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Al-Jawdah Factors for Blended Learning Evaluation in Higher Education

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Abstract: The new way of learning implementation such as blended learning has emerging the new paradigm shifts to the learning practices. The mixed learning practices in blended learning adopting into formal and non-formal learning, has create issues to determine the quality of the blended learning implementation. From the current work observation, there is no adequate quality evaluation criterion that identified and adopted in the blended learning implementation. Therefore, this paper will propose the use of quality criteria known as Al-Jawdah factors which can be apply into blended learning implementation with four factors identified consists of learners, instructors, learning content and technology. Each factor will be discussed the appropriate quality aspects according to the critical success factors identified from the previous work. To enhance the use of the propose factors in real implementation of blended learning, we will discuss the planning to adopt the propose factors in a selected blended learning implementation in UiTM Pahang that will evaluate the effectiveness of blended learning. This will benefits UiTM Pahang to identify the further improvements need in blended learning implementation that will benefits the initiatives of blended learning implementation for UiTM Pahang and UiTM as well.

Keywords: Al-Jawdah (Quality), Blended Learning, Evaluation, Factors

1.   Introduction

As cited in Surah Al'Alaq (96:1), *"Read! In the name of your Lord who created (all the exists)"* has stated the importance of learning. The learning process according to the surah encourage all mankind to read, to seek knowledge and finally to educate themselves (Khan, 2016). This will guide human to value the learning and gain the knowledge to be a better *khalifah* or a person. In the current scenario of adopting technology into learning, there is an impact to the implementation in various aspects such as creating new pedagogy, new learning strategy and quality aspects to value the learning perceive by the learners. The new pedagogy concept of blended learning, emphasizes learning in a formal and non-formal way, has change the paradigm and landscape of learning in higher education. In Malaysia, the practices of blended learning has been stated as a requirement in a course standard offer in higher institutions which has to be include in the learning practices as a value added to empower learning to achieve the expected outcome. Therefore, to determine the effectiveness use of blended learning, the need for evaluation in various aspects such as pedagogy, learning strategy and quality are important. However, in the current blended learning practices, there are no adequate evaluation methods that consider the Islamic perspective of quality that can evaluate the effectiveness of the implementation. This paper will propose Al-Jawdah factors as an indicator to evaluate the blended learning implementation. With this effort, it will benefits the practitioners, learners and Higher Education Institutions (HEI's) implementing blended learning to determine improvement need for continuous quality improvements (CQI) to ensure the effectiveness and the significance of belnded learning implementation according to Islamic perspective.

The structure of this paper will discuss the blended learning introduction and general implementation in higher education system. Also, we will identify the background study according to the discussion of critical success factors from the view of current and previous

research works. Then, we will construct the Al-Jawdah factors according to identify critical success factors for blended learning and details the selected factors. Furthermore, we also propose the implementation framework to adopt the Al-Jawdah factors in blended learning implementation for UiTM Pahang. Lastly, we will conclude and discuss any further improvement and opportunities to enhance our research work by the researchers and practitioners of blended learning.

2. Blended Learning Implementation

In the new age of technology and the influence of Y generation of smart devices, the importance of having technology to support the learning is important. It can be use or adopting in various kinds of implementation by the learners and practitioners. The trendsetting of electronic learning (e-learning) with the current technology has also change the perception and paradigm of e-learning. Therefore, the definition of e-learning to support the learning has change respectively. There is a variety of e-Learning format available that can deploy into learning environment such as distance learning, flipped classroom and blended learning. In the blended learning implementation, the online learning implementation with e-learning has provide any learning and pedagogy resources available to the learners and it can be accessed within the classroom as additional teaching aids to support the learning practices (Al-Sharhan & Al-Hunaiyyan, 2012). The content of learning-aid can also be access by the students at anytime; anywhere provided they use a computer or any smart devices connected to Internet.

2.1 Blended Learning Implementation and Evaluation in Higher Education

E- learning implementation in Higher education has change accordingly to the new trend of technology. The capabilities of Internet, wireless connection and smart devices features have change the use of e-Learning practices. This will enhance the conventional learning model by mixing technology within face-to-face classroom teaching (Al-sharhan & Al-hunaiyyan, 2010). The conventional learning model is base on interaction between learners, instructors and learning content as shown in Figure 1. This model derived from the cognitive flexibility theory that define the model as an evident that the ability to spontaneously restructure one's knowledge in many ways, in adaptive response to radically changing situational demands (Spiro, Feltovich, Jacobson, & Culson, 1991). With the current new technology availability that supports the learning implementation, the conventional model has change accordingly to the new e-learning environment. According to Al-sharhan & Al-hunaiyyan (2010), the new learning environment shall include the learning management system (LMS), multimedia elements and network or the Internet as the most important component to ensure the successful of the E-learning implementation. In Malaysia education perspective, the blended learning implementation has change the teaching methodology as an additional requirement to be adopted in learning implementation. The Malaysia Qualification Agency (MQA), has stated the requirement of adopting blended learning approach in most of their programmed quality standard, to ensure education excellence that will support the requirement stated in the conventional learning model as describe before. In order to investigate the previous work on blended learning evaluation, there are various discussions on model development to evaluate the blended learning. Reiser (2001) in his article had proposed six dimensional factors to evaluate e-learning as an assessment model. The model consists of quality aspects, learners and instructors perspective and other supportive issues in e-Learning implementation. However, it is not focusing on the whole concept of blended learning approach which only cater the e-Learning component but the contributing factors as lists are significant to be evaluate and adopted into the blended learning implementation especially the determine quality aspects. In a real implementation of web-based learning approach, the model of three (3) approach of evaluation has been propose that include learners performance at the beginning and during the learning process, performance and satisfaction (Antonis, Daradoumis, Papadakis, & Simos, 2011). Another work from Aguti,

Wills, & Walters (2015) has improvise the previous evaluation work on blended learning with four dimension include course delivery, readiness, quality of e-learning system and the overall of effective blended learning implementation. The result form this study had shown the significance of all factors tested however it's not mainly focusing on the entire quality aspects in the real implementation of blended learning. In a real implementation of blended learning, Previous work on exploring the effectiveness of blended learning in real learning practices has lead to a positive impact towards student's outcome and efficiency of adopting blended learning would work better for teachers and students (Mujačić, Mujačić, Mujkić, & Demirović, 2013), (Shafaat, Marbouti, & Rodgers, 2014), (Umek, Keric, Aristovnik, & Tomaevic, 2015). While in Islamic perspective, to value the blended learning implementation, the three factors dimension consists of pedagogy; philosophy and sociology should play as an important factor that will ensure the value of education in Islamic point of view (Dinar D. Kania, Teten Romly, 2011). Meanwhile, in a pedagogy aspect as mention, the value of learners, teachers and subjects or curriculum play an important role with the use of technology in blended learning implementation. This perception is similar to the conventional learning model (Spiro, et.al, 1991) with three factors determine consists of learners, instructors and content. However, with the blended learning requirement and quality dimension to evaluate the implementation, technologies factors shall be consider catering the overall aspects of blended learning implementation as technology aspect significantly affecting the learners satisfaction (Chen & Yao, 2016). Therefore, we will identify the Al-Jawdah factors for each dimensions which include learners, instructors, content and technologies according to the critical success factors of blended learning implementation and it will be discuss in the next section.
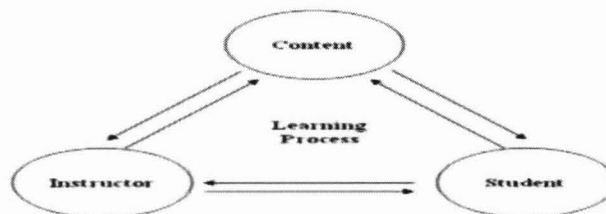

Fig. 1 Conventional Learning Model (Spiro, et.al, 1991)

2.2   The Critical Success Factors of Blended Learning Implementation

To acknowledge the critical success factors, we had identified selected papers from the proceedings and journal using the keywords of quality, blended learning and higher education. As this research will only cater for the blended learning implementation in higher education environment, we had use the Google scholar and IEEE explore engine to search for the papers. The success factors can be varied according to the experiences of the practitioners and learning platform. Therefore, the critical success factors identify can determine the success of the blended learning implementation. Table 1 show the analysis of the previous work on identifies the critical success factors for implementing blended learning in most higher education system.

3.   Constructing Al-Jawdah Factors for Blended Learning Evaluation

To construct the appropriate Al-Jawdah factors to be adopting in the evaluation phase after blended learning implementation, we have to identify the suitable factors that suite with the blended learning implementation. As been discussed in the previous section of blended learning implementation, we will consider the conventional learning model to be use as a guideline. However, when dealing with a blended learning implementation, the technology requirement is also important to consider as this aspect support the blended learning implementation. In higher education perspective, the adoption of technology is crucial as the learning institutions will provide various technology enable to support the learning

implementation. Therefore, the consideration of the technology aspects as one of the factors are important because the technology as well will determine the success and impact of the blended learning implementation. The proposed Al-Jawdah factors will categorize into four (4) elements of conventional learning model (Spiro, et.al, 1991) with an addition of technology aspects that will support the blended learning implementation. Table 2 show the descriptions of each characteristics and mapped on the Al-Jawdah factors.

4. Al-Jawdah Factors Implementation in Blended Learning Evaluation

In order to acknowledge the use of propose Al-Jawdah factors, we had initiate the implementation strategies to adopt the use of Al-Jawdah factors in evaluating the blended learning implementation. Figure 2 show the framework of implementation consists of various aspects of learning implementation, activities provided in blended learning implementation and Continuous Quality Improvement (CQI) strategy currently apply at UiTM Pahang. The medium of Al-Jawdah factors adopting in blended learning evaluation that may comprise of various types of evaluation.
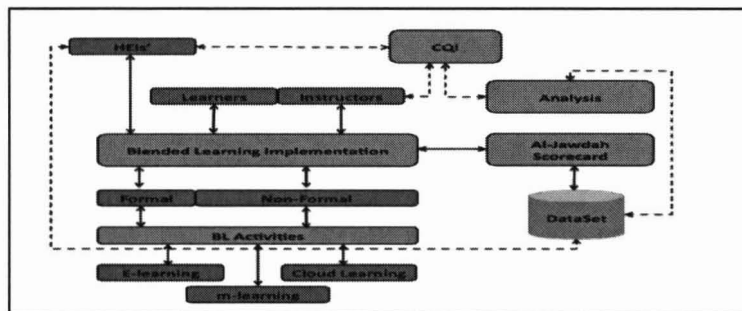

Fig. 2 Implementation of Al-Jawdah factors in Blended Learning evaluation

We proposed to use the scorecard approach in adopting Al-Jawdah factors to evaluate the blended learning according to the learner's experience. The scorecard should be include in any evaluation mechanism such as electronic survey (e-survey) that can be access by the learners similar to e-survey on Student Feedback Online (SuFO), Entrance and Exit survey mainly for the OBE purposes. The dataset collection will be put into the database that can be access by the HEIs or any respective end-users. The proper analysis on the effectiveness of blended learning implementation can be construct from the dataset and the analysis will benefit into the CQI and instructors as well as HEIs for future development or improvement needed.

5. Future work and Conclusion

The quality aspects are important to be acknowledging by the HEI in any learning implementation to ensure the success of learning and transferring of knowledge that will be able to produce valuable graduates according to the outcome. Future works on the propose Al-Jawdah factors should be consider by constructing proper questionnaires and evaluation method that may benefits other researchers and shall implemented in a real time blended learning implementation. The questionnaires construct shall align with the Al-Jawdah factors and proper pilot study and real study shall be determined to ensure the reliability of the study. For future benefits, this initiative will benefits HEIs' specifically UiTM Pahang to start and to acknowledge method of improvement needed to enhance the blended learning implementation in UiTM. Hence, it will penetrate the initiatives given by the Ministry of Higher Education to improve the structure of education system in Malaysia and bring the quality of Malaysian education and graduates to the world.

Table 1. The critical success factors in blended learning implementation

	Authors	Blended Learning Phases		Discussions
1	Al-sharhan & Al-hunaiyyan, (2010)	• Planning	•	Proposed the education quality assurance model on Quality of e-learning with eight (8) quality dimension
2	Naaji, Herman, & Mustea, (2013)	• Planning	•	Quality of education include technology, learning content and learning design
3	Dinar D. Kania & Teten Romly, (2011)	• Planning	•	Value of education is Islamic perspectives consists of philosophy, pedagogy and sociology
4	Chaudhri & Gallant (2013)	• Planning and Designing	•	Selection of the right model for blended Learning, redesigning curriculum, redesigning assessment tools, training to academic staff, implementation of IT infrastructure
5	Mei, Qi, & Zhang (2015)	• Planning and Designing	•	Proposed IT education BL mode for flipped classroom, resource utilization and project learning
	Al-sharhan & Al-hunaiyyan, (2010)	• Planning, Designing and Implementation	•	Network efficiency (bandwidth, strong wireless coverage, application architecture and network security), Delivery mediums (sufficient bandwidths) and Learning platforms (Learning Management System, Massive Open Online Course, Google docs and others)
6	Zhang & Zhao, (2013)	• Implementation	•	The assessments of blended learning using Benjamin Bloom six dimension of cognitive include knowledge, comprehension, application, analysis and evaluation.
7	Lestari & Hendradjaya (2014)	• Implementation	•	Identify quality characteristics of LMS use in blended Learning according to ISO/IEC9126-1 consists of functionality, reliability, usability and efficiency
8	Reiser (2001)	• Implementation	•	Propose six dimensions of evaluation in e-Learning assessment model consists of quality of service, system and content. Also learners' perspective, instructor attitude and supportive issues.
9	Antonis, et.al (2011)	• Implementation	•	Evaluate the effectiveness of web-based learning for adult computer science course according to three main evaluations. It consists of learners' performance and satisfaction at the beginning and during studies.
10	Aguti et al (2015)	• Implementation	•	Propose four (4) dimensional factors

			including course delivery strategies, readiness, quality of e-learning system and effective blended e-learning
11	Chen & Yao (2016)	• Implementation	• Evaluate the learners' satisfaction using six dimensions: learners, instructors, course, technology, design and environment

Table 2. Al-Jawdah characteristics for Blended Learning Evaluation

Characteristic	Description	Factors discussions	Al-Jawdah Factors
Learners	Learners or students are the main role in blended learning implementation.	• Learners knowledge and comprehension (Zhang & Zhao, 2013), learners intellect, emotion and spirit (Dinar D. Kania & Teten Romly, 2011) • Quality of Experience (QoE): the subjective evaluation on learners' perception and satisfaction towards services include learning platform, technology services and network and device capabilities.	وال فهم المتعلمين معرفة • *Maerifat almutaeallimin walfahumm* الفكرية المتعلمين • *Almutaeallimin alfikria* المشاعر المتعلمين • *Almutaeallimin almashaeir* الخبرةذوعية • *Naweiat alkhibra*
Instructors	Academic or training staff that construct the learning and online resources with the appropriate learning platform (i.e: *Google, MOOC, LMS, Blackboard, cloud learning*) to be adopted in blended learning implementation.	• Learning content and learning design (Naaji, Herman, & Mustea, 2013) • Redesigning curriculum and assessment tools (Chaudhri & Gallant, 2013) • Analysis and evaluation of the learners outcome (Zhang & Zhao, 2013) • Instructors quality appearance (Dinar D. Kania & Teten Romly, 2011) • Learning platforms (*Learning Management System, Massive Open Online Course, Google docs etc*) (Al-Sarhan et.al , 2006) • Blended learning mode (i.e flipped classroom, project learning) (Mei, Qi, & Zhang, 2015)	التعليمي المحتوى • *Almuhtawaa alttaelimi* التعلمتصميم • *Tasmim alttaeallum* تصميم إعادة • *'iieadat tasmim* المتعلمين نتائج • *natayij almutaealimin* أخلاق • *'Akhlaq* التعلم منصات • *Munnasat alttaeallum* التعلم وضع • *Wade alttaeallum*
Learning Content	Learning content shall include the learning resources, activities, media, and forum for group or individual discussion and learning medium or platform (blended learning)	• Delivery mediums regarding sufficient bandwidth to support learning content (Al-Sarhan et.al , 2006), application (Zhang & Zhao, 2013)	الشبكةقدرات • *Qudrat alshshabaka*
Technology	To support the blended learning implementation, technology will play an important role to	• Network efficiency, Network reliability, Network availability (Lestari & Hendradjaya, 2014) and Quality of Services (QoS) that include bandwidth, strong wireless	الشبكةكفاءة • *Kafa'at alshshabaka* الشبكةموثوقية • *Mawthuqiat alshshabaka*

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| ensure the effectiveness of the implementation. The network consists of Wi-Fi access and any others communication platforms provided either by the Higher learning institutions or learners to support learning implementation. | coverage, application architecture and network security (Al-Sarhan et.al , 2006), (Reiser, 2001), (Naaji, Herman, & Mustea, 2013) implementation of IT infrastructure (Chaudhri & Gallant, 2013) | ر وف ة ـكـ بـ ـ شـ ال
• *Tuaffir alshshabaka*
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• *Jawdat alkhadamat* |

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