E-leraning Readness of Faculty Members: A Comparative Study between 20 August 1955- Skikda University in Algeria and Kilis 7 Aralik University in Turkey

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Abstract

E-learning can be considered as the future of learning activities. Faculty members of higher education should use the latest available technology to compete with other institutions. The aim of this study is to compare the faculty members e-learning readiness in two universities at two different countries, one is an emerging country (Turkey) and the other is an underveloped country (Algeria). Cross sectional descriptive study design is used to analyze the dataset gathered from a survey between two universities. A convenient sample consists from 123 faculty members who are working at the faculty of economics at the time of study (55 from Skikda University and 68 from Kilis 7 Aralik University). Data was collected through an e-learning readiness survey. The results of this study should be considered by the other higher education institutions in Algeria and Turkey to develop and implement e-learning program as an alternative to traditional classroom method of teaching.

Key Words: e-learning, Higher Institutions, Academik Staff
Jel Code: 123 Higher Education and Research Institutions

Akademik Personelin E-öğrenmeye Hazırbulunuşluk Düzeyi: Kilis 7 Aralık Üniversitesi (Türkiye) ve 20 August 1955-Skikda (Cezayir) Üniversitesi Arasında Karşılaştırmalı Bir Araştırma

Öz

E-öğrenme, öğrenme faaliyetlerinin geleceği olarak düşünülebilir. Üniversitelerde akademik personellerin, diğer eğitim kurumlarıyla rekabet edebilmek için mevcut en son teknolojiyi kullanmaları gerekmektedir. Bu çalışmanın amacı, biri gelişmekte olan bir ülke (Türkiye) ve diğeri az gelişmiş bir ülke (Cezayir) olan iki farklı ülkedeki akademik personellerin e-öğrenme ile ilgili hazırbulunuşluk durumunu karşılaştırmaktır. Her iki üniversite akademik personellerinden elde edilen veri seti SPSS kullanılarak analiz edilmiştir. Her iki üniversiteden toplam 123 akademik personel ankete katılmıştır (Skikda Üniversitesi Ekonomi Fakültesi'nden 55, Kilis 7 Aralik Üniversitesi'nden 68). Veriler anket aracılığıyla toplanmıştır. Bu çalışmanın sonuçları, Cezayir'de ve Türkiye'de yüksek öğrenim kurumları için, geleneksel sınıf öğretim yöntemine alternatif olarak e-öğrenme programının geliştirilmesi ve uygulanması bakımdan önemli bulunabilir.

Anahtar Kelimeler: E-öğrenme, Yüksek Öğretim kurumları, Akademik personel
Jel Kodu: 123 Yüksek Öğretim ve Araştırma Kurumları

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Introduction

Today, technologic developing has accelerated telecommunication and internet into a worldwide. So e-learning has developed as an effective teaching and learning system (Saekow and Samson, 2011). Higher education sector can take greatest advantage of the increased use of technology, especially the Internet, in delivering the educational product (Azimi, 2013). Higher education institutions should either adjust to this innovative reality or they will be in danger of losing their standing as principal educational institutions (Vermeulen, 2011) E-learning has a good chance, as well as variation, for individuals, universities, education institutions and all other organizations. It is possible to spend time less than other education systems by using e-learning mechanism. Also it can save sources, money and effort. Moreover, it can supports the learning process and provides collaborative learning environments. However, these opportunities can turn into a big fiasco if the institutions is not ready for e-learning with all of its components (Soydal et al., 2012). It is possible to assert that the implementation of e-learning activities requires physical infrastructure, technical expertise and psychological readiness (Ouma et al ., 2013).

E-readiness can be defined as knowing the most critical aspect for achieving successfully implementation of e-learning programs in higher education. Understand the role of this factor could help the managers in higher education to implement effective and efficient e-learning activities (Hetty Rohayani et al, 2015). The assessment of readiness allows institutions to develop systems and place appropriate measures that are required for the success of implementation. The assessment should include learners' ability to adapt to technological changes, collaborative training and synchronous as well as asynchronous self-paced training (Oketch et al., 2014).

Teachers and instructive are the primary elements for adapting and implementing all the learning atmosphere to an e-learning platform since they are directly engaged with students and course contents. They play a significant role in curricular transformations, integrating e-learning technologic tools and adapting individuals to lifelong learning in a networked world (Soydal et al., 2012).

The main objective of the study is to compare the faculty members e-learning readiness in two universities at two different countries, one is an emerging country (Turkey) and the other is a developing country (Algeria).

The research questions of the study have been formulated as:

1. Do the participants ready for e-learning?

2. Do the participants tend to accept or reject the introduction of e-learning in their teaching practices?

3. Do the participants perceive the need for training in implementing e-learning?

4. Are there any differences among the participants regarding their genders, ages, titles and departments in terms of accepting/rejecting e-learning?

5. Are there any differences among the participants regarding their universities in terms of accepting/rejecting e-learning?

The contribution formed in five parts. After this introduction part, in second part literature review part is presented. In third part the methodology and research instrument is presented. In fourth part the result of the analysis is presented. Finally in last fifth part is dedicated to conclusion of the study.

1. Literature Review

By definition, use of electronic media and technologies of educational, information and communication (ICT) is e-learning in education process. E-learning includes several types of media that deliver written and visual media and includes technological devices and material. For example audio or video tape, satellite TV, CD-ROM, and computer-based learning and also local intranet/extranet and web-based learning. Information and communication systems are networked learning of free standing or based on networks (Contreras and Hilles, 2015).

The meaning of e-learning also says to be dependent on the context in which it is used. In corporation, it often refers to the strategies and policies that use firm networks to deliver training courses to staffs. Today in most colleges and universities, e-learning is used to define a specific mode to attend a course or programs of study where the students rarely or never meet face-to-face, nor access on-campus educational facilities, because they study online. E-learning courses are mostly designed to guide students through information or to help students perform in specific tasks (Chanchary and Islam, 2011).

E-learning readiness is defined as "the mental or physical preparedness of an organization for some e-learning experience or action" (Ouma et al., 2013). It allows organization to design comprehensive e-learning strategies and effectively implement ICT goals (Kaur & Abas, 2004). It has different dimensions all of which shall be studied regarding their technical infrastructure (hardware and software, network, security, data base and communication systems), processed and systems, management, human, legal and financial resources, clients, partners and suppliers (Ranjbarzadesh et al., 2013).

Several models and instruments have been developed to assess e-learning readiness of both business organizations and education institutions and various e-learning issues and critical success factors were introduced by numerous literatures

were considered (table 1). The main dimensions are technological skills, content, human resource, finance, culture and equipment/infrastructure.

Table 1: Assess E-Learning Readiness' Models and Instruments

Model	**Dimensions**
Chapnick (2000)	Psychological, Sociological, Environmental, Human resource, Financial, Technological skill, Equipment, Content.
Rosenberg (2000)	business readiness, the changing nature of learning and e-learning, value of instructional and information design, change management, reinventing the training organization, the e-learning industry, personal commitment.
Haney (2002)	Human resources, Learning Management System, Learners, Content, Information Technology, Finance, Vendor.
Pirani (2004)	Technical Infrastructure of the Institutions, Instructors and Students' Technical Skills, Instructors' Capability to Design Online Courses which Incorporates Effective Pedagogy.
Kaur and Abas (2004)	Learner, management, Personnel, Content, Technical, Environmental, Cultural, Financial readiness.
Aydin and Tasci (2005)	Technology, Innovation, People, Self-Development.
Mercado (2008)	Technology Access, Technical Skills, Attitude.
Akaslan and Law (2010)	Technology, Content, Institution, People.
Qazaq (2012)	Psychological, Administrative, Technological, affective, Change.
Oketch (2014)	Technological readiness, Culture readiness, Content readiness, Demographics factors.
Parlakkılıç (2015)	Technological skills readiness, Online learning style readiness, Equipment/infrastructure readiness, Attitude readiness, Human resource readiness, Environmental readiness, Cultural readiness, Financial readiness.

2. Methodology

The research employed a quantitative method based on survey. Cross sectional descriptive design was used in this study. Data was collected through an e-learning readiness survey. The target population consisted of the faculty members of Skikda University in Algeria and Kilis 7 Aralik University in Turkey. To measure e-learning readiness, the study proposes a questionnaire prepared by Akaslan and Law and based on a theoretical model of the readiness for e-learning which define the perceived readiness in three phases namely, Readiness, Acceptance and Training. Investigative examines four main factors, indicating the

readiness of participants for e-learning, which are technology, content, institution and people (Figure 1).

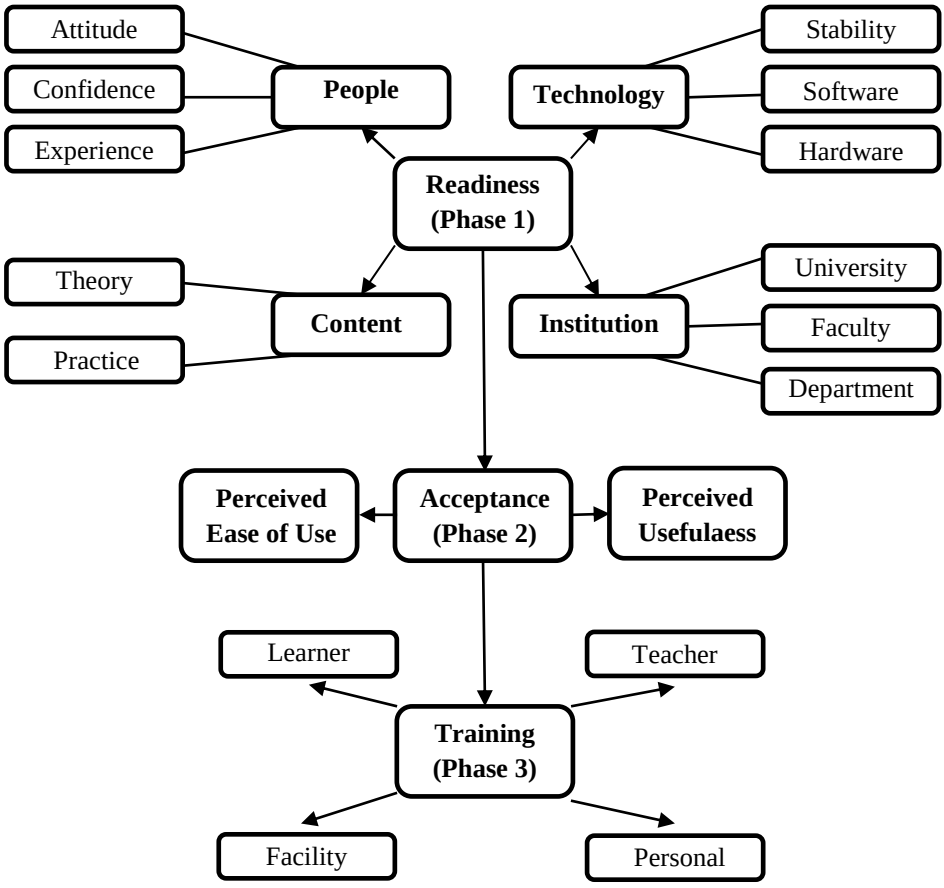

Figure 1: The Conceptual Model of E-Learning Readiness Survey
Source: Akaslan and Law, 2010.

Participants reported their perceptions on these e-learning related items with a fivepoint Likert-scale where 1 being "strongly disagree" and 5 being "strongly agree". Aydın and Tasci's (2005) identification of "expected readiness" for e-learning which is defined as the mean score of 3.40 was adopted in order to evaluate the survey results.

This evaluation model is based on the four intervals of five-point Likert-scale and suggests 0.8 (4 intervals / 5 categories) as the critical level (see Figure 2).

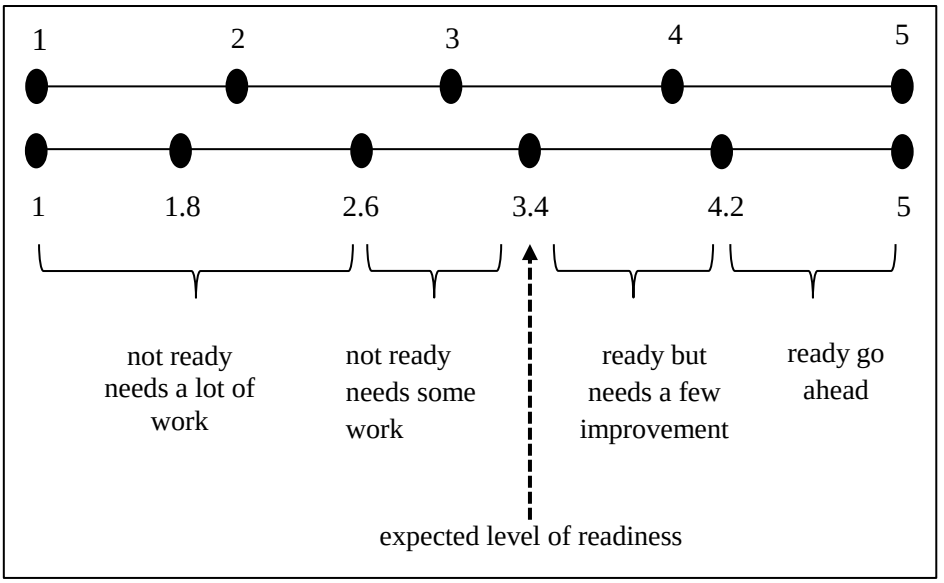

Figure 2: E-Learning Readiness Assessment Level
Source: Aydin & Tasci, 2005.

3. Result and Discussion

3.1. Dataset Description

The universe of the study is defined as the academic staff of each university. The survey is filled by 55 staff filled the survey in Skikda University, while 68 staff filled in Kilis 7 Aralik University. The descriptive statistics of participants are presented in table.

Table 2: Demographic Data of Participants

		Skikda University (n=55)		**Kilis 7 Aralik University (n= 68)**	
		Frequency	**Percent(%)**	**Frequency**	**Percent(%)**
Gender	Male	28	50.9	49	72.1
	Female	27	49.1	19	27.9
Age	Under 30	10	18.2	26	38.2
	Between 30 and 44	42	76.4	30	44.1
	Over 44	3	5.5	12	17.6
Teaching Experience	1-5	25	45.5	29	42.6
	6-10	27	49.1	20	29.4
	11-15	2	3.6	6	8.8
	15+	1	1.8	12	17.6

Table 2: (continued)					
Highest Qualification	BA	-	-	7	10.3
	Master	43	78.2	30	44.1
	Doctora	12	21.8	30	44.1
Academic Rank	Assistant	43	78.2	2	2.9
	Associate	12	21.8	6	8.8
	Professor	-	-	17	25.0
	Other	-	-	41	60.3

Statements related to e-readiness perception of different universities are presented in table. The shaded questions represent the mean scores above 3.4.

Table 3: Statements Related to e-Readiness Perception

Item No.	**Item Description**	**Skikda University**		**Kilis 4 Aralik University**	
		Mean	**Std Dev**	**Mean**	**Std Dev**
1	I am satisfied with my university network.	2.2	1.16	3.84	1.13
2	I use the Internet as information source.	4.09	0.87	4.53	0.53
3	I use e-mail as the main communication tool with my students and colleagues.	3.98	1.11	3.94	0.98
4	I use office software (e.g. Microsoft Office, Open Office, etc.) for content delivery and demonstration.	3.58	0.99	4.38	0.57
5	I use social network sites (e.g. Facebook, Twitter, etc.).	2.98	1.35	3.71	1.27
6	I use softwares related to my research field (e.g. Matlab, SPSS, etc.).	3.75	1	3.75	1.1
7	I use instant Messaging (e.g. MSN, Yahoo, etc.).	3.58	1.23	3.19	1.41
8	I use computers confidently.	3.89	1.08	4.4	0.58
9	I use web browsers (e.g. Internet Explorer, Google Chrome) confidently.	3.91	1.11	4.59	0.53
10	I use search engines (e.g. Google, MSN Search) confidently.	4.11	0.99	4.6	0.52
11	I use digital file management tools confidently.	3.29	1.01	4.43	0.68
12	I use tools to create learning materials confidently.	3.44	1.13	4.35	0.66
13	I have information about what e-learning is.	3.78	1.01	3.93	0.94
14	I have enough information and competency to prepare e-learning materials.	3.15	1.11	3.57	1.1

Table 3: (continued)					
15	I feel that I am ready to integrate e-learning in my teaching.	3.73	0.89	3.62	1.02
16	I have enough time to prepare e-learning materials.	2.98	1.11	3.38	1.02
17	I believe my students will like e-learning.	3.02	1.13	3.69	0.82
18	The top-level administration understands what e-learning is.	2.78	1.01	3.4	0.79
19	The top-level administration supports the use of e-learning.	2.53	0.98	3.44	0.9
20	I believe e-learning is applied in my department.	1.82	0.77	3.04	1.06
21	I believe e-learning is applied in my faculty.	1.85	0.73	3.04	0.95
22	I believe e-learning is applied at my university.	2.18	0.86	3.29	0.88
23	E-learning can enhance the quality of the theoretical part of the my research field.	4.16	0.63	3.79	0.92
24	E-learning can enhance the quality of the practical part of the my research field.	4.11	0.76	3.6	1.05
25	E-learning can be applied to the theoretical part of the my research field.	4.15	0.73	3.9	0.81
26	E-learning can be applied to the practical part of the my research field.	4.07	0.77	3.37	1.01
27	I believe that e-learning can improve the quality of my teaching.	4.29	0.63	3.93	0.89
28	I believe that using e-learning can increase my productivity.	4.24	0.67	3.85	0.8
29	I believe that e-learning is useful for my research.	4.27	0.59	3.99	0.92
30	I believe that e-learning enables me to accomplish my teaching more effectively than the traditional classroom-based approach.	3.8	1.03	3.54	0.94
31	I believe that it is easy for me to use e-learning.	3.38	1.1	3.65	0.88
32	I believe that my students find it easy to use e-learning.	2.71	1.03	3.38	0.88
33	I do not need training on e-learning.	2.27	0.97	2.97	1.15
34	My students do not need training on e-learning.	1.89	0.85	2.19	0.87
35	Technical and administrative personals do not need training on e-learning.	2.09	0.87	2.24	0.87
36	The facilities of university are sufficient for e-learning.	1.78	0.94	3.1	0.93

Table 3: (continued)					
37	To what extent do you support the integration of e-learning in your department/program if your institution seems to be ready for e-learning?	4.33	1.04	3.87	0.93

3.2. Readiness Levels According to Universities

A few differences are found for items among the universities. Findings show that university differences is significant for item 1 (I am satisfied with my university network, $\chi^2 = 45.443, p = 0.000$), for item 2 (I use the internet as information source, $\chi^2 = 13.631, p = 0.009$) for item 4 (I use Office software (e.g. Microsoft Office, Open Office, etc) for content delivery and demonstration, $\chi^2 = 28.312, p = 0.000$), for item (I use computers confidently, $\chi^2 = 16.593, p = 0.002$), for item (I use web browsers (e.g. Internet Explorer, Google Chrome) confidently, $\chi^2 = 18.808, p = 0.001$), for item (I use search engines (e.g. Google, MSN Search) confidently, $\chi^2 = 12.031, p = 0.017$), for item (I use digital file management tools confidently, $\chi^2 = 44.646,\ p = 0.00$), for item (I use tools to create learning materials confidently, $\chi^2 = 30.270, p = 0.000$), for item (I have enough time to prepare e-learning materials, $\chi^2 = 12.366, p = 0.030$), for item (I believe my students will like e-learning, $\chi^2 = 18.633, p = 0.001$), for item (The top-level administration understands what e-learning is, $\chi^2 = 15.977, p = 0.003$), for item (The top-level administration supports the use of e-learning, $\chi^2 = 28.620, p = 0.000$), for item (I believe e-learning is applied in my department, $\chi^2 = 39.357, p = 0.000$), for item (I believe e-learning is applied in my faculty, $\chi^2 = 43.713, p = 0.000$), for item (I believe e-learning is applied in my university, $\chi^2 = 39.321, p = 0.000$), for item (I believe that my students find it easy to use e-learning, $\chi^2 = 20.039, p = 0.000$), for item (I do not need training on e-learning, $\chi^2 = 15.098, p = 0.005$), for item (The faculities of university are sufficient for e-learning, $\chi^2 = 50.115, p = 0.000$). These differences are in favour of Kilis 7 Aralik University.

On the other hand, statistical differences are detected for item (E-learning can enhance the quality of the theoretical part of the my research field, $\chi^2 = 9.845, p = 0.043$), for item (E-learning can enhance the quality of the practical part of the my research field, $\chi^2 = 11.985, p = 0.017$), for item (E-learning can be applied to the practical part fo the my research field, $\chi^2 = 20.432, p = 0.000$), for item (I believe that e-learning can improve the quality of my teaching, $\chi^2 = 11.652, p = 0.040$), for item (To what extent do you support the integration of e-learning in your department/program if your institution seems to be ready for e-learning, $\chi^2 = 17.062, p = 0.002$) between universities. These differences are in favor of Skikda University.

3.3. Readiness Level among Gender across Universities

Chi-Square tests were conducted for each e-learning readiness item to evaluate the statistical significance of differences among the genders for each of two university.

For Skikda University in a few items significant differences are detected. Findings show that gender differences is significant in terms of 1 (I use softwares related to my research field (e.g. Matlab, SPSS, etc.), $\chi^2 = 8.006, p = 0.046$) which indicates that male academic staff is more using them ($\bar{x} = 3.93, s = 0.766$) than female ($\bar{x} = 3.56, s = 1.188$) counterparts. Also there is significant differences in terms of the item (I have enough information and competency to prepare e-learning materials, $\chi^2 = 10.884, p = 0.028$) indicates that Male academic staff has more time and competency ($\bar{x} = 3.36, s = 1.062$) than female ($\bar{x} = 2.93, s = 1.141$) counterparts. There is significant difference in terms of item (I believe that my students find it easy to use e-learning, $\chi^2 = 12.834, p = 0.012$) indicates that Male academic staff has less believing ($\bar{x} = 2.50, s = 0.923$) than female ($\bar{x} = 2.93, s = 1.107$) counterparts.

For Kilis 7 Aralık University. findings show that gender differences is not significant in terms of e-learning readiness except for item (I believe e-learning is applied in my department, $\chi^2 = 10.0866, p = 0.039$) indicates that male academic staff is more believing ($\bar{x} = 2.96, s = 1.060$) than female ($\bar{x} = 3.26, s = 1.046$) counterparts.

3.4. Readiness Categories Between Universities

Items were categorized in the survey under three different sections names Readiness, Acceptance and Training. The mean scores of universities according to these categories are presented in Table 4.

Table 4: Mean Scores of Three Categories According to Universities

	Readiness		**Acceptance**		**Training**	
Universities	**Mean**	**Std Dev**	**Mean**	**Std Dev**	**Mean**	**Std Dev**
Skikda University	3.35	1.23	3.78	1.04	2.47	1.32
Kilis 7 Aralik University	3.80	1.03	3.72	0.91	2.87	1.33

Table showed that in Readines category Kilis 7 Aralik University presented higher score than Skikda University. That indicates that the Skikda University must increase its readiness for e learning activities. On the other hand, acceptance score is almost same in two universities and above 3.4 level. That finding indicates that academic personnel in two universities are accepted the e learning activities.

However, the lower score in training category indicates that academic personnel in both universities need training.

Conclusion

In this comparative study, the readiness degrees of two universities for e-learning are surveyed. Differences are detected between two universities. These differences change according to needs and culture of two different universities. As a general result, it can be stated that, Readiness Level and Acceptance Level is above the mean value. Training level, on the other hand is not above the mean level which indicates that academic staff need training on e-learning for each university.

The results indicate that the universities compared are overall ready for e-learning, but they need to improve the abilities to successfully implement e-learning. It also observed that teachers need support from the institution to use e-learning technologies in their classrooms.

The findings of this study are useful for higher education because they indicate that e-learning can improve the quality of teaching and research. Institutions can benefit from applying programs which focus on developing a positive attitude towards e-learning technology.

The results of this study should be considered by the other higher education institutions in Algeria and Turkey to develop and implement e-learning program as an alternative to traditional classroom method of teaching.

A longitudinal study can be considered as a future study. By considering the time dimension, a change in the readiness or perception towards e-learning can be observed which will produce detailed information about the perception of e-learning activities.

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