

## EFFECTIVE DESIGN OF BLENDED MOOC IN IRAQ INSTITUTIONS

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### ABSTRACT

*The model of a Blended Massive Open Online Course (bMOOC) in Higher Education Institutions (HEIs) aims to improve the education of the Iraqi students and develop the HEIs in Iraq. It changes the trend of the traditional MOOC environments from only watching the video lectures passively by learners to a more flexible interaction in the learning process. The learners are no longer limited to view the videos passively, but rather are encouraged to share, interact, and increase the interactive knowledge among each other. In return, it solves the problems faced by Iraqi students in the traditional learning. Therefore, this study describes the design, implementation, and testing and evaluation process of the Iraqi-bMOOC platform. The learner-centered evaluation approach is selected, which puts the learner in the center of the evaluation phase, to build a deeper and better understanding of MOOC stakeholders' behaviors (Iraqi Students). Thus, this study has applied a survey to the Iraqi students to show their experiences in using the proposed model (Iraq-bMOOC) in two of the Iraqi universities (University of Tikrit in cooperation with University of Baghdad). Therefore, the results reveal that the majority of users are satisfied with the six criteria in the Iraqi-bMOOC platform, such as blended learning, flexibility, high quality content, instructional design and learning methodologies, network learning, and openness, that include learning activities (such as video lectures, assignments, assessments, discussion forums, lectures comments, E-mail, social media). Therefore, three major theoretical, practical, and educational contributions are obtained in this study and reflect the open and massive nature of blended MOOC in the higher education context.*

**Keywords:** MOOC, Blended MOOC, User Experiences, Traditional Learning, Online Learning, Higher Education Institutions.

### INTRODUCTION

The students at Higher Education Institutions (HEIs) in Iraq are looking for using new learning methods in the learning process to help reintegrate the civilian life and to continue their education depending on their needs (Al-Husseini, & Elbeltagi 2015). The traditional learning approach in the Iraqi universities face many challenges such as learning management, activities, and teaching and learning methods. In addition, the lecturers and learners face many challenges in the traditional learning such as information retrieval learning in real-time, interaction, collaboration and many other challenges (Radif, 2016; Anter, 2014; Al-alak, 2013). Besides, IT facilities are available in each Iraqi university such as computers, Internet laboratories, learning facilities, multimedia tools.

Therefore, the universities need to develop and manage the aspects of effective learning environment to reduce the resources of the traditional learning and increase the level of online learning environment (Abu-Shanab, 2015; Anter, 2014; Al-alak, 2013). Therefore, the phenomenon of Massive Open Online Courses (MOOC) is understood as a possible solution to overcome the traditional learning challenges in HEIs such as learning management, activities, teaching methods and learning methods, and cost. The current models of MOOC categorize the MOOCs into two main models, namely cMOOC and xMOOC (Fidalgo et al., 2016; Daniel, 2012). CMOOC is a connectivist MOOCs (cMOOCs) which applies the ideas of connectivism learning (i.e. focusing on connected and collaborative learning in the same time) (Pérez et al., 2017; Daniel, 2012; Siemens, 2012; Siemens, 2011). XMOOC is an extensional MOOCs (xMOOCs) which confirms a more traditional learning approach via video presentations with short quizzes and tests (Yuan, 2013; Daniel, 2012; Siemens, 2012).

Although these models of MOOCs have been agreed on, researchers in the educational field know very little about the student experiences and their needs during MOOCs courses as well as how these courses can address these needs based on the students' experiences. Despite the point that attempts have been done to understand the user experiences (UX) (Zheng, 2015; Zaharias, 2012; Schaik, 2011), still there are questions on how these courses satisfy the students' needs based on UX (such as understanding the students' needs and motivations alongside the learning perceptions and user experiences during the learning process), as is evidenced by the very high dropout rates (Zheng, 2015). Moreover, MOOCs face a high drop-out rates in an average of 95% of course participants (Floratos, 2015; El-Hmoudova, 2014; Hill, 2014; Adamopoulos, 2013; Downes, 2012). One of the potential reasons for that is the complexity and diversity of MOOC participants' perspectives. This requires an understanding of the different samples of MOOCs participants and their perspectives when participating in MOOCs. However, the high drop-out rate can also be explained by the lack of motivation and the failure in following the course activities. The issue of high drop-out rates could be addressed by targeting specific audiences that are fully interested in the course. This might reduce the number of participants, but can ensure that they are active in the course (El-Hmoudova, 2014; Santos, Klerkx, Duval, Gago, & Rodríguez, 2014).

On the other hand, research also reveals that there are some differences among the students with regard to their perceptions of online learning via MOOC based on the cultures of their countries (Asiri, 2014; Chew, 2011). In particular, language is a barrier (Nkuyubwatsi, 2013) in MOOCs which restricts the user interaction (Asiri, 2014; Koutropoulos et al. 2012; deWaard et al., 2011; Kop, 2011). Moreover, the learners in MOOCs participate from all over the world. They speak English in different levels based on their different cultures. Hence, the examples used in MOOCs should be presented in a way that can be understood by everyone regardless of the cultural background. In addition, the level of language skills can be a source of misunderstanding in the video content in the courses (Hollands & Tirthali, 2014; Yousef et al., 2014c). This indicates that the current models lack an effective educational design (Creed, 2013; Conole, 2013). Thus, there is a need for solutions to foster the interaction and communication among MOOC participants by using face-to-face interactions with main components of MOOC and creating a flexible and effective model for higher education institutions (Yousef et al., 2015a).

For addressing MOOCs and face to face challenges in higher education context, the new design of blended MOOC based on culture and language can resolve some of the challenges and obstacles that are caused by operating independently from bMOOC (Bruff, et al., 2013). The bMOOC model has the possibility to increase human interactions into the higher educational environment and provide active feedback and assessment. It also enhances student-centered learning and supports the interactive design with video content (Yousef et al., 2015d). In addition, blended MOOC helps many individuals to overcome the obstacles in traditional learning and gives motivation for the learners to learn and get a college degree. This is considered an important advantage to decrease the tuition fees and remove the problems in the traditional learning environment of the Iraqi students (Radif, 2016; Anter, 2014; Al-alak, 2013). Therefore, this study aims to present a blended MOOC model with regard to design, implementation, and evaluation details of an Iraqi-bMOOC courses at Tikrit and Baghdad universities, based on students' needs, culture and language in the learning process. On the whole, the results reveal that the majority of users (Iraqi students) are satisfied with the criteria and learning activities (Components) in the Iraqi-bMOOC platform. This is confirmed by the participants who have shown a positive approval towards the proposed Model.

### **Blended Learning**

The blended learning approach refers to the integration of the classroom interactions (face-to-face) with online learning lectures (i.e., learning via technology). This improves the learning process and meets the students' educational needs (Kloos et al., 2015; Yousef et al., 2015d). Researchers such as Graham et al. (2014) confirm that although interest in blended learning is high in the world, studies started to integrate and apply the theories in the blended learning domain (Drysdale et al., 2013; Graham, 2014; Halverson et al., 2012). Early research in the blended learning field explored the best results for designing web based learners' interactions in the learning process (Coetzee et al., 2015; Yousef et al., 2015a). This combined online learning systems with the traditional material (Classroom) (Keengwe & Kang, 2013; Tamim et al., 2011). It also identified the role of technology based on learning in facilitating the different ways of knowledge (Tamim et al., 2011).

In addition, Anant Agarwal (CEO of edX) confirms that the higher education and MOOCs providers are moving toward adapting and creating large MOOCs classrooms so as to create a blended model of MOOC (Agarwal, 2014). This is a big opportunity to resolve the hurdles that face MOOCs in the learning process. Although MOOCs are open to a large number of participants without any requirements, they are not open from a copyright side. Thus, the institutions plan to integrate the MOOC courses into their educational approach to consider the copyright policy when using courses from MOOCs platforms. Schulmeister (2014), Loviscach (2013), and Sandeen (2013b) classify two scenarios for integrating MOOCs in formal university lectures as a blended learning: (A) Integrating the existing MOOC courses into the classroom lectures in the campus (formal students) based on an approval from the main institution of higher education, and (B) Universities provide their local courses to everyone by the blended learning website which is available for all students enrolled in the university with face-to-face classroom lectures.

### **Literature Review**

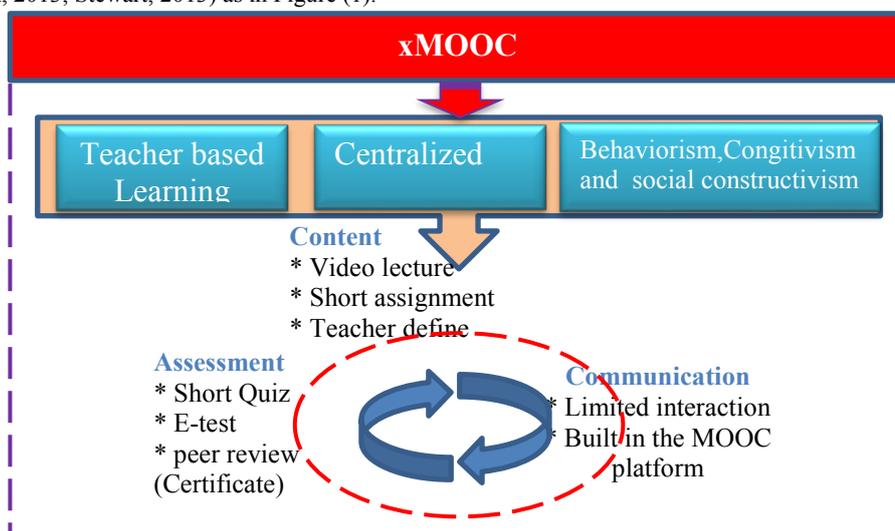
Much has been stated on key components of MOOCs to provide opportunities for exploring new pedagogical strategies and business models in higher education. Most of the existing MOOCs are particular sources of high quality content which depend on key components of MOOC such as video lectures, testing, forms of discussion, assessments, assignments, feedback, material and other key components of MOOC. However, one important obstacle that prevents MOOCs from reaching their full potential is rooted in the behavioral learning theories. In other words, the current MOOCs so far still follow the centralized learning model (i.e. the traditional teacher-centered education) that controls the MOOCs and their key components (Yousef et al., 2015a). Efforts in student-centered MOOCs are exceptions but are not the rule, based on connectivism and constructivist principles that emphasize the role of collaborative and social learning (Yousef et al., 2015b). In addition, There are another criticisms on key issues of MOOCs, they are: the lack of effectiveness assessment and feedback (Hone & Said, 2016; Hill, 2014), the lack of interaction with video lecture (Rai, & Chunrao, 2016; Kovacs 2016), the ignorance of face-to-face learning (Yousef et al., 2015e; Schulmeister, 2014), the lack of integration between the MOOC platform and the campus Learning System (Khalil & Ebner, 2016; Griffiths et al., 2014), the dates of MOOCs are rarely suitable for the semester schedule (You, 2016; Yousef et al., 2015a), and the provided syllabus has not covered the required university curriculum for credit (Bruff et al., 2013; Griffiths et al., 2014).

Therefore, most of the researchers think that model of MOOCs cannot fully replace the traditional learning (Heckman et al., 2015; Ovaska, 2013). Therefore, the researchers and developers focus on hybrid MOOCs (i.e. hybrid model of MOOC between online learning and traditional learning) (Pérez et al., 2017). As a consequence, Kloos (2015) presents blended MOOCs by using an assessment based on continuous thinking between the learner and instructor (Kloos et al., 2015). Yet, other studies focus on the integration of the social networks with bMOOCs to add a modern value to the learner's activities and also to increase the

students' interactions at the same time (Morris, 2013). Moreover, the previous studies focus on the MOOC design process based on the pedagogical design principles (i.e. engaging the learners to enroll in the courses) and technological design principles (to make the MOOCs more dynamic) (Calter, 2013). Moreover, Bruff et al. (2013) provides ideas about the pedagogical design that presents guidance on how to design bMOOCs model. Other researchers focuss on the design that depends on self-paced learning, competency, learning plans, objectives, assignments, open network interaction and collaboration tools that increase motivation and interaction in the course. In addition, Grünewald, et al. (2013) suggest a peer-assistance through discussions in the course to solve any difficulties in the learning process. Furthermore, Coetzee et al. (2015) & Lim et al. (2014) confirms that discussions among learners and their peers could support lectures in the online collaborative learning in the bMOOC courses.

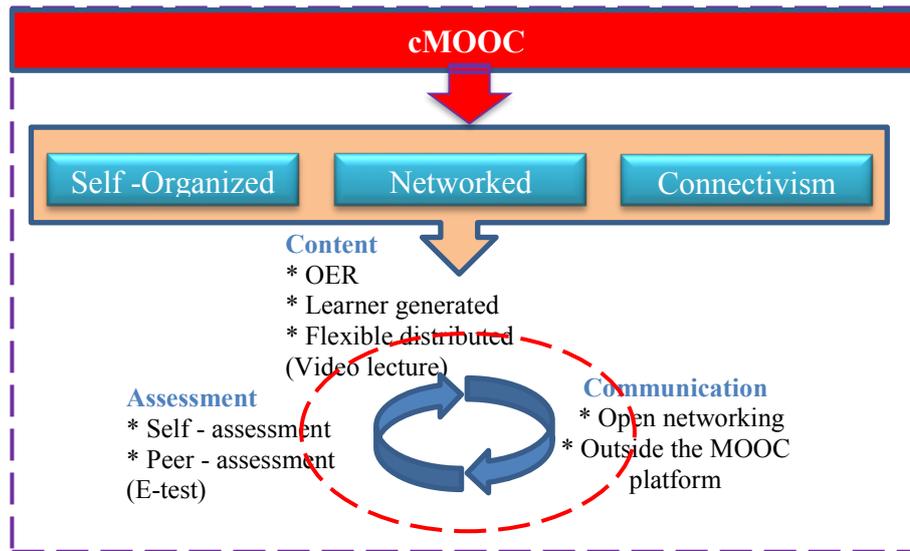
**Components and Features of MOOCs**

The components collection is mostly conducted with regard to comparative studies based on literature review, a document-driven approach of designing model (Andreas & Frank, 2016). The comparative analysis combines formal components from the current models. This means that this study firstly defines the characteristics used for summarizing the components of Iraqi-bMOOC model from the literature. Hence, Iraqi-bMOOC model components are defined to build the phases, tasks, and activities in the learning environment. This constructs strong foundation of the proposed Iraqi-bMOOC model. MOOCs include various technology features and components that support different important activities in the learning experience process such as interaction (learners, instructor, and content) , collaboration, evaluation, and self-learning (de Waard et al., 2011b; Fournier et al., 2011). Most of the tools used in the reviewed literature classified into two main categories, namely collaboration and assessment. Most MOOCs provide collaboration tools in the courses that include several tools that help learners to communicate with each other such as forums, video comments, and social networks (McAndrew, 2013; Mak, Williams, and Mackness, 2010). In addition, the MOOCs use different e-assessment methods in courses. For example, most of xMOOCs focus on using e-assessment (such as short quizzes, e-tests and peer review), content (such as video lectures, short assignment and teacher define) and communication (such as the limited interaction between participants and the construction of the MOOC platform) (Daniel, 2012; Kruidrink, 2013; Stewart, 2013) as in Figure (1).



**Figure 1: Key components of xMOOC**

While cMOOCs focus on the self-assessment (such as feedback questionnaires, logs or diaries), peer-assessment (e.g., e-test), content (e.g., OER, learner generated, and video lectures) and communication (e.g., open networking and outside the MOOC platform) (Kellogg, 2013; Spector, 2013; Kulkarni, 2013) as in Figure (2).



**Figure 2: Key components of cMOOC**

Therefore, these different models of MOOCs share some common features that depend on video lectures, open registration, informal learning, formal learning and the use of social network tools.

**Blended MOOCs (Design Components)**

MOOCs include various technology and criteria that support important activities in the learning process such as interaction (learners, instructor, and content), collaboration, evaluation, and self-learning (de Waard et al., 2011b; Fournier et al., 2011). Most of the tools used in the reviewed literature classified into two main categories, namely collaboration and assessment. Most MOOCs provide collaboration tools in the courses that include several tools that help learners to communicate with each other such as forums, video comments, and social networks (McAndrew, 2013; Mak, Williams, and Mackness, 2010). In addition, the MOOCs use different e-assessment methods in the courses. For example, most of xMOOCs use e-assessment, while cMOOCs focus on the self-assessment (Kulkarni, 2013), and peer-assessment (Kellogg, 2013; Spector, 2013).

**User hierarchy in the Iraqi-bMOOC**

Based on the components and features collected from the literature and used in the design of Iraqi-bMOOC model. User hierarchy in the Iraqi-bMOOC is a description of all the components of the final users, administration, lecturers and students. Figure (3) shows users hierarchy in the Iraqi-bMOOC from the top level to the lower level.

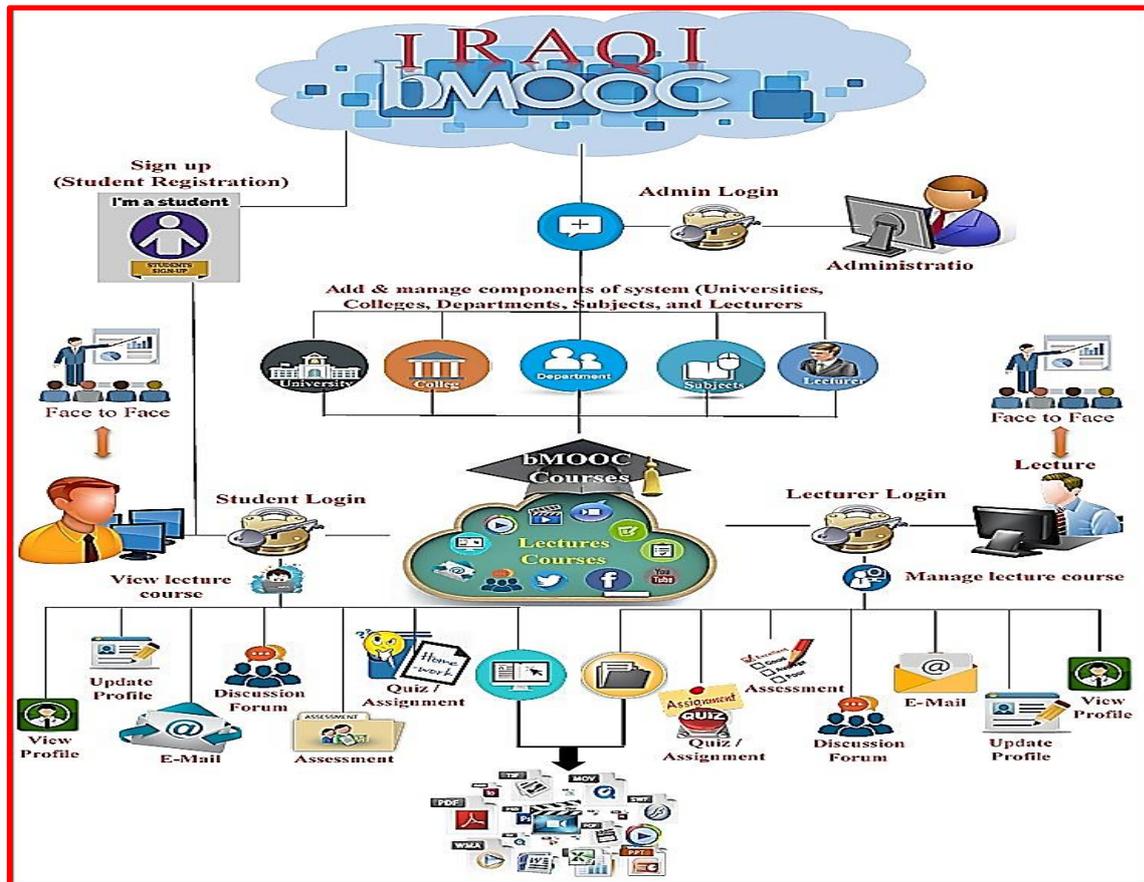


Figure 3: Iraqi-bMOOC Structure (Components & Features)

There is a description of all the functions and features for each user to implement the activities of the educational and administrative user for the learning process to support the traditional learning in the real world. The components of MOOC & traditional learning are important indicators for designing blended MOOC such as manage universities, manage colleges, manage subject, and manage lecturers and students. These indicators focus on the importance of learning tools (i.e. features) such as materials, assignments, assessments, forum, comments, and message (i.e. e-mail). The intention is to determine the main components that are suitable for the Iraqi students' environment. Thus, these components are considered fundamentals to be included during the model development. In turn, this may influence the interaction with the lecture content.

On the other side, the user interface (platform) design of the model should consider the usability principles and go through a participatory design process (Basson et al., 2015). This is due to the point that the intuitive user interface is an important factor for the user satisfaction. Moreover, the sub features in the user interface such as update, delete, sort by (name, type & date) and search by (name, type & date) should be available in all the learning activities. This is because these sub features are important factors that may influence the interaction and controlling of the lecture content. A case in point is that a search function is an important tool in blended MOOC that helps learners to easily find the required course materials. In sum, the most important interface features are the ones that are related to the learning activities such as materials (video lectures), assignments, assessments, forum, comments and message (e-mail). This is due to the issue that these activities are the backbone of bMOOCs.

### Iraqi-bMOOC Architecture

As soon as a user logs into the system, the application router creates new instances of the main collections and connects them to their Views. Because the user selects a subject, the corresponding collection is fetched from the server and rendered on website. The latter is realized by creating a new Node View for each collection node component and calling its render function. Node material is used either when the user interacts with system or when user makes changes to the main model features (such as manage, forum, message, etc.). The users are delegated to other ways if they select features that represent another module. Examples of such components, (Refer to Figure (4)), include: video lectures, assignment, solutions, assessment, update profile and view profile related actions or general features that allow the user to change system pages from the upper bar in the website system.

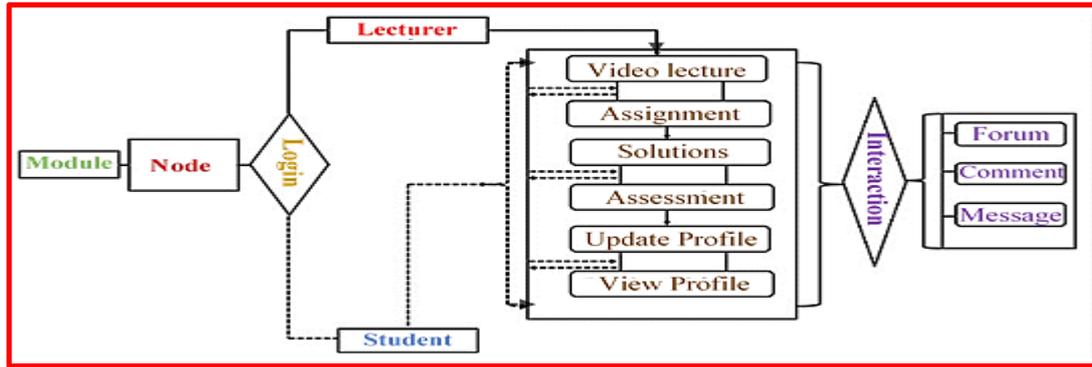


Figure 4: System Architecture of Iraqi-bMOOC

Therefore, the home page of Iraqi-bMOOC module is presented via categorizing it into three groups' administration (Admin, Lecturer and student). Each one of these groups includes a set of main components of the learning process, such as video lectures, assignments, assessments, discussion forums, lectures comments, e-mail, social media, and recommended software.

Figure (5) shows the users categorization in the Iraqi-bMOOC with regard to the main modules.



Figure 5: The main interface in Iraqi-bMOOC

### Lectures (Materials)

Based on the subject that is selected by student, the student can view and download the materials such as video, word, excel, power point, PDF and all types of files that can be uploaded by a professor. In addition, Iraqi-bMOOC provides advanced features for the student to make the learning process more flexible and easy such as search for material (by name, type or date), descending or ascending materials, view files and watch video lecture, download materials (e.g., text, audio and video, i.e. all types of files), determine the number of data (learning material) that are displayed on the page name of the professor who uploads the materials, and date and time of uploading the material as illustrated in Figure (6).

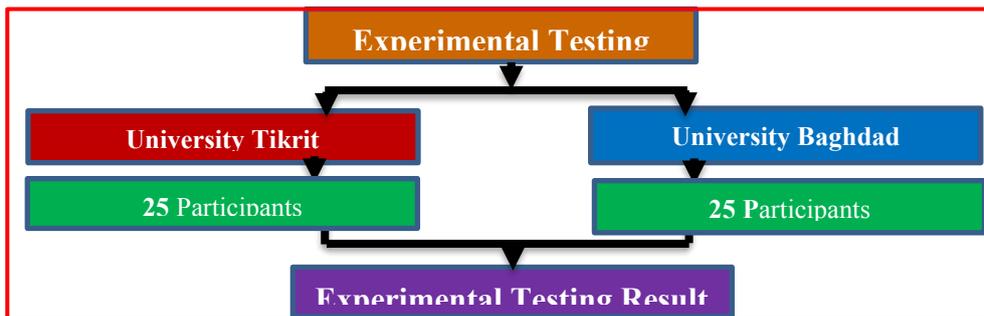


Figure 6: Video lecture Content

This section also allows students or lecturer to add notes or comments on the video lecture which is displayed in a separate layer inside the page. This section aims to make more interaction between learners and lectures through making the learners watch the video or view the materials with adding notes or comments in the same time. The interactive material comments help learners to add comments on the video lecture, besides, they are synchronized with the list to view all the comments such as suggestions, questions and important notes between the learners and the lecturers.

**RESEARCH METHODS**

This study is conducted on different colleges at Tikrit & Baghdad Universities. In the first semester, a questionnaire is distributed to all learners who are undergraduates at these universities. For research validity purposes, the selected participants are learners from the same specialization and class. This is because the university students are stakeholders and must be homogeneous in age and education (Peterson & Merunka, 2014). These learners have an access to Iraqi-bMOOC website as a blended learning resource. The researchers have visited the colleges and distributed fifty questionnaire to the participants at the aforementioned universities. That is, twenty five copies are distributed in each university as shown in Figure (7).



**Figure 7. Experimental Testing Method**

There is a number of sampling techniques that can be used to represent the population. Sampling is the process of selecting the appropriate elements number of the population (Creswell, 2013). Therefore, the total number of participants in the experimental test is fifty undergraduate learners from different colleges. Thus, the participants’ number of this study is adequate for the quality and evaluation of Iraqi-bMOOC model to obtain reliable results in the statistical tests (Sekaran & Bougie, 2016). Table (1) and Figure (8) show the distribution of the sample based on each class in the college. The participants represent different undergraduates’ levels (Classes) from the first year until the fourth year at the universities of Tikrit and Baghdad. Each university has 50% of the participants’ total number and they are divided into four levels based on their classes.

**Table 1: Undergraduates’ Level**

| Classes | Uni.Tikrit (Frequency) | Uni.Bahgdad (Frequency) | Total | Percent % |
|---------|------------------------|-------------------------|-------|-----------|
| First   | 5                      | 5                       | 10    | 20%       |
| Second  | 6                      | 6                       | 12    | 24%       |
| Third   | 7                      | 7                       | 14    | 28%       |
| Fourth  | 7                      | 7                       | 14    | 28%       |
| Total   | 25                     | 25                      | 50    | 100 %     |



**Figure 8: Undergraduates’ Level**

Then, the experimental group in each college is instructed to evaluate their experience about the blended learning criteria that are available in the Iraqi-bMOOC (such as Blended Learning, Flexibility, High Quality Content, Instructional Design and Learning Methodologies, and Network Learning, and Openness). This is conducted by filling the questionnaire instrument. After

collecting the data and coding the database in SPSS (Version 23), each item in the questionnaire is analyzed by using descriptive statistics and standard deviation.

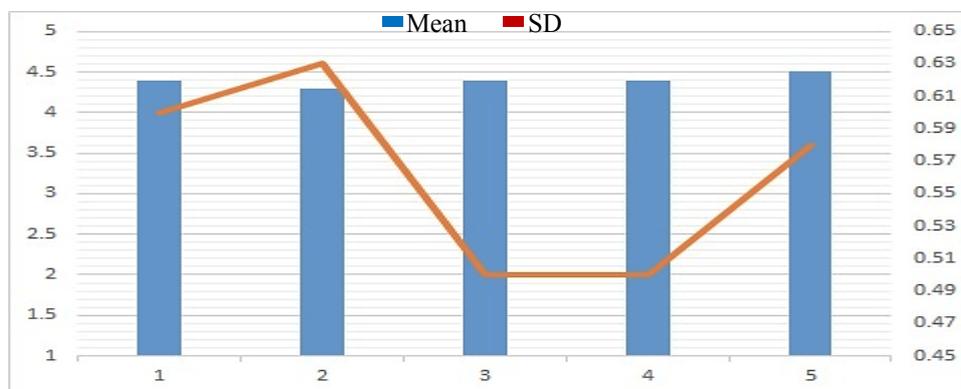
## FINDINGS AND DISCUSSION

### 1. Blended Learning Environment

The design of blended learning environments integrates together face-to-face approach with online learning approach. This can be an effective and flexible model to enhance the classroom learning and improve the interaction with the lecturers and peers (Bruff et al., 2013). The participants are asked to view the lectures video online and use the Iraqi-bMOOC courses to discuss the lecture content. The face-to-face classroom is then used to explain more about the concepts presented in the video lecture. Table (2) and Figure (9) show the five evaluation items on the blended learning part in the Iraqi-bMOOC courses environment.

**Table 2: Result of Blended Learning Environment**

| No                              | Evaluation Item   | Mean       | SD          |
|---------------------------------|---|------------|-------------|
| 1                               | Face-to-face and online learning together help me to improve my academic achievements outcome.    | 4.4        | 0.60        |
| 2                               | Face-to-face and online learning together increase my motivation to share and discover new ideas. | 4.3        | 0.63        |
| 3                               | Face-to-face and online learning together enable me to accomplish tasks more quickly.             | 4.4        | 0.50        |
| 4                               | Blended learning approach can be used to complete the traditional classroom approach.             | 4.4        | 0.50        |
| 5                               | I am satisfied with this blended learning environment.  | 4.5        | 0.58        |
| <b>Blended Learning Average</b> |   | <b>4.4</b> | <b>0.56</b> |
| <b>No of Respondents : 50</b>   |   |            |             |



**Figure 9: Result of Blended Learning Environment**

The final result of mean score is 4.4. This finding is consistent with the finding Bruff et al. (2013) finding. In return, it unveils that MOOC can improve the learning process outcome because the participants in bMOOCs can benefit from certain opportunities such as independent learning, increased engagement, motivation, and flexibility of bMOOCs. Which means that the blended learning approach supports and completes the traditional classroom approach.

### 2. Flexibility Environment in Iraqi-bMOOC model

Flexibility is one of the important factors in MOOC (Mackness et al., 2010).The ten evaluation items stated in Table (3) and Figure (10) assess the flexibility level of the Iraqi-bMOOC.

**Table 3: Result of Flexibility Learning Environment**

| No | Evaluation Item   | Mean | SD   |
|----|---|------|------|
| 1  | I can access to lectures and learning activities anytime and/or anywhere that is suitable for me. | 4.4  | 0.50 |

|  |  |            |             |
|--|--|------------|-------------|
| 2                                      | The learning environment provides me with a wide range of learning tools that allow the learners to quickly access the required information and materials (e.g. assignment due date, grading system, exams, etc.). | 4.4        | 0.54        |
| 3                                      | I am able to access the learning materials with no much difficulty.  | 4.4        | 0.54        |
| 4                                      | The website content makes me explore the course further.   | 4.6        | 0.49        |
| 5                                      | I can access to the social media as part of the learning process such as twitter and Facebook.   | 4.5        | 0.54        |
| 6                                      | The learning environment allows me to use the video lectures based on the lectures in classroom  | 4.4        | 0.54        |
| 7                                      | The learning environment provides the learners with examples that can be understood by everyone based on the Iraqi-Arabic language and culture.  | 4.5        | 0.50        |
| 8                                      | The learning environment provides me with adequate communication channels with the lecturer and with other learners (e.g., email, forum, video comments).  | 4.6        | 0.49        |
| 9                                      | I am very comfortable with the flexible design to upload and download the files in my own devices easily (Computer, Mobile), such as Video, doc, ppt, pdf and xlsx and etc.  | 4.5        | 0.50        |
| <b>Flexibility Environment Average</b> |  | <b>4.5</b> | <b>0.51</b> |
| <b>No of Respondents : 50</b>          |  |            |             |

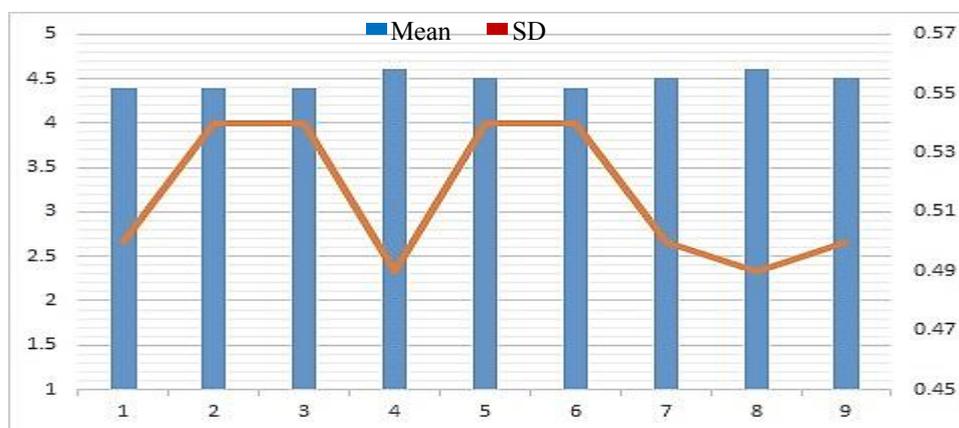


Figure 10: Result of Flexibility Learning Environment

Most of the participants in the Iraqi-bMOOC courses have answered by mean (4.5) as a final result of the flexibility part. This result unveils that the participants have confirmed that the learning activities are very flexible & satisfying in the courses (Iraqi-bMOOC). This means that the Iraqi-bMOOC courses are flexible and helpful for the participants to access the learning activities anytime and anywhere, and this shows the effect of language and culture on the learning process. This is confirmed by many researchers such as Hollands, (2014) and Yousef et al. (2014c). A case in point is that the access to: the learning activities and lectures, the learning tools, the learning materials, website content, and the social media.

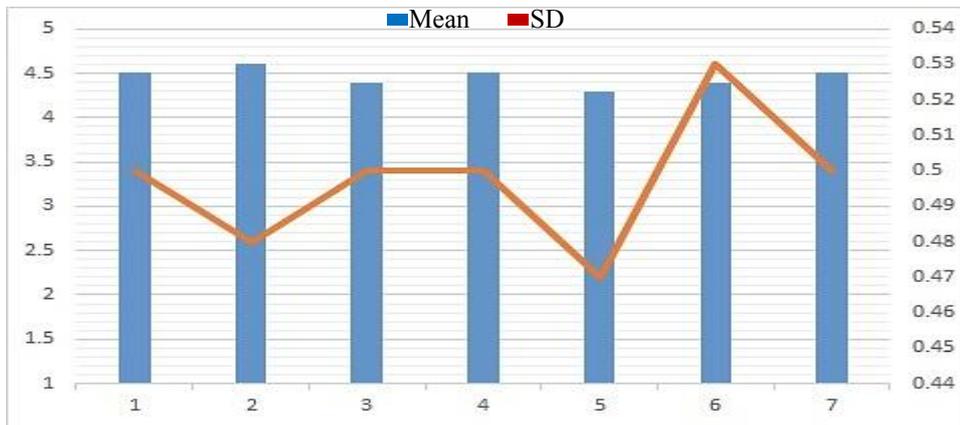
### 3. High Quality Content Environment

The High Quality Content is one of the important factors to empower and engage the learners to participate in the MOOC all over the world (Yousef et al., 2014c). Shee (2008) confirms that the learners give a great value for MOOC courses where the content is well designed and interactive as well as the content of the subject is clear and at the right length. The six evaluation items provided in Table (4) and Figure (11) aim to test the content quality of the Iraqi-bMOOC.

| No | Evaluation Item   | Mean | SD   |
|----|---|------|------|
| 1  | The presentation of the subject content is clear.   | 4.5  | 0.50 |
| 2  | The easy design helps to structure the learning content for different learners.                             | 4.6  | 0.48 |
| 3  | The interactive material comments (video, audio and text) help improve the quality of the learning content. | 4.4  | 0.50 |
| 4  | The information presented in the discussions comments helps me to better understand this course.            | 4.5  | 0.50 |
| 5  | The feedback from my lecturer and other learners helps me to understand the lecture content.                | 4.3  | 0.47 |

|   |  |            |             |
|---|--|------------|-------------|
| 6   | The search options in the system help me to find specific learning resources.                                | 4.4        | 0.53        |
| 7   | This learning environment enables me to adapt the quality of the learning materials to better meet my needs. | 4.5        | 0.50        |
| <b>High Quality Content Environment Average</b> |  | <b>4.5</b> | <b>0.50</b> |
| <b>No of Respondents : 50</b>                   |  |            |             |

**Table 4: Result of High Quality Content Environment**



**Figure 11: Result of High Quality Content Environment**

In relation to the findings stated in Figure (4) and Table (11), the final result of mean score of this part is 4.5. This finding means that most of the participants have agreed on the quality of courses contents. These courses contents (such as course materials content, discussions, comments, feedback, search options, and quality of learning material) are very helpful to better understand the course concepts in the Iraqi-bMOOC. In particular, viewing a video lecture helps the learners to receive suggestions and comments on the lecture. In return, this helps improve the quality of the course content (McCallum et al., 2013). This indicates that the learning environment in the Iraqi-bMOOC enables the learners to adapt the quality of the learning materials and better meet their needs.

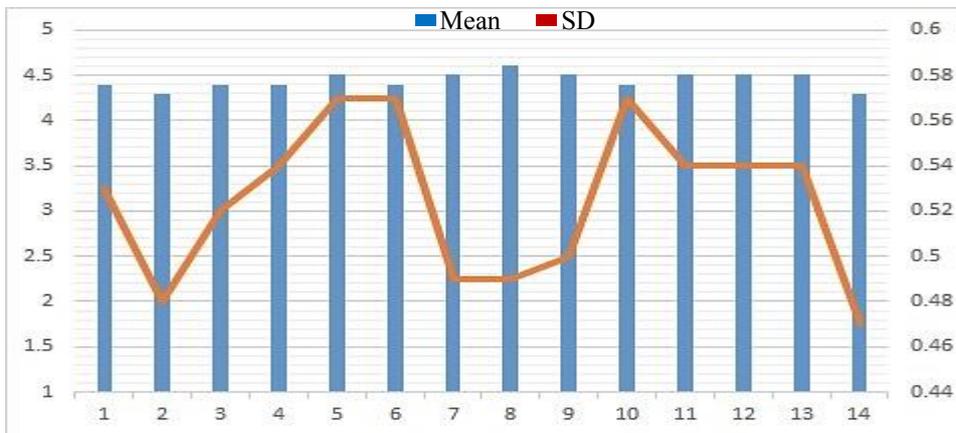
#### 4. Instructional Design & Learning Methodology in Iraqi-bMOOC

The instructional design and learning methodology affect positively the learning process as they increase the interaction and motivation of the learners (Yousef et al., 2015a). Table (5) and Figure (12) show the effectiveness of the instructional design and learning methodology on the Iraqi-bMOOC.

**Table 5: Result of Instructional Design & Learning Methodology Environment**

| No | Evaluation Item   | Mean | SD   |
|----|---|------|------|
| 1  | The learning objectives and scope are clearly stated in the online lecture.   | 4.4  | 0.49 |
| 2  | The structure of this course keeps me focused on what is to be learned.   | 4.4  | 0.53 |
| 3  | Blended learning approach can be used to supplement the traditional classroom approach  | 4.6  | 0.49 |
| 4  | The various learning tools in this environment are effective.   | 4.5  | 0.50 |
| 5  | I have the possibility to ask my tutor about what I do not understand.  | 4.4  | 0.57 |
| 6  | The lecturer responds promptly to my queries.   | 4.3  | 0.55 |
| 7  | The lecturer sends me comprehensive feedback on my assignment.  | 4.4  | 0.49 |
| 8  | The approach of this blended learning environment encourages me to contact the teaching team in this course when needed.  | 4.4  | 0.53 |
| 9  | The assessment in this course improves my learning process.   | 4.5  | 0.54 |
| 10 | Different types of questions help me to provide specific and quick answers (e.g. short answers, essay, matching, Multiple Choice question and True/False question). | 4.3  | 0.52 |

|  |            |             |
|--|------------|-------------|
| <b>Instructional Design &amp; Learning Methodology Average</b> | <b>4.4</b> | <b>0.52</b> |
| <b>No of Respondents : 50</b>                                  |            |             |



**Figure 12: Result of Instructional Design & Learning Methodology Environment**

Overall, the participants are positive towards the course in a number of issues related to the defined objectives, the clear structure, the learning tools, the interaction with the lecturer, the assessment, and the learning activities. Therefore, the final result of mean score of this part is 4.4. The good instructional design increases the students' interaction in the class and also saves their time to understand the learning concepts. This is one of the important factors in the instructional design and the learning methodology (Yousef et al., 2015d).

### 5. Network Learning (Connectivity) Environment in Iraqi-bMOOC

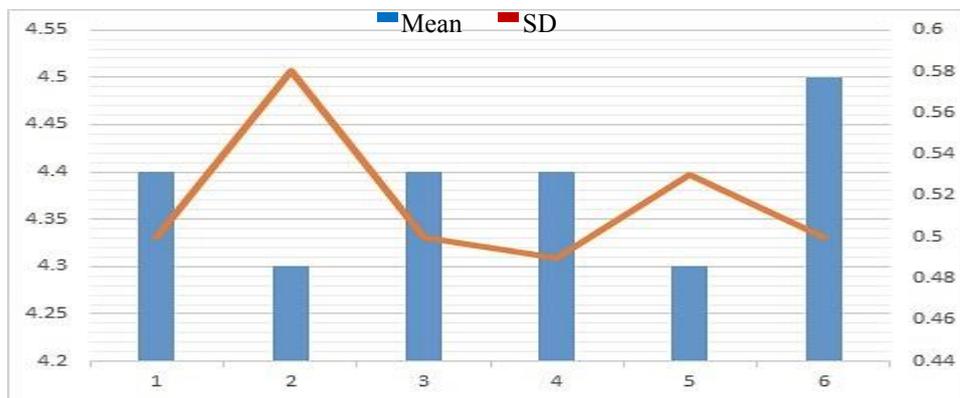
Network learning is very important in the online learning environments (e.g. Blended MOOCs) (Chatti et al., 2014). Table (6) and Figure (13) illustrate a set of 14 items that evaluates the Iraqi-bMOOC in terms of network learning and connectivity.

| No  | Evaluation Item  | Mean       | SD          |
|---|--|------------|-------------|
| 1   | I can interact with other learners and with the lecturer synchronously and asynchronously.   | 4.4        | 0.53        |
| 2   | It is easy to work collaboratively with other learners involved in a course.   | 4.3        | 0.48        |
| 3   | The communication tools enhance my interaction and collaboration with my course mates.   | 4.4        | 0.52        |
| 4   | I share what I have learned in this course with others outside of the learning environment such as learners from other universities. | 4.4        | 0.54        |
| 5   | The learning environment helps me receive support and feedback from other participants.  | 4.5        | 0.57        |
| 6   | The blended learning environment encourages me to collaborate and share ideas with others.   | 4.4        | 0.57        |
| 7   | The blended learning environment increases my motivation to participate in class activities.   | 4.5        | 0.49        |
| 8   | I am satisfied with this learning environment.   | 4.6        | 0.49        |
| 9   | The discussion forum of this course is effective.  | 4.5        | 0.50        |
| 10  | The use of email in this course is effective.  | 4.4        | 0.57        |
| 11  | The use of the lectures' comments in this course is effective.   | 4.5        | 0.54        |
| 12  | The interaction (i.e. content, lecturer, and peers) is effective.  | 4.5        | 0.54        |
| 13  | I can interact with other learners and lecturers from other universities   | 4.5        | 0.54        |
| 14  | Feedback from the professor is timely.   | 4.3        | 0.47        |
| <b>Network Learning Environment Average</b> |  | <b>4.4</b> | <b>0.52</b> |

No of Respondents : 50

Table 6:  
Result of

**Network Learning Environment**



**Figure 13: Result of Network Learning Environment**

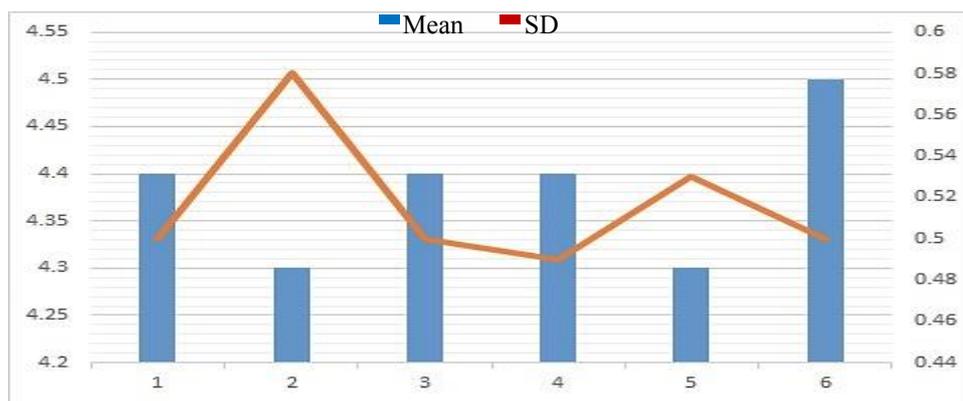
In this part, the mean average of 4.4 is high and this refers to the effectiveness of the Iraqi- bMOOC in supporting the network learning & connectivity. The participants have agreed on that the interaction and communication possibilities are offered in the Iraqi-bMOOC. For instance, video lecture comments, discussion forums, email, social media, and collaborative comments allow the learners to interact and share knowledge. They also allow the learners to discuss and exchange experiences, collaborate, and construct knowledge in addition to receiving feedback and support from peers and lecturers. Thus, this indicates that the participants benefit from sharing their knowledge with other learners from other universities in addition to learning from more than one lecturer which is very advantageous for them. Thus, this finding is consistent with the views of researchers (such as Yousef et al. (2015) and Chatti et al. (2014)) about network learning based on the connectivity theory.

**6. Openness Environment**

Openness is one of MOOC criteria. It provides learning to a large number of participants around the world regardless of their level of education and location, Table (7) and Figure (14) show the participants’ high satisfaction with the field of openness in the Iraqi-bMOOC. The offered Iraqi-bMOOC enables the participants to register in the course for free and without any academic requirements. It also enables them to reuse all the course materials any time.

**Table 7: Result of Openness Environment**

| No                                  | Evaluation Item  | Mean       | SD          |
|-------------------------------------|--|------------|-------------|
| 1                                   | The blended learning system allows the student to register free of charge.   | 4.4        | 0.50        |
| 2                                   | There is no academic requirements for registration in the system, i.e., it is open for all                         | 4.3        | 0.58        |
| 3                                   | The learning material is available for free downloading.   | 4.4        | 0.50        |
| 4                                   | This learning environment helps the learner to learn and receive support and feedback from any university in Iraq. | 4.4        | 0.49        |
| 5                                   | This learning environment enables me to adapt the learning material to better meet my needs.                       | 4.3        | 0.53        |
| 6                                   | I can access to lectures and learning activities from anywhere and anytime.  | 4.5        | 0.50        |
| <b>Openness Environment Average</b> |  | <b>4.4</b> | <b>0.51</b> |
| <b>No of Respondents : 50</b>       |  |            |             |



**Figure 14: Result of Openness Environment**

The final result average of openness part has mean score 4.4. Most participants have highly agreed on that the openness system in the Iraqi-bMOOC is advantageous. For instance, registration, academic requirements, learning material, support and feedback, adapting the learning material, and access to the course lectures are useful for them to determine the learning resources in an efficient way. This provides a learning opportunity to a large number of participants from different universities in the world (Peter & Deimann, 2013). This means that most participants have agreed on that the access to the lectures and the learning activities in the Iraqi-bMOOC platform is available anywhere and anytime.

## CONCLUSIONS

A number of studies, which show the impact of MOOCs on the educational field, have been conducted especially in the universities to resolve the obstacles and challenges that face learners in the traditional learning (face to face learning). Yet, there are still a number of questions about how to meet the learners' needs (particularly the Iraqi learners' needs) by distance learning via MOOC, as evidenced by the very high drop-out rates in the current MOOC courses. The studies also do not focus deeply on the different learners' cultures and language in MOOCs. Besides, most MOOC models focus on the traditional education approaches (i.e. the traditional teacher-centered approach) so far and they neglect the learner-centered approach (Yousef et al., 2015a). Thus, for addressing MOOC challenges in higher education context, the new design of bMOOCs can resolve many challenges and obstacles in the learning process (Bruff et al., 2013). The bMOOC model has the possibility to increase the human interactions in the higher educational environment. It also enhances student-centered learning and supports the interactive design with the video content (Yousef, Chatti, Schroeder, & Wosnitza, 2015d). Therefore, Iraqi-bMOOC platform aims to bring together the face-to-face interaction with the MOOC criteria in a blended MOOC environment. This blended model resolves the MOOC obstacles that face the learners in the higher education context (Yousef, 2015; Bruff, et al., 2013; Ghadiri et al., 2013; Ostaszewski & Reid, 2012). Moreover, the Iraqi-bMOOC model brings the human interaction to the natural MOOC environment. It also promotes student-centered learning, supports the interactive design of the video lectures, provides effective assessment and feedback, and considers the diverse perspectives of the MOOC participants. Besides, the Iraqi-bMOOC model clarifies many aspects that should be taken into account to develop the blended environments based on the stakeholders' culture and language (Yousef, Chatti, Wosnitza, Schroeder, 2015a). Moreover, the results obtained from Tikrit & Baghdad universities in Iraq reveal that the majority of users are satisfied with the criteria, the learning activities and the components in the Iraqi-bMOOC platform that include video lectures, discussion forums, assessment, assignment, email, social media, and collaborative comments. This is confirmed by the participants who have shown positive approval on the proposed model. Finally, three major theoretical, practical, and educational contributions are obtained in this study: (i) contributed to summarizing the main challenges that face MOOC development from pedagogical and technological perspectives, (ii) analytically provided a new understanding about the main components and criteria (Design Dimensions) for effective bMOOC environments that would be of value for developers to construct the blended MOOC in the higher education context, and (iii) breaking down obstacles of the traditional learning and MOOC for anyone anywhere and anytime via the communication between the classroom (face-to-face learning) and the MOOC courses. In conclusion, it is hoped that this study does not only demonstrate the potential and impact of blended MOOC in the technology-enhanced and student-centered learning, but also provides a capstone for MOOC research in the field of blended learning and multimedia studies.

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