

BAASAN ENABLER OF KNOWLEDGE CREATION IN E-LEARNING ENVIRONMENT

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Abstract: Knowledge creation is indivisible part of students learning so assimilating of knowledge is a process very similar to the processes related to selection of most appropriate learning content in e-learning. E-learning is making it possible for more individuals than ever to access knowledge and to learn in new and different ways.

The context of Ba (as a platform for knowledge conversion) is like an e-learning environment, which requires students to share, construct and utilize knowledge through Originating Ba, Dialogue Ba, Exercising Ba, and Systemizing Ba.

This research tries to provide viewpoints and empirical results to understand the relation between, the concept of the context of Ba and e-learning environment.

Syrian Virtual University (SVU) was selected to test the suggested model. A questionnaire was developed to collect data from Syrian Virtual University students in Damascus, Aleppo and Lattakia branches.

Keywords: BA, Knowledge, E-learning, Learning Management Systems (LMS)

1. INTRODUCTION

(Granger & Bowman, 2003) Discusses that in 1993, when the first commercial web browser was released; the Internet also saw the beginning of a single enabling medium that allowed for the convergence of interactive print, audio, and video media. According to some industry estimates, the number of users worldwide will pass the two billion mark by 2010 (International Telecommunication Union (ITU), 2010).

At the end of the last century, easy access to knowledge (Hammami & Alkhaldi, 2012), through the Internet generated many discussions in the academic world about the future role of universities (Nomura, 2002). There is an urgent need of organizing, universities' new methods and approaches of knowledge exchanging, fostering,

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and developing of e-learning environment (Hatonen, Lahti & Valimaki, 2014). Specialists in the field of creating and implementing new advanced tools or techniques are required for creating, sharing, exchanging and delivery of knowledge and learning resources.

E-learning can be in essence described as customized on-demand task-related learning supported by virtual learning environment. E-learning can be characterized as such a knowledge & resource repository (Saleena & Srivatsa 2015), where knowledge resources are designed by a group of assigned instructors according to the objectives set by the organization.

According to (Nonaka & Konno, 1998), Ba offers platforms for specific steps in the knowledge spiral process. Each Ba supports a particular conversion process and there by each Ba speeds up the process of knowledge creation.

The online courses studied in most researches appeared to be an elementary Ba, or shared context with the fundamental conditions for promoting SECI knowledge creation spiral (Nonaka & Konno, 1998).

As an elementary Ba, it provides, encourages, and requires the use of virtual spaces to facilitate knowledge sharing, creation and utilization by promoting interactions between members of the class. Based on contextually rich situations such as the scenario Based bulletin board discussions (Lau & Tsui, 2009).

2. LITERATURE REVIEW

(a) Knowledge

(Stewart, 2000) mentions knowledge, while differentiating it from data and information, as 'a conclusion that is drawn from data and information'. Knowledge is the power to act and to make value-producing decisions that adds value to the enterprise and is held to be true in a given context to drive people to action (Polanyi, 1962).

The literature in cognitive psychology and management broadly classify knowledge into two types. These are explicit knowledge and tacit knowledge (Nonaka & Takeuchi, 2004).

Declarative knowledge or Explicit knowledge is formal and systematic (Carrillo, Robinson & Anumba, 2004). It is a type of knowledge that can easily be explained in explicit terms. It is flexible and can often be reorganized to suite our purposes (Best, 1989).

On the other hand, tacit knowledge is often embedded in procedural knowledge of how. The organization of procedural knowledge is often unknown to us, nor is procedural knowledge usually very describable (Best, 1989).

(b) Concept of Ba as a Shared Context for Knowledge Creating

According (Nonaka& Konno, 1998) Ba offers platforms for specific steps in the knowledge spiral process. Each Ba supports a particular conversion process and there by each Ba speeds up the process of knowledge creation. Ba is essentially a place with some unifying form where knowledge can be stimulated, shared, created and utilized.

(Nonaka & Nishiguchi, 2001) Also proposed a specific type of Ba, which is defined by two dimensions of interactions as illustrated in Figure1,for each of the key processes in the SECI model, these types are originating Ba, dialoguing Ba, systemizing Baand exercising Ba.

Originating Ba: According to (Nonaka, Ryoko, Noboru, 2000) originating Ba is defined by individual and face-to-face interactions. It is a place where individuals share experiences, feelings, emotions and mental models.

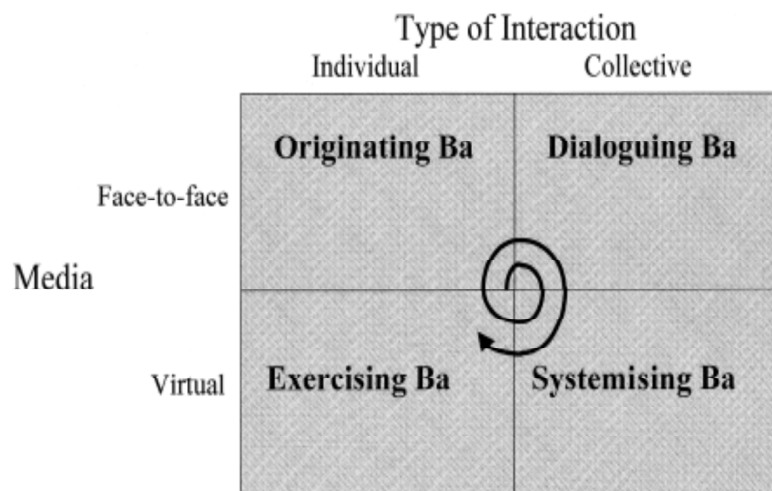


Figure 1: Four types of Ba, Adapted from (Nonaka, Ryoko, Noboru, 2000)

Dialoguing Ba: (Nonaka, Ryoko, Noboru, 2000) defined Dialoguing Ba as collective and face-to-face interactions. It is the place where individuals’ mental models and skills are shared, converted into common terms, and articulated as concepts.

Systemizing Ba: Systemizing Ba is defined by (Nonaka& Konno, 1998)as a place of interaction in virtual world instead of real space and time. Information technology, through such things as on-line networks, groupware, documentation and databanks, offers a virtual collaborative environment for the creation of systemizing Ba.

Exercising Ba: According to (Nonaka, Ryoko, Noboru, 2000) exercising Ba is defined by individual and virtual interactions. Here, individuals embody explicit knowledge that is communicated through virtual media, such as written manuals or simulation programs. Exercising Ba synthesizes the transcendence and reflection through action, while dialoguing Ba achieves this through thought.

(c) E-Learning

As stated by (Sun, Tsai, Finger, Chen, 2008) e-Learning is a web-Based system that makes information or knowledge available to users or learners and disregards time restrictions or geographic proximity (Truong, 2015).

(Downey, Marini, Wentling, 2000)describes e-learning as acquisition and use of knowledge distributed and facilitated primarily by electronic means. This form of learning currently depends on networks and computers but will likely evolve into systems consisting of a variety of channels (e.g., wireless, satellite), and technologies (e.g., smart phones, PDA's).

Currently the application of new technologies in learning is not only removing the distinction between conventional and e-learning. It is also reducing political and geographical barriers to the movement of knowledge.

Currently, many see the rise in the availability of e-learning not only as a revolutionary opportunity to increase access to higher education (Benta, Bologna, Dzitac2014), but also to hasten the overall pace of reform in higher education (Moore, Hanfland, Patti, Corry, Dublin, 2007). The definitions of e-learning mentioned above encompass several forms of e-learning. According to (E-Content, 2004), the following types could be identified:

1. A means of communication: Here e-learning is used to support communication between students, teachers, trainers, or among a group of peers.
2. E-learning used as a general resource.
3. E-learning used as Learning Management Systems (LMS). A LMS is software that deploys, manages, tracks and reports on interactions between learner and content and between the learner and the teacher (Hua, 2014) and (Sousa & Pinto,2013).

3. RESEARCH MODEL AND HYPOTHESIS

This model provides a conceptual relation between, Ba (shared context) and e-learning environment, as shown in Figure (2). This model proposes that e-learning environment may encourage processes and conditions consistent with Nonaka's model of the concept of Ba as a shared context for knowledge creation (tacit or explicit).

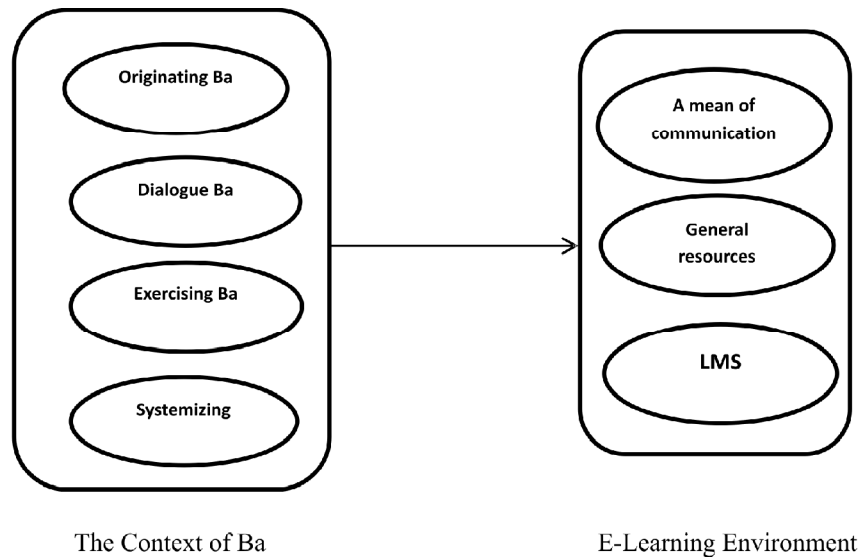


Figure 2: Proposed Model

The proposed model shown in **Figure (2)** contains two types of variables

1. Independent variables: Ba (shared context), which consist of four sub variables: Originating Ba, Dialogue Ba, Systemic Ba, and Exercising Ba.
2. Independent variables: E-learning variables, which consist of three variables: A means of communication, General Resources, LMS.

The researchers in this study of proposed hypothesis based upon proposed model and according to the literature review. The main hypotheses of this study are illustrated below:

- H_1 : There is a significant relationship between Ba and e-learning environment.
- $H_{1.1}$: There is a significant relationship between originating Ba and e-learning environment.
- $H_{1.2}$: There is a significant relationship between dialogue Ba and e-learning environment.
- $H_{1.3}$: There is a significant relationship between exercising Ba and e-learning environment.
- $H_{1.4}$: There is a significant relationship between systemizing Ba and e-learning environment.

4. RESEARCH METHODOLOGY AND ANALYSIS

To test the proposed research model, we adopted the survey method for data collection, and examined the hypotheses by deploying a questionnaire which was

developed based on the extensive literature review and reviewing validated questionnaire in similar fields. The study concentrates on studying the Syrian Virtual University. The targeted respondents of this questionnaire were the students of Syrian Virtual University in (Damascus, Aleppo, Lattakia) branches. The number of questionnaire that distributed to the students of (SVU) was (250), the numbers of received questionnaire were (202). Which means the response rate was (80%).

(a) Analysis Method

Statistical Package for the Social Sciences (SPSS) tool was used in this study. The researcher selected statistical analysis methods, which are suitable for the paper objectives. Multiple Regression analysis used to test the relationship between dependent and independent variables.

(b) Measurement Model

Factor Analysis is used to measure the research constructs. Internal consistency reliability test is used to know whether the instruments are consistent. This reliability is tested for instrument after the factor analysis test. Cronbach's Alpha (α) is the most common method in testing the internal consistency.

5. ASSESSMENT OF THE PROPOSED MODEL

The proposed model was evaluated and hypotheses were tested and the results summarized in table 1. Assessment was done first by Factor analysis in order to measure proposed model construct, The final factor analysis showed right discriminate validity for the context of Ba and e-learning which load six factors range from (0.368-0.828) for Ba, and load five factors range from (0.528-0.871) for e-learning. The accepted guidelines for identifying significant factor loading according to (Norman & Streiner, 2008), (0.30) was accepted as the out-off point for the interpretation purpose.

The second assessment was done by measuring the reliability construct for the context of Ba and E-Learning environment were tested by calculated Cronbach's Alpha, Cronbach's Alpha for the first construct (the context of Ba) was (0.754), and (0.798) was for e-learning environment, which shows a reasonable reliability for these constructs.

Finally the Hypothesizes were tested by using multiple regression. Hypothesizes testing results generated by SPSS.

Table (2) illustrates the multiple regression analysis results of the (originating Ba, dialogue Ba, exercising Ba, systemizing Ba) as independent variables on the (E-Learning Environment) as dependent variable. Table (2) shows that ($F=136.446$), which is considered to be significant at (0.000). These findings indicate that the

Table 1
Results Summary Based on Factor Analysis and Cronbach's Alpha

Construct No.	Sub Construct	No. of Items	Loading	Cronbach's Alpha
1.		The Context of Ba		
1.1	Originating Ba	5	0.537-0.799	0.754
1.2	Dialogue Ba	5	0.603-0.794	
1.3	Systemizing Ba	4	0.423-0.828	
1.4	Exercising Ba	5	0.368-0.814	
2.		e-Learning Environment		
2.1	A mean of communication	4	0.608-0.824	0.798
2.2	A general resources	5	0.528-0.788	
2.3	LMS	5	0.624-0.871	

model which relates independent variables with dependent variable is significant model.

Table (2) indicates that R square is (0.643), which is considered to be significant at (0.000). The multiple regression findings indicated that there is a significant and positive relationship between (originating Ba and dialogue Ba, exercising Ba, systemizing Ba) and (e-Learning Environment).

These findings provide empirical support for accepting hypothesis $H_{1.1}$, $H_{1.2}$, $H_{1.3}$ and $H_{1.4}$.

Table 2
Multiple Regression between (originating Ba, dialogue Ba, exercising Ba, systemizing Ba and e-learning environment)

Variables	Beta	T	R ²	F	Results		
	Value	Sig.	Value	Sig.			
Originating Ba	0.369	6.792	0.000	0.643	136.446	0.000	Accepted
Dialogue Ba	0.297	5.411	0.000				Accepted
Exercising Ba	0.153	3.869	0.000				Accepted
Systemizing Ba	0.175	4.508	0.000				Accepted

6. DISCUSSION

This section discusses results of hypothesis (H_1 , $H_{1.1}$, $H_{1.2}$, $H_{1.3}$, and $H_{1.4}$) and attempts to answer the following question of the present study:

How does the context of Ba affect e-learning environment?

The researcher hypothesized that there is a significant statistical relationship between context of Ba and e-learning environment. The results show a significant and positive relationship between the context of Ba and e-learning environment.

Where the context of Ba interpret (64.3%) of the variation in the e-learning environment.

These results support the researcher assumption, the capacity of e-learning environments to create conditions consistent with the concept of Ba(or shared context).

Multiple regression analysis used in order to test the relationship between the context of Ba, and its dimensions (originating Ba, dialogue Ba, exercising Ba, systemizing Ba), and e-learning environment.

Results of the study indicated positively about the context of Ba. All answers concerned with the (the context of Ba) were positive. Specifically the results of testing the context of Ba dimensions (The respondents expressed the level of agreement with questionnaire questions by ranking them from (1 to 5), where (1) represent strongly disagree and (5) represent strongly agree) which were:

1. The direction of respondent answers was generally positive about originating Ba. The average was (3.92).
2. The direction of respondent answers was generally positive about dialogue Ba. The average was (3.96).
3. The direction of respondent answers was generally positive about exercising Ba. The average was (3.94).
4. The direction of respondent answers was generally positive about systemizing Ba. The average was (4.10).

Syrian Virtual University provide SVU students with suitable environment which allowed many implicit opportunities for students to share divergent ways of thinking and their personal experiences, and to develop a way of communicating with and understanding each other.

7. FINDING AND CONCLUSION

According to analysis and results discussion:

The concept of Ba provides important guidance toward a more integral framework for the integration of e-learning activities that is based on both tacit and explicit knowledge, directed instruction, and personal and collaborative learning which adopted by Syrian Virtual University.

The Originating Ba energized when feelings, experiences, and mental models shared between students, primarily through SVU forum discussion and virtual class activities, which required collaboration.

The dialogue Ba energized when a group discussion and SVU email system encourage students to relate and share their own experiences with concepts

introduced in virtual class, or taken from searching digital library, these leads to quite effective converting knowledge.

The systemizing Ba energized when the students built on each other's externalization of explicit knowledge in the SVU forum discussion and virtual class, or by using LMS, or digital library of the SVU, the cumulative discussion resulted in new knowledge synthesized from multiple sources of information.

The exercising Ba energized when student were continuously and fully engaged in using electronic resources (ex. digital library), LMS and discussion forum, particularly in situation where students had to deal with a common problem such as accomplishing an assignment, they analyze the situation, discuss possible solutions, and eventually act on an agreed upon decision and be ready to respond to what transpired.

As an elementary Ba, it provided, encouraged, and required the use of virtual spaces to facilitate knowledge sharing, creation and utilization by promoting interactions between students of Syrian virtual university (SVU).

E-learning environment enhance processes and created conditions consistent with the concept of Ba as a shared context, the Ba like e-learning environment required students to share, construct and utilize knowledge.

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