The Effectiveness of Adopting E-learning as a Model of Education in Higher Education: Evaluation Study

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Abstract

E-Learning arises as one of the alternate modes of instruction delivery. Therefore, connecting e-learning with traditional modes of learning become a priority for higher educational institutions. Hence, it is of prior importance for researchers to determine the student's perception of e-Learning in order to assess the effectiveness of such a new education model. This study aims at investigating the effectiveness of adopting e-learning as a model of education in higher education by evaluating the readiness, advantages, and disadvantages from student's perception. Reviews of research efforts in the field of e-learning within the context of its effectiveness are given. Next, the methodology to be used is proposed. This is followed by a summary of the data analysis and finally the conclusions. The study was conducted in the college of business at Umm Al-Qura University, Saudi Arabia. The study adopted a descriptive methodological approach to aim its methodology. Research findings revealed that students' skills in dealing with MS office application are the most important parameter that measuresstudent's readiness to accept the e-learning model of education. Also, students find that natural interaction with professors is the most significant advantage. Finally, respondents agreed that the worst disadvantage of e-learning was the unfair opportunity to those students who are good in presenting themselves orally but lack the ability to express their opinions in writing.

KEYWORDS: e-Learning; Students' Perceptions toward e-learning as new education model.

1.Introduction

The Internet is a technological development tool that has the ability to change and restructure the traditional higher education model, especially the delivery of materials and associated resources. The use of the internet to deliver e-learning initiatives has generated expectations in universities. Certainly, e-learning has allowed them to expand on their current geographical reach, and to establish their existence as global educational providers.

E- learning could have a significant effect on the planning, application and delivery of higher education. Universities have been stable in their structure and in the delivery of its courses to date. The increasing demands for learning and the increased income of independent educational providers have a genuine danger to the existing traditional teaching model of the university. E-learning may afford universities with a tool to confront the new form of competition, by making use of their built-up reputations.

The term "e-Learning" is frequently utilized conversely with different terms, for example, "online learning", "technology enhanced learning" and "distance learning".(Moore, Dickson-Deane, & Galyen, 2011)Had conflicting responses provided by the respondents in their study because of variety of definitions found in various articles. The quarrel resulting from the absenceofconsistency in terminology influences not only the researcher intending to expound on the findings but also creators making similar types of environment (Moore et al., 2011).

Generally, the idea of e-learning is accountable for consistent change. Likewise, it is hard to think of a solitary meaning of e-learning that would be acknowledged and agreed by most of the researchers(Sangrà, Vlachopoulos, & Cabrera, 2012). The particular professional approaches and interests will determine the understandings of e-learning. This justifies why e-learning is defined explicitly by some authors where others suggest a specific definition or perspective of e-Learning in their article.

In(Sangrà et al., 2012) research, they tried to build an inclusive definition of e-learning and concluded to: "it is an approach to teaching and learning, representing all or part of the educational model applied, that is based on the use of electronic media and devices as tools for improving access to training, communication and interaction which facilitates the adoption of new ways of understanding and developing learning".

(Arkorful & Abaidoo, 2015)Stated that the applying e-learning in education, particularly for universities has many advantages. Furthermore, consequently is considered among the best techniques or methods of education. Declaring these advantages can be utilized to encourage students for its applications. Regardless of its advantages, when e-learning is implemented in education, it also has some disadvantages.

The e-learning is no more associated with distance or online learning but constitutes part of a conscious choice of the most appropriate methods of affording effective learning. Members of the educational and training system need rich learning environment supported by well-designed resources (Khan, 1997). E-resources nowadays are involved in all kind of learning. While e-learning and various blended approaches that connect online model with the traditional model continues to grow rapidly, it still considered at an early stage of development. Therefore, developers and deliverers of online learning need to better understand the perception of e-learning by students in order to effectively enhance learning (Koohang & Durante, 2003).

These technologies not only strengthen the communication between instructors and learners but also let the learners get easy access to their course materials at anytime and from anywhere. However, before we adopt any e-learning strategy, we must interact with target users (i.e. students) as to how they perceive this new trend and how they intend to participate in this disruptive process of learning. Therefore, the current research intends to find out the

student's perception of e-Learning, and the factors that influence their perception towards e-learning.

2.Research Methodology

In this research study, an online questionnaire was developed as a tool for the current study to measure the effectiveness of adopting e-learning as a model of education in higher education by evaluating the readiness, advantages, and disadvantages from the student's point of view. This tool consists of 15 items across three domains: (1) students' readiness to accept e-learning model of education, (2) students' evaluation to the advantages of using the e-learning model of education,(3) students' evaluation to the disadvantages of using the e-learning model of education. A 4-point scale was used to rate the items since the sample audience were obliged to have an opinion (''1'' = Strongly Agree, ''2'' = Agree, ''3'' = Strongly Disagree, and ''4'' = Disagree).The terms "Strongly Agree" as well as "Agree" are used in this research to mean a positive attitude while the terms "Strongly Disagree" and "Disagree" are considered to mean a negative attitude. Thereafter it was plotted in the figures.

3. Data Collection

The current study was conducted in the college of business at Umm Al-Qura University, Saudi Arabia. Targeted students in this study are 268 undergraduate male students studying Management Information Systems MIS at the College of Business. No female students were accessible. The study tool was posted electronicallyduring class time to targeted students in their MIS webpage located in www.emazin.net and the students were asked to participate under the instructors supervision. Therefore, 268 applications were completed and submitted successfully.

4. Significance

This study will try to identify the most critical parameters to measure student's readiness to accept e-learning as a model of education from their point of view.

And, will try to evaluate the advantages of e-learning model and reveal what of them is the most significant advantage, as the students see them. Finally, it will attempt to find out the worst disadvantage of e-learning from the students prospective.

5.Study Aim

This study aims at investigating the effectiveness of adopting e-learning as a model of education in higher education by evaluating the readiness, advantages, and disadvantages from student's perspectives. To achieve this aim, the current study needs to fulfill the following research questions:

1. Are students ready to accept e-learning model of education?

2. How do students evaluate the advantages of using e-learning model of education?

3. How do students evaluate the disadvantages of using e-learning model of education?

The answers provided by the students based on these questions determined whether they are interested in adopting the e-learning method of education in the institutions of higher learning or not.

6.Literature Review

The use of the internet is becoming one of the essential ways for availing research materials for both tutors and students in order to exchange knowledge and expertise (Hartshorne & Ajjan, 2009).

In Thailand, (Osmanet al., 2018)evaluated both human factors i.e. (Computer Literacy, InstructorAttitudes, Learners 'Attitudes, Teaching Method) and technological factors (System Quality ,Service Quality, Content Quality) that could considerably affect the success of e-learning while discovering potential mediating factor in collaboration between library and faculties.

The results of the research conducted by (Napitupulu, 2018) in Indonesia stated that e-learning has a positive effect on student motivation and collaboration. However, not all e-learning elements have positive effects on student motivation and collaboration.

(Bendania, 2011)Tried to assess the teachers' and students' perception towards following instructions and studying on the internet at King Fahad University that deals with oil and minerals, located in Saudi Arabia. The outcomes of this investigation indicated both the instructors and learners who took part in the study were comfortable in adopting the use of e-learning as a method of education.

The study of (Othman et al., 2018)revealed that e-learning students to succeed, they must be provided by an e-learning system that affords needed information and easy-to-use information. Also, they added that both the quality of the system and the quality of the information have a positive effect on the use of the system which in turn has a positive effect on user satisfaction.

(Aldiab, Chowdhury, Kootsookos, & Alam, 2017)Presented the use of e-learning to deliver programs and courses and how e-learning could be a part of the solution to overcome some challenges in the educational system. Also, it showed that e-learning is a desirable alternative by the government due to its establishment of such centers and resources as the National Centre of e-learning and Distance Learning NCeDL and the Saudi Digital Library.

(Al-Harbi, 2011)Demonstrated that e-learning acknowledgment is impacted by various elements. The most essential factor in deciding a student's intention to use e-learning is the student's attitude toward e-learning. Additionally, their subjective norm, i.e., the influence of the important people around them will determine their decision to use e-learning. Finally, the students' behavioral intention regarding e-learning acceptance is shaped by students perceived e-learning accessibility.

Yet,(Al-Dosari, 2011; Fageeh, 2011)concluded that learners are ready and positive to accept the e-learning model of education rather than the use of traditional approach. Furthermore, (Al-Mansour & Al-Shorman, 2012) demonstrated that the students who were educated through computer-assisted English language technique alongside the traditional method indicated enhanced accomplishment over the students who were instructed through the conventional technique alone.

(Chanchary & Islam, 2011)Concluded that most students 97% are outfitted with PCs with stable connectivity but not all of those interested in learning courses on the Internet with students from other acadamic universities, only 54% did. Although the majority of learners can use available tools and software easily, they lack the ability to learn independently. Almost 50% of the respondents declared that communicating with other online students around the world is not favorable because of cultural prohibitions and weaknesses in the English language.

(Alhabeeband Rowley, 2018) Argued that the perspectives of students determined by seven factors differ from academic staff perspectives determined by nine factors. Instructor characteristics, student characteristics, ease of access and support and training are classifications that are common to both groups. The ideal order for academics is:(1) student characteristics, (2) ease of access, (3) instructor characteristics, and (4) support and training; while the ideal order for students is: (1) instructor characteristics, (2) student characteristics, (3) support and training, and (4) ease of access.

(Arkorful & Abaidoo, 2015)Concluded that the overall works which explain the advantages and disadvantages of e-learning suggestthat need to be implemented for faculty, administrators and students in higher education. In the same work, a rich list of advantages and disadvantages were summarized and presented.

While (Zanjaniet al.,2017) identified that some system features lacked in e-learning as user-friendly structure, support for privacy, minimization of all of those unnecessary tools and hyperlinks and unverified posting were the critical factors in continuing to use Blackboard at a major Australian university. Moreover,(Mtebe and Raphael, 2018) found in their research aimed to define critical factors influencing learners' satisfaction with an e-learning system that both instructor quality and system quality have a positive impact on learners' satisfaction with e-learning systems.

7.Data Analysis

The research adopted a descriptive analysis method, data analyzed using bar graphs and percentages for ease of reference.

7.1Students' readiness to accept the e-learning model of education

In this context, the readiness to accept e-learning model of education is measured according to different parameters which include: (1) the existence of dedicated e-learning labs, (2) the availability, and stability of internet connection, (3) students' skills in dealing with MS Office applications for its wide use and availability, and (4) students' skills in using collaborative information systems.

From the findings, 29% of the total population which represents 78 students accept that the most criticalparameter to measure their readiness to accept e-learning as a model of education is the existence of dedicated e-learning labs; however71% of students reject this assumption. Maybe the existence of e-learning labs inside the university is behind the high percentage of rejection to that assumption.

Regarding the availability and stability of Internet access, 82% of the total population rejects this assumption while only 18% accept it asthe most critical

parameter to measure their readiness to accept e-learning as a model of education.

Concerning students' skills to deal with MS office application, 83% of the total population accepts this assumption, while only 17% believed that they did not have the needed experience. In this part of the questionnaire, students were asked to name all application of MS Office used by them; 93% named MS Word and 7% named MS Word and MS Excel.

Finally, student's skills to use collaborative information system seems to have the least importance; with regard tostudent's perception only 8% accepted this parameter as a measure to accept e-learning model of education, conversely92% rejected this assumption.
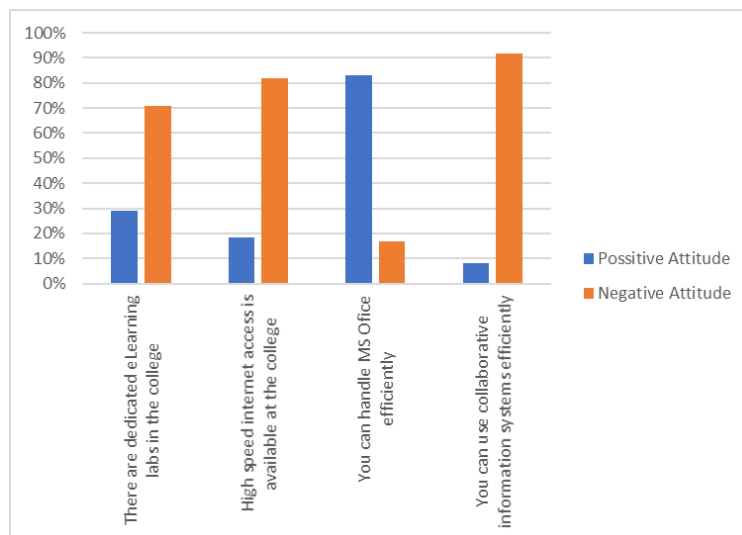

Figure 1: Students readiness to accept the e-learning model of education.

7.2 Students evaluation of the advantages of using the e-learning model of education

Students were given a list of e-learning advantages. The objective was to evaluate them. The advantage presented included: (1) increasing students achievement level;(2) students can self-learn, (3) immediate feedback given by self-learning, (4) accessibility to information from different sources, (5)

communicating with the teacher anywhere and anytime, and (6) retaining information by students for a long time.

Concerning student's perception of increasing their achievement as one of the advantages given by e-learning, 98% agreed on this advantage andthey believed that e-learning could raise their achievement level in the learningprocess, however, the remaining 2% rejected this assumption.

Regarding the second advantage that e-learning will enhance and support self-learning as well as the third advantage that e-learning saves time by providing immediate feedback, the majority of respondents supported these two advantages with 93% acceptance rate.

While regarding the accessibility of information from different sources, 61% rejectedthis assumption and held that e-learning was not helpful. Only 39% were positive and believed that e-learning could help students to access information from different sources .This may be related to their negative perception toward the availability of high-speed internet at the university.

The fifth advantageis related to the ease of communication between students and professors anytime and anywhere.Surprising results showed that 100% of respondents accept this advantage and therefore it is fully supported. Finally, an 88% of respondents agreed that e-learning help students retain information for a long duration. Figure 2 summarizes the results of this assumption.
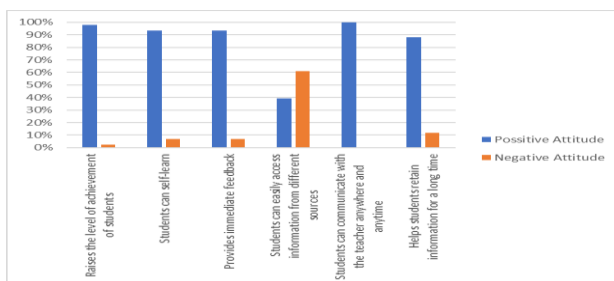

Figure 2: Students' evaluation of the advantages of using the e-learning model of education.

7.3 Students evaluation of the disadvantages of using the e-learning model of education

Disadvantages of using e-learning which were given to students to evaluate include the following:(1) reduce human communication, (2) limit innovation ability,(3) high cost, (4) unfair to those students who have difficulty in expressing their opinions in writing and(5) affect student's logical intelligence.

Results revealed that 27% of students agreed that e-learning reduces human communication which may lead to isolation while the remaining73% of students rejectedthis disadvantage.As for the second disadvantage, the matter thate-learning limits students' ability to innovate, 78% of students agreed to this assumption. However, 22% oppose the idea thate-learning does not limit student's creativity and innovativeness.

Regarding the third and fourth disadvantage, 76% of respondents agreed that e-learning is costly, and 88% agreed that e-learning might be unfair to those students who are good in presenting themselves orally but lack the ability to express their opinions in writing, while 20% disagreed. Finally, only 27% agreed that e-learningleadsto lack of dialogue, which may affect the student's logical intelligence whereas 73% rejected this assumption. Figure 3 summarizes the results.
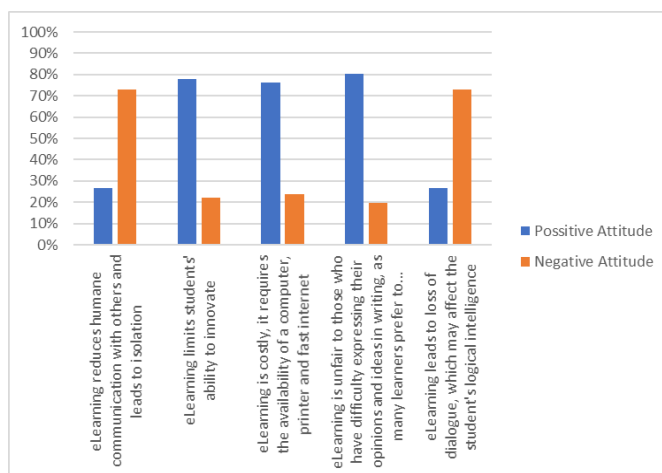

Figure 3: Students' evaluation of the disadvantages of using the e-learning model of education.

8. Conclusions

However, the present research showed that students have favorable perceptions of e-learning. In addition, it showed what students believe when it comes to their readiness to accept e-learning as a model of education. Besides, it also highlighted the clear advantages of applying e-learning perceived by students. Regardless of those benefits, this study also assesses various disadvantages associated with such a system when e-learning is incorporated into teaching and learning at University level. Thus, we can assume that the strategy of incorporating e-learning in higher education will lead to maximizing the learning outcomes and leads to an overall improvement in education sector.But there are some drawbacks that should be eliminated to get better results.

As shown from results of the first hypothesis related to identifying the most critical parameters to measure student's readiness to accept e-learning as a model of educationare ordered as the following: handling MS office application, the existence of dedicated e-learning labs, the availability and stability of internet access and finallytheir skills in using collaborative information systems.

Regarding the second assumption in evaluating the advantages of e-learning model, students find that natural interaction with professors is the most significant advantage more than the advantages of increasing their achievement, enhancing and supporting self-learning, saving time and lastly the accessibility of information from different sources.

Finally, in evaluating the disadvantages of using e-learning model. Respondents agreed thatthe worst disadvantage of e-learning was theunfair opportunity to those students who are good in presenting themselves orally but lack the ability to express their opinions in writing, followed by limiting student's innovation and creativity skills since most of material provided were fixed with no ability to draw or add on and sketch, high cost (to both individuals and institutions since it needs high investments and continuous maintenance as well as replacements), reduction of human communication and lastly lack of dialogue may affect logical intelligence.

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