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Extent of E-Learning Competencies by Students of Princess Nourah bint Abdulrahman University Necessary for Accessing the Labour Market

Maryam Abdurahman Alfaleh[1]

[1] Princess Noura bint Abdulrahman University, Riyadh, Saudi Arabia

Correspondence: Maryam Abdurahman Alfaleh, Associate Professor of Education Technology, Education faculty, Princess Nourah bint Abdulrahman University, Riyadh, Saudi Arabia.

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Abstract

E-learning has become a necessity for all elements of the communication process in today's world. Education, in all its many shapes and forms from dialogue to dialogic, is dependent upon that communication process. Manifestations of technology, including networks, devices and applications, contributed to the global spread of e-learning. The concept and application of continuing education at any time and place has emerged with individual differentiation and efficient performance gaining more momentum.

The global labour market and modern technology has had a mutual effect as it has become necessary for people to acquire e-learning competencies to access the labor market with the required performance levels. Therefore, the related research problem addressed by this paper is articulated in this question: "To what extent do the students at Princess Nourah bint Abdulrahman University possess e-learning competencies to qualify them for the labour market?"

This research reached results indicating, for instance, that the subjects' possession of competencies in dealing with the computer was medium. However, the subjects' possession of the skills necessary to deal with the Internet was high. Further, the subjects' possession of e-learning culture was medium. The researcher recommended using a standardised set of e-learning skills in the development of IT educational courses and developing an educational training program for the students to enhance their competencies. It is also recommended that the students' pre-University programs need evaluation to determine the extent to which they cover the content that leads to these competencies.

Keywords: e-learning, technology, standards, training, workplace

1. Introduction

Educational technology is the theory, application and practice of the design, development, use, management, and evaluation of the learning resources and processes for solving educational problems. The e-learning courses are among the core areas of educational technology. When applied to solve educational problems, such areas need to be designed, developed, used and managed according to certain standards. This is to ensure the efficient application of these courses in the educational process.

The rapid and successive change in information and telecommunication technology resulted in cultural, social, and economic developments that were reflected on the world community in general and on the Arab world in particular. These developments are considered among the transformations that determine the requirements of the labour market, an issue that poses a new challenge to the Arab world. This challenge is manifested raising educational standards for our youth and providing them with the necessary level of competencies required by the labour market.

The educational policies in the Kingdom of Saudi Arabia stress the necessity of acquiring knowledge and developing skills to transfer technology to the country. Article (15) of the educational policy in the Kingdom prescribes: "Linking education in all stages with the general development plan of the country." Achieving

development requires raising and educating a productive human power, which is the function of the educational institutions. This requires keeping up and aligning with global scientific and technological advancements.

The ninth development plan of the Kingdom acknowledged these points. It stressed five themes that comprise a complete framework to continue a comprehensive and balanced development of the national economy. Above all, it focused on establishing foundations of sustainable development on the long term. The second theme addressed "the development of national human power and increasing employment levels." This means more participation by the national human resource, continuing enhancement of their skills and development of their abilities, providing well-paid job opportunities, and increasing their share in the national labour market (Ministry of Economy and Planning, 2010, p.8).

Among the implementation techniques which the national plan referred to was providing educational opportunities, improving the rates of enrollment in all educational stages, developing the educational system to ensure quality and quantity response to the developmental and social needs and new knowledge (Ministry of Economy and Planning, 2010, p.20).

The great technological developments and the levels reached by information and telecommunication technologies at the present time are so evident. This development involves technology in all walks of life, including, but without limitation, the educational process. Therefore, like all other institutions, it was indispensable for educational institutions to adopt technology. The future school model therefore emerged with all technological requirements to keep up with global progress in the field. This gained the attention of the Saudi Vision 2030 which was announced on April 25th 2016. Among the goals of this Vision is to raise the rate of women's participation in the labour market from (22%) up to (30%), and to raise the volume of local economy from the current rank of 19 to be ranked among the first 15 at the world level (http://vision2030.gov.sa/ar).

The development of information, knowledge construction, and accelerating technical advancement gives knowledge management the lion's share of focus. This also led to more focus on the use of information technology applications to assist users (Al-Akluby, 2012, p.249).

With the information technology revolution, the world became a small village, and the need became more pressing for sharing experiences with others. Students needed rich multi-source environments for research and self-development. Hence, the concept of e-learning blossomed as a method of learning and delivering information to students. It depends on modern technologies of the computer, the Internet and multimedia (CDs- educational software- e-mail- discussion forums- and virtual classrooms). E-learning is the employment of networks, information and telecommunication technologies in the educational and learning process (Naidu, 2006, p.1). Kjeldsn and Gomme (2003,p.2) and Tromlty and Lee (2003, p.5) concurred that e-learning is that type of learning that is received wholly or partially through materials, applications or communications that take place through the world wide web (www).

E-learning observers found that most institutions started this kind of education through certain self-motivated efforts, without considering that this kind of education needs special requirements. It needs a special infrastructure, special programs, standards, electronic curricula, a scientific environment and the training of teachers. In Al-Muhaya's study (2002), which aimed at determining the computer and Internet skills for the Teacher's College in Abha, the results confirmed that the availability of the two skills was low during study at the college. In Al-Khawaldah's study (2004) which aimed at identifying forms of e-learning in the private school teachers' practices, and the effect of the teacher's specialism and study phase on these forms, the major results indicated that the most outstanding forms of e-learning that scored high among users were contacting e-schools, navigating search engines, e-mails, making use of office programs, preparing students' computerized projects and displaying computerized information. However, the use of CDs scored among the medium use categories. Asking professionals who belong to international scientific centres and educational communication was among the low use levels. Maxwell's study (Maxwell, 2007) aimed at identifying the teachers' views on appropriateness of a training program on technology and how much they integrate technology in the curriculum. Among the most important results of this study were that most teachers did not receive any training on using the Internet, and if they received such training, it was not enough. The results also indicated that the teachers' experience in using the Internet was little. Finally, the study revealed that the time dedicated for training was not enough.

Based on the above, the author sought to determine the extent of the e-learning competencies of the students at Princess Nourah University to qualify them for the labour market.

1.1 Research Problem

The research problem can be formed in the main question: "To what extent do the students at Princess Nourah University possess e-learning competencies that qualify them for the labour market?" The author addresses the main question through the supplementary questions:

1. What are the e-learning competencies necessary for the students at Princess Nourah University to qualify them for the labor market?
2. To what extent do the students at Princess Nourah University possess e-learning competencies that qualify them to the labor market?

1.2 Research Significance and Aims

The significance of this research can be stated as follows:

1. This research is the first attempt to derive the e-learning competencies necessary for the students at Princess Nourah University to access the labour market.
2. It benefits the students at Princess Nourah University to carry out new tasks in the light of information technology and e-learning environment.
3. The data supports the evaluation and re-design of the students' preparation course at Princess Nourah University through other support courses that focus on the development of e-learning competencies.
4. It supports the development of the skills of University Faculty Members to deal more efficiently with the e-Learning Environment.

The research aims at identifying and standardising a list of e-learning competencies that qualify students for the labour market and identifying the extent to which students at Princess Nourah [as a case study for extrapolation] possess those e-learning competencies.

1.3 Research Terms

Competency: Is defined by the International Board of Standards for Training, Performance and Instruction as "the skills, knowledge, and attitudes that enable one to effectively perform the activities of a given occupation or function to the standards expected"(IBSTPI,2003:6). Zainiddin(200, p.53) defined it as "the ability to perform work, which includes various capabilities associated with performing the teaching profession, reaching a suitable level of perfection. Teaching competencies include knowledge, skills, and trends, all of which can be acquired and measured." Procedurally, they can be defined in this research as "the set of knowledge and skills that make students at the Nourah Bint Abdul Rahman University effectively qualified for the labor market at the required and expected standards."

e-Learning: Ghulum(2003, p.3) defines e-learning as a "teaching system that utilizes information technologies and computer networks in supporting and enlarging the scope of the teaching process through a number of methods including computers, the Internet, and software prepared either by specialists at the ministry or by companies."

Salem(2004, p.289) defines e-learning as a "teaching system to present teaching or training programs to learners or trainees, at any time or in any place using information technologies and interactive communication tools such as the Internet, local channels, e-mail, compact discs, computers, and others, to provide an interactive and multi-sourced teaching and learning environment in a synchronized manner in the classroom or a non-synchronized manner from a distance without being restricted to a specific location, based on self-learning and interaction between the teacher and the student."

Zaytoun(2005, p.24) defines e-learning as "the provision of a teaching (electronic) content through computer and Internet-based media to the learner in such a way that provides active interaction with this content, the teacher, and his/her peers, whether in a synchronized or non-synchronized manner, as well as the possibility to complete this learning process in the right place and in a timely manner according to the learner's abilities and circumstances, in addition to the ability to manage this learning process as well through these media."

Amer(2007, p.21) defines e-learning as "a teaching system that utilizes information technologies and the Internet for supporting and expanding the scope of the teaching process."

2. Literature and the Theoretical Basis of the Research

2.1 E-Learning

Advanced teaching methods are considered the basis for dealing with the terminology of the 21st century, in order to confront the information revolution and the emergence of scientific theories in various fields. These teaching methods are the means to development in all aspects of life, and for this reason, education in the Arab World requires development. The education crisis from which the Arab World suffers when facing the information systems phenomenon and computer technology and the aspirations of Arab citizens to assume a significant position at the beginning of the 21st century has imposed on the educational system in the Arab World a need to develop. That development is required in order to accompany the information revolution and computer technology, and to embed them in reforming teaching systems and curricula, in order to develop self-motivated and self-regulated learners equipped to enter the labour market, supplied with creative,scientific, entrepreneurial and practical skills in line with current technologies.

E-Learning has become a basic concern for educators who are interested in teaching technologies, and this has prompted a number of research studies into the e-learning concept.

The digital information technology has opened a new source for teaching and learning, and Internet education has become a major source of learning, often replacing the traditional classroom. Malik pointed out that it provides users with the ability to acquire nuanced knowledge through the Internet(Malik,2010 p.46-73). It also alters our teaching methods, and enables students to access and learn what they want whenever they want. More importantly, they will be able to be trained to evaluate what they learn (Hamdi,2008 p.15).

Since e-learning and information technology have pervaded schools, universities, and student hostels, it has become incumbent on university graduates to have a certain level of awareness of e-learning concepts, and to have the necessary skills in e-learning that enable them to join the labour market. E-Learning has become a creative input for directing electronic media and surrounding the learner and the interactive learning environment.

2.2 Characteristics of E-Learning

Al-Sa'ei(2007 p.5) notes that e-learning has unique characteristics, which relate to its nature and philosophy and which can be presented as follows:

Universality: It can be accessed at any point in time and from any location without barriers, and all it need is a connection to the Internet.

Interactivity: With interaction between the scientific content and beneficiaries, including students, teachers, and others, who can deal with the components of the scientific material and directly move from one component to another.

Globality: It is not restricted to one group of people. In addition, more than one learner can access it from more than one location, interacting with the same educational program at the same time.

Individuality: It fulfils the needs and desires of each learner's scientific level, permitting advancement with the program according to the individual's learning speed.

Integration: All its elements complement each other, thus allowing the achievement of specific educational goals.

2.3 The Importance of E-Learning

Students enjoy a number of benefits from using e-learning, among which are(The need for continuous learning.

1. The need for flexible learning.
2. The need for communication and openness to others.
3. The ability for enlightenment.
4. Support new teaching methods (Alfaleh,2008 p.207-208)

In addition, it helps teachers and learners design a new learning environment based on utilizing the communications and information technology. The ease of using the Internet and a number of technological methods has led to removing the classroom barriers and walls to welcome the cyberspace, opening new scopes for learning, training, and communication(sultsn,200,p.165).

It is clear to the researcher from the above that e-learning involves a number of benefits that erase the time and place dimension of learning. There are no more boundaries for receiving education. The boundaries have fallen, and the student can now continue with his/her education and attend lectures while sitting at home. He/she can debate with his/her teacher, send homework and activities, and interact with the teacher through an electronic environment. It also removes issues such as pace of learning between students, with each student learning according to his/her level and abilities.

2.4 Competencies of E-Learning

- **The Concept of Competence**

The concept of competence is considered a multi-faceted and multi-angled concept due to the fact that each researcher perceives competency from a different angle, according to his/her study. This researcher will now provide a brief overview and analysis of these definitions:

Tu'aymeh (1999, p.:25) refers to competency as "the various forms of performance which represent the minimum level needed to achieve an objective. It is the group of inclinations and skills that facilitate the learning process to achieve its mental, existential, and self-mobility objectives."

The International Board of Standards for Training, Performance and Instruction defines it as the "skills, knowledge, and attitudes that enables one to effectively perform the activities of a given occupation or function to the standards expected"(IBSTPI,2003, p.6). It also defines competency as "what an individual stores in terms of ability to perform. In other words, the individual is qualified to carry out a certain task, or has the ability to carry out a specific function." At the same time, it refers to competency in education as "a relationship between the inputs and outputs of the educational institution's operations, whereby competency in education is the level of success the institution achieves in realizing its preset goals." (Mnasour,2003, p.231).

Analyzing the above definitions of competency, this researcher found that the concept was analyzed from two angles: The general form and the components. In general, definitions of competency are quite similar, and these depend on the targeted research population and the sought outcomes, in addition to common points among these definitions, such as:

- Competency is the ability to perform a function with a suitable level of perfection.
- Competencies include knowledge, skills, and trends. In other words, we can talk about knowledge competencies and performance competencies. Each can be both acquired and measured.
- Teaching competencies have a direct effect on the learning outcomes of learners.

From the above presentation, the researcher established the following procedural definition for the competencies of the electronic curriculum, in a manner that is compatible with the research procedures. The researcher will commit to it during the research process. It is "the group of knowledge, skills, and trends that make students capable of dealing with electronic curricula effectively and at the level of the required and expected standards."

The researcher believes that it is imperative to identify the basic skills and competencies in order to utilize e-learning, and they should be nurtured to ensure the effectiveness of this utilization. It is also necessary to prepare programs to develop these skills and competencies, in addition to the need to train teachers to design electronic curricula, since teachers are team members in the development of e-learning, and that the development of e-learning curricula is a new mission for teachers. Universities have a major challenge to adopt e-learning with a clear policy (Islam;et al,2015, p.109).

In order to ensure the continuity of web-based learning programs, we should identify the challenges facing them and identify the main elements to go ahead with them. We should evaluate these programs in view of the standards, and study the factors affecting their quality. We should evaluate the extent to which teachers are prepared to implement them, and identify the required training programs to ensure continuity and success in them. An agreement was referred to over the possibility of developing knowledge-based behavior in Internet education, considered to be the most important application of e-learning (Bigatel;et al,2012, p.74).

Based on the above studies and their relevance to the importance of e-learning, and the extent of the need to provide a group of competencies in e-learning that ensure its effective and efficient continuity.

2.5 Sources of Deriving Competencies

There are numerous sources used to identify competencies. The significance of each source is specified according to the nature and objectives of each program. Among these sources (Al-Naqa,1997, p.23-25; Ibrahim,2000, p.5-37):

1. The Theoretical Method of Deriving and Identifying Competencies, whereby reliance is on a specific educational theory in deriving competencies that an individual should have in order to perform his/her expected roles and tasks, specified by this theory.
2. Ready Lists: There are serious numerous scientific attempts in the field of education to identify competenciess in various fields and for various tasks, professions, and roles. These lists can be utilized in the light of the program's philosophical framework and objectives.
3. The Guesswork and Extrapolation Method: This method is based on the development and opinions of a group of experts and specialists based on their previous experiences.
4. Monitoring the Model Performance of Individuals Method, or observing the performance of individuals as they perform their tasks, whereby model behavior is monitored. Analyzing this behavior, we can identify the necessary competencies.
5. Field Needs: In light of the field nature and needs, experts see the need to prepare individuals who will work in this field. This requires supporting individuals with specific competencies that can be identified.
6. Alumni: Alumni can be asked about problems involved in field work and what should be included in preparation programs.
7. Students: During the educational process, students feel things they would like to study or learn. These feelings emerge automatically during the learning process. We need to collect these elements that would help us identify the competencies required.
8. The Research Framework in Identifying Competencies: This method is based on benefiting from the results of relevant research and studies.

2.6 E-Learning Competencies that Prepare the Students at Princess Nourah University for the Labor Market

Based on the researcher's presentation of sources for deriving competencies above, the following two methods only will be used to identify e-learning competencies that qualify the students at Princess Nourah University for the labor market:

1. Source One: Analyzing student requirements, whereby their requirements for e-learning competencies were identified through presenting a list of e-learning competencies to select their needs from it.
2. Source Two: Survey the opinions of judges among teachers who are in the field of education technology on how comprehensive this list is of e-learning competencies that qualify the students at Princess Nourah University for the labor market, the extent to which sub-competencies are connected to the main competency, the level of significance of each competency, and the extent to which the students at Princess Nourah University need them.

The researcher prepared a tentative list of e-learning competencies that qualify the students at Princess Nourah University for the labor market. The list included three main competencies, namely:

Category One: Computer-use competencies.

Category Two: Internet-use competencies.

Category Three: E-Learning culture competencies.

Each axis included a number of sub- competency, totaling 41 sub-competencies. After preparing the tentative list and reviewing it, it was ready for making a decision on the final form of the e-learning competencies list.

3. Methodology

This research utilizes the field descriptive analytical methodology in order to arrive at an e-learning list of competencies that qualify the students at Princess Nourah University for the labour market. The research sample was selected randomly from among the students at Princess Nourah University(Princess Nourah bint Abdulrahman University is the first university in Saudi Arabia dedicated to the education of women. It was

established in 2009 and includes all humanitarian, scientific, and medical fields. The university can accommodate 60,000 students (around 60% of higher education graduates) in all areas of specialization, with a total of 3,046 students distributed over the different university faculties according to the following table: [see Table 1].

Table 1. Research sample areas of specialization and percentage

Specialization	Number	Percentage (%)
I. Humanities		
Arts	269	8.83
Education	494	16.22
Social Service	252	8.26
Languages	178	5.84
II. Sciences		
Computer and Information Sciences	359	11.79
Management and Business	596	19.57
Design and Arts	162	5.32
III. Health Faculties		
Nursing	136	4.46
Pharmacy	134	4.4
Health and Rehabilitation	226	7.42
Dentistry	138	4.53
Medicine	102	3.35
Total	3046	100%

3.1 Research Tools

This research utilizes the following tool: A tentative list of the e-learning competencies that qualify the students at Princess Nourah University for the labor market, prepared by the researcher.

1) Preparation of the tentative list of e-learning competencies necessary to qualify the students at Princess Nourah University for the labor market. This list includes three main competencies. Each competency has indicators of fulfillment. Hence, the field descriptive analytical method was used for the following sources:
   A. Analysis of literature related to e-learning.
   B. Derivation of a tentative list of e-learning competencies necessary for qualifying the students at Princess Nourah University for the labour market.

Integrity of the list of e-learning competencies necessary for qualifying students for the labor market: The tentative list of e-learning competencies necessary for qualifying the students at Princess Nourah University for the labour market was presented to a group of professors specialized in education and information technology, and their opinions regarding the items on the list were surveyed in terms of:

- Deleting or adding certain competencies.
- The integrity of the verbal formulation of the competency, and amendment of this formulation.

Based on the opinions of these professors, the researcher added the amendments proposed to the list and the verbal formulation of some sub-competencies.

2) Reliability of the list of e-learning competencies necessary for qualifying the students at Princess Nourah University for the labor market.

Reliability of the questionnaire was verified using the Cronbach Alpha Index. The overall internal correlation index (Alpha) was (0.858), which indicates the accuracy, consistency, and constancy of measurement of information provided. The reliability index was calculated for each of the questionnaire's axes, as clarified in the following table [see Table 2]:

Table 2. Internal consistency index for measuring e-learning competencies for the labor market

Category	Alpha
Category 1: Computer-use Competencies	0.811
Category 2: Internet Use Competencies	0.891
Category 3: E-Learning Culture Competencies	0.872
Overall Questionnaire	0.858

The sample responses were classified and organized according to the level of their significance by giving each response its relative weight according to Likert scale as stated in the following table [see Table 3]:

Table 3. Weights of categories

Category	Weight
High	3
Medium	2
Unavailable	1

An agreement was reached on the sample according to the category where the weighted average falls, according to the following table [see Table 4]:

Table 4. Prevailing opinion on the weighted average

Weighted Average	Prevailing Opinion
0.1 to 1	Unavailable
1.1 to 2	Medium
2.1 to 3	High

3) The Extent to which the students at Princess Nourah University Have e-Learning Competencies for the Labor Market

Table 5 represents the items of the final list of e-learning competencies that qualify the students at Princess Nourah University for the labor market, the average, and the standard deviation, as well as the [Ka2] value for each competency that specifies the extent to which students have e-learning competencies for the labor market [see Table 5].

Category 1: Computer-Use Competencies

Table 5. Average, standard deviation, and Ka2 Value for the extent to which the students at Princess Nourah University have the e-learning competencies for computer-use

	Sub-Competencies	Average	Standard Deviation	Ka2	Significance Level
	Category I: Computer Use Competency				
1	I have the ability to work with the Windows operating system	2.2	0.169	31.1	0.00
2	I have the ability to work with computer accessories (printer - scanner - speakers - microphone)	2.2	0.323	20.8	0.00
3	I have the ability to work with storage devices (discs - flash cards)	2.3	0.646	20.8	0.00
4	I have the ability to download programs I need on the system	2.0	0.355	17.8	0.00
5	I have the ability to use antivirus programs	1.6	0.169	31/1	0.00
6	I have the ability to use word processing programs	2.3	0.169	31.1	0.00
7	I have the ability to use PowerPoint program	2.4	0.514	48.1	0.00
8	I have the ability to use Excel program	1.8	0.338	31.1	0.00
9	I have the ability to transfer documents to pdf format	1.9	0.169	31.1	0.00
10	I have the ability to work with audio files and change them to other formats	1.7	0.169	31.1	0.00
11	I have the ability to work with video files	1.8	0.169	31.1	0.00
12	I have the ability to work with voice recording software	1.8	0.169	31.1	0.00
13	I have the ability to work with datashow programs	1.4	0.169	31.1	0.00
14	I have the ability to organize and manage files on my system	2.2	0.169	31.1	0.00
15	I have the ability to delete files and programs I don't need	2.4	0.514	48.1	0.00
16	I have the ability to deal with some basic problems I face when using the computer	2.0	0.338	31.1	0.00

It is clear from the above table that all computer use competencies included in the list had a range of user ability among students of medium to high, with the lowest average value being (1.4) for the statement " I have the ability to work with Datashow programs," while the highest was 2.4 for the statements " I have the ability to use PowerPoint program" and " I have the ability to delete files and programs I don't need."

From the above, it is clear that student competencies for working with computers are medium, with the general average for the category at 2.0, which is a medium value. Management is required to review student orientation programs in order to provide them with these competencies or to provide training programs to develop these competencies, targeting students to prepare them for the labour market.

Category 2: Internet-Use Competencies

Table 6. Average, standard deviation, and Ka2 Value for the extent to which the students at Princess Nourah University have the e-learning competencies for the internet use

	Sub-Competencies	Average	Standard Deviation	Ka2	Significance Level
	Category II: Internet Use Competency				
1	I have the ability to connect my personal computer to the Internet	2.6	0.159	33.1	0.00
2	I have the ability to work with Internet Explorer - Chrome.	2.3	0.514	48.1	0.00
3	I have the ability to work with search engines (Google - Yahoo)	2.3	0.338	31.1	0.00
4	I have the ability to use e-mail (send and receive)	2.4	0.323	20.8	0.00
5	I have the ability to attach documents and files to email messages	2.4	0.169	31.1	0.00
6	I have the ability to connect to various social communication media	2.5	0.646	20.8	0.00
7	I have the ability to download files from the internet	2.3	0.355	17.8	0.00
8	I have the ability to upload files to the internet	2.0	0.514	48.1	0.00
9	I have the ability to use synchronized communication programs (Skype - Messenger)	2.2	0.338	31.1	0.00
10	I have the ability to use YouTube	2.3	0.169	31.1	0.00
11	I have the ability to use forums and post comments	2.2	0.355	17.8	0.00
12	I have the ability to use databases	1.8	0.323	20.8	0.00
13	I have the ability to use electronic libraries	1.9	0.169	31.1	0.00

It is clear from Table 6 [above] that all competencies related to internet use included in the list that students have ranged between medium and high, with the lowest average value being (1.8) for the statement "I have the ability to use databases," while the highest value for the average was (2.6) for the statement " I have the ability to connect my personal computer to the Internet."

From Table 6, it is evident that student competencies to use the internet as mentioned in the list are medium to high, with the lowest average value being (1.8) for the statement "I have the ability to use databases," and the highest average value was (2.6) for the statement "I have the ability to connect my personal computer to the Internet."

From the above, it is clear that the level to which students are qualified to use the internet is high, with the general average of the category being (2.3) which is a high value. In other words, student competencies to use the internet are high, which should qualify those students to enter the labour market. One reason for the high level of positive responses may be the ease of using internet applications, and logging on from any system, including mobile phones, laptops, and desk computers.

Category 3: E-Learning Culture Competencies

Table 7. Average, standard deviation, and Ka2 Value for the extent to which the students at Princess Nourah University have the e-learning competencies for the e-learning culture

	Sub-Competencies	Average	Standard Deviation	Ka2	Significance Level
	Category 3: E-Learning Culture Competencies				
1	I have some knowledge of the e-learning concept	2.0	0.657	20.8	0.00
2	I have the ability to distinguish among types of e-learning	1.8	0.355	17.8	0.00
3	I have knowledge of e-learning objectives	1.9	0.514	48.1	0.00
4	I have knowledge of e-learning justifications	1.8	0.338	31.1	0.00
5	I have knowledge of e-leaning use patterns alongside conventional education	1.8	0.361	31.1	0.00
6	I have knowledge of the capacities of e-learning	1.9	0.355	17.8	0.00
7	I have knowledge of the employment requirements of e-learning	1.7	0.646	21.8	0.00
8	I have knowledge of the obstacles and challenges facing e-learning	1.8	0.355	19.8	0.00
9	I have knowledge of some of the solutions for obstacles facing e-learning	1.6	0.544	38.1	0.00
10	I have knowledge of the quality elements of e-learning programs	1.6	0.328	31.1	0.00
11	I have knowledge of design standards of e-learning programs	1.5	0.169	34.1	0.00
12	I have the ability to deal with the management systems of electronic curricula	1.6	0.365	18.8	0.00

From Table 7 [above], it is clear that the acessibility of all competencies related to the e-learning culture in the list among students was medium, with the lowest average value being (1.5) for the statement " I have knowledge of design standards of e-learning programs," while the highest average value was (2.0) for the statement "I have some knowledge of the e-learning concept."

From the above, it is clear that the level to which students have e-learning competencies is medium, with the general average of the category at (1.7), which is a medium value. University management is required to review orientation programs offered to students to provide them with these competencies, or to provide training programs that develop these competencies, targeting students to prepare them for the labor market.

4. Recommendations

Based on the above analysis of the data, the researcher recommends the following:

1. Make use of the e-learning competencies list to develop curricula in educational information technology, or to distribute those e-learning competencies over the educational technology curricula in the students at Princess Nourah University orientation programs.
2. Make use of the e-learning competencies list to develop an education and training program for students of the Princess Nora University during the orientation programs to develop their competencies.
3. Make use of the e-learning competencies list in evaluating orientation programs at the Princess Nora University to identify how comprehensive they are as far as the content which fulfills these competencies is concerned.
4 Development of an educational and training program for university students to develop e-learning competencies.
5 Develop a proposed curriculum in educational technology for university students aimed at developing e-learning competencies and utilizing them in educational environments, measuring its effect on students.
6 Perform a study to derive standards and develop a program to develop e-learning competencies among students.
7 Design and develop a web-based program to develop e-learning competencies to prepare students for the labor market.

References

Abdulaziz, H. (2008). *E-Learning. Philosophy, Principles, Tools, and Applications* (1st ed.). Dar Al-Fikr Publishing, Amman.

Al-Aklabi, A. (2012). Semantic Web Applications in the Knowledge Environment. *King Fahd National Library Journal, 18*(2), Rajab - Zhu El-Hijja 1433H. May - November.

Al-Faleh, M. (2008). The Effectiveness of a Computer Training Course to Develop Knowledge Competencies among Faculty Members in Al-Riyadh University for Girls. *Yearbook, 15*. Egyptian Society for Teaching Technology.

Al-Khawaldeh, T. (2004). Images of e-Learning Practiced by Teachers in Private Schools in Amman. *Reading and Knowledge Journal.* School of Education. Ain Shams University.

Al-Laqqani, A., & Al-Jamal, A. (2003). *Dictionary of Educational Terms. Knowledge in Curricula and Teaching Methods.* Cairo. The World of Books.

Al-Muhya, A. (2002). The Availability of Computer and Internet Competencies among Students at Abha Teachers' College. *Unpublished Master's Dissertation*. College of Education. King Saud University. Al;-Riyadh.

Al-Naqa, M. (1997). *Competency-Based Educational Program: Principles and Procedures*. Cairo: Al-Toubji Press.

Al-Sa'ei, A. (2007, March). Electronic Education and the Theoretical Principles on which it is Built. *Educational Gathering Week*. Retrieved from http://www.e .-moh.com/vb/t82595

Bigatel, Paula *et al.* (2012, January). The Identification of Competencies for Online Teaching Success. *Journal of Asynchronous Learning Networks, 16*(1), 59-77.

Duwaidri, R. (2005). *Scientific Research: Its Theoretical Principles and Practices.* Dar Al-Fikr. Damascus.

Ghulum, M. (2003). E-Learning in the Ministry of Education Schools in Kuwait. A Work paper submitted to the e-learning seminar at (21-23/4/2003). The King Faisal Schools. Al-Riyadh.

Ibrahim, H. (2001). A Proposed Program to Develop the Necessary Competencies to Develop Educational Standards for the Education Department Students. Unpublished Master's Dissertation. Cairo. Educational Studies Institute. Cairo University.

IBSTPI. (2003). *Competencies*. International board of standards for training, performance and instruction. Retrieved from www.ibstpi.com

Islam, N., Beer, M., & Slack, F. (2015, September). E-Learning Challenges Faced by Academics in Higher Education: A Literature Review. *Journal of Education and Training Studies, 3*(5), 102-112.

Kjeldsen, T., & Gomme, J. (2003). Towards an Operational Definition to WBL. WBL Projected, Kobenhavns University. Retrieved from www.ku.dk/wel/om_wel/wel_definition_rev_25aug03.pdf

Malik, Sanjay Kumar *et.al*. (2010). Developing an University Ontology in Education Domain using Protégé for Semantic Web. *International Journal of Engineering Science and Technology, 2*(9), 4673-4681

Maxwell, D. J. (2007). Connect TEN: A case study of Technology Training for Teachers. Tennessee, U.S.A. ERIC No. ED: 416193.

Ministry of Economy and Planning. (2010). Brief Ninth Development Plan (2010-2014).

Mnasour, A. (2003). Principles of Educational Technology. Al-Mansourah. Modern Bookshop.

Naidu, S. (2006). E-*learning aguidebook of principles*, *procedures and practices*. Aishi creative workshop; New Delhi.

Nasri, H. (2003). *Scientific Research Methodology.* University Institute for Studies, Publishing, and Distribution. Beirut.

Ru'yat Al-Sau'udia. Retrieved from http://vision2030.gov.sa/ar

Salem, A. E-Learning Educational Technology. Al-Riyadh. Al-Rushd Bookshop.

Sultan, A. (2001). The Need to Go Beyond "Technocentrism" in Educational Technology: Implementing the Electronic Classroom in the Arab World. *2nd International Conference on Use UAE Education Reform*, UAE: Dubai.

Trombly, B., & Lee, D. (2003). Web Based Learning in Corporations: Who is Using It and Why, Who, is not and Why not?. *Journal of educational media*, Carfax Publishing Company, *27*.

Tu'aymah, R. (1999). *The Teacher: Competencies, Preparation, Training* (2nd ed.). Dar Al-Fikr Al-Arabi.

Zainiddin, M. (2007). *E-Learning Competencies.* Kingdom of Saudi Arabia. Khawarizmi Scientific Publishing and Distribution.

Zaytoun, H. (2005). *A New Vision in Learning. E-Learning: Concept, Issues, Implementation, and Evaluation.* Al-Riyadh, Al-Sawlatyah Educational House.