

## Web-based Medical Education: The Experience in Iran

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### ABSTRACT

**Background:** World Wide Web is growing more accessible with lower costs throughout the world and in Iran this makes web – based education a convenient option for delivering at least part of education in medicine.

**Purpose:** To establish the foundation of web-based medical education

**Methods:** Three major fields for developing educational modules were identified: UME, faculty development, and CME programs. In each field one or more modules were designed and conducted.

**Results:** The student had the main role in the classes They found the modules satisfactory and session as long as 8 hours were completed without any students' complaint. CME course received the same warm welcome from the participants.

**Conclusion:** Given the rapid expansion of computer and web access in Iran and the potentials of computer assisted or web-based learning, it seems reasonable at this time to invest on e-learning in terms of physical, technical and human resources.

**Keywords:** WEB-BASED EDUCATION

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### Introduction

World Wide Web is growing more accessible with lower costs throughout the world and in Iran this makes web – based education a convenient option for delivering at least part of education in medicine.

Today with increasing attention to improving quality in all fields, CME programs are expanding and many of these programs are offered in a web-based fashion by most credited medical academic centers throughout the world. Properly developed e-modules provide many options to facilitate learning and teaching. Any reform in medical education cannot afford to neglect the e-learning potentials.

### The project

Given the fact that for a web-based program, quality human resource and experience with design and planning of educational module is essential, Shaheed Beheshti University of Medical Sciences and Health services decide to establish a pilot project of designing and developing a number of courses in undergraduate medical education (UME), continuing medical education (CME) and faculty development. The courses will be based on

interactive learning and show us the problems that may rise in implementation of web-based courses. Computer assisted interactive learning depends on a range of effectors such as the mix of groups, educational atmosphere, prior learning experiences which lead to various interaction among learners; all these factors can strongly influence learning (1). Enhancement of small group activities by this method improves communication skills and sense of responsibility of students (2). Students may learn better in groups rather than by themselves (3).

Considering these benefits our main goal is to systematically improve e-learning in medical education of Iran. To reach there this project tries to make the ground in terms of technical issues and human resource development. We identify three major fields for developing educational modules: UME, faculty development, and CME programs.

In UME, students took part in a number of classes. The students first were given a pre-test and divided into small group. Each course had a number of sections; each section had a number of lessons which is consisted of a number of web pages. The course map was given to students and each lesson was linked to the learning objectives. The assessment of the course was mainly formative which provided students with convenient

feedbacks. If a student had major mistakes or problems, he / she was given a complementary session to reach the learning objectives. The educational material was divided to 3 level of "must learn", "useful to learn", and "nice to learn"

In each web page there were a number of question which was designed so that students could self assess. To go the next page these questions should be answered. The number of attempts before choosing the right answer was recorded. All students learning activities were recorded in their files. In a class of 74, students were divided into 20 small groups. Of the total final marks, 60% were given based on 30 students' works that each student completed during the course. The final exam had a 10% share of total mark. The students were offered an optional self assessment session that most students participated.

The data bank was based on SQL 2000 and web pages were designed with Asp application. The website access was possible through the net. After the completion of each section the class work of student were discussed under the guidance of the teacher. The search for information sources and working with evidence was of major feature of these courses. The students actively participated even in session as long as 4 to 8 hours in one day. The courses for CME and faculty development shared the same features.

### **Results and discussion**

The project is in primal stage but what is became vividly evident by far is that to provide a well organized material for such modules major resources in terms of educational expertise of faculties as well as technical expertise of the administrative body are needed. A detailed analysis of students' interaction with students, with web program, and with teacher shows that between 70-90 percent of class time is spent on student-based activity which indicates the student-centered nature of the courses.

An evaluation of the program identified areas of weakness and strength that should be taken into consideration in next steps.

Our main findings were:

#### **A. Faculty development**

- 1.Low internet and computer literacy
- 2.Low awareness of educational principles

- 3.Lack of well structured material for these modules

#### **B. UME:**

1. Comparatively better computer literacy among students
2. Interest of students on web-based modules
3. Interest of students on activity in small groups

#### **C . CME:**

- 1.Enhance problem solving skills in physician
- 2.Improve interest on CME courses

### **Conclusion**

Given the rapid expansion of computer and web access in Iran and the potentials of computer assisted or web-based learning, it seems reasonable at this time to invest on e-learning in terms of physical, technical and human resources.

### **Reference**

- 1- Crook C. Computers and the Collaborative Experience of Learning. London: Rutledge; 1994.
- 2- Webb NM. Peer interaction and learning in small groups. Intern J Edu Research 1989; 13(1):.21-9.
- 3- Johnson DW, Hohnaon RT. Cooperation and Competition: theory and Research. Minnesota: Interaction book Company; 1989.