Analyzing the Perception of Key Terms in E-Learning in Academia: Case Study of Princess Nourah Bint Abdulrahman University

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Abstract—A university-wide survey to obtain baseline data regarding the perceptions of key terms related to e-learning and distance learning among students, faculty and staff was conducted to help achieve the goals of Princess Nourah bint Abdulrahman University's and the Kingdom of Saudi Arabia's National Center for e-learning and Distance Learning. This paper comprises a relevant literature review, the survey methodology, preliminary data analysis, discussion, and recommendations for further research. The major findings indicate a deep and wide differentiation of understanding among users of critical key terms.

Keywords—E-learning, distance learning, on-line learning, perceptions of learning environments.

I. INTRODUCTION

THE newly established Deanship of E-learning and Distance Learning (DEDL) at Princess Nourah bint Abdulrahman University (PNU) in Riyadh, Saudi Arabia is proposing this research to take a baseline measure of faculty, student and staff perceptions of key terminology used in the field: e-learning, distance learning and blended learning. PNU is the largest female university in the world, with 53000 full-time students, and is committed to preparing its students for success in the 21st century global environment. In addition, the DEDL's strategic initiatives are aligned with the strategic initiatives of PNU which in turn are aligned to the Ministry of Education strategic plan.

It is assumed that divergent understandings of key terms and their underlying concepts can hinder adoption of practices critical to the success of the DEDL's e-learning and distance learning initiatives. The PNU community is, in general, new to conducting academic teaching and learning in an electronic learning environment. Therefore, establishing a common vocabulary is a crucial first step in cultivating an electronically engaged community of learners. This paper reports the preliminary findings of the first phase of a three phase mixed-method study. Phase 1 consisted of (a) developing an on-line survey informed by the literature in order to ensure basic survey tool validity and (b) analyzing the first round of data

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submitted one week after launch. Phase 2 will consist of an extended analysis of the final data set. Phase 3 comprises a series of focus groups from the three target audiences, which will serve as a complementary measure. This paper will provide a literature review, details of the survey methodology, data analysis and interpretation, application of what was learned from the study at PNU, as well as implications for similar units dedicated to electronic and distance learning, and recommendations for further research.

II. DEFINITIONS IN THE LITERATURE

A primary challenge for 21st century educators is coming to consensus on definitions for critical terms related to teaching and learning using technologies such as the Internet, learning management systems, audio-video conferencing, web-based or wireless technologies, and the like. This lack of common definitions is problematic because (1) terms are frequently used interchangeably, thus contributing to misunderstandings and/or confusion among users and providers; and (2) researchers find it difficult to conduct comparative cross-study research, as well as to extend and contribute to existing findings [1], [2]. The following review of the literature focuses on three terms commonly used in teaching and learning with technology: e-learning, distance learning, and blended learning.

A. E-Learning

E-learning is frequently defined as the interaction among students, teachers and tutors as a virtual one, where there is no need to attend face-to-face classroom meetings [3]. On the other hand, e-learning represents a learning model which offers course materials to students using a variety of electronic tools, such as the Internet, intranet, extranet, satellite, broadcast, interactive TV, CD-ROMs and audio/video tools [4]. In 2001, Rosenberg introduced the most common definition for e-learning, which represented that it is the utilization of Internet techniques in delivering wide solutions that improve both the performance and knowledge of learners. This definition was supported by [2] who demonstrated that e-learning is an electronic communication and learning method among people. Recently, this is known as a main competitive benefit source in information societies. In addition, e-learning depends on using technologies in learning and teaching students, who are sometimes at various distances. E-learning includes two course delivery systems, synchronous and asynchronous. These two types of learning depend on when

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and how interactions among learners and teachers occur [5]. Synchronous learning depends on simultaneous interactions among students and teachers. On the other hand, asynchronous learning is independent and depends on interactions between students and teachers, where both can select the time to learn based on their own convenience or desire. In this type of learning, learners and their partners can communicate with their instructors based on sending messages to them to answer them later [6], [7].

E-learning can be described using various terms such as online learning, distance learning, distributed learning, virtual learning, Internet learning, networked learning and web-based learning, where this makes the development of a unified definition a real challenge [8]. According that, e-learning is not only to introduce or deliver instructions for students using the Internet, for it must focus on both the learners and learning process more than the utilized medium to deliver instructions. In this way, the definition in [8] supports the presented definitions by [4] where they demonstrated that e-learning represents the utilization of the Internet in order to access learning courses, connect with instructors, other learners and materials and get support all through the learning process to get knowledge, make individual meanings and develop their skills based on the learning practices.

According to [9], e-learning integrates the whole performed educational activities by groups or individuals who are working offline or online, asynchronously or synchronously by standalone or networked computers and various electronic equipment. In practice, the decisions taken by instructors concerning the course delivery process effect on both the teaching experience and design of content.

Generally, e-learning facilitates the learning process when students and teachers are separated by distance, time or both of them [10].

The Online Learning Consortium (OLC, formally known as the Sloan Consortium) is the leading professional organization devoted to "advancing quality online learning providing professional development, instruction, best practice publications, and guidance to educators, online learning professionals, and organizations around the world." [11]. The OLC doesn't provide a base definition for e-learning or overtly differentiate it from distance learning, and it considers online learning as a subset of e-learning. Instead, it chooses to focus on scoping five basic types of e-learning at the course-level [12]: (1) traditional classroom course, where a minimum use of a learning management system occurs, such as to distribute course information; (2) synchronous distributed course, where lectures and discussions are extended in real time to students at remote sites using web-based technologies; (3) web-enhanced course, where there online course activities are required in conjunction with regular face-to-face classroom meetings; (4) blended (or hybrid) classroom course, where online activity replaces a significant percentage of required face-to-face classroom meetings; and (5) online course, where there are no required face-to-face classroom sessions and no requirements for on-campus activity.

The Saudi Ministry of Education's National Center for E-Learning and Distance Learning (NCeL) was established in 2005; its role is to support e-learning in universities throughout the nation. Only regulations governing distance learning in KSA are developed by the NCeL. The NCeL defines e-learning as "the type of learning based on the recent communication technologies such as computers, networks, audio, video, graphical multimedia, graphics, search engines, electronic libraries and web portals." Further, it defines it "to be delivered in classrooms or in distance; usually this type of learning delivered via network and basically via the institution learning web page that offers programs and material and facilitate learners' accesses and engagement within internal or shared network, or even through the world wide web." [13]

B. Distance Learning

Distance learning is frequently referred to as distance education and is often used to interchangeably with the terms e-learning, online learning, virtual learning, web-based learning, etc., [1]. The United States' Higher Learning Commission (HLC) defines distance education as the use of "one or more technologies to deliver instruction to students who are separated from the instructor and to support regular and substantive interaction between the students and the instructor, either synchronously or asynchronously [14]. The HLC defines distance courses as those in which 75% or more of the instruction and interactions between students and faculty occur via electronic mechanisms, and with the faculty and student physically apart.

The KSA NCeL defines distance learning as "one of the learning methods that use electronic tools and techniques in the learning delivery and interactions. One of the basic characteristics is the distance between the learner and the instructor, or between the learners themselves, or between the learners and the learning resources, the distance could be in location (out of the intuition) or in the time of learning." [15]

C. Blended Learning

In an EDUCAUSE bulletin, blended learning is defined as a method that includes both traditional face-to-face classroom learning with e-learning activities, with the overt intention of reducing seat time to optimize institutional resources [16]. These authors underscore that blended learning is a pedagogical approach that situates the learner as central, in which they are engaged interactively with other students and the instructor to deepen core learning. In addition, blended learning includes both formative and summative assessments embedded in the course so that both instructor and students can continuously improve. Thus, blended learning is defined as "structured opportunities to learn, which use more than one learning or training method, inside or outside the classroom." [17]

D. E-Learning in Saudi Arabia

In previous years, the use of online courses in KSA was a real problem due to the lack of technical support and learning management systems in universities. Nowadays, E- Learning is considered as an essential learning process, where the

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Ministry of Education supervises and offers access to the learning management system for all Saudi universities. Furthermore, teachers are able to enhance online teaching abilities based on attending various workshops and taking training courses. In addition, learners must recognize the cons and pros of online instruction and make a decision if this learning process is suitable and efficient of them or not. On the other hand, the deployment of E-Learning can be a complete alternative teaching process to the traditional one, regardless of the reliability of this development on the opinions of teachers [18]. In Saudi Arabia as a special case, the e-learning technology is predictable in Saudi Arabia because of its noticed effective benefits and impacts on the educational systems and processes all over the world [18]. The deployment of e-learning in the teaching process provides students with advanced learning manners, teachers with advanced teaching manners and administrators with advanced organizing manners, where all of these can result in enhanced educational systems [18], [19].

The main reasons behind the deployment of e-learning in Saudi universities are the lack of faculty members in these universities. Another important reason is the lack of female faculty members due to the presence of separated female colleges from male ones. In reference [20]stated that the e-learning is a relatively inexpensive learning process, where it offers an ethically suitable learning environment in which male faculty members can teach female students through online learning. Another essential reason for applying the e-learning in Saudi universities is the support of Saudi government for this type of learning in education institutions, where e-learning promoted the National Centre for e-learning and Distance Learning (NCeL) formation in Saudi Arabia [21],[22].

One more reason is the increasing utilization of computers and the Internet within the country, where this simplifies accessing education [23], especially by students who are not accepted to the universities [24]. The last reason is the yearly continuous numbers of students, including female students, where the continuous need for using advanced technologies let the distance learning request even larger.

The use of e-learning can offer solutions for various problems that influence the higher educational system in the KSA [25]. In addition, there are various benefits for using e-learning by individuals, where it was proved that e-learning a helpful learning process on a national level. The main benefits of the e- learning are the ability to self-pace, to have flexible schedules and to access higher education by various individuals, such as female and working professionals. Furthermore, that the e-learning includes the essential components to be adopted as a fundamental element in the Saudi higher education system. On the other hand, this is completely based on considering culture and the mostly used advanced technology [25].

There are various factors that support the use of e-learning and advanced e-learning programs in the country. The main factor is the continuous increase in the enrolled students in universities, especially the female ones, where this increases the need for deploying both e-learning and advanced e-learning programs in corporation with the traditional courses at the Saudi universities.

III. METHODOLOGY

A. The Institution

Princess Nourah University was established in 2008 and is located in Riyadh, Saudi Arabia. There are about 53000 of enrolled female students, and approximately 7000 faculty and staff. It is the largest female university in the world. DEDL was established in 2013 and is part of the Vice Rectorate for Development and Quality.

DEDL's vision is Women's Leadership in E-learning and Distance Learning practices. And its mission is to Govern, promote and encourage all E-learning and Distance Learning practices for students, faculty, staff and community, based on international E-learning and Distance Learning standards within Princess Nourah bint Abdulrahman University. The main strategic objectives are to (1) cultivate women's leadership in E-Learning and Distance; (2) ensure quality in E-Learning and Distance Learning; (3) empower students, faculty, staff and community to acquire 21st century knowledge and skills in E-Learning and Distance Learning, and (4) contribute to the national and international E-Learning and Distance Learning knowledge base and community with innovative practices and rigorous research.

B. Participants

516 participants have contributed to the collection of data as shown in Fig. 1. The process of data cleaning has been done before analysis begin. There were 96 administrative staff respondents, 25 senior management respondents whereas 149 instructors' respondents and majority 264 around (48%) of the respondents are students. Concerning the colleges' response rate, around 38% from the scientific colleges while humanities and health have the same rate 24% and the remaining are deanships they represent about 14%.

C. The Instrument

This study will show the findings of the 561 respondents who have answered the survey, and presented as the following: Demographic information and data analysis. It is important to mention that Arabic language has been chosen in this study to be the primary language in the distribution of the survey questions because the study is targeted at a Saudi university. Considering, most of the respondents are Arabic speaker where it will make the responses and collecting information high compared to distributing the survey in English. For the study purpose, the results had been translated to English for presentation and discussion.

The survey included one open-ended question and seven questions each with a number of choices to select via checkboxes. The survey began with question related to respondents' role(s) then the second ask them to select the college they belonged to. The third question was open-ended question that asked respondents to identify the differences between distances learning, e-Learning, and blended learning.

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The fourth question focused on all of the learning environment that provided within PNU that helped to define the type of environment where the participation occurred. The last three questions were scenario-based and required the respondents to select the best label to describe that particular type of environment. The label choices included learning environment types.
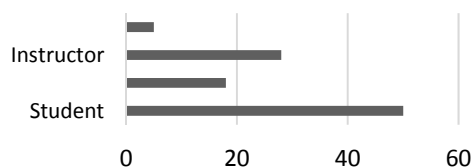

Fig. 1 Participants' education (professional) level

D. Data Collection

The survey was published on distributed 9 December 2015 by online survey via survey monkey using different channels such as Blackboard announcement, Email announcement, Email, workshops and the university's E-Learning Units. A reminder was sent on 15 December 2015 and the survey closed on the 17 December 2015. After that, the data for this study has been analyzed. The average time to complete the survey was approximately ten minutes.

E. Data Analysis

The data was entered in MS Excel spreadsheet and processed. General statistics were performed on all the questions, accept for the third question, it was analyzed using qualitative methods: the responses were categorized into themes of "There is a difference" and "There is no difference", then we looked closer to the responses in the first theme and categorized them into "conflict with the E-Learning characteristics" and "don't conflict with the E-Learning characteristics". The hierarchy of the themes is shown in Fig. 2.
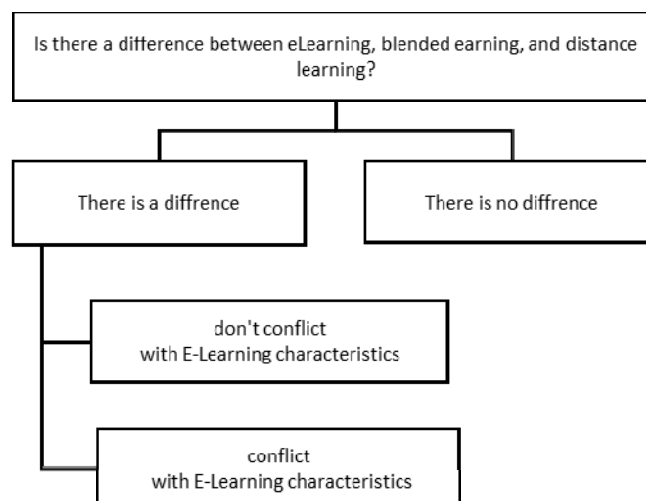
IV. FINDINGS

A. Terminology Perceptions

In order to explore the respondent perceptions about different e-learning terminologies the survey asked: "From your point of view, what the difference between e-learning is, blended earning, and distance learning? Please explain". This seemed to be an intriguing question to many of the participants, as they tried to explain the definitions through words. Table I provides an overview of the responses, we categorized them into themes of "There is a difference", "There is no difference". Then, we looked closer to explore the definitions provided by the participants and if there is a conflict with the basic characteristics of each terminology. Table II provided the analysis of the responses categorized into "Do not conflict with e-learning characteristics" and "conflict with e-learning characteristics" and the results are shown in Fig. 3.

Fig. 2 The hierarchy of the question three analysis method

TABLE I
TERMINOLOGY PERCEPTIONS (A)

Category	There is a difference	There is no difference	Total
Responses	239	4	243
%	98.35	1.64	100

TABLE II
TERMINOLOGY PERCEPTIONS (B)

Category	Do not conflict with e-learning characteristics	Conflict with e-learning characteristics	Total
Responses	109	130	239
%	45.60	54.39	100
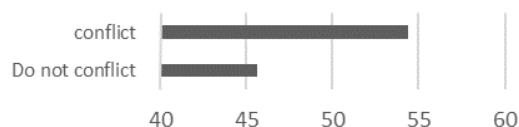
Fig. 3 The analysis of the definitions provided by the participants

TABLE III
E-LEARNING COURSE MODALITY

Course	Responses	%
Class Course	200	38.8
Synchronous Course	78	15.1
Web Enhanced Course	101	19.6
Class Blended Course	52	10.1
Online Blended Course	64	12.4
Online Course	55	10.7
Flexible Course	42	8.1
Total	516	100

B. E-Learning Courses Modality

The respondent's experience with different courses modalities within the learning environment were also collected in Table III. For the "Class Course", the respondent selections were approximately 38%, and for "Synchronous Course" were 15%, for "web Enhanced Course" were 19%, "Class Blended Course" were 10%, "Online Blended Course" were 12%,

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"Online Course" were 10%, and for the "Flexible Course" were 8%.

C. Classification of Environments Based on Scenarios

For the final survey questions, respondents were provided learning environment scenarios as represented in Table IV, and were to select the most relevant term from a list of three choices.

TABLE IV
SURVEY SCENARIO DESCRIPTIONS

| No.	Scenario description
1	You are in a learning experience where the material is provided by an instructor in a course management system (e.g. Blackboard) which must be accessed via the Internet. You can interact with the instructor and your fellow class mates via email and/or chat forum. There is a discussion board and you never have official meetings with the instructor or your class mates.
2	You are in a learning experience where the material is provided by an instructor in a course management system (e.g. Blackboard) which must be accessed via the Internet. You can interact with the instructor and your fellow class mates via email, discussion board, or chat forum along with face-to-face meetings.
3	You are in a learning experience where the material is provided in a course management system (e.g. Blackboard) which must be accessed via the Internet. You cannot interact with an instructor or class mates.
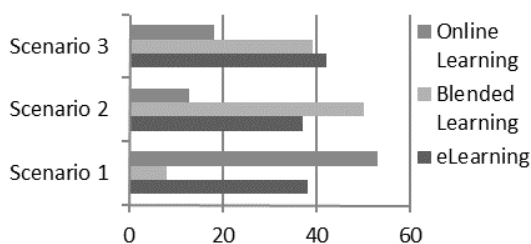
Fig. 4 The variances in responses for the four top choices that were selected by the respondents

For Scenario 1, approximately 53% of respondents identified this as online learning, and then 38.4% selected e-learning and 8.3% selected blended learning. In addition, Scenario 2 is very similar to Scenario 1, but included face-to-face interactions between the students and the instructor. The majority (50%) selected blended environment while 37.19% selected e-learning, and 12.8% identified it as online learning. In scenario 3, 42.32% selected e-learning while 39.42% identified it as blended environment, and 18.26% selected online learning as represent in Fig. 4.

V. DISCUSSION AND CONCLUSION

The survey analysis and results are considered an important milestone in DEDL's strategic planning. The terms chosen are considered foundation terms in DEDLs strategic initiatives. Therefore, this study is used to inform DEDL about the current status of e-learning in PNU first by considering the definition of these terms and then the application of each model that informs also the usage of ICT and e-learning models amongst the survey respondent. The actual results of the respondent's experience with the question related to the different course modality within the learning environment were informative and indicate that there are attempts by faculty members to adopt different levels and models of e-learning in their teaching. This fact is considered promising and those active and adopting faculty can be considered early adopters.

The analysis of the three-chosen terms, e-learning, distance learning and blended learning shows that there is a clear misconception in terms of E-Learning terms, models, methods and terminology among respondents at PNU that can also be further investigated to understand reason behind this misconception. The participants provided very interesting inputs that reflect such misconceptions, especially with the "blended learning" terminology. One of the respondents defined blended learning as *the environment that blends regular students with students with special needs*, and another respondent defined blended learning as *blending learning with entertainment*. Approximately 54% of the respondents provided definitions of E-Learning, blended learning and distance learning that conflict with at least one of the E-Learning characteristics. Generally these conflicts and differing perception of understanding amongst students and faculty members affect designing, adoption and the communication plan for implementing e-learning at PNU. This clearly highlights the need to have a well-defined and agreed upon definition and terminology amongst faculty in PNU and in the region. It also highlights the need to involve staff and faculty in policy development and strategic planning for DEDL. This involvement may take shape as a series of workshops designed for faculty members and for the development and execution of DEDL's strategic initiatives and execution plan. Starting point is to define and publish key terms as part of DEDL's communication plan according to the needs and current application of e-learning models in PNU. This study also illustrates that there is a varying adoption and usage of ICT in teaching among faculty members from different colleges and disciplines. This also highlights the need to design and define differing e-learning models and set policies and governing rules for each model that accommodate current needs and that also complies with the ministry of education governing roles, policies and standards. Therefore, an e-learning adoption and communication plan needs to be informed and designed with these factors in mind to accommodate the differing levels of adoption of e-learning, blended learning and distance learning in PNU.

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