

## Brief Communication

# Educational Efficacy of Computer and Internet Training Course in Kermanshah Dental School

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## Abstract

The aim of the present study was to evaluate the efficiency of the computer and internet training course from the viewpoint of dental students of Kermanshah University of Medical Sciences in 2014. In this descriptive survey, the study sample included 39 dental students who entered university in 2011 and 2012. The required data were collected through a reliable and valid questionnaire using census sampling technique. Data were analyzed by SPSS 16 software. The administered training program obtained a high efficiency with a mean score of  $57.8 \pm 9.5$ ; However, there was no significant correlation between the mean of scores obtained by students and the mean score of efficiency of the given program ( $r=0.015$ ,  $P=0.95$ ). This training course can be helpfully used in evidence-based dental education and clinical decision making. It can also be used to develop the students' motivation in education and research domains.

**Keywords:** Efficiency, Training course, Dental students, Internet.

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## Introduction

In recent years, training and improving human resources have been considered as a major concern for managers and policymakers of efficient organizations. Increasing understanding of the importance and role of education in promoting the performance of the workforce and improving the organizational efficiency has attracted extensive financial, materialistic and human resources for the sake of helpful organizational benefits and achievements (1). Managers and policymakers of organizations demand scientific and objective reports about the actual efficiency of the training courses based on the costs and spent resources. The assessment of training courses provides the possibility to enhance the effectiveness of training courses (2). Inefficiency of training courses, indefinite effect of education, lack of

feedback, etc. have made the managers uncertain about the efficiency of training courses as well as unwilling to increase educational investments.

It seems that lack of adopting a systematic approach and lack of attention to educational processes are major factors associated with inefficiency of these training courses (3). Assessment, as one of the permanent elements of all educational activities, has to be highlighted as much as possible (4). There is no doubt that the quality of educational programs is quite different from each other. Unfortunately, a few numbers of these programs are being evaluated comprehensively. Reluctance of teachers and managers in education, inappropriate assessment of courses and lack of proper

feedback about the results of education are major problems to be taken into account (5, 6).

One of the largest and most important technological developments in the present era is the great information highway, the internet (7). The information available on line is often updated, making it a proper tool to follow academic achievements. The era we are living in is the age of information explosion, in which new articles are published instantly, providing latest findings to the people around the world (1) In addition, the internet is a potent communicative tool and a growing resource to spread information and to keep the knowledge of the academicians and health professionals up-to-date (8). In line with the above discussion, Maleki et al. (9) showed an acceptable level of access to internet among students and teachers as well as positive attitude of both groups towards application of the internet in dental education. Further, Uribe & Mariño (8) showed that 96.4% of students used internet and 73.4% of them had access to internet at home. The important point, however, was that few students (21.1%) used the internet to find information about their courses.

Nowadays, the ability to use the internet in the universities around the world for the sake of teaching and learning, especially in medical sciences and dentistry plays a pivotal role. On the other hand, internet is the simplest and quickest way to access new information and academic articles. Hence, it is necessary for the individuals involved in this domain, including teachers, students and specialists to become familiar with these tools and to use them for updating their information and knowledge (10). Moreover, students' familiarity with the fundamental concepts of research would increase their motivation and would promote education, decision-making skill and clinical judgment (11). Therefore, the present study was carried out to teach the fundamentals of computer, internet and strategies to search the scientific resources, aiming to evaluate the effectiveness of the training program of application of computer and internet in dental students of Kermanshah University of Medical Sciences (KUMS).

## Methods

This descriptive survey was conducted on 39 dental students at KUMS accepted to university in 2011 and 2012 and participated in the training course of application of computer and internet in 2014. The samples were selected through census sampling method. Training was performed over ten two-hour sessions with the following topics:

### 1. Introduction to computer hardware

2. Office package (Microsoft Word, Power Point, Excel 2010)
3. Introduction to international scientific databases such as Medline/PubMed, ISI web of Science, Scopus, Google Scholar, Science direct, Cochrane library, ISC and national databases such as Magiran, Iranmedex and SID. The students were introduced to such concepts as citation, impact factor and H-index.
4. Reference software End Note X3 and End Note Web.
5. Introduction to websites and frequently used online resources in dentistry. Students were introduced to such concepts as evidence-based dentistry (EBD) and critical appraisal analysis (CAA).

The teaching method used in each session was problem-oriented lecture along with practice. For a high-quality teaching, the students of each entrance were divided into two equal groups, and 10 separate sessions were allocated to each group. The efficiency of the training course was measured through a questionnaire used in previous studies with an acceptable validity and reliability (1). The questionnaire contained sixteen five-option items. The options included completely agree, agree, no idea, disagree and completely disagree with scores of 5, 4, 3, 2 and 1, respectively. The score of 55-80 indicated a highly efficient training program, score of 30-55 showed a partly efficient training program and the score of <30 indicated low efficacy of the training program. The frequency, mean and standard deviation of the data were calculated by SPSS-16 software using t-test and Pearson correlation coefficient. P-value<0.05 was considered statistically significant.

## Results

In the present research, 39 dental students at Kermanshah University of Medical Sciences admitted in 2011 (n=21) and 2012 (n=18) completed the given questionnaire. Generally, the training program enjoyed a high efficiency with the mean score of  $57.8 \pm 9.5$ . The mean values for the efficiency of the training course in the students entering university in 2011 and 2012 were  $55.8 \pm 11.5$  and  $59.4 \pm 7.1$ , respectively, which showed a high efficiency for the given training program ( $P<0.05$ ). The maximum and minimum reported scores were 77 and 31, respectively.

79.5% of the students evaluated the teacher's teaching method as favorable, 79.5% of the students reported the objectives of the given program were related to the responsibilities of their future jobs and 66.7% reported the activities of the training program enhanced their motivation for learning and enabled them to regularly make use of what they had learned in their future jobs. However, 43.6% of the students believed they had

sufficient time to fulfill different parts of the training program.

The mean scores obtained in the final test by the students admitted to university in 2011 and 2012 were  $15.8 \pm 3.8$  and  $16.5 \pm 2.4$ , respectively ( $P=0.36$ ). Moreover, no significant correlation was found between the mean of final scores obtained by students and mean score of the efficacy of the training program ( $r=0.015$ ,  $P=0.95$ ).

## Discussion

The efficiency of the training course was favorable, which were not in agreement with the results of the studies carried out by Hadavandi (12) and Zahedi (13) in which they reported moderate quality for the training programs. In the study conducted by Nezamian (2), achieving the specific objectives of the training program and overall quality of the training program were reported to be acceptable, which are in line with the results obtained in the present study. One of the advantages of the given training course was the teaching method adopted by the teachers, as 79.5% of the participants were satisfied with the methodology of the teachers. During this training course, an educator with a good command over the concepts was used. The results of this research were compatible with the findings of other studies with regard to the efficiency of the teachers' teaching methods (13, 14).

Most of the participants reported lack of sufficient time to complete different parts of the training course as one of the weaknesses of this training program, which is in line with the results of the study conducted by Mohammadi (14). With regard to the time allocated to the training program, a revision of the training program and allocation of proper time are recommended. The requirements of the training program were another result obtained in the present study concerning the efficacy of the training course. The findings of the present study were in agreement with the results of Babaei (15) and Hadavandi (12) in terms of the compatibility of the training course with the learners' needs. Extensive resources existing in the medical education domain make it difficult to effectively and quickly search these evidences; however, they provide numerous opportunities for those who have adequate skill in this regard to acquire appropriate evidences (16).

## Conclusion

Students could acquire favorable knowledge from the training course. On the other hand, the objectives, teaching method, time and sufficient opportunities for learning were favorably combined and most of the

students got familiar with the fundamental concepts of research in their major and learned how to search the electronic databases.

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