UNIVERSITI PUTRA MALAYSIA

MALAYSIAN ESL UNDERGRADUATES' LEARNING EXPERIENCE AND PERFORMANCE IN A MASSIVE OPEN ONLINE COURSE ON WRITING

MD. MASUDUL HASAN

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By

MD. MASUDUL HASAN

Thesis submitted to the School of Graduate Studies, Universiti Putra Malaysia, in Fulfillment of the Requirement for the Degree of Doctor of Philosophy

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DEDICATION

This thesis is dedicated to my parents, Md. Manir Hossain Sarker and Monowara Begum, for their love, endless support, and encouragement

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Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfillment of the requirement for the degree of Doctor of Philosophy

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August 2016

Chairman : Assoc. Prof. Tan Bee Hoon, PhD
Faculty : Modern Languages and Communication

Massive open online courses (MOOCs) have revolutionized e-learning through innovating and improvising new pedagogical features and instructional tools. Despite the conceptual and terminological confusion, MOOCs have been well received by society, as evidenced by the enrolment numbers, course statistics, and feedback from students and teachers. Many well-known institutions such as Stanford University, MIT, and Harvard University have embraced the MOOC format to offer courses in various disciplines including English language. The present study has examined a class of ESL undergraduates' learning experience and performance in a writing MOOC. Several research questions were designed to investigate how the participants perceive a writing MOOC, what they like about it, how they learn it, and what motivate them to learn. Moreover, the participants' level of engagement and their purposes of interaction in the writing MOOC were examined. In addition, the reliability and validity of the participants' peer assessment comments were discussed.

A case study approach involving both qualitative and quantitative data collection methods was applied. The participants, comprising 48 ESL undergraduates, were taken from an intact class at a Malaysian public university. They were instructed to register and enrol in a writing course named *A Beginners Guide to Writing in English for University Study*. Data were collected through various means, i.e. (a) questionnaire, (b) reflection essays, (c) interview, (d) forum posts, (e) MOOC records, and (f) peer assessment comments.

Findings obtained from the questionnaires and reflection essays show that most of the participants expressed positive attitudes towards learning in MOOC. They valued the MOOC instructional features and tools and showed strong satisfaction in learning academic writing. This study has also documented a number of factors that motivate

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students to enrol and complete MOOCs such as the quality of instructional pedagogy, self-directness, courses offered by a prestigious university, new knowledge, certification, and MOOC as edutainment. The findings associated with low retention rates are high workload, challenging course content, lack of time, lack of pressure, and lack of support from the course instructor. Participants' level of engagement in terms of completing the required tasks in writing MOOC was found to be impressive. However, there was limited interaction in the forum between the peers and course instructor. The forum was used mainly for answering instructor's questions, publishing essays, commenting on peers' posts, and evaluating peers' essays. Finally, the peer assessment comments collected suggest high level of agreement between student-assigned comments and feedback, and instructor-assigned comments and feedback.

This study has contributed new empirical data related to the application of a new innovation of e-learning in the form of writing MOOC. The findings also contribute to a better understanding of the nature of learning and participation in the MOOC from the perspective of ESL students.

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Abstrak tesis yank dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk Ijazah Doktor Falsafah

PENGALAMAN PEMBELAJARAN DAN PRESTASI PELAJAR SARJANA MUDA JURUSAN BAHASA INGGERIS SEBAGAI BAHASA KEDUA (ESL) DALAM MASSIVE OPEN ONLINE COURSE (MOOC) PENULISAN

Oleh

MD. MASUDUL HASAN

Ogos 2016

Pengerusi : Profesor Madya Tan Bee Hoon, PhD
Fakulti : Bahasa Moden dan Komunikasi

Massive open online courses (MOOCs) telah membawa transformasi yang besar ke atas pembelajaran *e-learning* melalui inovasi dan penambahbaikan ciri-ciri pedadogikal dan alat-alat pengajaran. Walaupun terdapat kekeliruan dari segi konsep dan terminology, MOOCs telah mendapat sambutan yang baik daripada masyarakat berpandukan jumlah kehadiran, kursus statistik, dan maklum balas yang diterima daripada para pelajar dan pendidik. Universiti-universiti terbaik seperti Stanford University, MIT, dan Harvard University telah menerima format pembelajaran MOOC bagi tawaran kursus-kursus dalam pelbagai bidang termasuk kursus Bahasa Inggeris. Kajian ini telah mengkaji tentang pengalaman, pembelajaran, dan pencapaian dalam MOOC penulisan di kalangan pelajar sarjana muda kursus ESL (Bahasa Inggeris sebagai Bahasa Kedua). Beberapa persoalan kajian telah dibentuk untuk menyelidik tanggapan para peserta terhadap MOOC penulisan, apakah yang mereka suka tentang kursus ini, bagaimana mereka mempelajariia, dan apakah yang mendorong mereka untuk belajar. Selain itu, tahap penglibatan para peserta dan tujuan mereka berinteraksi dalam MOOC penulisan juga telah dikaji. Di samping itu, tahap kesahihan dan kebolehpercayaan penilaian komen rakan sebaya para peserta juga telah dibincangkan.

Satu kajian kes yang melibatkan kedua-dua kaedah pengumpulan data secara kualitatif dan kuantatif telah diaplikasikan. Para peserta yang terdiri daripada 48 pelajar sarjana muda kursus ESL telah dipilih dari kelas yang baik di salah satu university awam di Malaysia. Mereka dikehendaki untuk mendaftar dan mengikuti satu kursus penulisan, *A Beginners Guide to Writing in English for University Study*. Data-data telah dikumpul melalui pelbagai kaedah iaitu: (a) soal kaji selidik, (b) esei refleksi, (c) temubual, (d) forum, (e) catatan MOOC, (f) komen pernilaian rakan sebaya.

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Hasil penyelidikan yang diperoleh melalui soal kaji selidik dan esei refleksi menunjukkan kebanyakan para peserta telah member reaksi yang positif terhadap pembelajaran melalui MOOC. Mereka menghargai ciri-ciri dan alat-alat pengajaran MOOC serta menunjukkan maklum balas yang baik dalam pembelajaran penulisan akademik. Kajian ini juga telah mendokumenkan beberapa faktor yang mendorong para peserta untuk mendaftar dan menamatkan MOOC seperti kualiti pengajaran ilmu pedagogi, sifat rasa ingin tahu, kursus yang ditawarkan oleh university berprestij, pengetahuan yang baru, menerima sijil penyertaan, dan tanggapan MOOC sebagai *edutainment*. Hasil kajian yang berkait dengan kadar pengekalan yang rendah ialah beban kerja yang tinggi, kandungan kursus yang mencabar, kekurangan masa, tidak member banyak tekanan, dan kekurangan sokongan moral daripada tenaga pengajar. Kajian juga mendapati tahap penglibatan para peserta dari segi kejayaan menyiapkan kerja-kerja yang dikehendaki dalam MOOC penulisan memberangsangkan. Walaubagaimanapun, interaksi dalam forum antara rakan sebaya dan tenaga pengajar didapati terhad. Mereka menggunakan forum terutamanya untuk menjawab soalan-soalan yang diberi oleh tenaga pengajar, menerbitkan esei, member komen terhadap catatan rakan-rakan, dan menilai esei rakan-rakan. Akhir sekali, hasil pengumpulan komen pernilaian rakan sebaya mencadangkan tahap persetujuan yang tinggi diantara komen pelajar yang ditugaskan dan maklum balas, dan komen tenaga pengajar yang ditugaskan dan maklum balas.

Kajian ini telah menyumbang kepada penemuan data empirical baru yang berkait dengan aplikasi*e-learning* yang lebih inovatif melalui MOOC penulisan. Hasil kajian tersebut juga telah memberikan pemahaman yang lebih spesifik mengenai sifat pembelajaran dan penyertaan dalam MOOC dari sudut pandangan para pelajar ESL. Akhir sekali, cadangan pembelajaran bahasa melalui MOOC yang lebih sesuai dan personal boleh memberi manfaat kepada pelajar linguistic.

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I certify that a Thesis Examination Committee has met on 30 August 2016 to conduct the final examination of Md. Masudul Hasan on his thesis entitled "Malaysian ESL Undergraduates' Learning Experience And Performance In A Massive Open Online Course On Writing" in accordance with the Universities and University Colleges Act 1971 and the Constitution of the Universiti Putra Malaysia [P.U.(A) 106] 15 March 1998. The Committee recommends that the student be awarded the Doctor of Philosophy.

Members of the Thesis Examination Committee were as follows:

Shameem Begum binti Mohd Rafik, PhD
Professor
Faculty of Modern Languages and Communication
Universiti Putra Malaysia
(Chairman)

Mardziah Hayati binti Abdullah, PhD
Associate Professor
Faculty of Modern Languages and Communication
Universiti Putra Malaysia
(Internal Examiner)

Ain Nadzimah binti Abdullah, PhD
Associate Professor
Faculty of Modern Languages and Communication
Universiti Putra Malaysia
(Internal Examiner)

Clare Brett, PhD
Associate Professor
University of Toronto
United States
(External Examiner)

NOR AINI AB. SHUKOR, PhD
Professor and Deputy Dean
School of Graduate Studies
Universiti Putra Malaysia

Date: 27 December 2016

This thesis was submitted to the Senate of Universiti Putra Malaysia and has been accepted as fulfilment of the requirement for the degree of Doctor of Philosophy. The members of the Supervisory Committee were as follows:

Tan Bee Hoon, PhD
Associate Professor
Faculty of Modern Languages and Communication
Universiti Putra Malaysia
(Chairperson)

Yap Ngee Thai, PhD
Associate Professor
Faculty of Modern Languages and Communication
Universiti Putra Malaysia
(Member)

Shamala a/p Paramasivam, PhD
Associate Professor
Faculty of Modern Languages and Communication
Universiti Putra Malaysia
(Member)

_____
ROBIAH BINTI YUNUS, PhD
Professor and Dean
School of Graduate Studies
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Signature: _____
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Signature: _____
Name of Member of Supervisory Committee: Associate Professor Dr. Shamala A/P Paramasivam

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CHAPTER I

INTRODUCTION

1.1 Background of the Study

The rapid development in communication and information technology (ICT) has expanded the English language learning and teaching opportunities through its different forms of technologies, thereby creating the need for language researchers to examine such new learning opportunities created through technologies **(**Debski, 2000; Levy & Stockwell, 2006). The increasing use of technology in language education via the Internet through its different forms such as computer-assisted language learning (CALL), computer-mediated communication (CMC), technology-enhanced language learning (TELL), and more recently Massive Open Online Courses, seems to have become a common practice across various educational institutions. The latest language learning technology, MOOC, is a dynamic model of online education, catering free education for all (Bruff et al., 2013; Jona & Naidu, 2014). Started in 2008, MOOC has succeeded in attracting millions of learners to join and learn courses (Jona & Naidu, 2014; Pappano, 2012). The idea of MOOC is largely inspired by the open-educational-resources (OERs) movement that aims at curbing the commodification of knowledge and provides an alternative educational paradigm (Baggaley, 2012; Rhoades et al., 2013). A number of higher institutions and universities around the world have already embraced the MOOC instructional pedagogy to offer courses on various disciplines in collaboration with MOOC providers (Malliga, 2013). Elite universities such as Stanford, MIT, and Harvard also have incorporated the MOOC format and started to offer MOOCs on various disciplines including the English language. While MOOCs are starting to mushroom in higher education, research on MOOC in relation to language learning is scant; hence more empirical studies on the use of MOOC for language learning are needed (Barcena et al., 2014).

MOOCs are already developed online course designed to attract unlimited participation in a single virtual classroom at free of cost (Kop et al., 2011; McAuley et al., 2010). Dave Cormier coined the term MOOC in 2018 during a course named "*Connectivism and Connective Knowledge*" in which 25 tuition-paying learners registered for a MOOC at the University of Manitoba (Mackness et al., 2010; Milligan et al., 2013). Besides, the course was open to general people in which 2.300 other students joined the course as free of cost. The course used Really Simple Syndication (RSS) feeds to make the contents available, and the students of this course could participate with their choice of features such as Second Life, Moodle, blogs, Skype, and Google hangout (Mackness et al., 2010; Milligan et al., 2013). In 2011 public interest began to grow when Stanford University offered two MOOC courses on Artificial Intelligence in which more than 100,000 students enrolled in the freely obtainable online version of the two courses (Pappano, 2012). Public awareness in MOOCs continued to grow fast in 2012 when three MOOC companies i.e. Coursera, Udacity, and edX were formed by higher education insiders, to provide courses on various disciplines in partnership with the leading higher institutions

around the world (Malliga, 2013). Later, The New York Times called 2012 the "Year of the MOOC" because of the hundreds of millions of dollars are being invested to develop the MOOC platform (Pappano, 2012; Siemens, 2012), the growing MOOC providers' interest in providing MOOCs in collaboration with the well-known institutions around the world (Watters, 2012), and the hundreds of thousands of learners registering for MOOCs (Young, 2012). MOOCs are new education phenomena that have developed swiftly into the arena of distance education. Recently, a few numbers of well-known universities such as Stanford University, Harvard University, MIT, Duke University, Putra University and University of Tokyo have embraced the MOOC instructional pedagogy through offering courses on various disciplines and the number of higher education institutions are being increasing day by day to offer MOOC courses. Since 2011, more than 1500 hundred MOOCs have been administered by 250 well-known institutions of higher education through the leading MOOC providers (Barcena et al., 2014).

Typically most MOOCs contain a series of video lectures, quizzes, assignment, and assignments (Pappano, 2012; Malliga, 2013; Adamopoulos, 2013). EdX, Coursera, Udacity and Futurelearn are few popular online platforms that host MOOCs. Each platform offers its own course features, software, and business model. For example, Coursera and Udacity are two for-profit organizations whereas edX is a non-profit organization that has made the core code of the platform as open source (Sandeen, 2013). MOOCs, typically free online courses offered by universities in collaboration with the MOOC providers, require no pre-requisites for participation, and do not include any formal credit for participation (Adamopoulos, 2013; McAuley et al., 2010). At present, MOOCs providers work with number of higher education institutions offer courses in social science, computer-science, mathematics, business, engineering, humanities, medicine, biology, physics and other subjects (Malliga, 2013).

The exponential proliferation of MOOCs has kindled intense debates in the last few years. The debate on MOOCs progressed after the arrival of xMOOCs. xMOOCs providers believe that courses offered in xMOOCs platforms provide high quality course materials for massive participation all over the world (Koller, 2012). The quality of xMOOCs contents is noticeable that some institutions have made agreements with MOOC providers to use its courses for their accredited programmes (Kolowich, 2012).

As far as MOOCs for language learning is concerned, the interest is intense as language MOOCs are growing at a rapid pace. Currently, about 16 MOOC platforms are offering no fewer than 50 free language courses (Bárcena & Martin-Monje, 2014). More than half of them are English Language MOOCs, although MOOCs for other languages such as Spanish, Arabic, Japanese, and Chinese are also available. In addition to offering MOOCs on language skills such as reading and pronunciation, MOOC providers have offered a number of courses on writing. For example, Coursera, a leading MOOC provider, offers several writing courses namely *English Composition 1-AchievingExpertise*, *Writing in the Sciences*, *Writing II-Rhetorical*

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Composing, and *Crafting an Effective Writer-Tools of the Trade*. Another MOOC provider, Futurelearn, also offers a MOOC on writing namely *A Beginner's Guide to Writing in English for University Study*. A third MOOC provider, Edx, offers several Writing MOOCs as well namely *Academic and Business Writing*, *English Grammar and Essay Writing*, and *Principles of Written English*.

In relation, writing, one of the core language skills is likely to benefit from the use of CALL technology. Studies conducted on CALL and its relation to ESL writing mainly focuses on the use of word processors for composing and editing text (Owston et al., 1992), blog for academic writing (Shahsavar & Tan, 2012), wiki for collaborative writing (Ansarimoghaddam & Tan 2013; Suwantarathip & Wichadee, 2014), grammar and spell checkers for correcting text (Tschichold, 1999) and synchronous, asynchronous communication for enhancing learners' communication skills (Perez, 2003). Recently, MOOC seems to have become an innovative CALL tool that likely to foster learners' language skills (Barcena et al., 2014). Barcena et al. (2014) rightly argue about language MOOCs that:

> LMOOCs are presented as a fairly recent didactic modality that has emerged with an enormous potential for rich, flexible, and attractive collaborative learning and social interaction, in a world where huge economic unbalance gives rise to people with very different access opportunities to both formal language training and the diverse communicative scenarios that enhance the development of language competences (p.11).

In relation to adopting MOOCs for writing instruction and language learning, the MOOC model has its appeal because it places emphasis on content, the possibility of speedy feedback, the option of working with both words and images, and the ability to link one post to another (Balfour, 2013; Bárcena et al., 2014). Learners who use a MOOC platform are likely to concern that they are going to have a worldwide audience when they publish their essays on the MOOC; hence they often produce higher quality work than students who write only for the teacher and/or their peers in class (Bárcena & Martin-Monje, 2014). Research has also noted that the arrival of the MOOC technology can facilitate some of the key characteristics of successful language learning theories such as language input/output, authenticity, peer-to-peer interaction, learner autonomy, and peer feedback (Bárcena & Martin-Monje, 2014; Bárcena et al., 2014).

Based on the projected possibilities for classroom application, the present research study expects that MOOCs offer many openings for language learners to develop various skills of English language and in particular, writing. MOOC gives weight on its contents, provides speedy feedback, and offers opportunities to work with words or images and helps learners to link one idea with another idea (Comer, 2013; Barcena et al., 2014). Empirical research on the application of MOOC and ESL learners' perceptions, engagement and performance in MOOC environment are still to be conducted. Thus, in an effort to contribute to this research area, the study investigates the ESL undergraduates' learning experiences and performance in a

Writing MOOC provided by the Futurelearn in collaboration with the University of Reading.

1.2 Statement of the Problem

MOOCs have recently garnered widespread public attention for their potentials as a novel educational model. The application of MOOC technology to develop various skills of English language is a new phenomenon (Barcena et al., 2014; Balfour, 2013). Although, the practicality of this educational model is appreciated by many for providing useful learning experience with more or less epistemological value, there is a fundamental doubt about how and to what extent the MOOC model is useful in facilitating learners' skills in foreign and second language (Barcena et al., 2014; Barcena & Martin-Monje, 2014). Although the educational benefits of MOOCs have been appreciated by many academicians, yet the idea has not been researched adequately in ESL contexts. A few studies tried to document learners' learning experience and perceptions toward language MOOCs (see Barcena et al., 2014; Wu et al., 2014; Balfour, 2013; Comer, 2013). However, participants of those studies belong to different educational and geographical backgrounds. Empirical research on MOOC in an ESL setting is yet to be conducted. Thus, in an attempt to contribute to this research area, the study was initiated to investigate the ESL undergraduates' learning engagement and performance in a Writing MOOC.

Besides offering other courses, MOOC providers have offered courses on various skills of English language especially writing assuming that Writing MOOCs can be potential for learners to develop their writing skills in English. Although some of the researchers documented learners' experiences, perceptions, and practices in MOOCs (see, Hilton et al., 2010; Koller et al., 2013), empirical research studies on MOOCs in ESL context is nascent. In other words, lack of empirical evidence on the usefulness of MOOC application in relation to ESL learners' experience and performance with this of instructional pedagogy is a matter of concern. Also, the current conversations around MOOC innovation lack ESL learners' voices. At a time when researchers are trying to investigate learners' learning profile to examine learner behaviors, activities, and actions (Wu et al., 2014), a few researchers attempted to provide a deep, qualitative, and multidimensional evidences of learners' experience, engagement and performance with MOOC-based language learning. Yet, understanding learners learning experience, engagement and performance with MOOC is vital. Only small portions of an incomplete mosaic of students' perceptions and attitudes MOOC based learning are found.

Despite the conceptual and pedagogical debate related to MOOCs, they have been very well received by society, in terms of student numbers, course statistics and learners and instructors satisfaction (Martín-Monje et al., 2013). There are more than 16 MOOC providers such as Coursera, Futurelearn, edX and Udacity, offer hundreds of thousand courses and some of which have had hundreds of thousands of students enrolled. However, one disappointment has been that only one in every 20 students who enroll in MOOC courses actually can finish the MOOC (Jordan, 2013; Kolowich, 2012, 2013; Pappano, 2012). Thus, there is a need to understand the motivating factors for joining and completing MOOCs as well as the need to gauge the attrition problem with this form of learning.

Another problem is related to the discussion forum which has been used as a learning tool since the early 1990s.It is believed to accelerate interaction, engagement and, thus leading to deeper learning (Dede, 2013). Research studies on the use of different forms of space such as blogs, wikis and forums have been researched massively in relation to interaction and engagement and supported the idea that the use of discussion forum enhances learners' interaction and engagement with the course contents (Shahsavar & Tan, 2012; Suwantarathip & Wichadee, 2014; Belanger & Thorton, 2013; Dede, 2013). In the context of MOOCs, studies suggested that though MOOCs have a massive number of participants, only a fraction of those are contributing and interacting on the discussion forum (Breslow et al., 2013; Manning & Sanders, 2013; Fisher, 2014; Reich et al., 2014b). Besides, early report of research studies suggested that the types and the quality of interaction in MOOC forum are also problematic (Reich et al., 2014a). More specifically, MOOC participants and critics have stated issues such as poor feedback from peers (Smith, 2013), chaotic discussion threads (Cridland, 2013), and a general absence of critical thinking among learners (Morison, 2013). So far, a few researchers have systematically addressed the characteristics of learners' interaction in MOOC contexts. Even, the issue has not been yet explored in ESL language learning contexts.

Peer assessment in MOOC is also one of the debated issues which should be addressed. The concept of crowd-sourcing assessment or peer assessment in MOOC has created a fair amount of attention from diverse groups. Some researchers have already paid attention to peer assessment method in MOOC, doubted about the validity and reliability of peer assessment method. Others pointed out the multiple graders in MOOC peer assessment method can increase the reliability and validity of the method, which could be more valid and reliable than a single instructor (Neidlinger, 2013; Rees, 2013; Watters, 2012). There are arguments for and against peer assessments. Expert like Sharples et al. (2012) is critical about the value of feedback from peers. Evaluating such higher-level thought requires human experts and formal examinations, thus breaking the scalability advantage. On the other hand, Sharples et al. (2012) pointed out that that these new forms of assessments are simply an aid to the overall learning process, but not a means of assessing the learning outcomes. A Mixed finding about the fairness of peer grading in MOOCs has been documented (see Kulkarni, 2015; Cisel et al., 2014). Currently there is little empirical documentation to support the credentials of peer assessment as a valid assessment method in the MOOCs.

1.3 Purpose and Research Questions of the Study

The educational benefits of MOOCs have been appreciated by many academicians, yet the idea has not been researched adequately in ESL context. Thus, the purpose of the study is to investigate a class of undergraduates' learning experience and performance with a Writing MOOC offered in Futurelearn MOOC platform in collaboration with the University of Reading. The study was initiated to gauge the participants' perceptions toward the Writing MOOC instructional pedagogy and how the course helps them develop their skills in writing. The central concern of this research study is to determine how the participants responded to the use of the

MOOC as a pedagogical tool for developing their skills in writing. Moreover, the purpose of this study is to gauge ESL learners' level of engagement with a MOOC on Writing they had followed. Furthermore, the study identifies participants' purposes of interaction that existed in the Writing MOOC discussion forum. Finally, the study sheds light on participants' performance on peers' assessment. Six research questions are:

1. What are the ESL undergraduates' views on the pedagogical features of the Writing MOOC?
2. What factors motivate the ESL undergraduates to learn and persist in the MOOC environment?
3. What are the ESL undergraduates' levels of engagement with the Writing MOOC?
4. What are the purposes of interaction among the ESL undergraduates and other MOOC learners, and the instructional team?
5. To what extent can ESL undergraduates provide valid and reliable comments to their peers' essay?
6. How do ESL undergraduates perceive peer assessment in the Writing MOOC?

1.4 Theoretical Framework of the Study

The study was mainly guided by two prominent theories of learning namely: sociocultural theory (Vygotsky, 1978), and connectivist learning theory (Downes, 2008). The two theories are being discussed in the following paragraphs.

1.4.1 Connectivist Learning Theory

Connectivism is a hypothesis to learning in the network age introduced by Siemens (2005) and Downes (2006). The underlying principles of connectivist learning theory are different from that of cognitivism, constructivism and behaviorism, because connectivist includes principles of ubiquity, complexity and chaos. Downes (2010) provides the key characteristics of connectivist learning environment as openness, diversity, autonomy, and interactivity/connectedness. In connectivism, network-based pedagogies are emphasized through customizing learning activities in the online and network world, provides flexibility and autonomy for learners with more personalized learning experiences (Downes, 2006, 2007; Siemens, 2005, 2006). Moreover, connectivism provides learners "to exploit the affordance of Web 2.0 and to facilitate personal choices, participation, collaboration, and creating production" (McLoughlin & Lee, 2011, p. 51). In addition, connectivist learning theory elaborates the nature of learning in virtual environment as a process of making connections with people, networks, resources, and enhancing networks of personal knowledge mediated by ubiquitous technology (Downes, 2006, 2007; Siemens, 2005, 2006).

Anderson and Dron (2011) further pointed out some key characteristics of connectivist learning theory and emphasized that connectivist approach to learning

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can be best suited with more traditional learning context where courses are based on cognitive-behaviorist and constructivist models. MOOCs offer structured education where learners have essay access to connect and share co-created knowledge with others (Siemens, 2007). Anderson and Dron (2011) elaborate connectivism as a networked learning theory that views learning as a process of creating networks of information, contacts, and resources: "Connectivist models explicitly rely on the ubiquity of networked connections between people, digital artifacts, and content" (p. 87). Siemens (2005) uses ecologies and network to hypothesize education in complex and technology-mediated context. There has been an impact of technology on education, communication, society and business (Siemens, 2005). In network learning environment, various social media and information and communication technologies are used to promote connection between individual learners, contents, resources, and learning communities (Goodyear et al., 2005; Siemens, 2005). Learners learn through searching, sensing, seeking, and sharing leaning contents (Jarche, 2010). Learners in network learning environment should possess and foster positive perceptions and attitudes toward learning in such environment. As Siemens (2012) states, MOOCs provides learners with the opportunities to use an array of tools and resources to develop their own learning pathways.

Siemens (2005, 2006) and Downes (2005) first introduced the key ideas of connectivist approach to learning. Learning theories such as behaviorism and cognitivism have failed to explained challenges posed by the Web 2.0 technology thereby Siemens (2005, 2006) and Downes (2005) hypothesized that connectivism is the solution to the challenges created through information and communication technologies. Most of the learning theories such as behaviorism, cognitivism and constructivism fall into different theoretical positions that (a) knowledge resides in the individual and, (b) knowledge is a thing- a representation-that create. Siemens (2005) claimed that theoretical positions of the existing learning theories are not compatible with the characteristics knowledge in Web 2.0 learning environment. Two key principles which set apart connectivism from other learning theories are (a) the fastest development of knowledge which makes knowledge itself a dynamic phenomenon, (b) the kinds of production and externalization of knowledge, which multiply the perspectives embedded in knowledge (Siemens, 2005, 2006 & Downes (2005).

Thus, Siemens (2005, 2006) and Downes (2005) proposed connectivism as an approach to learning for the new generation. Connectivism positions that knowledge is sub-symbolic, and the representations are just epiphenomena of knowledge, but not its matte. As Downes (2006) stated:

> It [knowledge] is, rather (and carefully stated), a recognition of a pattern in a set of neural events (if we are introspecting) or behavioural events (if we are observing). We infer to mental contents the same way we watch Donald Duck on TV- we think we see something, but that something is not actually there - it's just an organization of pixels. Therefore, to know means to form a pattern of neuronal associations, which at the experiential level gives the impression of a representation. The

> patterns of association can be highly changeable, and therefore representations, which are their epiphenomena, are dynamic (p. 3).

Connectivism is a new pedagogical approach to learning appropriate for the network age. Based on the approach by Castells (1996) that technology provides connection between learners, materials, and technologies, researchers such as Siemens (2005) has theorized the core principles of connectivism. The main principle of connectivism is that learning resides in networked connection and people learn through connecting with ubiquitous network. MOOC is one such example of connectivist pedagogy as MOOC integrates various tools and features to connect people. The following are the key principles in connectivism:

1. Learning and knowledge resides in variety of opinions.
2. Learning is a process of getting connection with various sources.
3. Learning can exist in non-human application.
4. Learning can be more critical than knowing.
5. Learning can be occurred through maintaining and nurturing connections.
6. Recognizing connections in terms of ideas, concepts and fields is a central skill.
7. Decision-making is in itself a learning process.

1.4.2 Sociocultural Theory

Sociocultural theory is a psychological approach of human development proposed by Vygotsky, (1978, 1986), a Russian psychologist, who wanted to become a literature teacher before paying his attention to psychology and the development of thought and language in children. Vygotsky's work remained virtually unknown to the west until the 1960s. Over the last few decades, his ideas have been praised and appropriated by researchers in the variety of fields to account for the processes of thinking, interaction and meaning construction through understanding the influences of history, culture, and context on human development, both individually and collectively.

Social interaction is considered important for cognitive development (Vygotsky, 1978). Contrary to Piaget's ideas of child development (in which development necessarily precedes learning), Vyogtsky claimed that social learning precedes development. Vygotsky (1978) states: "Every function in the child's cultural development appears twice: first, on the social level, and later, on the individual level; first, between people (inter-psychological) and then inside the child (intra-psychological)" (Vygotsky, 1978, p 87). The main principles of sociocultural theory include semiotic mediation, genetic analysis, social origin of development, and the zone of proximal development (ZPD). The ZPD is used here to explain the theoretical framework of the study.

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To explain the correlation between the interpersonal and the intrapersonal plane, Vygotsky (1978, p. 86) creates the concept of the Zone of Proximal Development (ZPD), which he explains as "the distance between the actual development level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers." According to Vygotsky, learning occurred in this zone (Vygotsky, 1978). ZPD is illustrated in the graphic below:

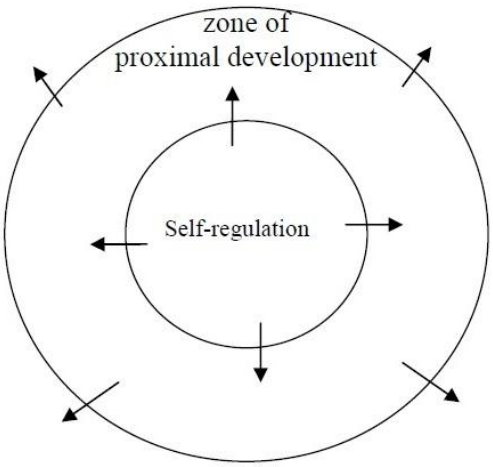

Figure 1: Zone of Proximal Development (Source: Johnson, 2004)

ZPD refers that the actual development level of the learner can solve cognitive problems independently. Thus, the mental functions associated with the cognitive activity have been stabilized in the learner. The potential development level indicates that the learner still needs intervention from others, either a peer or a more knowledgeable other (MKO), to perform a cognitive activity. Thus, at this level, some mental functions have not been stabilized. The MKO refers individual who has a better understanding or higher ability level than others, with respect to a specific concept, task and process. The MKO is normally thought of as being a teacher, coach, or older adult, but the MKO could also be peers, a younger person, or even computers.

Vygotsky was more concerned in children's potential development level. Vygotsky (1978) distinguishes two key level of development, i.e., actual and potential. The actual level of development refers to children's skills to perform a mental task without the help from a more knowledgeable person. In this kind of situation no intervention is needed to guide the individual as s/he capable of performing the tasks. The potential level refers to mental functions of individual which is not stabilized; therefore some intervention is needed from more capable person to assist him/her. The difference between these two levels can be explained mathematically: the potential level minus the actual level equals the Zone of Proximal Development (ZPD). Critical factors should be emphasized that is, the active participation by learners in meaningful interaction and the appropriate meditational assistance from competent speakers (Kumaravadivelu, 2003).

The concepts of connectivist MOOCs (cMOOC) are often associated with and proposes perspective similar to Vygotsky's zone of proximal development (ZPD), an idea later moved into Engestrom's (2001) Activity theory. The relationship between work experience, learning, and knowledge, as expressed in the concept of cMOOC, is central to connectivism, motivating the theory's name. The concept of connetivist MOOCs is somewhat similar to Vygotsky's sociocultural theory of learning that proposes that learners learn through contact. What sets connectivism apart from theories such as constructivismis the view that learning (defined as actionable knowledge) can reside outside of ourselves (within an organization or a database), is focused on connecting specialized information sets, and the connections that enable us to learn more are more important than our current state of knowing (Siemens, 2005, p. 5).

A range of pedagogical approaches have been offered in various MOOCs, some emphasize individual learning through contact with materials, and others denote more on social learning (Conole, 2013). This basically depends on the type of the MOOC and the platform offered by the provider.

1.5 Conceptual Framework of the Study

The Connectivist approach to learning represents a unique pedagogical approach ideally appropriate to the network age. The underlying principles of connectivist learning theory are different from that of cognitivism, constructivism and behaviorism, because connectivist includes principles of ubiquity, complexity and chaos. Downes (2010) provides the key characteristics of connectivist learning environment as openness, diversity, autonomy, and interactivity/connectedness. In MOOCs, connectivist pedagogies are emphasized through customizing learning activities in the online and network world, provides flexibility and autonomy for learners with more personalized learning experiences (Downes, 2006, 2007; Siemens, 2005, 2006). Moreover, MOOCs' instructional features and tools offer learners to "exploit the affordance of Web 2.0 and to facilitate personal choices, participation, collaboration and creating production" (McLoughlin & Lee, 2011, p. 51).

The present study aimed at investigating Malaysian ESL undergraduates' learning experience and performance in a massive open online course on Writing. A case study approach involving both quantitative and qualitative data collection methods was used to investigate facets of the participants' learning experience and performance in the Writing MOOC. The participants were asked to register a MOOC on writing named *A Beginners' Guide to Writing in English for University Study* (hereafter, Writing MOOC) from the Futurelearn MOOC provider. The following conceptual framework of the study is based on Connectivist learning theory developed by Downes (2008).

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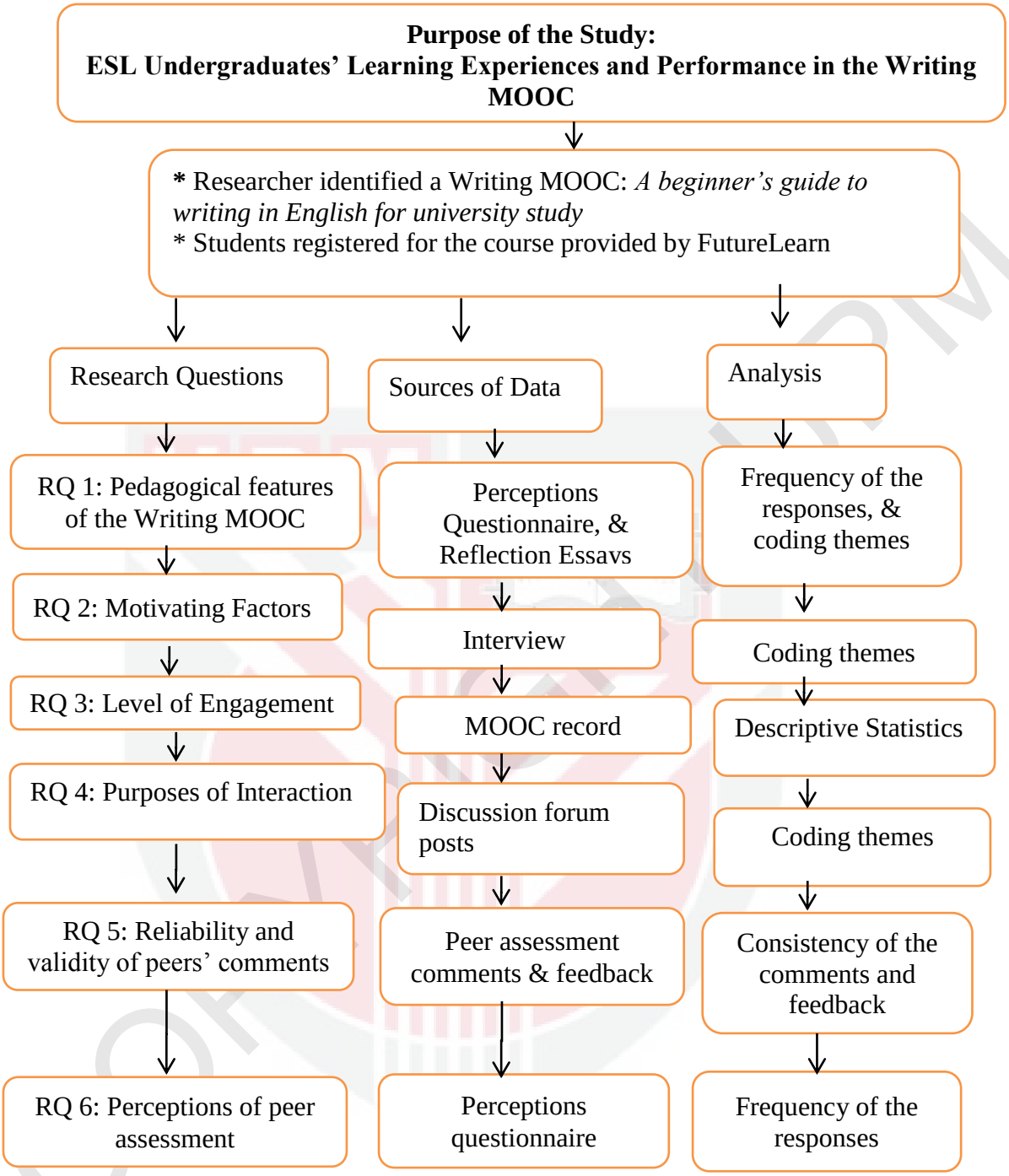

Figure 2: Conceptual Framework of the Study

1.6 Significance of the Study

MOOCs are topic of great interest for many higher education learners, as well as for the public. Advanced adult ESL learners participate in MOOC as an extension or supplementary of face-to-face course, or join MOOC due to lack of classroom accommodation or because of distance. In MOOC environment, the challenges the learners face are not only language barriers but also an unfamiliar mode of

environment. However, until now no research has been conducted to investigate about advanced adult ESL learners' engagement and performance in the MOOC in ESL contexts. A nuanced appreciation of how learners experience open learning, including the successes and obstacles they face, will assist learning designers, researchers, and providers in refining and improving MOOC learning. First of all, the present study seeks to add to the growing literature. The current study is of major significance because it is the first to examine a group of ESL undergraduates' learning experiences, engagement and performance with a Writing MOOC. This study, in its purpose to examine the various features of the Writing MOOC, is significant because it provides evidence of the usefulness of MOOC instructional pedagogy for developing academic writing skills from ESL participants' perspectives. Further, this study contributes to the knowledge in the field of ESL writing because it illuminates how ESL undergraduates respond to the pedagogical features of the Writing MOOC. With the knowledge gained from this study, it will be possible for ESL educators, researchers, and curriculum and instructional technology planners to gain insight into how the participants use MOOCs for different skills of English Language.

1.7 Definition of Key Terms

Overall understanding of the following key terms will help the readers find references to specific terms used throughout of the study. The following key terms also help readers to grasp clear meaning of the key terms used.

Massive Open Online Courses (MOOCs) are newly developed courses designed to attract massive number of learners to register and participate courses on various disciplines (Daniel, 2012; Educause, 2013). MOOCs are different from traditional online courses in terms of student numbers, course statistics and pedagogy. Started in 2008, MOOCs have succeeded to attract millions of learners to register for free courses (Pappano, 2012). Elite universities, i.e., Harvard, Stanford, MIT and University of Reading have embraced the MOOC instructional pedagogy to offer courses on various disciplines such as social science, computer science, information and communication technology, humanities, medicine and business (Daniel, 2012).

MOOC Models There are two different models of MOOCs: cMOOCs and xMOOCs which are believed to be based on the principles of connectivist learning theory (Rodriguez, 2013). However, there are differences between these two approaches to learning. For example, cMOOCs are essentially based on the principles of connectivist approach to learning as well as network learning approach whereas; xMOOCs are believed to follow cognitive-behaviorist approach (Siemens, 2005). However, both models share some similar fact that they heavily rely on technology (Rodrigues, 2013). cMOOCs use a variety of technological tools and features such as blog, Twitter, Facebook, wiki to establish many-to-many interaction, while xMOOCs make use of the forum to interaction to occur. In cMOOCs students are given the power to select tasks and tools whereas, xMOOCs learning environment, which is similar to traditional face-to-face course, is partly teacher-centered where

teachers design the learning tasks using course features and tools (Rodriguez, 2013). Courses offered in Coursera, edX, Udacity and Futurelearn are known as xMOOCs.

MOOC Instructional Pedagogy Course providers such as Coursera, edX and Futurelearn share common pedagogy and features and tools include video lectures, discussion forum, quizzes, reading resources, Google Hangout, assignment, projects, peer assessment, certification. However, each provider has their own course features, tools, software and business models.

Video Lecture is one of the key components of all MOOCs. The short video lectures (usually 5 to 15 minutes) provide opportunities to interact with the contents. Within the video, there are embedded subtitles, PDF, and PPT version of the lectures which help learners understand course contents easily. The video lectures are designed in such a way that the videos are frequently stopped and learners are asked to answer a series of questions to understand if the learners are tracking the learning materials.

Peer assessment in MOOCs is one of the controversial issues in MOOC which is considered as the reason for learners drop out (Markoff, 2013). Two types of assessment are found in MOOCs: machine graded assessment and peer assessment. Quizzes are assessed through computer system and written assignment or essays are assessed by the peers. For assessing peer's assignment MOOC learners follow a set of rubrics provided by the course instructor. The leading MOOCs provider, Coursera, has adopted peer assessments method to assess students' work; MOOC learners are asked to grade each other's work independently (Coursera, 2015). Scoring and providing feedback on written assignments in MOOCs has been the subject of a number of recent news articles and blog posts (Markoff, 2013). There are arguments for and against peer assessment as a valid and reliable method for assessing MOOC learners' works.

LMOOCs (also known Language MOOCs) refer to language learning courses offered by course providers in collaboration with the higher-education institutions. There are more than 16 MOOC providers offer a few number of language learning courses (Barcena et al., 2014). English language courses are found to be significant in numbers compared to other language courses such as Arabic, Japanese, Spanish, and Chinese. For example, Coursera, the leading MOOC providers offers a few number of English language courses, especially on writing.

Writing MOOC refers to the course named *A Beginners Guide to Writing in English for University Study*, which was offered by Futurelearn MOOC provider in collaboration with the University of Reading. The course was designed to develop learners' skills in academic writing. The Writing MOOC teaches how to organize an essay, use academic writing style and cover key areas of grammar, so that by the end of the course learners can write a good, basic academic essay. The course duration was five weeks in length, started in 17 February, 2014. The course contains a series of video lecture on the various stages of academic writing, quizzes to develop

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grammatical competence, forum to discuss on the course contents, and peer assessment to assess peers' assigned essays. In the present study the research asked the ESL undergraduates to join and register for the Writing MOOC.

Academic writing is form of written composition written to fulfill a requirement of a college or university (Swales & Feak, 2004). Academic writings are also written for publication or conference presentations which are read by academicians such as teachers, scholars, educators and researchers. Academic writing involves three main aspects namely contents, organization and language. Content refers to the use of main ideas and information of an essay; organization denotes to arranging those ideas and information in an ordered manner and; language refers to the accurate use of grammar, spelling, and formal writing styles (Swales & Feak, 2004). The Writing MOOC which the participants had followed was designed to develop learners' skills in academic.

Adult Learners MOOC adult learner is a person attending an undergraduate who is 18 years and up involved in forms of learning. Adult learners are a very diverse group of students with wide range of learning styles and abilities, educational and cultural backgrounds, responsibilities and job experiences. MOOCs learners are found to be adult learners having educational degrees on certain fields. Self-directed adult learners are curious to attend to MOOCs to achieve personal goals of learning and gain new knowledge (Siemens, 2012; McAuley et al., 2010).

Asynchronous communication refers to the exchange of messages that take place outside of the real time. For instance, a student sends an e-mail message to his/her friends (Branon & Essex, 2001) and the friend later reads and responds to the message. There is a time gap between the time the sender sent the message and the receiver replied, even if the lag time is short. MOOC forum is used to facilitate asynchronous communication between learners which provide opportunity to interact and engage with peers by reading discussion posts and commenting on peers' postings (Martín-Monje et al., 2013).

Computer-assisted language learning(CALL) is succinctly defined by Levy (1997: p.1) as "the search for and study of applications of the computer in language teaching and learning" (Levy, 1997).CALL uses a variety of information and communications technology features, tools, applications in teaching and learning second or foreign languages. More specifically, CALL uses social network tools such as blog, Facebook, Twitter, and Google Hangout to facilitate learners' skills in English Language. More recently, with the development of Web 2.0 technology CALL practitioners use virtual learning environment such as MOOC platform. MOOCs are viewed as a novel form of CALL technology to facilitate learners' skills in language (Barcena et al. 2014).

MOOC learners/students refer to those students who have registered for the Writing MOOC offered in Futurelearn in collaboration with the University of

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Reading. In the Writing MOOC there were more than five thousand students registered for the course.

Open educational resources (OERs) are easily accessible open materials available on the Internet which are used for teaching, learning, assessment, educational and research purposes. The idea of MOOC is believed to be largely inspired by the OER movement which aims at curbing the commodification of knowledge and offers an alternative education at free of cost (Kauppinen, 2013).

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