



INTERNATIONAL JOURNAL OF ACADEMIC RESEARCH IN PROGRESSIVE EDUCATION & DEVELOPMENT



www.hrmars.com

ISSN: 2226-6348

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To Link this Article: <http://dx.doi.org/10.6007/IJARPED/v3-i4/1193>

DOI: 10.6007/IJARPED/v3-i4/1193

Received: 17 October 2014, **Revised:** 19 November 2014, **Accepted:** 29 November 2014

Published Online: 22 December 2014

In-Text Citation: (Kordestani et al., 2014)

To Cite this Article: Kordestani, F., Daneshfar, A., & Aghdam, N. S. G. (2014). Evaluating the Effectiveness of Short- Term Electronic Training from the Perspective of Teachers and Learners. *International Journal of Academic Research in Progressive Education and Development*, 3(4), 145–152.

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Vol. 3(4) 2014, Pg. 145 - 152

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Evaluating the Effectiveness of Short- Term Electronic Training from the Perspective of Teachers and Learners

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Abstract

This study aimed to evaluate the effectiveness of short- term electronic training from the perspective of teachers and learners. The population consisted of all teachers (N=30) and students (N=3450) of training courses in the Ministry of Education. Using Cochran formula and systematic random sampling, however, 28 teachers and 346 learners were selected as sample. The Hairston's employee satisfaction questionnaire was used for collecting the data. The data were analyzed using descriptive statistics (frequency, percentage, mean, and standard deviation) and analytical statistics (t-test). The results showed that the content, delivery method, and programs of virtual training in the Ministry of Education are effective from the perspective of teachers and learners.

Keywords: Virtual Short-Term Training, Course Content, Delivery Method, Program

Introduction

The increasing science and technology expansion has led to the development of different organizational structures. In order to match with these rapid and growing changes, the organizations have changed their inner- organizational communication channels to adapt these developments. In such situations, the successful organizations are those which progress according to the latest knowledge and technology (Manani and Hassanzadeh, 163, 2008). Since educational organizations interact with society and its institutions, knowledge of employees need to be updated to stay ahead of changes in science and technology, (Robbins, 2002; translated by (Alvani and Fard, 2008, 53). Therefore, in- service education is very important. The in- service education is defined as efforts to improve the technical, professional, and business knowledge, understanding, and skills of employees in an institution or organization. It trains the desired behavior to employees and makes them ready to do the functions and responsibilities of the job (Hatami, 87, 2009).

In this regard, in recent years, virtual education has been proposed as one of the most important applications of new information and communication technologies in the world and

extensive works have been done in this area. Due to the rapid changes are happening in the surrounding environment, implementation of virtual systems has been proposed as a basic need to provide new services and technologies in teaching and learning (Ong, 2004, 23).

The virtual education is the most important application of information technology is provided in various systems such as computer-based learning, online learning, web-based learning, and network based teaching. This term was first coined by Cross. Simply, it is the use of information technology for learning (Ladouceur and Hum, 2001, 55). The virtual education has created a new paradigm and has provided learning opportunities in every field, to any person, at any time, and at any place (Khan, 2004, 34).

In this environment, learners and the teacher are apart from each other in terms of time, place, or both of them. The educational content is presented through course management applications, multimedia resources, the Internet, and video conferencing to the learners. The learners communicate with the instructor, classmates, and other individuals through internet communication sources to do individual and group learning activities (Alestalo and Peltola, 79, 2006).

Methodology

This is an applied descriptive survey. The population consists of all teachers (N=30) and students (N=3450) of training courses in the Ministry of Education. Using Cochran formula and systematic random sampling, however, 28 teachers and 346 learners were selected as sample. The teachers were selected using convenient sampling method. Considering the subject of study, this is a field study. The researcher distributed the questionnaire between two groups of samples and the compared the results. Hairston's employee satisfaction questionnaire was used for collecting the data. This questionnaire consists of 17 items and measures three subscales. The subscales include employee satisfaction from course content, employee satisfaction from course delivery method, and employee satisfaction from the e-learning program. This questionnaire is based on Likert scale from strongly agree (5 points) to strongly disagree (1 point).

Based on Cronbach's alpha coefficient, the reliability of employee satisfaction from course content, employee satisfaction from course delivery method, and employee satisfaction from the e-learning program were 0.76, 0.84, and 0.81, respectively. The data were analyzed using descriptive statistics (frequency, percentage, mean, and standard deviation) and analytical statistics (t-test).

Findings

The one-sample t test was used to test the hypotheses. To perform this test, the normality of data distribution in variance homogeneity pre- test was measured.

First hypothesis: how is the content effectiveness of e-learning courses in the Ministry of Education from the perspective of teachers?

To investigate this hypothesis, one-sample t-test was used to evaluate the content effectiveness of e-learning courses from the perspective of teachers. The results are presented in Table 1.

Table 1: Results of one-sample t-test in evaluating the content effectiveness of e-learning courses from the perspective of teachers and mean score of questionnaire in this section

Variable	Number	Mean	Standard deviation	Test t	Degree of freedom	Significance level
Content of training course	28	18.96	3.328	6.304	27	.000

According to the results in Table 1, the calculated t is significant at 0.01 ($P=0.0001$, $t=6.304$). Considering the mean of training courses content from the perspective of teachers ($M=18.96$) and the mean of questionnaire in this section ($M=15$), it can be concluded that the content of virtual training courses in the Ministry of Education is effective from the perspective of teachers.

Second hypothesis: how is the content effectiveness of e-learning courses in the Ministry of Education from the perspective of learners?

To investigate this hypothesis, one-sample t-test was used to evaluate the content effectiveness of e-learning courses from the perspective of learners. The results are presented in Table 2.

Table 2: Results of one-sample t-test in evaluating the content effectiveness of e-learning courses from the perspective of learners and mean score of questionnaire in this section

Variable	Number	Mean	Standard deviation	Test t	Degree of freedom	Significance level
The content of training course	346	18.19	3.492	17.010	345	.000

According to the results in Table 2, the calculated t is significant at 0.01 ($P=0.0001$, $t=17.010$). Considering the mean of training courses content from the perspective of learners ($M=18.19$) and the mean of questionnaire in this section ($M=15$), it can be concluded that the content of virtual training courses in the Ministry of Education is effective from the perspective of learners.

Third hypothesis: how is the delivery method effectiveness of e-learning courses in the Ministry of Education from the perspective of teachers?

To investigate this hypothesis, one-sample t-test was used to evaluate the delivery method effectiveness of e-learning courses from the perspective of teachers. The results are presented in Table 3.

Table 3: Results of one-sample t-test in evaluating the delivery method effectiveness of e-learning courses from the perspective of teachers and mean score of questionnaire in this section

Variable	Number	Mean	Standard deviation	Test t	Degree of freedom	Significance level
Delivery method Of training course	28	31.46	4.176	13.258	27	.000

According to the results in Table 3, the calculated t is significant at 0.01 ($P=0.0001$, $t=12.258$). Considering the mean of training courses delivery method from the perspective of teachers ($M=31.46$) and the mean of questionnaire in this section ($M=21$), it can be concluded that the delivery method of virtual training courses in the Ministry of Education is effective from the perspective of teachers.

Fourth hypothesis: how is the delivery method effectiveness of e-learning courses in the Ministry of Education from the perspective of learners?

To investigate this hypothesis, one-sample t-test was used to evaluate the delivery method effectiveness of e-learning courses from the perspective of learners. The results are presented in Table 4.

Table 4: Results of one-sample t-test in evaluating the delivery method effectiveness of e-learning courses from the perspective of learners and mean score of questionnaire in this section

Variable	Number	Mean	Standard deviation	Test t	Degree of freedom	Significance level
Delivery method of training course	346	25.26	6.545	12.099	345	.000

According to the results in Table 4, the calculated t is significant at 0.01 ($P=0.0001$, $t=12.099$). Considering the mean of training courses delivery method from the perspective of learners ($M=25.26$) and the mean of questionnaire in this section ($M=21$), it can be concluded that the delivery method of virtual training courses in the Ministry of Education is effective from the perspective of learners.

Fifth hypothesis: how is the program effectiveness of e-learning courses in the Ministry of Education from the perspective of teachers?

To investigate this hypothesis, one-sample t-test was used to evaluate the program effectiveness of e-learning courses from the perspective of teachers. The results are presented in Table 5.

Table 5: Results of one-sample t-test in evaluating the program effectiveness of e-learning courses from the perspective of teachers and mean score of questionnaire in this section

Variable	Number	Mean	Standard deviation	Test t	Degrees of freedom	Significance level
Program of training course	28	19.96	2.987	8.793	27	.000

According to the results in Table 5, the calculated t is significant at 0.01 ($P=0.0001$, $t=8.793$). Considering the mean of training courses program from the perspective of teachers ($M=19.96$) and the mean of questionnaire in this section ($M=15$), it can be concluded that the program of virtual training courses in the Ministry of Education is effective from the perspective of teachers.

Sixth hypothesis: how is the program effectiveness of e-learning courses in the Ministry of Education from the perspective of learners?

To investigate this hypothesis, one-sample t-test was used to evaluate the program effectiveness of e-learning courses from the perspective of learners. The results are presented in Table 6.

Table 6: Results of one-sample t-test in evaluating the program effectiveness of e-learning courses from the perspective of learners and mean score of questionnaire in this section

Variable	Number	Mean	Standard deviation	Test t	Degrees of freedom	Significance level
Program of training course	346	19.16	3.154	29.231	345	.000

According to the results in Table 6, the calculated t is significant at 0.01 ($P=0.0001$, $t=29.231$). Considering the mean of training courses program from the perspective of learners ($M=19.16$) and the mean of questionnaire in this section ($M=21$), it can be concluded that the program of virtual training courses in the Ministry of Education is effective from the perspective of learners.

Conclusion

The results of first (how is the content effectiveness of e-learning courses in the Ministry of Education from the perspective of teachers?) and second (how is the content effectiveness of e-learning courses in the Ministry of Education from the perspective of learners?) questions showed that the content of virtual training courses in the Ministry of Education is effective from the perspective of teachers and learners. This finding is consistent with the studies of (Parmooz, 2013; Ahangar, 2010; Jamshidian and Rezaei, 2009; Shot, 2008; Andrew, 2005; Song, 2004; McGraw, 2003; Nickels, 2003). In this regard, Mack Gray (2003) found that if important factors are considered in the online in-service trainings, these courses will be done

with flexibility, interaction, and participation. One of these important factors is the content of training courses. In total, Clark (1994) believes that using technology and communication media in educational issues is vital and inevitable. However, technology should not be used without research. Certainly, it is the time that the quality and content of virtual learning courses be considered instead of their quantity. Therefore, the content of new virtual courses should be periodically evaluated to approve their effectiveness. If they do not have necessary effectiveness, their defects should be resolved. Also, Parmooz (2013); Ahangar (2010) notes that the infrastructure, international standards, and teachers mastery should be appropriate to achieve an effective virtual training in terms of content. According to teachers and the students, learning content is one of the most important factors in online education that have high efficacy and should be concerned.

The results of third (how is the delivery method effectiveness of e-learning courses in the Ministry of Education from the perspective of teachers?) and fourth (how is the delivery method effectiveness of e-learning courses in the Ministry of Education from the perspective of learners?) questions showed that the delivery method of virtual training courses in the Ministry of Education is effective from the perspective of teachers and learners. This finding is consistent with the studies of (Parmooz, 2013; Fathi et al., 2011; Peters, 2006; Mac-Gray, 2003). In their study, Fathi et al (2011) found that concerns of teachers about the delivery method of virtual training courses are very high. This refers to the effectiveness of the training courses. Gary Mc (2003) points out that the key factors of online courses design reinforce these courses. These factors include the flexibility, interaction, and participation of courses. It means that if delivery method of virtual in-service courses will be interactive, the education will be high quality with the highest stability.

The results of fifth (how is the program effectiveness of e-learning courses in the Ministry of Education from the perspective of teachers?) and sixth (how is the program effectiveness of e-learning courses in the Ministry of Education from the perspective of learners?) questions showed that the program of virtual training courses in the Ministry of Education is effective from the perspective of teachers and learners.

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