EVALUATION OF LEARNING MANAGEMENT SYSTEM CONTENTS OF SELECTED COURSES AT THE ARAB OPEN UNIVERSITY

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ABSTRACT_ Innovative delivery methods using blended learning and E-learning are being implemented in the Arab Gulf region to improve access to education. The Arab Open University is taking a leading role in implementing blended learning and E-learning. The purpose of this study was to evaluate the Learning Management System (LMS)contents of three selected courses at the Arab Open University (AOU) according to Badrul Khan's E-learning (EL) standards. The study also identified major obstacles to maintaining high quality E-learning and made recommendations to improve the quality of the E-content of the courses. The study used a questionnaire that consisted of closed- and open-ended questions. The sample consisted of instructors and course coordinators from three courses at the AOU. Respondents were asked to provide feedback on which of Badrul Khan's E-learning standards are being followed in the LMS content of the courses. The results revealed that seven of the eight standards are being followed. These include: Institutional, Technological, Pedagogical, Evaluation, Management, Interface Design, and Ethical. The authors suggest that AOU pursue student participation in a study to evaluate LMS content of other AOU courses according to Badrul Khan's E-learning standards. The authors also recommend applying Merza's Open System Model of Blended Learning either to design E-learning content for new courses or to evaluate existing content.

KEY WORDS: *Arab Open University, Evaluation, E-learning, Standards.*

I. INTRODUCTION

The Arab Open University (AOU) was conceptualized in 1996 and founded in 2001 as a non-profit university providing educational opportunities to students irrespective of their age, gender, language, nationality, religion, or economic background. The university contributes to the development of the scientific, social, and cultural spheres of the Arab world. The uniqueness and relevance of the university in today's society is based on the foundation on which it rests. AOU brings the possibility of education to a wide range of aspiring students in a manner that accommodates the demands of the individuals' personal and professional lives. AOU accomplishes this by adopting blended learning (BL) [1]. The courses are delivered using a Learning Management System (LMS) which provides flexible delivery and allows for interaction between the instructors and learners, and between learners.

Vaughan and Garrison [2] provide a definition of BL as: "the organic integration of thoughtfully selected and complementary face-to-face and online approaches and technologies." Garrison and Vaughan [2] mentioned that the key assumptions of BL are to thoughtfully integrate face-to-face and online learning, fundamentally rethinking the course design to optimize student engagement, and replace traditional class contact hours. BL is a formal education delivery method that integrates online and digital media to provide learners with a well-planned, managed, structured, and tutor-supervised interactive learning environment. High-quality content, activities, and experiences are customized to the learners' needs, learning styles, time, path, and place.

A common misunderstanding among students and non-professionals mixes the characteristics of BL and E-learning (EL) to be one similar entity. Awadallah and Drarka [3] described E-learning as a system that uses technology, computers, internet, and electronic programs to support and enhance the learning process; learning material is provided to the learner in short time with less effort. The interaction in this system utilizes many communication techniques such as audio, visual, graphs, e-library resources, multimedia, and the internet. Considering the above definitions of both BL and EL, BL is a broader teaching and learning approach that incorporates traditional teaching via face-to-face classroom contact hours with E-learning or online learning methods or strategies.

Review of the Literature

Higher education institutions around the globe are continuously working to improve learning and teaching approaches and to widen the use of technologies in an attempt to cope with the increasing public demand for higher professional development opportunities that are flexible, convenient, and cost efficient. EL is one of the solutions available to higher education institutes. EL offers many benefits. For example, Awadallah and Drarka [3] mentioned that E-Learning has several benefits for the learner as well as the institution. It increases the number of students enrolled without compromising the quality of the learning process or outcomes, alleviates the problem of academic staff shortages, and provides an opportunity for learning that overcomes the barriers of time and place.

Al-Aonizi and Ally [4] conducted an experiment to investigate the extent to which using an electronic learning strategy affects students' performance. The experiment revealed that students who participated in the experiment experienced enrichment of knowledge and skill in regard to access to multiple learning resources, acquired effective communication skills, and recognized the meaning of scientific documentation. When asked to evaluate the E-

learning strategy, 95% of the participants responded in favor of it. EL provides learners with the best low-cost and convenient learning opportunity to acquire knowledge, leadership skills, and attitudes that make them better competitors in the job market [5].

E-learning Standards Framework

The above discussion highlighted that E- Learning has value, potential, and strengths. However, for the EL to be implemented and evaluated appropriately, it has to be of high quality and structured using established standards.

Among the many standards provided as a framework for EL, Badrul Khan's [6] framework was designed with and incorporates eight standards that address the quality of E-learning material development and delivery as illustrated in Figure 1.
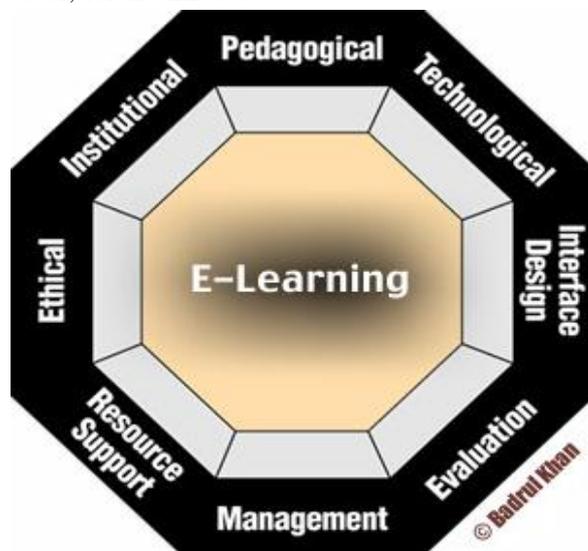

Figure 1
Badrul Khan E-learning Framework (with permission)

1. Pedagogical: The pedagogical dimension addresses issues such as content analysis, audience analysis, goal analysis, design, and methods and strategies that assess the principles and methods of teaching and learning. It addresses how the content of a course is designed; identifies the learner's needs; and how the learning objectives will be achieved. This dimension also addresses the delivery method for the course activities and the appropriateness of the learning environment for achieving the learning goals of the intended audience. Interactive learning strategies in E-learning will engage and motivate students to learn so that they can finish their education rather than drop out from schools.

2. Technological: The technological dimension assesses hardware, software, and infrastructure planning. Does the organization have the infrastructure to support E-learning? In some cases the infrastructure is for blended learning where the delivery is a combination of E-learning and other delivery methods. For example, the question of whether there is a learning management system that supports E-learning.

3. Interface Design: The interface must allow easy access to course materials using digital technology. The interface must allow access to learning materials from anywhere and at any time using a variety of learning technologies.

4. Evaluation: Evaluations must be conducted to assess the effectiveness of the development process and E-learning delivery. The instructional design process must be evaluated, since E-learning is new to most organizations.

Also, the learners should be assessed to determine whether they achieved the learning outcomes of the lessons.

5. Management: Proper project management and quality control techniques should be used to make sure that E-learning development projects are completed on time and that quality learning materials are developed. It is important that the project team members have the expertise to develop quality learning materials. Usually, E-learning materials are developed by a team of experts with varying expertise. An important goal of the project manager is to make sure the team members work together to develop quality learning materials.

6. Resource support: The resource support dimension considers all of the technical and human resources support required to create meaningful and successful E-learning environments. Learning support must be provided by the teacher to help students with content and other problems related to learning. The teacher's role will change from a presenter of information to a tutor or facilitator of learning. In some cases, teachers may have to be trained on how to function in the E-learning environment. Social software should also be used to allow learners to communicate with each other so that they can support and help each other using peer tutoring. Technical support should also be provided to students in case they are having problems with the technology or accessing the course materials.

7. Ethical: The E-learning teacher must use proper ethical guidelines when tutoring students and students must follow proper ethical principles when using the technology

to complete their lessons. For example, students must not offend one another and must not plagiarize. Developers of E-learning materials must follow proper copyright procedures. Also, proper privacy guidelines must be followed to protect students' personal and sensitive data.

8. Institution: The institution website must be user-friendly so that students can access information and services using a variety of technologies. The institution must establish the services and infrastructure to provide support to students from the time they register for courses or programs to course completion or graduation. Students who use technology to complete their courses at a distance should be able to access the institute services virtually. For example, virtual library support should be available and students should be able to access electronic library resources from anywhere and at any time. The institute should also establish standards for tutor support to enhance student success. For example, when should a tutor respond to students questions, when should feedback on assignments provided to students, etc.

In addition to Badrul Khan's framework, the National Center for E-Learning and Distance Learning [7] in Saudi Arabia is assisting universities in approval of high quality e-content, based on scientific and global standards. It has produced nine national quality standards for the design, production, and publication of E-learning. They are as follows: (1) personal and organizational values; (2) learning outcomes; (3) program design; (4) program assessment and evaluation; (5) student assessment; (6) learning resources; (7) quality of teaching; (8) admission and student information; and (9) information technology.

Al Hafez [8] reviewed the literature on E-learning and developed eight quality standards for the internet learning environment at higher education institutions. The standards are: (1) quality in the aims of online learning; (2) physical elements, software; (3) human resources for online learning; (4) the tools of online learning; (5) the design of teaching material for online learning; (6) the training and qualifications of university lecturers; (7) the guidance and tutoring of online learning students; and (8) the social and cultural relations for online learning, as well as the physical environment for online learning.

Awadallah and Drarka [3] conducted a prospective study to identify the contemporary international standard of E-Learning. The study found that there is an agreement among experts regarding the importance of ten standards: (1) the mission and institutional effectiveness; (2) organization; (3) governance; (4) leadership; (5) academic programs; (6) teaching methods; (7) faculty members, staff, and students; (8) library; (9) learning resources; and (10) infra-structure and technical support.

After reviewing the standards and frameworks of EL, it can be concluded that they share common elements. For example, the quality of content, technical support, teaching methods, and quality of the interactive environment, policies, and the institution.

Merza's Open System Model of Blended Learning

There are not many existing BL models for educators to follow. This section presents an Open System Model of Blended Learning developed by Merzain 2015 to enhance the quality of blended learning. Figure (1) shows Merza's Open System Model of BL. The model comprises five elements: inputs, process, outputs, feedback, and external environment.

Figure (1)
Merza's Open System Model of Blended Learning

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External Environment

Blended Learning process & interactive environment

External Environment

INPUT
- University Vision, mission, values, policies
- University objectives
- Program objectives
- Course objectives
- Pedagogy
- Institutional technology infrastructure

Quality Control &Management

Ethical policy

Face-to-face tutorials

Assessments and Evaluation

Learning Resources

Tutor's Engagement

Learner's Engagement

Technical support

Orientation for users

Outputs
- Learners achievement level.
- Learners Attitudes
- Learners skills
- Tutors performance and skills

External Environment

Feedback
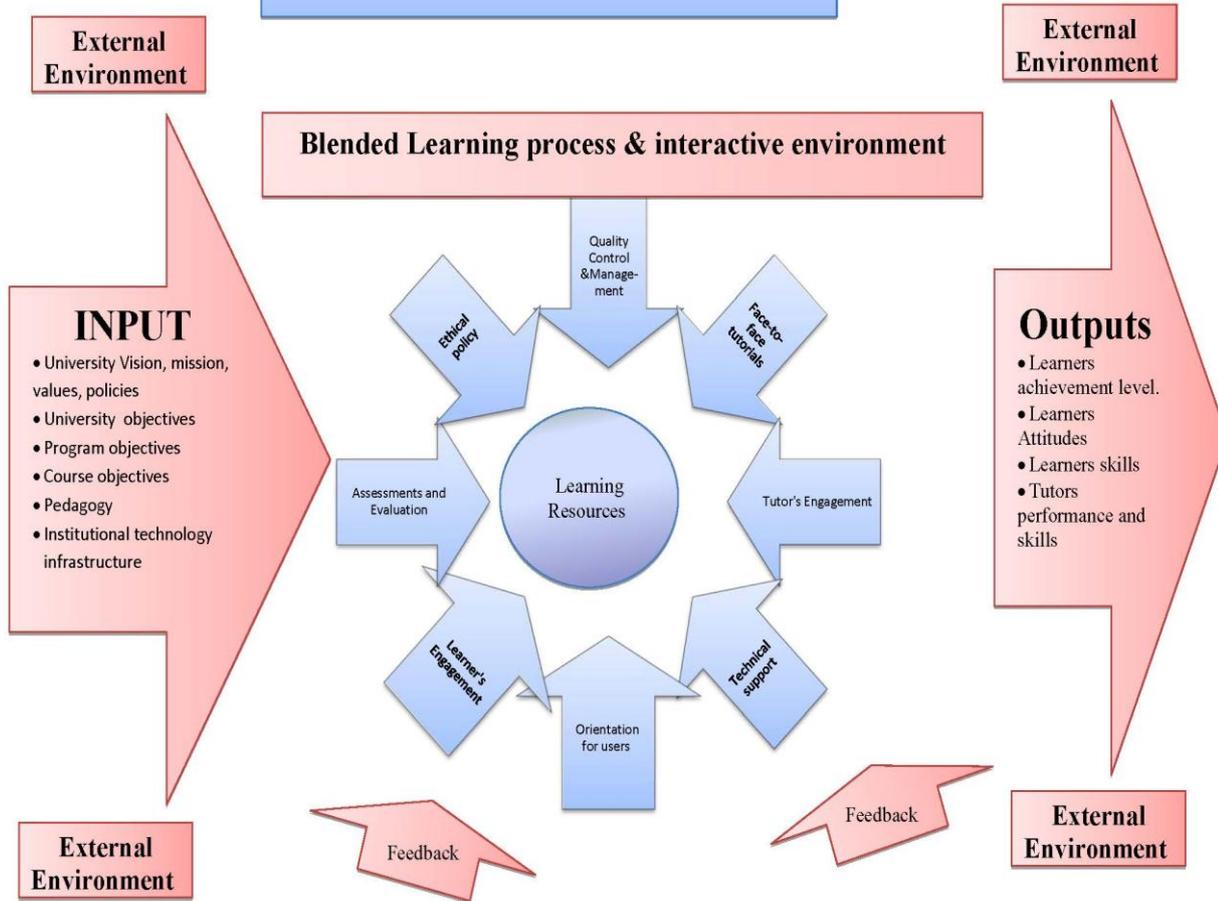
Feedback

External Environment

Figure 2

[A] BL Inputs

University vision, mission, and values: The majority of higher education students enroll in academic programs without full awareness of the university's vision, values, mission, and goals. They should be included in the course syllabi and communicated to students by various methods, emphasizing their relationship with course or program objectives, activities, and assessments.

University policies: The majority of higher education students enroll in academic programs without comprehending the university's policies. The lack of awareness of policies may result in academic or administrative difficulties at later stages. Policies must be communicated to students by various methods, such as induction workshops, electronic manuals, etc.

Pedagogy: Pedagogy addresses issues such as content analysis, audience analysis, goal analysis, design, and methods and strategies which assess the principles and methods of teaching and learning. It addresses how the content of a course is designed; identifies the learner's needs and how the learning objectives will be achieved. It might include a plan of blended options; for example that 70% of course objectives will be delivered via online and or other technological formats, and 30% will be delivered via face-to-face instruction. This element also addresses the delivery method for course activities and the appropriateness of the learning environment for achieving the learning goals of its intended audience. Interactive learning strategies in e-learning will engage and motivate students to learn so that they can finish their education rather than drop out of school.

Institutional technological infrastructure: Higher education institutions planning to implement BL methodology must ensure the readiness of supporting IT. The institution portal must be user-friendly to allow access to information, services, and learning materials from anywhere and at any time. The flexibility of access to the BL community from anywhere helps busy learners attend their online tutorials easily, at any time. The institutions must establish services and infrastructure to provide support to students from the time they register for courses or programs to course completion or graduation. Students who use technology to complete their courses at a distance should be able to access institutional services virtually. The institute should also establish standards for tutor support to enhance student success, e.g. tutor response

times to students' questions, feedback for students, etc. Social software should also be used to allow learners to communicate with each other so that they can support and help each other using peer tutoring.

[B] BL Processes and Interactive Environment

Quality control & management: Proper course management and quality control techniques should be used to make sure that BL course development is completed on time and that quality learning materials are developed. It is important that the course team members have the experience required to develop quality learning materials. Usually, BL materials are developed by a team of experts with different expertise. An important goal of the course manager is to make sure the team members work together to develop quality learning materials. Another role of quality control and management of the BL environment is to provide a meaningful and successful BL environment, tutor training, and continuous coordination with tutors to ensure tutors are effective in helping students with BL content and issues related to learning. Quality control and management also requires handling attendance of learners and their interaction with peers and tutors. Quality control and management is involved in writing of comprehensive reports, extracting statistics about the course, and consequently providing good feedback about the internal quality of the BL system.

Orientation and induction program for users: Fleck [9] cautioned that systematic training for effective use of technologies is necessary to take users beyond their customary habits. Also, Tolley [10] mentioned that adopting a BL model does not mean immediate implementation, but students need to be carefully taught how to work in a BL environment.

Learning Resources in the BL environment: Learning resources are the building blocks in the proposed BL model. E-learning platforms such as Black Board or Moodle are suitable for delivering various learning resources including audio, video, printed materials, e-books, articles, encyclopedias, social media, etc.

Fleck [9] mentioned that the "Learning Community Model" uses of a wide range of existing and specially designed assets including the web, educational documentaries, and open educational resources, which facilitate communication at any time. The BL community environment is a very rich platform with multiple modes of interaction among participants to achieve intended learning outcomes.

Technical support for users: Twenty-four hour technical support should be provided for all concerned participants in case of problems with the technology or accessing the course materials.

Ethical policy: A no-rules BL Environment is like a jungle. Tolley [10] mentioned that to ease students into their roles as democratic participants, a definition of a social contract should be provided with clear expectations such as following ethical principles when using the technology to complete their lessons, not offending one another, and not plagiarizing. Tutors must also use proper ethical guidelines when tutoring students. Developers of BL materials must follow proper copyright procedures. Proper privacy guidelines must be followed by a quality and management team to protect students' personal and sensitive data.

Learners' engagement: The BL approach is learner centered. Geçer [11] pointed out that BL is a flexible approach, which assists in the maintenance of education applications both in the face-to-face environment and on the web by developing technology. A learner who logs into the BL environment can engage in multiple learning activities such as viewing and downloading learning resources, logging in to a virtual library, and asking questions. A learner may also take a rest and start a conversation at the virtual café to share thoughts and knowledge. Other activities can include assignments and feedback, dialogue with the facilitator, and completing group assignments with colleagues. Ally [12] added that a learner can also interview experts. Also, (Al-Aonizi and Ally [4] conducted an experiment and used various interactive e-learning activities with participating students such as searching for both Arabic and English literature on specific topics, following up with local and international conferences, and facilitating students' registration in many electronic websites.

Tutors' engagement: Tutors' engagement is an important element in the proposed BL model, as their role is changed from that of a presenter of information to a tutor or facilitator of learning. Ally [5] listed several new roles in BL of a tutor including to facilitate learning, motivate learners, help learners solve personal problems or problems with the content, share the different learning resources such as handouts and recommended readings, and evaluate learner's performance. Further, Te@ch Thought [13] stated that professors in blended classrooms use course management system platforms to communicate with students online. Through those platforms students can access recorded lectures, track assignments and progress, interact with professors and peers, and review other supporting materials like presentations or scholarly articles.

Face-to-face tutorials: Face-to-face tutorials can be defined as scheduled lectures and meetings held on regular basis (e.g. weekly, bi-weekly).Some claim that the BL methodology is similar to distance education, which does not require students to attend to face-to-face tutorials and consequently requires no direct contact between tutors and students. On the other hand, Fleck [9] assured that face-to-face tutorial is an important element in the correspondence and broadcast model of the UK's Open University. The objectives of conducting face-to-face tutorials are to overcome the isolation of distance learning; encourage

interaction, exchange of ideas, and learning experiences between students and tutors and among the students themselves; satisfy learners' social need for interaction; and to enhance the learning materials in a structured and supportive environment. The outcomes of these objectives improve the quality of the learning process and positively affect learners' achievement and performance.

Although learners are responsible for their learning in the BL approach, this does not mean the tutor has no role. The following advice, based on the author's personal experience in conducting face-to-face tutorials in the Saudi Arabia branch of the AOU, summarizes the facilitator's role before and during face-to-face tutorials:

• Careful planning of sessions will involve using a session plan or talk sheet.

• The objective of the session should be written.

• Suitable understanding activities that underline course topics should be designed

• Cover the most important points in the session, for example using concept maps.

• Arrive early to face-to-face tuition, and spend the all of the time allocated for each meeting, and do not merge sessions regardless of the number of students present.

• Use various tutoring methods to achieve the required learning objectives for each concept: discussions, questioning, small groups, and worksheets.

• Support the new students in the session.

• Encourage students to build their basic skills, e.g. reading, academic writing, etc.

• Encourage students to be responsible learners and actively participate.

• Ask questions, open up discussions, and give examples that are relevant to course material.

• Consider having a five minute break as an icebreaker.

• Use time effectively.

• Face-to-face learning can be broken down as follows:

• Learn one fourth from the tutor.

• Learn one fourth from self-study.

• Learn one fourth from fellow learners.

• Learn one fourth while applying knowledge.

Tolley [10] advised tutors to activate the learning process in face-to-face tutorials by breaking students into four groups. For example, one group of four to six students is actively working on research/homework, chatting occasionally but largely on task. The second group is peer-editing one another's essays. The third group is at a whiteboard drawing a graphic depicting a concept from the course. The last group is seated around a small table with the teacher, discussing the unit's essential questions and devising new ones. The studies of Weil, De Silva, and Ward [14] and Stewart and Nel [15] revealed that learners value learning via digital media and online activities, but are unwilling to forgo the opportunities presented by face-to-face contact with peers and faculty members.

Assessments and Evaluation: There is a quality assurance aphorism that says "what gets monitored, gets noticed; what gets noticed, gets improved." Assessments and evaluations should be conducted to determine the effectiveness of instructional design and delivery techniques. Learners should also be assessed to determine whether they accomplished the learning outcomes of the course using online and asynchronous assessment tools Tolley [10], . Ally [5] mentioned several evaluation tools such as online exams that are electronically marked according to predefined ideal answers, supervised exams, e-portfolios, journalizing, forums, oral exams, assignments, and blog formation. Software Secure Inc. [16] is also using technology to provide remote proctoring. Bryson and Jenkins [17] considered administering teacher-created and third party assessments as a major element of the Blended Assessments Rubric to accurately measure students' proficiency.

The author recommends using recorded video as an evaluation tool of learner performance with respect to achieving learning outcomes. Videos can be uploaded into the BL management system for tutor review and grading. Although the BL approach depends heavily on online activities, the author recommends using traditional written tests as an assessment tool, i.e. where the learner sits in a classroom for a paper and pencil exam during a face-to-face session or scheduled exam period.

[C] BL Outputs

Various findings of studies support the positive impacts of BL or E-learning on the learner's performance. EL offers many benefits. For example, Awadallah and Drarka [3] mentioned that E-Learning has several benefits for the learner as well as the institution. It increases the number of students enrolled without compromising in the quality of the learning process or outcomes, alleviates the problem of academic staff shortages, and provides an opportunity for learning that overcomes the barriers of time and place.

[D] BL External Environment

The external environment is anything surrounding the BL system, e.g. the local community, social and economic factors, or stakeholders. When researching the literature on BL regarding the effect of the external environment, the author found only one resource. Thus, it is suggested that the effects the external environment be considered when designing a BL program or course. Also when implementing BL systems, stakeholders such as parents and various interest groups should be kept informed of the benefits of applying a flexible BL approach. Tolley [10] advised tutors to always capture the learners in their classroom via photo and video, and wherever possible, share work online with parents and colleagues.

[E] Feedback on BL:

The results of Brew [18] indicated that students were willing to provide detailed feedback and provided constructive criticism that proved useful in the evaluation process. Thus, the proposed BL model considers the

feedback element as a source of improvement. There are two major sources of feedback, internal and external. Feedback about the internal quality of the BL program or course can be collected via reports and various assessment data on students' performance. External feedback can be collected by contacting stakeholders.

Application of E-learning standards to evaluate E-learning courses:

A number of studies have been conducted in an attempt to apply EL standards to evaluate courses in conventional, distance education, and blended education universities. Alsaidi [19] conducted a study aimed at developing a list of criteria and indicators to assess the quality of selected E-Learning courses developed by King Abdul-Aziz University. The study developed 163 indicators, which were classified in 20 standards. The standards were: (1) Availability of well-stated course specification ; (2) The course goals and objectives are clearly stated; (3) The learning outcomes are clearly stated ; (4) Accuracy; (5) Objectivity; (6) Newness of the content; (7) The inclusion of all important topics; (8) Appropriateness; (9) Consistency; (10) Modeling; (11) The use of appropriate teaching strategies; (12) The use of appropriate learning activities; (13) The use appropriate assessment activities; (14) The use of various assessment tools; (15) The use of multiple interaction activities; (16) The use of appropriate methods to provide feedback; (17) Accessibility; (18) Identification of navigation tools and programs; (19) The appropriate design of links; and (20) The use of learning resources to achieve the learning outcomes. The application of the E-course assessment standards to the targeted courses showed that all 20 standards developed in the study are met, but the "Availability of well stated course specification" standard is met to a higher degree than the rest, which were met to a medium degree.

Akhavan and Arefi [20] conducted a study to obtain quality criteria for evaluation of electronic content for virtual courses. The study identified 22 criteria that were classified into four groups as follows: (1) quality of content and information; (2) appropriateness of content to strategy; (3) appropriateness of content to the instructional design; (4) appropriateness of content to E-learning standards. Each one of the four dimensions was followed by number of quality criteria explaining it. Also, the study aimed to find out whether the proposed framework was applicable for evaluating two selected courses that have been developed at an E-learning center of an Iranian University. Application of the evaluation framework showed that the framework is suitable for evaluating electronic content in universities and institutes for electronic training. With sufficient dimensions and quality criteria, application of the framework also revealed that the dimension "appropriateness of content to E-learning standards" has been given less priority in the selected courses by the course developers than other dimensions.

A study was conducted by Ahmad and Saeed [21] to evaluate the E-courses at the Open University of Sudan in light of criteria for quality of E-courses. The sample courses consisted of 32 randomly selected from E-courses offered by the Faculty of Graduate Studies. The authors prepared a list of five quality standards and 68 sub-indicators. The results showed that all criteria of quality are met in the E-courses. Standards such as objectives, learning outcomes, course specification, multimedia, and student affairs are met to a high degree; however the standards of teaching and learning methods are met to a moderate degree.

The literature review carried out by the authors indicates that it seems essential to apply standards or frameworks to evaluate EL courses because this provides objective and comprehensive information about various elements of EL systems such as technical support, teaching methods, the learning-interactive environment, and the institution. Such information can be used as a basis for improvements.

The purpose of this research paper is to evaluate the Learning Management System (LMS) contents of three selected courses at the Arab Open University according to the standards in Badrul Khan's E-learning framework. This study is designed to answer the following questions: (1) Which of Badrul Khan's E-learning standards are being followed in the three selected courses? (2) What are the major obstacles to maintaining the quality of E-Learning in the selected courses? (3) Which of Badrul Khan's E-Learning standards can educators use when developing EL materials? (4) What recommendations can be made to improve the quality of E-content of the courses?

II. METHODOLOGY

Procedure

After consulting with experienced tutors at the Kingdom of Saudi Arabia branch of AOU, one course was chosen from each academic program to be part of the current study: "An Introduction to Business Studies" (B120), from the Business Studies Program; "An introduction to Java programming" (M105), from the Information Technology & Computing program; and "Communication in English skills (II)" (EL112), from the English Language & Literature Program.

The authors obtained permission from Badrul Khan to apply his framework containing eight standards to evaluate the LMS contents of three selected courses. The eight standards, containing 32 elements that address the quality of E-learning materials, were used to design the following data collection instruments:

Questionnaire: A questionnaire was designed and consisted of three sections. The first section has questions related to personal information. The second section has Badrul Khan's 32 elements that address the quality of E-learning materials with a response manner based on a

Likert scale (5 - completely agree, 4 - agree, 3 – neutral, 2 - disagree, 1 - completely disagree). Section 3 contains three open-ended questions regarding obstacles, recommendations, and comments for maintaining quality of E-content of the courses. The questionnaire was sent by email to the targeted population.

Interview: A semi-structured interview was conducted with three Branch Course Coordinators to get feedback from the coordinators. They were asked the following questions: (1) Which of Badrul Khan's E-learning standards are being followed in the selected courses? (2) What are the major obstacles to maintaining the quality of E-Learning in the selected courses? (3) Which of Badrul Khan's E-Learning standards can educators use when developing EL materials? (4) What are your recommendations to improve the quality of E-content in the course?

Validity and Reliability of Questionnaire

For validity purposes, the internal consistency of the questionnaire was analyzed using the SPSS software package. The internal consistency was analyzed using the responses to the questionnaire. Table 1 shows the Pearson correlation coefficients between each element and the total score of the questionnaire.

Table 1
Pearson correlation of each element of the questionnaire and the total score of the questionnaire

Criteria No.	Correlation	Sig	Criteria No.	Correlation	Sig
1	0.57	0.01*	17	0.56	0.014*
2	0.77	0.00**	18	0.72	0.00**
3	0.49	0.032*	19	0.49	0.034*
4	0.75	0.00**	20	0.91	0.00**
5	0.56	0.012*	21	0.51	0.027*
6	0.83	0.00**	22	0.65	0.003**
7	0.5	0.031*	23	0.85	0.00**
8	0.51	0.025*	24	0.5	0.029*
9	0.81	0.00**	25	0.88	0.00**
10	0.86	0.00**	26	0.89	0.00**
11	0.8	0.00**	27	0.53	0.018*
12	0.79	0.00**	28	0.56	0.012*
13	0.66	0.002**	29	0.7	0.001**
14	0.79	0.00**	30	0.69	0.001**
15	0.7	0.001**	31	0.64	0.003**
16	0.79	0.00**	32	0.77	0.00**

* P- Value (0.05), ** P- Value (0.01).

It is obvious, based on the Pearson correlation coefficients in the above table, that all criteria are correlated to the total score, most at a level of significance of 0.01; the rest of criteria are correlated at a level of significance of 0.05. This indicates high internal consistency of the questionnaire and confirms the strength of the internal validity of the questionnaire as a study instrument, i.e. it is valid to measure as intended. To confirm the reliability of the questionnaire, Cronbach's alpha coefficient value was calculated to be 0.96. This indicates the questionnaire is a reliable instrument.

Data Collection and Sample Profile

The targeted population includes Arab Open University General Course Coordinators, Branch Course Coordinators, and tutors of the selected AOU courses. The questionnaire was sent via email to all, with the assurance that all responses would be kept confidential. On a weekly basis during the two semesters of the Academic year 2014-2015, the authors sent reminders to all participants. Nineteen usable responses were received. Most of the respondents were from the Saudi Arabia branch (84.21%), followed by respondents from the Lebanon Branch (10.53%), and the Oman Branch (5.26). With regard to the academic programs of the respondents, the majority of respondents were from the Business Administration program (47.37%), followed by the Information Technology & Computing program (31.58%), and finally the English Studies program (21.0%). In terms of courses, most respondents were teaching the B120 course (47.37%), followed by respondents from the M105 course (31.58%), and finally from the EL 112 course (21.05%).

III. RESULTS

The study participants were asked whether Badrul Khan's E-learning standards are being followed in three selected courses at the Arab Open University. They responded using the scale Completely Agree (5), Agree (4), Neutral (3), Disagree (2), and Completely Disagree (1). The summary of the responses is shown in Table 2.

Table 2
Badrul Khan's E-learning standards that are followed in three selected AOU courses

No.	Quality Content		Completely Agree	Agree	Neutral	Disagree	Completely disagree	Mean	Std. deviation	Rank
	First: Pedagogical									
1	The course content is dynamic and updated very often.	F	1	12	3	3	0	3.58	0.84	17
		%	5.26	63.16	15.79	15.79	0			
2	The institution has adequate information about the learners at a distance.	F	2	15	0	2	0	3.89	0.74	10
		%	10.53	78.95	0	10.53	0			
3	The course provides clear expectations of what the student is required to do.	F	6	13	0	0	0	4.32	0.48	2
		%	31.58	68.42	0	0	0			

								Mean	SD	
4	The course utilizes multimedia attributes of the Internet and digital technologies, text, audio, video, graphics.	F	1	12	4	0	2	3.53	1.02	20
		%	5.26	63.16	21.05	0	10.53			
5	The instructor's role is more facilitative than didactic .	F	2	10	3	4	0	3.53	0.96	20
		%	10.53	52.63	15.79	21.05	0			
6	The course provides a sense of continuity? (e.g., each unit of the lesson builds on the previous unit, etc.)	F	4	11	3	1	0	3.95	0.78	8
		%	21.05	57.89	15.79	5.26	0			
7	The course promote Inside Collaboration by providing a supportive environment for asking questions, clarifying directions, suggesting or contributing resources and working on joint projects with class members.	F	3	10	4	2	0	3.74	0.87	13
		%	15.79	52.63	21.05	10.53	0			
	Overall mean for Pedagogical.							3.79	0.81	
	Second: Technological									
8	The course has personnel who can assist learners to set up for starting the course.	F	3	11	2	3	0	3.74	0.93	13
		%	15.79	57.89	10.53	15.79	0			
9	The hardware requirements for the course are clearly stated.	F	7	10	2	0	0	4.26	0.65	5
		%	36.84	52.63	10.53	0	0			
10	The course provides links to resources where all necessary software can be downloaded..	F	8	7	2	2	0	4.11	0.99	7
		%	42.11	36.84	10.53	10.53	0			
	Overall mean for Technological.							4.04	0.86	
	Third: Interface Design:									
11	Web pages look good in a variety of Web browsers and devices--in text-based browsers, all recent versions of Internet Explorer and other web browsers.	F	1	11	5	2	0	3.58	0.77	17
		%	5.26	57.89	26.32	10.53	0			
12	The course follows "one idea per paragraph" rule.	F	2	10	6	1	0	3.68	0.75	15
		%	10.53	52.63	31.58	5.26	0			
13	The course provides structural aids or site map to guide learner's navigation.	F	3	11	1	2	2	3.58	1.22	17
		%	15.79	57.89	5.26	10.53	10.53			
14	Course site is designed to be accessible by the various users.	F	0	12	3	1	3	3.26	1.15	26
		%	0	63.16	15.79	5.26	15.79			
15	Users find answers quickly to the most frequently asked questions.	F	1	11	0	6	1	3.26	1.15	26
		%	5.26	57.89	0	31.58	5.26			
	Overall mean for Design.							3.47	1.01	
	Fourth: Evaluation:									
16	The course has a mechanism in which a learner can be truly measured and not cheat.	F	4	10	4	1	0	3.89	0.81	10
		%	21.05	52.63	21.05	5.26	0			
17	The course have a system to accept students' online evaluation of the following: (content, instructor, learning environment, learning resources, course design, technical support).	F	2	12	3	1	1	3.68	0.95	15
		%	10.53	63.16	15.79	5.26	5.26			
	Overall mean for Evaluation.							3.79	0.88	
	Fifth: Management									
18	There is a project support site for E-learning production team.	F	1	7	6	4	1	3.16	1.02	28
		%	5.26	36.84	31.58	21.05	5.26			
19	The course notifies students about any changes in due dates or other course relevant matters (e.g., server down) via the following means: e-mail, announcement page, alert boxes, running footer added to a page, phone call, mail, etc.	F	6	12	0	0	1	4.16	0.9	6
		%	31.58	63.16	0	0	5.26			
	Overall mean for Management.							3.66	0.96	
	Sixth: Resource Support									
20	The course provides troubleshooting (or expert technical support from specialized staff) assistance or a help line.	F	2	6	5	3	3	3.05	1.27	30
		%	10.53	31.58	26.32	15.79	15.79			
21	The course provides examples of previous students' work on the Web.	F	1	8	2	5	3	2.95	1.27	32
		%	5.26	42.11	10.53	26.32	15.79			
	Overall mean for Support.							3	1.27	
	Seventh: Ethical									
22	The institution has to get approval from any external entities (who can serve as political barriers) to implement E-learning.	F	1	8	5	2	3	3.11	1.2	29
		%	5.26	42.11	26.32	10.53	15.79			
23	To improve cross-cultural verbal communication and avoid misunderstanding, the course makes an effort to reduce or avoid the use of jargon, idioms, ambiguous or cute humor, and acronyms.	F	4	10	3	2	0	3.84	0.9	12
		%	21.05	52.63	15.79	10.53	0			
24	The course presents more than one viewpoint on controversial issues.	F	1	9	6	2	1	3.37	0.96	22
		%	5.26	47.37	31.58	10.53	5.26			
25	The course is sensitive to students from different time-zones (e.g. synchronous communications are scheduled at reasonable times for all time zones represented).	F	2	9	4	3	1	3.42	1.07	22
		%	10.53	47.37	21.05	15.79	5.26			
26	The course is designed to have patience for learners who adapt to individualized distributed learning environment slower than	F	1	10	4	3	1	3.37	1.01	22
		%	5.26	52.63	21.05	15.79	5.26			

No.		F/%						Mean	S.D.	Rank
	others.									
27	The digital divide issue (access to the course materials) is considered in designing the E-learning content.	F	3	13	2	1	0	3.95	0.71	8
		%	15.79	68.42	10.53	5.26	0			
28	The course provides guidance to learners on how to behave and post messages in online discussions so that their postings do not hurt others' feelings.	F	2	8	4	5	0	3.37	1.01	22
		%	10.53	42.11	21.05	26.32	0			
29	The course gets students' permission to post any of the following on the Web. i.e. students' photographs, students' projects, etc.	F	1	6	5	7	0	3.05	0.97	30
		%	5.26	31.58	26.32	36.84	0			
	Overall mean for Ethical							3.44	0.98	
	Eight: Institutional									
30	The institution is ready to offer E-learning courses.	F	8	11	0	0	0	4.42	0.51	1
		%	42.11	57.89	0	0	0			
31	The course provides academic quality such as one would expect in a traditional course.	F	6	13	0	0	0	4.32	0.48	2
		%	31.58	68.42	0	0	0			
32	Instructor/tutor and technical staff are available during online orientation.	F	7	11	1	0	0	4.32	0.58	2
		%	36.84	57.89	5.26	0	0			
	Overall mean for Institutional.							4.35	0.52	
	Grand mean for all 8 standards							3.67	0.9	

Table (2) shows that respondents agree, with a grand mean of (3.67 out of 5.0), that E-learning standards are followed in the courses under study .In fact, all responses to the items in the questionnaire were distributed between completely agree, agree, or neutral; there is no item with which respondents disagreed.

Table (2) shows that the respondents completely agree, with a mean between (4.26 - 4.42), that five items from Badrul Khan's standards are followed in the selected courses. The five items, ranked in descending order according to mean, are as follows:

No. (30) The institution is ready to offer E-learning courses.

No. (3) The course provides clear expectations of what the student is required to do.

No. (31) The course provides academic quality such as one would expect in a traditional course.

No. (32) Instructor/tutor and technical staff are available during online orientation.

No. (9) The hardware requirements for the course are clearly stated.

Table (2) shows that most of the respondents agree, with a mean between (3.42 - 4.16),that 17 items of Badrul Khan's standards are followed in the selected courses. The items are arranged in descending order according to the mean as follows, by item number: 19/10/6/ 27/2/16/ 23/7/8/12/17/1/11/13/4/5/25.

Table (2) also shows that respondents were neutral, with a mean between (2.95 - 3.37), with regard to 10 items of Badrul Khan's standards being followed. The items are arranged in descending order according to their means as follows: 24/26/28/14/15/18/ 22/20/29/21.

Table (3) shows means, standard deviations, and rankings of the extent to which Badrul Khan's eight standards are being followed in the three selected courses. The respondents completely agree that the Institutional standard is ranked first, and the Technological standard is second, whereas the Support Resources standard is ranked last.

Table 3
Respondents ranking of following Badrul Khan's standards in the selected courses

No.		Mean	The degree of agreement	Rank
1	Institutional	4.35	Completely Agree	1
2	Technological	4.04	Agree	2
3	Pedagogical	3.79	Agree	3
4	Evaluation	3.79	Agree	3
5	Management	3.66	Agree	5
6	Interface Design	3.47	Agree	6
7	Ethical	3.44	Agree	7
8	Resource Support	3	Neutral	8

To confirm the results from the questionnaire, the author at the Saudi Arabia branch also conducted a semi-structured interview with three Branch Course Coordinators. She asked them the following question: Which of Badrul Khan's E-learning standards are being followed in the three selected courses at the Arab Open University? The answers are as follows:

El 112-: The Learning Management System is a user-friendly web page. It has many functions available to students and tutors, for example, blogs, uploading assignments, and supporting materials,

B120: Most of Badrul Khan's eight standards are being followed. For example, the Pedagogical standard is followed where the course objectives are being uploaded. The Evaluation standard is implemented with respect to the assignments , midterms, or final exam, and students' surveys being uploaded to evaluate the tutors, learning environment, etc. Also, the Institution standard is followed, and I feel that the quality of the E-content of the course is equal to a traditional course. The Management standard is also implemented. The standards that are not fully followed are Resource Support – there are old samples of exams available, but not old samples of

students' assignments and projects – and the Ethical standard– no explicit rules were stated clearly.

M 105: Most of Badrul Khan's eight standards are being followed.

Major obstacles to maintaining quality

Respondents were asked to comment on obstacles to maintaining quality of E-Learning in the selected courses. The following obstacles were mentioned:

- The E-Learning platform is slow at times.
- The E-Learning platform is more traditional rather than having all of the latest modern technologies.
- The biggest obstacle that any learner may face is the length of material. The course is too long and scattered over five different books. Some parts are unnecessary for an introductory course like B120. The material needs to be re-considered for the sake of the students.
- Technical support is a crucial area for the AOU; excellent staff in this area is required.
- Freshmen students are not aware of the idea of E-learning.
- Some students are not serious enough about the course to do what is required, based on assessing practical sessions.

To confirm the results from the questionnaire, the author at the Saudi Arabia branch also conducted a semi-structured interview with three Branch Course Coordinators. She asked them the following question: What are the major obstacles to maintaining the quality of E-Learning in the selected courses? The answers are as follows:

El 112: There is a slow response from the LMS administrator to BCC requests, which might hinder the goals of the BCC.

B120: The students are having English language difficulties, and the content of the textbooks is out of date.

M105: Time allocated for face-to-face bi-weekly tutorials is not enough to cover all of the course materials.

Badrul Khan's E-Learning standards that educators can use when developing EL materials:

When asked which components in the Khan framework should be used to when developing EL materials, the following were suggested:

- Management: The LMS should be activated from the first lecture in order for the students to receive all important information and slides. LMS messages should be used to send messages such as in-class TMAs, MTA, and final exam, as some students do not attend lectures, and others do not use the LMS or have problems with their LMS. Provide guidance to learners on how to be effective learners online.
- Interface Design: A user-friendly platform is needed for easy access to the materials.
- Resource Support: Web resources should be incorporated.
- Pedagogical: Reduce the course length by focusing on the most important points in each book and session .Add

more examples of previous exams and students' work, and forums for the course where students can post their work and receive comments from tutors and other students.

Recommendations to improve the quality of the E-content of the courses

Based on the open-ended responses from there spondents to the questionnaire, the following are recommended.B120 is a basic fundamental course on business studies. It can incorporate some local business cases (e.g. cases representing issues of companies in Gulf countries).

- B120 course materials should have a textbook with a Web-lab in which both tutors and students can have accounts to access available materials such as cases, exams, group discussions, etc.
- The course covers a wide range of concepts and topics that is considered too much for an introductory course.
- The English language competency of the students is very low.
- EL112 should become the prerequisite for this course.
- The authors suggest that the biggest problem is a lack of time management skills for some students, especially males.

To confirm the results from the questionnaire, the author at the Saudi Arabia branch also conducted a semi-structured interview with three Branch Course Coordinators. She asked them the following question: what are your recommendations to improve the quality of E- content of the course? Their answers are as follows:

EL 112: Conduct awareness and induction workshops about the LMS features, and how to implement it properly and activate functions. Also, faster responses by the LMS administrator to BCC requests are required.

B120 The Ethical standard has to be well developed. Activate forums and assign certain marks for participation.

M105 Although AOU uses the Turn-it-in program to detect plagiarism, the Ethical standard has to be well-developed. Increase the time allocated for face-to-face tutorial to a weekly basis. Reduce the quantity of learning materials to be covered in the course.

IV. DISCUSSION

The findings of the study showed that seven of eight of Badrul Khan's E-learning standards are being followed in the LMS content of the selected courses. The standards are Institutional, Technological , Pedagogical, Evaluation, Management, Interface Design, and Ethical. This finding is a point of strength for AOU; it is very encouraging, but has to be maintained.

The Technological Standard was ranked second. This result is expected by the authors because the Arab Open University has been using advanced systems since its foundation in 2003. AOU implements three electronic systems: the Learning Management System, the Student Support System, and the Student Information System .The lack of implementation of the Support Resources standard

was observed from both responses to the questionnaire and to the semi-structured interview.

Five items from Badrul Khan's standards are followed in the three selected courses. In descending order according to the mean response:

No. (30) The institution is ready to offer E-learning courses.

No. (3) The course provides clear expectations of what the student is required to do.

No. (31) The course provides academic quality such as one would expect in a traditional course.

No. (32) Instructor/tutor and technical staff are available during online orientation.

No. (9) The hardware requirements for the course are clearly stated.

The above results are consistent with the results of Alsaidi [19] who showed that standards met in his study are: (1) Availability of well-stated course specification; (2) The course goals and objectives are clearly stated; (3) The learning outcomes are clearly stated; (4) Accuracy; (5) Objectivity; (6) Newness of the content; (7) The inclusion of all important topics. However, the above results are inconsistent with the findings of Akhavan and Arefi [20]. Appropriateness of content to E-learning standards has been given less priority by the course developers in the selected courses than other dimensions.

Respondents mentioned that when developing E-learning materials, they can use the following of Badrul Khan's standards: Pedagogical, Resource Support, Interface Design, and Management. Respondents also recommended conducting awareness and induction workshops about LMS features, and implementing the Ethical standard in order to improve the quality of LMS content of the three selected courses.

V. CONCLUSION

The literature review carried out by the authors indicated that it seems essential to apply standards or frameworks to evaluate EL courses because this provides objective and comprehensive information about various elements of EL systems such as technical support, teaching methods, the learning-interactive environment, and the institution. Such information can be used as a basis for improvements. Following established and proved standards also result in high quality courses being developed.

The authors were inspired to use one of the existing standards or frameworks to fulfill the need to examine the content of some courses at AOU. This study is the first to apply Badrul Khan's standards of E-learning to evaluate the LMS contents at AOU. This study will also be of special interest to AOU because it contains a new model, Merza's Open System Model of Blended learning which can be applied by AOU either to design E-learning content of new courses or to evaluate existing content.

Seven of eight of Badrul Khan's E-learning standards are being followed in the LMS content of EL112, B120, and M105 courses at AOU. The standards are Institutional, Technological, Pedagogical, Evaluation, Management, Interface Design, and Ethical. This finding is an important point of strength and very encouraging for AOU, but has to be maintained by continuous enhancement plans. The authors recommend training workshops for all General Course Coordinators and Branch Course Coordinator, full-time tutors, and part-time tutors to enhance their knowledge of E-Learning standards and frameworks and to encourage them to use these instead of using subject observation. The authors recommend that awareness of the benefits of E-Learning should not be limited to freshman students only, but should also include sophomore and senior students for the next five years at least. Although the study revealed that the Interface Design standard is followed in the LMS content of the three selected courses, respondents recommended conducting awareness and induction workshops about LMS features.

The findings of the study revealed that the Ethical standard is followed in the LMS content of the three selected courses; respondents recommended that it has to be clearly stated. Respondents were neutral with regard to the following Badrul Khan's Support Resources E-learning standard. This is a point for improvement to be considered by AOU.

Applying standards to evaluate EL courses provides institutions with objective and comprehensive information about various elements of EL systems. The authors suggest that AOU pursue student participation in a study to evaluate LMS content of other AOU courses according toBadrul Khan's E-learning standards. The authors also recommend applying Merza's Open System Model of Blended Learning to design E-learning content of new courses or evaluate existing ones.

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