



## ORIGINAL ARTICLE

# The Challenges of E-learning for Agricultural Specialists in Varamin City

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### ABSTRACT

*E-learning, a new approach in education, is the appropriate organization of information and communication technologies, for active, open, and life-long teaching-learning processes. But obviously there are challenges and obstacles in each educational process. Therefore this study was conducted to identify the challenges of e-learning for agricultural specialists in Varamin. The main methodology of the study is descriptive. The population was all agricultural specialists in Varamin that using random sampling, 110 persons were selected to study. The main tool of the study was questionnaire which its validity and reliability were confirmed. According to the results, about 41% of the surveyed specialists didn't participate in any e-learning courses. The results also showed that the mean of access rate to computers and internet at home and work is more than moderate. Based on other findings, lack of sufficient motivation to participate in e-learning, inadequate confidence to participate in e-learning and low awareness about concepts and technologies of e-learning are most important challenges for implementation of e-learning.*

**Keywords:** E-learning, Agriculture, Challenges, Agricultural Specialist, Iran.

Received 12/01/2014 Accepted 10/02/2014

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### INTRODUCTION

Along with the advent and development of information and communication technology (ICT) and its widespread impact on all economic, social and cultural aspects of human life, the world has entered a new age of information. Current advancements in ICT has manipulated education and learning strategies and created a new system of education which is called E-learning. Education sector has significantly created more opportunities for setting up comprehensive e-learning environment, attractive, interactive, efficient, flexible and accessible under the presence of these technologies along with new achievement in learning technology [10].

The development of e-learning products and the provision of e-learning opportunities is one of the most rapidly expanding areas of education and training. Whether this is through an intranet, the internet, multimedia, interactive TV or computer based training, the growth of e-learning is accelerating [3].

E-Learning can cover a spectrum of activities from supporting learning, to blended learning (the combination of traditional and e-learning practices), to learning that is delivered entirely online. Whatever the technology, however, learning is the vital element. E-Learning is no longer simply associated with distance or remote learning, but forms part of a conscious choice of the best and most appropriate ways of promoting effective learning. Combine e-learning options with the best of established practice and the practitioner has greater capacity to create an exciting and meaningful learning experience [9].

In an e-learning situation, the learning provider is separated from the learner by cyberspace. The ability to adapt, realign, or change is no longer available. This makes the content block a very crucial block. Given that technology is equal, the content is now the only differentiating factor that separates an effective e-learning initiative from an ineffective e-learning initiative [7].

In e-learning process, the identifying challenges seem very important. If people who are involved in a system are not familiar with of its potential challenges, these challenges will be transformed into threats; with additional information, however, they can be transformed into opportunities [13].

According to many studies which have been done though past decade about the challenges in the way of expansion implementation of e-learning reveal that because of lacking sufficient hard and soft ware facilities, internet access costs, limited bandwidth, low speed internet, and delay in answering are part of fundamental obstacles for experts and specialists [2, 5, 6, 8, 12].

Rezaei (2009) in his study about the barriers before e-learning promotion from student's view point in agriculture higher education, pointed out to the absence or deficiency of equipment and facilities designed for compatibility with modern technologies, lack of student's access to computer and applicable communication line, and specific problems of Iran telecommunication co as the most important infrastructure barriers, and impossibility to holding lab courses through e-learning, lake of having training courses for the students about education technology, lake of sufficient encouragements and incentives for pursuing further studies through e-learning are the most important executive- training barriers; and lake of investment and credit requirement, high cost of educational technology equipment, and high cost of updating needed materials are the most important financial problems in the way of e-learning promotion [11].

Ahmadpour and Mirdamadi (2010) in a study about challenges in application of e-learning in agricultural extension services in Iran found that Agricultural extension is skipping traditional training delivery methods and are going straight to using e-learning. To achieve the goal of application of e-learning for extension service, there are some main challenges namely financial, technical, supporting services, regulatory, cultural and human [1].

According to the results of Farzaneh (2012), lake of supporting from E-learning, non-familiarity of the students with English language, low access to computer, student's low knowledge about computer and lake of funding for research and encouragement are part of barriers to e-learning in Payam Nour University [4].

As more and more organizations turn towards the implementation of e-learning for the training of their human resources and many of these attempts fail, it is needed to identify the its challenges and barriers so that the various organizations which are willing to implement e-learning and want to improve them, will be able to evaluate their readiness for the development of e-learning. Therefore this study was conducted to identify the challenges of e-learning for agricultural specialists in Varamin, where is one of the central cities in Iran.

## **MATERIALS AND METHODS**

This is an applied study. The analysis used in this study involved a combination of descriptive and quantitative research and the main methodology is descriptive (non-experimental). Statistical population was 194 persons of agricultural specialists in Varamin. Using the random sampling technique and the results from the pilot test, 110 specialists were selected and studied. The main research tool was questionnaire. Content and face validity were established by a panel of experts consisting of faculty members and some specialists. Minor wording and structuring of the instrument were made based on the recommendation of the panel of experts. A pilot study was conducted with 25 persons. Cronbach Alpha score was about 0.92 %, which indicated that the questionnaire was highly reliable.

In this study, to identify the challenges of e-learning marketing, 15 statements were used in the form of a five-point Likert scale (from completely unimportant to completely important), and the mean score of the answered questions was identified as the respondent's attitude. For analysis data, means, percentages, frequencies, standard deviation, and coefficient of variation (CV) were generated to describe the general trend of the data through SPSS version 16. The coefficient of variation (CV) which was used to rank the variables in this study; represents the ratio of the standard deviation to the mean, and it is a useful statistic for comparing the degree of variation from one data series to another, even if the means are drastically different from each other.

## **RESULTS AND DISCUSSION**

According to the findings of this research, that 68.2% of studied specialists were male and the average age of them was 34 years and more than half of them were under 35 years old. The findings also show that more than 66.4% of the respondents had earned 4 year degree and 18.2% had earned a master degree. The results show that more than 27 percent of respondents had earned a degree in the field of agronomy. About the work experience of respondents, the average of their experience was 10.4 years and about 40% of specialists had 5 years or less work experience.

Based on the results, 40.9% (45 people) of the surveyed specialists didn't participate in any e-learning courses and 65 people had experience in the electronic courses. Also the mean of attendance rate in the electronic courses was 25.89. The results of this study showed that the vast majority of respondents (96.4%) tend to attend e-learning courses instead to traditional courses.

Table 1- Distribution of specialists based on the attending in e-learning courses

Attending in e-learning courses	Frequency	Percent	Cumulative Percent
10 hours or less	12	18.5	18.5
11 to 20 hours	23	35.4	53.9
21 to 30 hours	6	9.2	63.1
31 to 40 hours	11	16.9	80.0
41 hours or more	13	20.0	100
Total	65	100	—

Mean: 25.89    Mode: 10 hours or less    SD: 17.39    Minimum: 5    Maximum: 58

The results of this study showed that the mean of access rate to computers and internet at home and work is more than moderate. But internet access at home is about moderate and at work is less than moderate (table 2).

Table 2- Rate of specialists' access to computers and internet

Rate of access		Percent					Mean	SD
		very low	low	moderate	high	very high		
at home	Computer	20.9	0.9	17.3	32.7	28.2	3.46	1.45
	Internet	25.5	4.5	27.3	26.4	16.4	3.04	1.41
at work	Computer	16.4	4.5	16.4	30.0	32.7	3.58	1.41
	Internet	30.9	14.5	18.2	19.1	17.3	2.77	1.49

Scale: 1= very low, 2= low, 3= moderate, 4= high, 5= very high

According to the results in table 3, the average skill of getting general information from the internet 3.48, which according to the coefficient of variation (40.8) is placed in the first rank of skills. Also the participating skill in internet discussions with an average of 2.55 and the coefficient of variation of 72.94 are in the final ranking of skills. While of other skills in internet are listed in table 3.

Table 3- Ranking of specialists' skills in the various applications of internet

Skills in Internet	Mean	SD	CV	Rank
Getting general information from the internet	3.48	1.42	40.80	1
Finding technical information through web-sites	3.27	1.50	45.87	2
Sending email	3.14	1.46	46.50	3
Attaching files to email	2.99	1.49	49.83	4
Creating personal email	2.94	1.47	50.00	5
Searching for information via search engines	2.96	1.68	56.76	6
Web-chatting	2.75	1.62	58.91	7
Using Newsgroups	2.75	1.69	61.45	8
Creating personal website	2.58	1.79	69.38	9
Participating in internet discussions	2.55	1.86	72.94	10

In this study, the overall skill of specialists in using internet was assessed and evaluated through a total of 10 items. The results indicate that the average of internet skill in the studied specialists was 29.42. The overall skill in using internet in 34.5% of the specialists with the highest frequency was very high. Whereas this skill in 20.9% of the respondents was low or very low (table 4).

Table 4- The perception of respondents about feasibility of implementing e-learning

Level of Internet skills	Frequency	Percent	Cumulative Percent
Very low	12	10.9	10.9
Low	11	10.0	20.9
Moderate	27	24.5	45.4
High	38	34.5	80.0
Very high	22	20.0	100
total	110	100	—

Mean: 29.42    Mode: High    SD: 12.83    Minimum: 0    Maximum: 50

Scale: (1-10= very low, 11-20= low, 21-30= moderate, 31-40= high, 41-50= very high)

The results of this study indicate that the most important challenges for implementation of e-learning include: lack of sufficient motivation to participate in e-learning, inadequate confidence to participate in e-learning and low awareness about concepts and technologies of e-learning. While challenges such as lack of detailed knowledge about the features of e-learning, and Lack of appropriate content for e-learning are less important challenges (table 5).

Table 5- Ranking of the challenges of e-learning implementation

Challenges	Mean	SD	CV	Rank
Lack of sufficient motivation to participate in e-learning	3.67	0.92	25.07	1
Inadequate confidence to participate in e-learning	3.64	0.93	25.55	2
Low awareness about concepts and technologies of e-learning	3.74	0.98	26.20	3
No access to high speed internet	3.83	1.04	27.15	4
Inadequate mastery of English language in specialists	3.75	1.03	27.47	5
Conflict between internet content and specialists views	3.65	1.01	27.67	6
Weakness of laws and policies in developing e-learning	3.71	1.04	28.03	7
Low level of access to computers and internet	3.88	1.09	28.09	8
The high costs of providing educational software	3.81	1.08	28.35	9
Lack of adequate training in the use of computers and internet	3.74	1.07	28.61	10
Lack of government investment in agricultural sector e-learning	3.83	1.10	28.72	11
Lack of positive attitude towards e-learning	3.71	1.07	28.84	12
Lack of appropriate computer equipment	3.75	1.09	29.07	13
Lack of detailed knowledge about the features of e-learning	3.55	1.06	29.86	14
Lack of appropriate content for e-learning	3.64	1.10	30.22	15

## CONCLUSION

E-learning is significant breakthrough in teaching and learning. Development of e-learning as a phase of rapid transformation presents broad perspectives and novel opportunities, but many challenges and risks as well. It is primarily essential to develop change capabilities, to help our institutions react to the rapid change necessities required by society. So this research was to identify challenges in e-learning based on literature review.

According to the findings of this study, there are many challenges and obstacles for implementation of e-learning. Some of the most important of these challenges include: lack of sufficient motivation to participate in e-learning, inadequate confidence to participate in e-learning and low awareness about concepts and technologies of e-learning. However, based on results of this research, lack of detailed knowledge about the features of e-learning, and Lack of appropriate content for e-learning are less important challenges.

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**Citation of this article**

Bakhtiari R., Soleimanpour M.R., F.Hosseini, S.J. The Challenges of E-learning for Agricultural Specialists in Varamin City. *Bull. Env. Pharmacol. Life Sci.*, Vol 3 (5) April 2014: 109-113