Undergraduate students' opinions with regard to ubiquitous MOOC for enhancing cross–cultural competence

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Abstract

The purpose of this study was to study undergraduate students' opinions with regard to the ubiquitous massive open online course (MOOC) for enhancing cross-cultural competence. This descriptive research applied a survey method. The survey data were collected by using survey questionnaires and online questionnaires from 410 undergraduate students recruited from eight government universities. Descriptive statistics and Pearson correlation analyses were analyzed by using a computer program. The findings of this study revealed that all the components of ubiquitous MOOC for enhancing cross-cultural competence were evaluated at a high level. The significant correlations among the main research variables revealed that u-learning had the highest positive correlation with massive open online course.

Keywords: ubiquitous learning, MOOC, ubiquitous MOOC, cross-cultural competence.

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1. Introduction

With the ever-growing popularity of a massive open online courses (MOOC) since 2012, new opportunities for teaching and learning in the form of open education are possible. Certainly, MOOC offers quality education to the most remote corners of the world, helps people further their careers, and helps expand intellectual and personal networks involving strong communities. In terms of the emerging acceptance of MOOC, there are 2.8 million MOOC Coursera learners around the world, engaging in varying levels of education from elementary students to postgraduate students (Cusumano, 2013). MOOC learners from several countries have confirmed that they come from diverse, different backgrounds, and from many cultures around the world (Zhong, Zhang, Li & Liu, 2016).

However, in terms of the apparent importance of cross-cultural competence (CCC) in teaching and learning, our literature review shows a surprising result. Students with high levels of cross–cultural competence are aware of cultural differences and are able to understand and adapt to new learning environments (National Education Association, 2014).

Ubiquitous learning or U-learning is a learning methodology to result from merging e-learning and m-learning. Nowadays, U-learning is an integration of technology that enables learning the right thing at the right place and time in the right way, and also the way to becoming learning environment in higher education courses. Especially, Jeong and Hong (2013) employed U-learning course in Kyunghee university that improved the undergraduate students' performance.

Nowadays, Thailand already has a sufficient mobile internet technology for online learning activity but MOOC has not been widely adopted in the context of Thai education. In order to develop ubiquitous MOOC (U-MOOC) to enhance cross-cultural competence, this study focused on the study of undergraduate students' opinions with regard to the use of ubiquitous MOOC for enhancing cross-cultural competence.

2. Research Objectives

The primary goal of this study was to examine undergraduate students' opinions with regard to ubiquitous MOOC for enhancing cross-cultural competence.

3. Literature Review

3.1. Ubiquitous learning (u-learning)

The rapid movement of technology-assisted learning has become important in terms of increasing learning efficacy. Ubiquitous learning or u-learning is an innovative concept that is based on ubiquitous technology. There has been an emergence of technology-assisted learning, from electronic-learning (e-learning) to mobile-learning (m-learning), and now the paradigm has shifted to ubiquitous-learning (u-learning) (Yahya et al., 2010). Thus, u-learning is referred to as the third wave or third movement. There are five major characteristics of u-learning; (1) permanency refers to the fact that learners are able to access information until they delete it, (2) accessibility refers to the fact that learners are able to access information from anywhere at any time, (3) immediacy refers to the fact that learner are able to retrieve information immediately, (4) interactivity refers to the fact that learners are able to interact with experts, teachers, or peers through synchronous or asynchronous communication, and (5) context-awareness refers to the fact that the learning environment can adapt to the learners' real situation to provide adequate information for the learners (Bomsdorf, 2005; Huang, Chiu, Liu & Chen, 2011; Peters, 2010; Yahya et al., 2010).

3.2. Massive Open Online Course (MOOC)

A massive open online course (MOOC) involves online learning which has no limits in term of attendance, and one in which learners can interact with each other through digital tools through the use of the interactive web to share and create knowledge as part of a small group-based approach. MOOCs have provided viable alternatives which are highly productive, low cost or free in some cases, and have utilized the leading edge of technology (Chen, Barnett & Stephens, 2013). They help build the engagement of learners who are self-organized and self-motivated with regard to their own participation, based on their learning goals, prior knowledge and skills, and common interests (Chen et al., 2013). There are three learning characteristic of MOOCs. These are as follows:

- Accessibility – offering free and open registration
- Interaction – offering courses providing a combination of passive and active learning
- Freedom – allowing anyone to participate in an online course

3.3. Ubiquitous MOOC (U-MOOC)

Ubiquitous MOOC (U-MOOC) offers online learning in everyday life with no limits in terms of attendance. The learner can enhance his/her knowledge everywhere at any time and can focus on group interaction activities incorporating cognitive dissonance, in which contents are available to view on PC, tablet, or smartphone.

4. Research Method

This study conducted a survey to study undergraduate students' opinions with regard to ubiquitous MOOC in terms of enhancing cross-cultural competence. The respondents were 410 undergraduate students randomly recruited from eight government universities across Thailand.

The instrument of this study was a 60-item questionnaire, using the conceptual framework of an online learning environment consisting of three major variables; u-learning, massive open online courses (MOOC), and the instructional design of ubiquitous MOOC for enhancing cross–cultural competence. Undergraduate students were requested to specify how well the 60 statements describe their attitudes on a 5-point Likert scale; 1 (strongly disagree), 2 (disagree), 3 (neither agree nor disagree), 4 (agree), and 5 (strongly agree). The questionnaire had a content validity of between 0.67 and 1.00. The Cronbach's alpha coefficient (α) of internal consistency was between 0.86 and 0.92 as follows: massive open online course ($\alpha = 0.92$), instructional design of ubiquitous MOOC for enhancing cross–cultural competence ($\alpha = 0.91$), and u-learning ($\alpha = 0.86$). The descriptive statistics and Pearson correlation analysis were analyzed using a computer program.

5. Research Results

5.1. A study of undergraduate students' opinions with regard to ubiquitous MOOC for enhancing cross-cultural competence

Table 1 shows the descriptive statistics of the study of undergraduate students' opinions with regard to ubiquitous MOOC for enhancing cross-cultural competence. The data was measured in terms of three major variables; u-learning, MOOC, and the instructional design of ubiquitous MOOC for enhancing cross–cultural competence. The descriptive statistics included mean (M) and standard deviation (SD). The researcher assigned criteria for understanding the mean score in terms of five levels based on Best's criteria (1977); the lowest level represented a mean of 1.00-1.80, low level

represented a mean of 1.81-2.60, moderate level represented a mean of 2.61-3.40, high level represented a mean of 3.41-4.20 and highest level represented a mean of 4.21-5.00.

The overall score of the undergraduate students' in terms of their opinions toward u-learning was at a high level (M = 3.43). The range of the undergraduate students' opinions with regard to u-learning was between 3.13 and 3.74. Three components of u-learning were at a high level; accessibility (M = 3.74), immediacy (M = 3.59), and interactivity (M = 3.50). However, there were two components of u-learning that were at a moderate level; context-awareness (M = 3.17) and permanency (M = 3.13).

The overall score of the undergraduate students' opinions with regard to MOOC was at a moderate level (M = 3.35). The range of the undergraduate students' opinions with regard to massive open online course (MOOC) was between 2.86 and 3.69. Six variables were at a high level; video lectures (M = 3.69), student support (M = 3.67), groups (M = 3.60), course resources (M = 3.51), students' feedback (M = 3.49), and communication (M = 3.46). However, there were six variables that were at a moderate level; personal streams (M = 3.35), course homepages (M = 3.34), hashtags (M = 3.16), online identity (M = 3.13), discussion boards (M = 2.98), and blogs and portfolios (M = 2.86).

The overall score of the undergraduate students' opinions with regard to the instructional design of ubiquitous MOOC for enhancing cross–cultural competence was at a high level (M = 3.70). The range of the undergraduate students' opinions with regard to the instructional design of ubiquitous MOOC for enhancing cross–cultural competence was between 3.61 and 3.77. All variables were evaluated as being at a high level. The mean for cultural values (M = 3.77) was the highest of all variables, followed by communication (M = 3.74), cognitive skill (M = 3.73), openness to experience and challenge (M = 3.70), interpersonal skills (M = 3.69), knowledge of culture-specific (M = 3.67), attitudes (M = 3.67), and cultural sensitivity (M = 3.61).

Table 1. Descriptive statistics of the undergraduate students' opinions with regard to ubiquitous MOOC for enhancing   cross-cultural competence

Variables	M	SD	Level
1. U-learning			
• Permanency	3.13	0.81	Moderate
• Accessibility	3.74	0.81	High
• Immediacy	3.59	0.75	High
• Interactivity	3.50	0.76	High
• Context-awareness	3.17	0.89	Moderate
Total	3.43	0.61	High
2. Massive open online course (MOOC)			
• Discussion boards	2.98	1.12	Moderate
• Personal streams	3.35	0.88	Moderate
• Groups	3.60	1.07	High
• Blogs and portfolios	2.86	0.99	Moderate
• Online identity	3.13	0.91	Moderate
• Hashtags	3.16	0.96	Moderate
• Course homepages	3.34	0.87	Moderate
• Communication	3.46	0.75	High
• Course resources	3.51	0.83	High
• Video lectures	3.69	1.02	High
• Student support	3.67	0.87	High
• Students' feedback	3.49	0.87	High
Total	3.35	0.59	Moderate
3. Instructional design of ubiquitous MOOC for enhancing cross–cultural competence			
• Cultural sensitivity	3.61	0.73	High

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Variables	M	SD	Level
• Cultural values	3.77	0.82	High
• Knowledge of culture-specific	3.67	0.85	High
• Attitudes	3.67	0.94	High
• Openness to experience and challenge	3.70	0.88	High
• Interpersonal skills	3.69	0.83	High
• Communication	3.74	0.85	High
• Cognitive skill	3.73	0.83	High
Total	3.70	0.70	High

5.2. Correlation between U-learning, MOOC, and Instructional Design of U-MOOC for enhancing cross–cultural competence

Table 2 presents the relationship between U-learning, MOOC, and Instructional Design of U-MOOC for enhancing cross–cultural competence. The researcher assigned criteria for understanding the strength of the correlation coefficient into five levels based on Salkind's criteria (2007); weak or no relationship was indicated by a relationship of $0.00 - 0.20$, weak relationship by a relationship of $0.20 - 0.40$, moderate relationship by a relationship of $0.40 - 0.60$, strong relationship by a relationship of $0.60 - 0.80$, and very strong relationship by a relationship of $0.80 - 1.00$.

The significant correlations among the three major variables – u-learning, MOOC, and instructional design of   U-MOOC for enhancing cross–cultural competence – ranged from r = 0.51 (p < 0.01) to r = 0.73 (p < 0.01). The results indicated that u-learning had a highest positive correlation with MOOC (r = 0.73).

Table 2 The relationship between U-learning, MOOC, and Instructional Design of
U-MOOC for enhancing cross–cultural competence

Variables	Pearson Correlation Coefficient	*p*	Strength of the Correlation Coefficient
U-learning and MOOC	0.73**	0.00	Strong
U-learning and Instructional design of U-MOOC for enhancing cross–cultural competence	0.51**	0.00	Moderate
MOOC and Instructional design of U-MOOC for enhancing cross–cultural competence	0.65**	0.00	Strong

Note: ** Correlation is significant at the 0.01 level (2-tailed)

6. Discussions and Recommendations

The findings revealed that the undergraduate students' opinions with regard to ubiquitous MOOC for enhancing cross-cultural competence consisted of three major components; u-learning, MOOC, and the Instructional Design of ubiquitous MOOC for enhancing cross–cultural competence. The highest average component was the Instructional Design of ubiquitous MOOC for enhancing cross–cultural competence, followed by u-learning, and MOOC. Thus, the Instructional Design of ubiquitous MOOC for enhancing cross–cultural competence was essential when it comes to designing U-MOOC for enhancing cross–cultural competence. Specifically, Instructional Design was significant for both teaching and learning in traditional and online learning environments.

In terms of u-learning, the findings revealed that the priority in terms of the undergraduate students' opinions with regard to u-learning were accessibility, immediacy, and interactivity. Therefore, U-MOOC design should focus on these aspects. This finding was supported by Zhong, Zhang, Li and Liu (2016) who stated that MOOC should create a learning community in order to increase the interaction between students. Meanwhile, the priority in terms of undergraduate students' opinions towards MOOC were video lectures, student support, groups, course resources, student feedback, and communication. This finding was supported by Young (2013) who stated that students also require more resources in addition to only lecture videos. Furthermore, Wang (2007) suggested the need to use a variety of communication tools both synchronous and asynchronous in cultural online courses.

Moreover, the priority in terms of the undergraduate students' opinions toward instructional design of ubiquitous MOOC for enhancing cross–cultural competence were cultural values, communication, cognitive skill, openness to experience and challenge, interpersonal skills, knowledge of culture-specific, attitudes, and cultural sensitivity. This finding was supported by Abbe, Gulick, and Herman (2007), Ross (2008), Seeberg and Minick (2012), Gabrenya Jr et al. (2012), and Chunpen (2012) who explained that these components were important of cross–cultural competence.

The findings revealed that u-learning had the highest positive correlation with MOOC. It could be said that integrating u-learning as a learning paradigm and MOOC as a learning platform not only facilitates online learning, but also offers others benefits for online learning.

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