OF VIRTUAL EDUCATION

Unique specifications of virtual learning in recent years caused to increase demand of learners and centers for providing educational services for application of this educational method in the world. The following advantages relate to virtual education:

- Lack of place and time limitation
- Unlimited capacity of admission
- Considering personal talents
- Expanding independent learning culture
- Use of experienced professors in broader fields
- Flexibility in correction and change of content
- Increasing speed of education

#### 7. GOALS OF VIRTUAL EDUCATION

- Holding management session for educational stages
- Controlling courses quality and quantity
- Saving time and cost
- Removing time and place limitations
- Sharing data
- Reuse of educational content

#### 8. NON-EDUCATIONAL ADVANTAGES

- Protecting environment
- Reduction of traffic
- Decrease of air and sound pollution
- Decreased need for closed and physical space (real places)
- Cost effectiveness

#### 9. DISADVANTAGES OF VIRTUAL EDUCATION

In addition to specifications and advantages of virtual education, critics have mentioned some weak points for it; farness from mass communication in education is one of the disadvantages for virtual education which has been solved to some extent by expanding application of video conferences in team learning and web-based group learning. One of the other disadvantages is lack of face to face communication which has been solved to some extent. Overdependence on technology is one of the other disadvantages which have been raised for virtual education. One should note that any educational method relies on its special elements and such dependency is available in virtual education with regard to type and level of modern technologies and is intensified every day. This dependency is dependency of traditional education on human being.

## 10. WAYS OF PROMOTING VIRTUAL EDUCATION IN CONTINUAL MEDICAL EDUCATION

- Use of experienced professors aware of this educational method
- Utilizing technology tools such as internet and all kinds of educational software
- Expanding telecommunication bandwidth
- Accessibility of computer and internet facilities in different cities.
- Compiling suitable educational content (digital content)
- Creating suitable bases for expanding such educations
- Creating new educational attitudes based on information and communication technology and removing traditional attitude in continual training.
- Allocation of special budget for training skilled, specialized and logistic forces

## 11. TOOLS OF EXPANDING VIRTUAL EDUCATIONS IN CONTINUAL MEDICAL EDUCATION

- Tools for educational planning and policymaking
- Tools for classifying educational levels
- Tools for education and acquiring knowledge with help of system
- Assessment tools
- Tools for solving problem and corrections in knowledge
- Guidance tools
- Multimedia and hypertext presentation tools
- Network and distant use tools
- Protective strategies

## 12. CONCLUSION AND SUGGESTIONS

### CONCLUSION

Main subject of teaching-learning process is to study life skills training and coordination with scientific –technological knowledge development.

In new process, learners conduct freely on the basis of personal interests and tendencies through guidance of the professor and use of information and communication technologies. On the other hand, teaching learning process is not limited to educational center out of which on the job and informal trainings are regarded as important. Undoubtedly, we see effective role of such centers in formal trainings. In order to establish virtual centers, there is need for structure (network, software and Hardware) of real educational space (but very limited), specialized manpower and digital content. In these centers, one can and should not neglect real educational space. Interaction between learners and professor and as interaction between learners and each other in a virtual center which are done with help of digital content are different from the content with which all are familiar (book, textbook etc ). In order to expand these educations, need for skilled and specialized manpower, financing and enough time are regarded as the most important factors.

### 13. SUGGESTIONS

- Assessing continual curricula is directed from quantity assessment of curricula to quality assessment and the curricula which are aware of continual and periodical need study and from different educational sources have higher advantage.
- Learning measurement as reevaluation which can be facilitated through degree extension and license extension levers, giving tests every two or three years can be a useful strategy.
- Developing self learning methods such as e-learning which will facilitate use of curricula.
- Training and providing consultation services to professors of continual education in the field of recognition of teaching process, new teaching stages and models, particulars of adult learners and workshop learning methods
- Design of methods such as improvement of health indices, people's scarification for evaluation and study of effect of continual curricula on performance of the learners.

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