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Key Factors for Defining the Conceptual Framework for Quality Assurance in E-Learning

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Abstract

E-learning has evolved for more than a decade, and universities are gradually embracing e-learning to provide more learning experience for their learners. E-learning is the use of electronic means through which training is received and obtained. E-learning offers a wide range of advantages (time and room mobility, cost-effectiveness, etc.) and also overcomes the limitations of digital learning that have led to the widespread adoption of the institute. The poor quality of e-learning services is one of the main causes of the number of errors collected. Experts proposed performance models for e-learning systems, but most relied solely on pedagogical opinions. From a software perspective, very limited attention is paid to evaluating the performance of e-learning applications. It is therefore quite difficult to evaluate the overall performance of the e-learning scheme effectively. The aim of this study is to draw up separate stakeholders in the e-learning system by providing a roadmap to ensure the effectiveness of their e-learning facilities, particularly in emerging countries and Iraq. The higher education data system guarantees and measures the performance of its e-learning system in its own way, as there is no specific

definition of the performance of the e-learning system. This work is expected to be ready to harmonize the various stakeholders to a satisfactory standard within the performance framework.

Keywords: E-learning; Quality insurance; Quality in E-learning; Evaluation design; Learner support; E-learning schemes.

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Introduction

E-learning schemes are often associated to human capital and can be seen as tactical institutional tools. E-learning schemes The ELS advantages include: (a) enhanced employee performance, (b) increased job development and flexibility prospects, (c) increased creativity, (d) improved operational quality, and (e) cost savings (Alfirević, Granić and Garaca, 2010). The ELS benefits include:

While the bulk of these advantages were accepted by businesses in developed countries (Borstorff & Lowe, 2007; Khan, Moon, Rhee & Rho 2010; Sife & Lwoga, 2014) the most significant e-learning services in emerging markets were not successful. On average, e-learning programs are still in its infancy and face challenges in Iraq with projected Internet access only by 1 in 250 residents compared to the world average of 1 in 15.

Raspopovic et al. (2014) suggests, for their importance, quality and understanding and acceptance, that e-learning assessment is important (Raspopovic, Jankulovic, Runic, & Lucic 2014). Evaluation is key for investors' acceptance and further e-learning development and expansion. In six phases: the scheduling, layout, production, training, review, service and retention (Zhang & Cheng, 2012), eLearning performance should usually be decided. Nonetheless, that nation's appraisal raises concerns that must be overcome.

The first assessment issue is the preparation phase. Planning requires experts from the organization and on-line learning sector in order to identify the main performance evaluation variables (Makokha & Muumbo, 2015). Such conditions obviously did not lead to poor e-learning outcomes.

The second question was the step of design. E-learning classes, composed of e-learning experts, technicians, expert topics and curriculum-designers, was designed to understand the needs of students, the specifications of teachers, the technical requirements and the institutional skilities based on performance (Masoumi & Lindström 2012; Zhang & Cheng, 2012).

Second, how to evaluate the service's e-learning system. Five performance criteria had to be clearly defined in the e-learning organizations. The research described. These included: product support, personal support, training assessment, intuitive factors and consumer functionality

(Makokha et al., 2014; Tarus et al., 2015), Mutisya and Makokha, 2016. According to Salmon (2004), different types of teacher, technical or organizational assistance are needed for every material service element without which it is difficult to know (Salmon, 2004).

The fourth question refers to e-learning's overall assessment. The analysis of the quality of teaching and replication methods and the comprehensive e-learning system (Khan, 2004) by engineers, instructor / specialists and testing experts was addressed.

Given the aforementioned problems, it is clear, in order to achieve the prototype that can improve the performance and use of e-learning techniques, a systemic e-learning assessment model must be drawn from the study of existing e-learning models and systems (Khan, 2004; Makokha & Mutisya, 2016; Masoumi & Lindström, 2012; Mutisya & Makokha, 2016; Raspopovic et al., 2014; Tarus et al., 2015).

Perceptions of Technology in Daily Life

Almost every educator acknowledges a ringing cell phone that interferes, but mobile telephones vary from a ban of wireless communication to a much more relaxed approach. Most pupils feel the electronical technologies are worthless to pupils who see engineering as the answer to daily life and safety (Thomas, O'Bannon & Bolton 2013).

Several instructors are still teaching non-participating pupils. People often think it's right to think that the school is wrongly taken from the' real world' (Baker, Lusk, & Neuhauser, 2012). Technology through PowerPoint helps an instructor to display data in a graphical way, but the main focus is on the teachers who have been deemed dominant and derogatory (Baker et al. 2012). The concept of authoritarianism is further reinforced as educators tend to restrict or regulate the use of software in classrooms, creating a barrier to teaching. The students often speak to teachers, realizing that in their schools modern students do not yet have the level of self-control and sophistication needed for electronics, hence electronics laws (Baker et al., 2012).

It is certain to claim that technology belongs to our everyday life, from the mobile devices in our pockets to the automobile to work and the robot that generate our morning coffee, whether it is a deliberate choice for its use (Egbert, 2009). If a teacher uses the program on a regular level, it would be counter-intuitive to use outdated approaches at a time in which no technology exists in class. If teachers are more deeply involved with school learning, a paradigm shift must take place in contemporary pedagogy. Educators will have more opportunities to indulge in technical training. Students' perspectives on changing community-based learning and students can be influenced by higher school levels.

E-learning

Innovation in ICT has contributed to a change in data and guidance. Such inventions, especially on the Internet and the World Wide Web, have a significant impact on distances. The

International Distance Learning Association describes distance learning as "the teaching that enables interactions and teaching to take place at any time and from any location and removes traditional barriers to time-or space-based education." E-learning, online learning, electronic education, e-learning (Mason & Rennie, 2008) are examples of these fields.

Digital learning is the natural extension of distance learning. Throughout recent years, e-learning has taken on several forms, including blended learning, digital education or mixed mode. It combines face-to-face interactions with computer-based asynchronous interaction techniques (Wise et al., 2009). Sangrà et al. (2012) postulated a broad definition of e-learning for the use of digital media and services as instruments to improve access to education, connectivity and dedication to make new approaches to understanding and development in learning possible" (Sangrà et al., 2012). Sarikhani et al. (2016) found that training and memorizing for multimedia trained apprentices is more than traditional learning and memorization.

Research and impact on e-learning curriculum and technology demonstrates that the use of this learning tool will contribute to academic productivity in the learning system. New teaching and learning theories have evolved from teacher-funded to student-focused training. In addition, modern men and women were able to use modern methods of education, to break free from time and space, and continued study in accordance with their needs and requirements at any given time and location through growth and development of new communication technology (Sarikhani et al., 2016).

Trend of E-learning

ICT created new e-learning horizons. Increasing the ability to reach out to remote learners for education has Different e-learning horizons have been developed by ICT. Increasing the potential to meet remote students has created most educational opportunities. A number of leading colleges now offer courses for distant ICT students as a consequence of the fast growth in ICT use to draw more and more students from remote areas in two-fashion schools (Islam and Selim, 2006).

Over recent years, robust web-based learning platforms have supported academic and non-educational institutions. Over 1,000 e-learning company funds Bhuasiri et al. (2012) in 50 different countries (Bhuasiri, Xaymoungkhoun, Zo, Rho, & Ciganek, 2012). Koohang, Riley, Smith, and Schreurs (2009) also showed a significant increase in web student inscriptions over the US (Koohang, Riley, Schreurs and Smith 2009). In 2007, approximately 75 percent of the 129 best American universities provided web-based learning equipment (Wang & Wang 2009). This statistical evidence shows a prevalence of e-learning, which leads to significant changes in higher education (Penna & Stara, 2008). The widespread use of e-learning by higher education institutions, Baruque, Baruque & Melo 2007, still makes it difficult to achieve quality assurance and productivity for their goods (Baruque, Baruque, & Melo, 2007).

Quality in E-Learning

Over recent years, the participation of e-learning professionals over e-learning centers has grown (Englis, 2008). This increasing emphasis on performance improvement programs can not be overlooked (Weaver, Spratt & Nair, 2008). Increasing questions about the performance of the e-learning system have driven higher education institutions to try resources and approaches to address the quality problems of their e-learning networks (Inglis, 2005; Masoumi, 2010). Measuring and improving quality of e-learning programs in reaction to the success problem is currently in place in order to ensure the efficiency of these applications (Masoumi, 2010; Masoumi & Lindström, 2012). However, development systems and models need to be supported still by practitioners and managers in order to ensure the quality of the e-learning system they have or are already implementing.

The quality of a software system that is special to the e-learning system is difficult to evaluate and it has to be assured. A wide range of stakeholders (including students, educators, institutions, managers, software developers, educational designers, web facilitators, graphic engineers, object developers etc.) are involved in the e-learning framework (Dubey, Ghosh & Rana, 2012). Both participants have their own opinions and performance requirements in line with their specifications. It is thus important to include all participants in creating a performance e-learning program. Moreover, while e-learning systems are in place, literature also states that executives or politicians should advocate a reformist approach, but should follow a technocrat approach (Kundi, Nawaz, & Khan, 2010). Consequently, the theory and implementation of the e-learning system often vary in terms of assessment or quality assurance (Kundi et al., 2010; Ozkan, Koseler & Baykal, 2009).

E-learning in Iraq

While development in the introduction of e-learning programs into higher education has been notable in advanced countries, such approaches have not yet been successfully implemented in emerging countries (Ssekakubo, Suleman & Marsden 2011; Tarus et al. 2015). E-learning is obviously late, especially in most Middle East education systems (Mirza & Al-Abdulkareem, 2011). Researches discuss major problems that prevent e-learning from being effectively implemented into higher education (Ali & Magalhaes, 2008). There are also obstacles to e-learning technology development that should be addressed, especially for countries such as Iraq, when the study involved was relatively limited, although taking account of the advantages of e-learning as a means of improving education provision.

Iraq is the last country to take on e-learning programs in the Middle East (Matar, Hunaiti, Halling & Matar, 2011). Mirza & Al-Abdulkareem (2011) estimates that only one percent of Iraqis had access to the Internet by early 2009 (Mirza & Al-Abdulkareem, 2011). Iraq is therefore promoting the ICT movement in shaping higher education. Recently, although in line with traditional learning techniques, the Iraqi Ministry for Higher Education and Scientific

Research (MHESR) took serious steps towards the rehabilitation of this area. E-learning policies were restricted. Further work is therefore required on how to use e-learning in Iraq to bridge this gap in the study and expand current literature, finding major barriers to the introduction of such learning and training strategies in the Middle East.

Conceptual Framework

Most reports agree that the most common issues affecting e-learning in Iraq include: insufficient ICT and e-learning infrastructure; lack of financial constraints on open and adequate internet bandwidth; lack of effective approaches to e-learning; lack of technical e-learning skills; and the main challenges facing e-learners were teacher e-learning. Table 1 provides formal and non-formal learning for empirical research.

Table 1. Examined empirical studies

Researchers (year)	Main findings
Hatami, 2015	Development of self-regulating learning. Improvement of academic performance/learning
McKevitt, 2016	Improvement of academic performance/learning.
Ozarslan & Ozan, 2016	Improvement of academic performance/learning.
Heidarian, 2016	Enhancement of learning motivation. Improvement of academic performance/learning.
Peyton, 2017	Enhancement of learning motivation. Improvement of academic performance/learning.

Most of the research that examined learner self-assessment's contribution to motivating teaching, improving educational performance / learning, generating self-regulating learning, and increasing learner self-esteem was recognized in schooling compared to primary education. Based on these variables, a detailed review of the e-learning scheme's current quality models and frameworks is conducted to assess the variables and to assess the suitability of the frameworks / models. Lists the following key parameters:

Course Development: Mtebe and Raisamo (2014) noticed that teachers should produce quality teaching materials, tailored to the student's talents, skills and ability to make use of the framework of LMS (LMS) and improve student experience (Mtebe & Raisamo 2014). The dependability of the curriculum has a positive effect on the performance of learners and on the use of LMS. Several reports have also stressed the need for training equipment and textbooks to improve the quality of the curriculum (Kashorda & Waema 2014; Tarus, Gichoya & Muumbo 2015).

Learner Support: Learner Support (LS) encompasses all acts that support apprenticeships outside academic material development (Simpson, 2016). Such system would consider students' involvement in providing material, social and administrative assistance (Chen,

2014). Wright (2014) stated that the primary components of the product service should include visual videos, such as audio and video.

Evaluation Design: The e-learning assessment usually involves regular research evaluations, assignments and the final analysis of the course. The Review of Chawinga and Zozie (2016) delayed preparations and tests for the semester (Chawinga & Zozie 2016). The assessment findings for this year. Makokha and Mutisya (2016) said that several teachers in their classes were unable to perform web analyses and self-evaluation tests (Makokha & Mutisya, 2016). Assessment of teaching goals is critical and should be practical, appropriate, precise and consistent with the expectations and the resources.

User Characteristics: E-learning preparation is offered to learners by courses, lectures, and other teaching approaches, to prepare students for e-learning lessons and awareness-raising and e-learning teachers. Mayoka and Kyeyune (2012) proposed that schools can strengthen students' and personnel knowledge and abilities by training to increase the chances of customer requests (Mayoka & Kyeyune, 2012). Training improves usability perceived and results in performance directly.

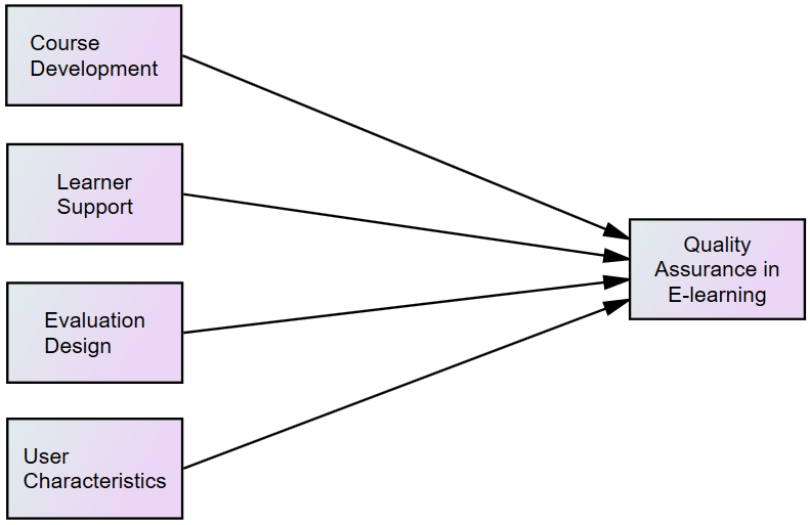

Figure 1. Proposed Conceptual Framework for Quality Assurance in E-Learning

Empirical literature review and e-learning value structure suggest that variables are not reflected in the literature in existing frameworks and e-learning designs. Factors recognized or not accepted shall be recognized and tabulated. Research shows the performance of four components of e-learning: training development, learning support, layout evaluation and customer features. Under the following assumptions:

H1: Course development significantly affect quality assurance in e-learning.

H2: Learning support significantly affect quality assurance in e-learning.

H3: Evaluation design significantly affect quality assurance in e-learning.

H4: User characteristics significantly affect quality assurance in e-learning.

6. Materials and Methods

180 participants gathered cross-section field information. Initially, 310 questionnaires were circulated, of which 217 returned at a response rate of 70 percent. After screening and sorting of partly or inappropriately finished questionnaires, 180 usable answers stayed. Nearly 78 percent of respondents are male, suggesting higher levels of male participation. The average age of the participants ranged from 20 to 70 years. The average total experience of respondents was 7.7 years from 1 year to 33 years. Fifty six percent of the participants were Master's degree holders, 32 per cent were graduates and 8 per cent were PhD holders, only 4 per cent were undergraduates. Analysis of data using SPSS and AMOS.

Results

Table 2 shows mean, standard data deviations, correlations, and reliability. Correlation results show a significant positive association of e-learning quality assurance with course development ($r= 0.32$, $p < 0.01$), learner support ($r= 0.43$, $p < 0.01$), evaluation design ($r= -0.48$, $p < 0.01$), and user characteristics ($r= -0.35$, $p < 0.05$). The alpha reliability statistics discovered for all constructs in acceptable 0.70 and above standard (Nunnally, Bernstein, & Berge, 1967) indicate it as excellent reliability. Course development alpha reliability was (α=.70), learner support (α=.73), evaluation design (α=.72), user characteristics (α=.70), and e-learning quality assurance (α=.70).

Table 2. Mean, Standard Deviation, Correlations and Reliability

Predictors	Mean	Std. Deviation	Course Development	Learner Support	Evaluation Design	User Characteristics	Quality Assurance in E-learning
Course Development	3.40	0.62	**(0.70)**				
Learner Support	3.62	0.53	0.02	**(0.73)**			
Evaluation Design	3.70	0.51	0.14*	0.33**	**(0.72)**		
User Characteristics	2.85	0.65	0.20**	0.03	0.29**	**(0.70)**	
Quality Assurance in E-learning	3.48	0.49	0.32**	0.43**	0.48**	0.35**	**(0.70)**

Note. N = 180, Reliabilities are given in Bold in parenthesis, * = p < .05, ** = p < .01, *** = p < .001

Table 3 shows the results of regression to test the relationship being hypothesized. The results revealed that Course Development was significantly associated with e-learning quality assurance (β=0.32, $p<0.05$, and ΔR^2=0.183), explaining variance of 18.3 percent. In order to test the second

hypothesis, the relationship between Learner Support and E-learning Quality Assurance was tested and a significant association was found (β=0.43, $p<0.05$, and ΔR^2=0.07), which explained a variance of 7 percent.

In order to test the hypothesis, three of the results of this study revealed that Evaluation Design significantly predicted quality assurance in e-learning (β=0.48, $p<0.05$, and $\beta R2$=0.16). For the hypothesis, four significant relationships between user characteristics and quality assurance were found in e-learning (β=0.35, $p<0.05$, and ΔR^2=0.27). Therefore, results are revealed to support all of this study's hypothesis.

Table 3. Mean, Standard Deviation, Correlations and Reliability

Predictors	**Quality Assurance in E-learning**		
	β	**p**	**ΔR^2**
Course Development	0.32	0.05	0.183
Learner Support	0.43	0.05	0.07
Evaluation Design	0.48	0.05	0.16
User Characteristics	0.35	0.05	0.27

Note. N = 180, * = p < .05, ** = p < .01, *** = p < .001

Conclusion

After considering the empirical literature of developing nations on the quality of e-learning technology, four dimensions have been acquired. The most frequently used e-learning evaluation frameworks were then introduced and assessed, and the variables were further refined. The evaluation of the current frameworks also led to an understanding of whether or not they were appropriate for the context of developing nations. This framework addresses the minimum requirement of a higher education data system in developing countries to evaluate the e-learning scheme that they use or plan to adopt. A simple method has also been developed for the proposed framework. The framework can be used not only to address the current status of the organization, but also to address future organizational requirements, taking into account quality features such as sustainability.

There are various aspects of e-learning, including educational, personal, institutional, software, cultural, technical, etc. All dimensions are crucial to the effective implementation and advancement of the e-learning scheme. Numerous difficulties are related to each dimension. This study is limited to addressing software-only quality issues and challenges.

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