

Performance on Readiness of UNITEN Postgraduate Students for MOOC-based Learning

S.N.A Che Yusoff, S.D. Chen, J. Jais, N. M. Din

Abstract: *This paper presents a study on the readiness of UNITEN postgraduate students for Massive Open Online Courses (MOOC) based learning. A survey was conducted, involving 123 respondents consisted of a good mix of PhD and master by research, mixed mode and coursework programmes in engineering, IT and business management. The results show that UNITEN postgraduate students in general have excellent readiness for MOOC-based learning in terms of technology access, online communication skills, independent learning, online content delivery, online discussion and awareness. This study concluded that UNITEN postgraduate students welcomed MOOC-based learning. It's therefore recommended to proceed for the implementation phase of MOOC-based learning.*

Keywords: *Massive Open Online Courses (MOOC); blended learning; blended courses; Postgraduate Research Methodology Course, Learning Management System (LMS)*

I. INTRODUCTION

Recently, there are many universities offering online courses by integrating MOOCs. The integration of MOOCs is based on the online space created for a course that hosts the contents digitally between teacher and students. Students can access the contents of a course at anytime and anywhere. Students learn independently and digitally by themselves. Basic technologies are used to digitalize the courses by means of video lectures, forums discussion, tests and they look-alike for on- campus and distant students [4]. For example, instructors can record lessons and disseminate to students. Students may ask questions, comment and submit their multimedia results at the end of the teaching and learning session. In MOOCs, student will be assessed as the learning progresses.

The possibility of students learning online in higher education has gained increasing focus [5-8]. Activities that could be blended in MOOCs include assignment, forum discussions, peer assessment, feedback support from class teacher, additional study materials and resources, evaluation, communication with local learning community and group projects [4]. The online format allows instructor to pack more material into a 10-minute lecture segment knowing that students will have the option of re-watching videos multiple times [12].

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This allows more time for interactions between lecturers and students which are very important to integrate MOOCs based blended learning [2]. In the process of integrating MOOCs into the curricula, one should touch base that the main components of the curriculum are learning outcomes, learning activities and assessments [4].

However, in Malaysia the development of MOOCs based blended learning is still in its infancy. Studies show that universities that have developed MOOCs based blended learning are Universiti Kebangsaan Malaysia (UKM) [9], Universiti Sultan Zainal Abidin (UniSZA) [11] and Universiti Malaysia Pahang (UMP) [10]. The involvement in integrating MOOCs into higher education is mainly backed by the belief that valuable knowledge and information need to be made available to students and new methods of teaching and learning need to be used to encourage students for lifelong learning [4]. This paper proposes to study the readiness UNITEN postgraduate students for MOOC-based online learning.

II. METHODS

A questionnaire for the survey was created in a Google form and distributed to 700 UNITEN postgraduate students through personal emails and group chats by copy the link of the Google form survey. There were 123 respondents participated in this survey or equivalent to a response rate of 17.57%. The questionnaire was adapted from “MOOC Readiness Questionnaire” developed by Embi [6]. It consists of eight (8) sections. The response to the questions in all the sections except demography is in the form Likert scales (1=Completely disagree, 2=Strongly disagree, 3=Strongly agree, 4= Completely agree).

Section one is demography section focuses on students' gender and course enrolled. Section two is technology access section. It consists of 3 questions on how frequent students access to a computer with internet connection, how frequent they browse info by using smartphone and access to a computer with adequate software such as Microsoft Word or Adobe Acrobat.

Section three focuses on students communication with others using online technologies such as chat, online instrument used to work on tasks/ assignments in different locations, the ability of time scheduling to provide on-time responses to instructors and students' ability to make a statement and questions easily.

Section four surveys on student's motivation. This section serves to study student's acceptance on learning online independently without face-to-face session with instructor,



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completing task even when there are online distractions such as friends sending chat by using WhatsApp Web and distractions at home such as children.

Section five serves to study student's preferences on online content delivery methods either by audio/video. This section surveys on the capability of students to take note while watching online learning based on video content, the ability to understand the presented information, and student's perception of information delivery by using video format.

Section six surveys on internet discussion. It consists of questions on how comfortable students are in handling conversation in the same online chat platform and how they prepare response to questions given.

Section seven serves to study online learning readiness which consists of two questions: (i) how students' acceptance in an online learning environment without going to the class frequently or not going to class at all (ii) students ability to experience the learning process by using different types of formats that consists of discussion in chat room, video and text.

Last section focuses on student's online learning awareness and preferences. It consists of (i) students awareness of online learning delivery method in universities for postgraduate research; (ii) students suggestion to the university to implement online learning in research methodology course; (iii) format contents that students would like to suggest for teaching session (iv) how often students favour to directly meet their course instructor/ lecturer by facing each other.

III. RESULTS AND DISCUSSION

This section presents the analysis and discussion on the results of the survey conducted. Based on section one, the results of demography indicates that 56.1% of the respondent were male and 43.9% of them were female. The distribution of the programmes enrolled by the respondents is as shown in Table I.

There were 91.9% of the students either completely or strongly agreed that they have access to a computer with internet connection and 75.6% of students either completely or strongly agreed that they like to browse info using smartphones as shown in Fig. 1 and Fig. 2 respectively. The survey results indicate that majority of UNITEN postgraduate students do not have difficulty accessing technology. This is consistent to the results of a survey called Survey of Awareness of MOOC – a Case of International Black Sea University Students, Georgia. However, smartphone appears to be the most popular tools to go online among UNITEN postgraduate students due to its portability which was not the case in Georgia.

The survey results of section three show that 95.1% of the respondents either completely or strongly agreed that they are able to communicate with others using online technologies such as chat. The results also indicate that 95.1% of the respondents either completely or strongly agreed that they are able to use online tools to work on tasks/assignments in different locations. Meanwhile, 90.2% of the respondents either completely or strongly agreed that they are able to provide timely responses to instructor. There

were 90.2% of the respondents who either completely or strongly agreed that they are able to ask questions and make comments in clear writing online.

Table. 1 Programme(S) Enrolled by the Respondents

No.	Programme(s)	%
1	Master of Science in Accounting (By Research)	0.8%
2	Master of Science in Management (By Research)	2.4%
3	Master of Civil Engineering (By Research)	4.1%
4	Master of Electrical Engineering (By Research)	10.6%
5	Master of Industrial Science (By Research)	0.8%
6	Master of Mechanical Engineering (By Research)	2.4%
7	PhD in Engineering (By Research)	22%
8	PhD in Industrial Science (By Research)	4.1%
9	Master of Information Technology (By Research)	3.3%
10	PhD in Information and Communication Technology (By Research)	15.4%
11	Master of Electrical Engineering (By Research and Coursework)	11.4%
12	Master of Information Technology (By Research and Coursework)	4.1%
13	Master of Software Engineering (By Research and Coursework)	2.4%
14	Master of Business Administration (By Coursework and Project)	4.9%
15	Master of Energy Management (By Coursework and Project)	4.9%
16	Master of Engineering Management (By Coursework and Project)	1.6%
17	Master of Communication System Engineering (By Coursework and Project)	0.8%
18	Master of Structural Engineering (By Coursework and Project)	4.1%

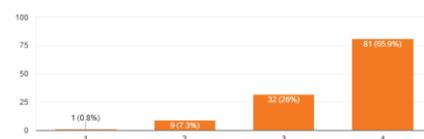


Fig. 1 Students have access to browse a computer with internet connection

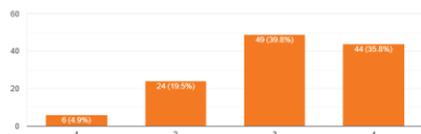


Fig. 2 Students passion to browse more info by using smartphones

The survey results of section four indicate that 78.8% of the respondents either completely or strongly agreed to learn by themselves without face-to-face session with their instructor. It shows that students have no difficulty in learning independently. Additionally, 85.3% of the respondents either completely or strongly agreed that they are able to complete their tasks even there are online distractions.

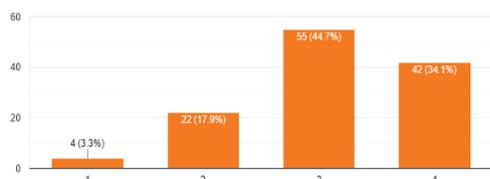


Fig. 3 Students learning via online without facing the instructor

The survey results of section five show that 78.9% of the respondents either completely or strongly agreed that they are able to take notes while watching a video on computer. There were also 93.5% of the respondents who either completely or strongly agreed that delivery of information by video format is interesting.

The survey results of section six indicate that 77.3% of the respondents either completely or strongly agreed that they are comfortable having several conversations taking place in the same online chat platform. The results also show that 91.1% of the respondents either completely or strongly agreed that they prefer to have more time to prepare response to a question.

The survey results of section seven reveal an interesting finding that 82.9% of the respondents either completely or strongly agreed that they are comfortable learning in environment in which they go to the campus infrequently or not at all. The results also show 94.3% of the respondents either completely or strongly agreed that they can learn from various instructional formats such as text, video and online discussions.

The survey results of section eight indicate that 59.3% of the respondents are aware of online learning delivery method in universities for postgraduate studies. The results also show that 87% of the respondents agreed to the suggestion to implement online learning in the research methodology course as shown in Fig. 4. The results also reveal that majority (65%) of students prefer to have online learning by PowerPoint presentation with video explanation by their instructors as shown in Fig. 5. Fig 6 shows that 95.9% of students prefers to meet their instructor face-to-face once a month or less.

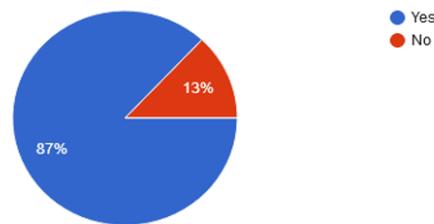


Fig. 4 UNITEN Student's suggestion to implement online learning in a research methodology course

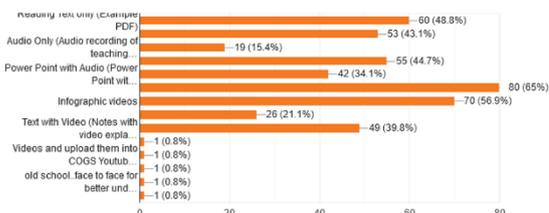


Fig. 5 Student's preferences for format teaching content made for online learning

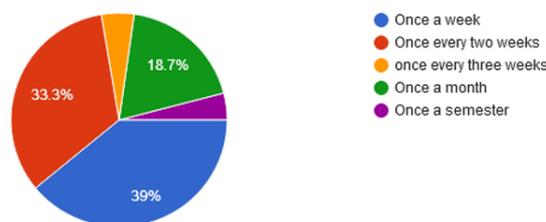


Fig. 6 How often students would like to meet directly with their instructor

IV. CONCLUSION

MOOC is a promising learning method especially for the new generation of the digital era. According to the findings of this study, it can be concluded that the development of interdisciplinary MOOCs based blended learning environment for UNITEN Postgraduate Research Methodology course are very much welcomed by majority of respondents. This conclusion is well supported by the survey results which show that UNITEN postgraduate students in general have excellent readiness for MOOC-based learning in terms of technology access, online communication skills, independent learning, online content delivery, online discussion and awareness. It is therefore recommended to proceed to the implementation phase of MOOC-based learning for UNITEN Postgraduate Research Methodology course.

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