Assessment of readiness to accept the use of e-learning by faculty members in Kermanshah University of Medical Sciences, Iran

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Abstract

The e-learning have attract many attention all over the world and most of the universities in Iran are using this technology. This research have done for determining the readiness level of faculty’s member of Kermanshah’s medical science university to accept e-learning and have conducted by choosing the members of pharmacy, dentistry, public health, nursing, paramedics and medicine faculty members of medical science university in Kermanshah which include 260 person. The required samples in this research have selected by simple random method. For evaluating the readiness level of accepting e-learning the readiness evaluation questionnaire have made and for evaluation of acceptance level of e-learning the compliance questionnaire have made which include the responders demographic characteristics and the researches variables. For determining the validity of the questionnaire the content validity evaluation method have used and for determining the reliability of them the Cronbach’s alpha determination method have used which their Cronbach’s alpha was more than 0.85. The results analysis of the data was in the form of Pearson correlation analysis test and represent that the readiness level for accepting e-learning have the communication coefficient of r=0.37 (p=0.001). The mentioned communication coefficient for easy accessibility component was r= 0.221 (p=0.006), updated education r=0.294 (p=0.001), availability of equipment r=0.160 (p=0.046) and for cultural readiness component of the mentioned amount was r=0.303 (p=0.0001). The results showed that all the evaluated component effect on e-learning was in the form of positive (direct) effect. According to the significant relation of e-learning component for conducting e-learning from faculty member’s point of view, improvement of environmental infrastructure, equipment, cultural, accessibility and skill work in evaluation environment have been recommended.

Keywords: e-learning; medical sciences; university faculty members; readiness level; Kermanshah

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Introduction

The E-learning is a new industry in Iran for education technology from a long distance. One of the main reason for the necessity of institute and center organizing for the e-learning in Iran is the growing requirement for education particularly in higher education which according to the
limited resources and education capacity in current educational system has become a particular social subject (Ghouchian and Jafari, 2002). In fact, individual differences considered as an obstacle for successful group education in universities. In order to overcome this issue teachers should choose a proper education tools based on the individuals need and different learning style of students and used it for educating by logical method (Fotorechi, 2003). In other words he should identified demographic characteristic of each student and provide appropriate educating strategy based on his/her needs. Todays it has been proved that the computer and internet could solve this problem. All the students could use computer and internet based on their personal needs characteristics. In addition, by relying on their assessment self-intelligence which is another gift from computer, evaluate their situation to achieve their educational objectives (Sdqpur and Montazer, 2005; Mirzaai 2008). The teacher readiness level for e-learning is a key factor for publishing technology. Evaluation background of the investigation showed that the readiness level of the educator is a predictable factor for the use of technology in education (Kardan et al., 2010). Also the studies showed a significant relation between computer skills and the educator’s readiness level in technology education and e-learning. On the other hand, computer skills are a determining factor for readiness level in comparison with e-learning (Mirzaee et al., 2012). As it have revealed expanding the use of electronic tools in education and learning have a great importance and providing an appropriate condition for using it in education is necessary and many aspect of educating by teachers have changed by technology. Therefore, they should find a particular method for guiding and educating the students. In fact, the teachers not only should learn how to use a new technology but also it is necessary to achieve this type of education by being familiar with their new role in education and their innovation (Hakim, 2009). In fact, e-learning caused the revealing of the current educational method defects such as long speech. E-learning have an exclusive capability in supporting asynchronous and collaborative communication in a dynamic education environment and is compatible (Hosseini et al., 2014). It could be said that e-learning cause the increased of education efficiency but its effective spread without considering the users attitude and readiness would be unsuccessful (Hosseini et al., 2015). According to the mentioned content, the aim of this study is evaluating the readiness level to accept the use of e-learning by faculty members of Kermanshah medical science university.

**Materials and Methods**

This research according to its aim is an applied research and in terms of the data collecting it’s a descriptive survey because this study at one hand describe the evaluated phenomena and on the other hand aimed to determine the readiness level of faculty’s member in Kermanshah’s medical science university to accept the use of e-learning. The statistical population of this research include all the Kermanshah medical science university’s faculty member which are 260 person: the sample volume have determined by 155 person by Morgan table which have chosen by the simple random sampling method. For evaluating the readiness level of e-learning the readiness evaluation questionnaire have used and for assessment of accepting e-learning the other compliance questionnaire have used which include demographic characteristic of responders and the researches variables. The researches variable include electronic education (contain 6 questions), skill (contain 6 question) applying e-learning method...
(contain 6 questions) accessibility to electronic environment (contain 6 questions), providing equipment (contain 6 question) and for responding the main questions the 5 choices Likert range have used and responders was asked to give their opinion about each phrases by one of these choices: very low, low, average, high, very high which scored by 1-5 respectively. For assurance of the validity of both questionnaire the content validity method have used. For this reason the questionnaire have evaluated by the university teacher and counselor and 5 experts and finally the necessary edition have done. For determining the reliability of the questionnaires the Cronbach’s alpha method have been used which its amount was more than 0.85. For analyzing the data the SPSS software have used. The data analysis of the research have done in two level of descriptive and analytical statistics. The inferential statistics and Kamolograph-Smeernoph and Pearson correlation test have used for evaluating the differences of teachers opinion.

Results

The results showed that there was a significant relation between the readiness level and provided equipment and cultural readiness with e-learning (Table 1). Table 2 showed a summary of regression pattern among all the independent variables, which have entered regression pattern, only three variable of cultural readiness, electrical education and skill could remain in the model and according to the data of table2, it was revealed that multicorrelation coefficient among the research variable and e-learning was \( R^2 = 0.398 \). This amount showed that the independent variables could provide about 39% of the various change in e-learning. The significances levels of this amount have been presented in table3. Table3 showed that from total squares of e-learning among Kermanshah’s medical science university faculty’s member (1686.710), 1419.131 unit of it with free rate of 35 and 151 have presented by cultural readiness and e-learning skill. The cultural level for this hypothesis is in significant level 0.001. Therefore, it could be said that the cultural readiness, e-learning skill has been able to explain 39% of the e-learning variance. Table 4 showed the cultural readiness, e-learning skill variable regression coefficient with electronic education. According to the results of this table the cultural readiness, education and electronic skill with 0.194, 0.222 and 0.154 \( \beta \) have a significant predict of learning.

Discussion

In the assessment of the relation between readiness level and accepting e-learning by medical science faculty members, the data collected analysis in the form of Pearson correlation test have represent a significant relation between them. The results of this research is consistent (Bahadorani and Yamani, 2001) research which in their study showed that the acceptance percent of faculty member in comparison with the important role of computer and internet have 97.3% improvement. And also it is consistent (Karimi, 2006) study which showed the readiness level of the students e-learning in an average level, teachers in a good level and managers in an average level but among the studies which are not consistent with the following studies (Ghazi Saeedi and Ghasemi, 2007; Mohammadi, 2009; Zolfagari et al., 2009).

In the evaluation of the hypothesis ‘providing the equipment have effect the e-learning among the studied faculty’s member’ the data collected analysis in the form of Pearson correlation test have showed that providing the necessary equipment for education could increase the education and learning of the Kermanshah’s medical
science university’s faculty member. The results of this study is consistent (Bahadorani and Yamani, 2001; Karimi, 2006; Choules, 2007; Yu et al., 2007; Zolfagari et al., 2009) studies. But the studies which are not consistent with this study (Bahadorani and Yamani, 2001; Otero et al., 2007; Sabzi, 2009; Sandars and Lafferty, 2010) studies. And it is not consistent (Zandi et al., 2004; Borotis and Poulymenakou, 2004; Liaw, 2004; Zandi et al., 2005) studies. The last hypothesis ‘evaluating

Table 1. The relationship between the variables of readiness, availability of equipment and cultural readiness with e-learning

<table>
<thead>
<tr>
<th>Variables</th>
<th>Number</th>
<th>The correlation coefficient (r)</th>
<th>The significance level (P)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Readiness</td>
<td>155</td>
<td>0.379</td>
<td>0.0001</td>
</tr>
<tr>
<td>E-learning</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The availability of equipment</td>
<td>155</td>
<td>0.160</td>
<td>0.046</td>
</tr>
<tr>
<td>E-learning</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cultural readiness</td>
<td>155</td>
<td>0.303</td>
<td>0.0001</td>
</tr>
<tr>
<td>E-learning</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2. Summary of regression

<table>
<thead>
<tr>
<th>Index</th>
<th>R</th>
<th>R²</th>
<th>The standard error of estimate</th>
<th>Durbin Watson</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>0.159</td>
<td>0.389</td>
<td>3.065</td>
<td>1.536</td>
</tr>
</tbody>
</table>

Table 3. Total square test and summary of variance analysis

<table>
<thead>
<tr>
<th>Variation range</th>
<th>Sum of squares</th>
<th>Mean of Square</th>
<th>DF</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intergroups</td>
<td>267.578</td>
<td>89.193</td>
<td>3</td>
<td>9.490</td>
<td>0.001</td>
</tr>
<tr>
<td>Between groups</td>
<td>1419.131</td>
<td>9.398</td>
<td>151</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>1686.710</td>
<td>154</td>
<td></td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Table 4. Regression coefficients of cultural readiness, training, and e-skills with e-learning

<table>
<thead>
<tr>
<th>Variable</th>
<th>Non-standard coefficients</th>
<th>Standard coefficients</th>
<th>t</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>8.298</td>
<td>2.094</td>
<td>8.739</td>
<td>0.001</td>
</tr>
<tr>
<td>Cultural readiness</td>
<td>0.08</td>
<td>0.033</td>
<td>0.194</td>
<td>2.390</td>
</tr>
<tr>
<td>Education</td>
<td>0.113</td>
<td>0.04</td>
<td>0.222</td>
<td>2.861</td>
</tr>
<tr>
<td>E-skills</td>
<td>0.13</td>
<td>0.066</td>
<td>0.154</td>
<td>1.984</td>
</tr>
</tbody>
</table>

(Zolfagari et al., 2009; Sabzi, 2009). Evaluating the hypothesis of ‘cultural readiness effect the e-learning among the studied faculty’s member’ the data collected analysis in the form of Pearson correlation test showed that cultural readiness among the members and universities could cause the increase in educating and learning among the Kermanshah medical science university’s faculty members. The results of this study is consistent (Bahadorani and Yamani, 2001; Karimi, 2006; Sandars and Lafferty, 2010) studies. And it is not consistent (Zandi et al., 2004; Borotis and Poulymenakou, 2004; Liaw, 2004; Zandi et al., 2005) studies. The last hypothesis ‘evaluating
each cultural readiness, electronic skill and education variables predicted the e-learning among the Kermanshah medical science university’s faculty member which multi variable regression model (stepwise) have used for it. All the independent variable of this research have evaluated the regression model and only three variables could predicted the e-learning. The results of this research is consistent (Ghazi Saeedi and Ghasemi, 2007), and it is not consistent (Naghavi, 2007; Yaghoobi 2008; Sdqpur and Mirzaii, 2008; Mohammadi, 2009) studies.

**Conclusion**

Based on the results it could be concluded that all the evaluated component effect the e-learning in the form of positive (direct) effect. According to the significant relation of e-learning component, for conducting e-learning from faculty member point of view, improvement of the environment infrastructure, equipment, cultural availability and work skill in e-learning environment have recommended.

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