University Students' Levels of Motivation and Engagement, Perceived Benefits, and Challenges in MOOCS[1]

Andrea Nicole Cabanlit[2] & Mee Jay Domingo[3], Mariano Marcos State University,

Batac, Ilocos Norte, Philippines

Abstract

The study identified university students' levels of motivation and engagement, perceived benefits, and challenges in Massive Open Online Course (MOOC). It used the mixed-method research design and involved third- and fourth-year English language students (n = 61) who completed the Content-based Instruction (CBI) – MOOC offered by the Regional English Language Office, Manila, Philippines. The validated MOOC Learner Engagement and Motivation Scale (MEM Scale) was adopted to determine the learners' levels of motivation and engagement in MOOCs. A focus group discussion was also done to determine the students' perceived benefits of and challenges in MOOCs. Results of the MEM Scale show that the students had *upper-medium level* of motivation ($\bar{x}$ = 3.54) and a high *level* of engagement ($\bar{x}$ = 4.22) in the CBI – MOOC. Also, the data revealed five perceived benefits of MOOCs: 1) *appreciation of the self-paced learning*; 2) *complementation to formal learning*; 3) *international certification*; 4) *provision of professional development opportunities*; and 5) *attainment of intercultural competencies*. Generally, the students experienced five challenges while enrolled in the course: 1) *language barriers*; 2) *lack of social interaction*; 3) *digital divide*; 4) *time-related constraints*; and 5) *challenging course content*. Given the benefits of MOOCs, higher education institutions (HEIs) are encouraged to incorporate open online courses in the learning experiences of their students. Further, it is recommended that HEIs extend available resources to participants to lessen the perceived challenges of MOOCs which could promote higher levels of motivation and engagement of the students in the courses.

Resumen

El estudio identificó los niveles de motivación y compromiso de los estudiantes universitarios, los beneficios percibidos y los desafíos en los cursos masivos abiertos en línea (MOOC). Utilizó el diseño de investigación de método mixto e involucró a estudiantes de inglés de tercer y cuarto año (n = 61) que completaron la instrucción basada en contenido (CBI) - MOOC ofrecido por la Oficina Regional de Idioma Inglés, Manila, Filipinas. La Escala de Motivación y Compromiso de Estudiantes de MOOC validada (Escala MEM) se adoptó para determinar los niveles de motivación y compromiso de los estudiantes en los MOOC. También se realizó una discusión de grupo de enfoque para determinar los beneficios y desafíos percibidos por los estudiantes en los MOOC. Los resultados de la Escala MEM muestran que los estudiantes tenían un nivel medio-alto de motivación ($\bar{x}$ = 3,54) y un alto nivel de compromiso ($\bar{x}$ = 4,22) en el CBI - MOOC. Además, los datos revelaron cinco beneficios percibidos de los MOOC: 1) apreciación del aprendizaje a su propio ritmo; 2) complementación al aprendizaje formal; 3) certificación internacional; 4) provisión de oportunidades de desarrollo profesional; y 5) adquisición de competencias interculturales. En general, los estudiantes experimentaron cinco desafíos mientras estaban inscritos en el curso: 1) barreras lingüísticas; 2) falta de interacción social; 3) brecha digital; 4) limitaciones relacionadas con el tiempo; y 5) contenido desafiante del curso. Dados los beneficios de los MOOC, se alienta a las instituciones de educación superior (IES) a incorporar cursos abiertos en línea en las experiencias de aprendizaje de sus estudiantes. Además, se recomienda que las IES extiendan los recursos disponibles a los participantes para reducir los desafíos percibidos de los MOOC, lo que podría promover mayores niveles de motivación y compromiso de los estudiantes en los cursos.

Introduction

The introduction of online networks as learning spaces made education and educational resources more accessible, flexible, and open. A Massive Open Online Course (MOOC) is an online educational course that combines social networking, open online tools, and resources facilitated by top universities and leading experts from different fields of expertise (Mcauley et al., 2010). It has gained prominence as it is democratizing higher education and bringing quality education to all the corners of the world (Garrido et al., 2016; Bozkurt & Keefer, 2018) as it allows users to take MOOCs at any time of the day (Liu et al., 2015; Tang & Carr-Chellman, 2016), and provides quality education for those excluded from higher education (Godwin-Jones, 2014; Hollands & Tirthali, 2014) and other educationally deprived individuals (Brooker et

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al., 2018; Laurillard, 2016). Access to open and high-quality resources from premier institutions, through MOOCs, may decrease the gap in the existing inequalities in education (Tang & Carr-Chellman, 2016).

Previous studies suggested that university students used MOOCs to supplement formal learning (Hood et al., 2015; Mabuan, 2019; Watted & Barak, 2018) such as its integration as a flipped learning model to present new opportunities and keep up with the demands of 21st -century learning (Adesope & Rud, 2019; Mabuan & Ebron, 2018). MOOCs help reduce tuition and additional fees as they offer these students the experience and privilege to supplement their current college courses (Waks, 2018). Moreover, students use MOOCs to improve career prospects (Cole & Timmerman, 2015), and acquire new knowledge and skills that promote one's sense of accomplishment (Sablina, 2018). These innovations in technology and paradigm shift in education have provided students, working professionals, and those who cannot go to college opportunities to get the education that they deserve (Veletsianos & Shepherdson, 2015).

Despite these benefits, MOOCs still received many criticisms due to concerns left unanswered. A prevailing concern on MOOCs is the reported high drop-out and completion rates which is associated to deficient quality (Barak et al., 2016) . Likewise, given the nature of MOOCs, several challenges have emerged, such as the underdeveloped digital infrastructures, internet connection, and access to technology which could threaten the stability of the learning process. A study focused on MOOCs in Colombia, the Philippines, and South Africa found that 80% of the participants had completed at least one MOOC while 49% had earned certifications (Garrido, et al, 2016). The data showed that despite the benefits one could get from MOOCs, only a few participants were finishing the courses. This may be attributed to some factors that are essential to students' success in the programs such as the absence of in-class sessions (Warugaba et al., 2016). Hence, MOOCs must be studied more, given the many opportunities they provide for open education (Bandalaria & Alfonso, 2015).

Understanding the learners' factors in using MOOCs gives meaningful insight into the active participation and engagement of their learners (Deng et al., 2020). Factors that affect the continuance of using MOOCs have found that a positive learner attitude has a positive relationship with the completion of MOOCs (León-Urrutia et al., 2018).

Moreover, motivation, which is described as the reason for acting and putting forth effort towards an act, is found to be a predictor of the completion of MOOCs. An empirical study by Hakami et al. (2017) found several vital motivational factors in continuing Arabic MOOCs such as the perception of external control/facilitating conditions divided into the learner's skills and technology-related factors. Thus, motivation is a key driver to learners' success and achievement in MOOCs.

While MOOCs' potential for delivering education worldwide is acknowledged (Zawacki-Richter et al., 2018), there seems to be a lack of literature on the perceived benefits and challenges in using MOOCs, specifically in developing countries (Zhang et al., 2019) like the Philippines.

Currently, there are three published pieces of research in this field. First is the exploration of Filipinos' receptiveness to MOOCs by Castel (2018), which found that only 63% of the participants were aware of the existence of MOOCs, and only 87.3% of them participated in a course, and the completion rate was only 75%. The second is the integration of MOOCS in a flipped-based classroom, particularly in an ESL (English as a Second Language) context (Mabuan & Ebron, 2018). The last is the study that reflected the ESL teachers' experiences in professional development through MOOC (Mabuan et al., 2018).

Studies conducted abroad found that desirable outcomes and higher MOOC completion rates were related to a learner's active engagement (Anderson et al., 2014; de Barba et al., 2016) and a high level of motivation (Hakami, et al, 2017). However, it seems that these areas of research on MOOC are still unexplored in the Philippines, especially on the involvement of university students in these online courses.

It is in this perspective that this study, was conceptualized and undertaken. Generally, the research aimed to explore the MOOC learning experiences of college students. Specifically, it answered the following questions:

1. *What is the level of motivation of the students in taking MOOCs?*
2. *What is the students' level of engagement in the program?*
3. *What are the perceived benefits of learning through MOOCs?*
4. *What are the challenges experienced by the students in MOOCs?*

Research Methodology

Research design

This study used a mix-method research design as it entailed the collection and analysis of quantitative and qualitative data in two phases followed by the interpretation of results. According to Creswell and Plano Clark (2007), the mixed-method provides a better understanding of research problems and complex phenomena than either approach alone. In this study, the levels of motivation and engagement of learners in MOOCs were identified. In addition, a focus group discussion (FGD) was carried out to discover the most authentic learning experiences of the participants.

Population and sample

Total population sampling was used in this study as it only involved those who took the Content-based Instruction course. Specifically, 61 English language students (Third year, 31; Fourth year, 29) in a state university in the Philippines answered the survey questionnaire to determine the their levels of motivation and engagement in MOOCs.

Of the 61, ten were identified through stratified random sampling to participate in a FGD. The participants' answers were vital to identifying the perceived benefits of MOOCs and the challenges that the participants experienced while enrolled in the program. Of the ten, five were from the third year, while the rest were fourth year students. To protect the privacy of the respondents and ensure the confidentiality of their answers, pseudonyms (e.g., L3-S4 for third year, student 4) were assigned to the FGD (FGD) transcripts in the Results and Discussion section.

The MOOC

The respondents of the study participated in a five-week content-based instruction course. It was a MOOC provided by the U.S. Department of State which was accessed via Canvas Network. This course was part of the American English E-Teacher Curriculum specifically designed for teachers and prospective educators. In addition to the online course, a MOOC Camp (a one-hour face-to-face meeting with a facilitator) was held once a week for five weeks. It was facilitated by an English language fellow from the U.S. Embassy - Regional English Language Office (RELO). Students were required to take the MOOC and participate in the MOOC Camp as part of their coursework at the university.

Research instruments

Two research instruments were used to collect the data needed in this study: a survey questionnaire and an FGD guide.

Survey questionnaire

The survey questionnaire (Appendix 1) had two parts. Part I determined the learners' participation and engagement in the MOOC and the motivating factors in enrolling in the course. Part II included the validated MOOC learner Engagement and Motivation Scale (MEM Scale) by Lan and Hew (2018), which had three engagement components and three motivational components further broken down into three to five items per component. Based on the Confirmatory Factor Analysis (CFA) result of the MEM Scale, both the motivational scale (alpha = .824) and the engagement scale (alpha = .911) showed high internal reliability. Each factor in each scale was also acceptable (all alpha >.7). Although the MEM was found to be reliable, it was still tried out on 20 potential respondents to ensure that all the items were clear. The potential respondents' suggestions were considered in the final form of the instrument.

FGD guide

This instrument (Appendix 2) was used to gather the qualitative data needed in this study. It was comprised of four questions that aimed to determine the motivation, engagement, perceived benefits, and challenges of students in MOOCs. The core questions were pilot-tested on five potential respondents, who were not part of the study group, but had finished other MOOCs to ensure clarity and reliability. The potential respondents' suggestions were considered in the final form of the instrument.

Data–gathering procedure

Since the research involved humans as a primary source of data, the researcher submitted the research protocol and informed-consent document for review to a research ethics board. It was done to ensure that the ethical issues for the conduct of the study were considered. After the issuance of the ethics clearance from the board, a copy of the informed consent document was distributed to the target participants for their information. After which, all the details of the study were explained to them and only those who gave their consent were asked to answer the questionnaire for five to ten minutes and participate in the FGD for 30

minutes to one hour. The researchers used English in the FGD while the students were allowed to use a language that they were comfortable with. After the data-gathering process, the data was tallied, transcribed verbatim, coded, discussed, and the results were interpreted.

Statistical treatment of data

Frequency count, percentages, and weighted mean were used in interpreting and analyzing the data gathered, particularly in determining the levels of motivation and engagement of the respondents while enrolled in the MOOC.

Score Range	Score Range (Reverse Interpretation)	Motivation and Engagement Levels
4.00 – 5.00	<1.79	High Level
3.50 – 4.99	1.80 – 2.59	Upper-Medium Level
3.00 – 3.49	2.60 – 3.39	Medium Level
<3.00	3.40 – 5.00	Low Level

Table 1: Score range used to analyze the calculated variable and general weighted means of the respondents' level of motivation and engagement. (Adopted from Huang & Hew (2016).

Lastly, to draw the benefits of MOOCs as perceived by the respondents and the challenges that they faced while enrolled in the program, the researchers uncovered themes from the participants' narratives.

Results and Discussion

College students' level of motivation in taking the MOOC - CBI

The first problem of the study called for the identification of the level of motivation of the college students who enrolled in a five-week MOOC titled *Content-based Instruction* (CBI). Lan and Hew's (2018) MOOC learner engagement and motivation scale (MEM Scale) was used to answer the first research question.

As shown in Table 2, the student's level of motivation in taking the course was high for their level of *perceived autonomy* ($\bar{x}$ = 4.03). Given the absence of an instructor and the nature of the MOOC platforms, learners were expected to self-direct their learning, a feature of the course that motivated the students to engage in it.

Components of the SDT	Mean	Motivational Level
Perceived Autonomy	4.03	High Level
Sense of Relatedness	2.73	Medium Level
Perceive Competence	3.88	Upper-Medium Level
General Weighted Mean	3.54	Upper-Medium Level

Table 2: Students' level of motivation in taking the CBI – MOOC

Specifically, the sense of autonomy that the students enjoyed in choosing the skills that they wanted to practice, the course activities that they wanted to complete, and the freedom that they exercised in choosing the course that they wanted to enroll in sparked interest in them and they found their enrolment in the MOOC rewarding in itself (Deci et al., 2001).

Moreover, the data on the *sense of relatedness,* which pertains to an individual's psychological need to be socially connected with others (Deci & Ryan, 2000), showed that the students struggled in establishing connections to their fellow participants in the course. The *medium level* ($\bar{x}$ = 2.73) of motivation in this component implied that there were times that the students felt ignored. In the context of MOOCs, students are asked to post their reflections or takeaways in a *forum* and respond to the posts of their classmates in the course. It is likely that in this study, the forum posts of the students did not get any reaction or may have gotten few responses from the course facilitator and students; hence, the feeling that they were not socially connected in the course. In addition, the students' non-participation and/or limited participation in the forum may be due to a language-related concern as the course was facilitated by and participated in by students and teachers of diverse geographical, educational, and cultural backgrounds.

The conduct of a MOOC Camp at the University, which was facilitated by an English Language Fellow (ELF), is believed to have alleviated that perception of the students. Aside from the course facilitator, the University asked the ELF to conduct a coaching session with the participants. The one-hour session a week aimed to provide the students with the platform to share their experiences in the course. In addition, the session was

used as their avenue to help one another in understanding the concepts being taught that week or in accomplishing their assignments and tasks.

The finding on the *sense of relatedness* of this study supports the findings of Min and Foon (2019) who found that the social aspect of learning in MOOCs is lacking. This validates the perception of the participants regarding the sense of relatedness in MOOCs.

Lastly, as shown in Table 1, the student's level of motivation in taking the course was *upper-medium level* for their level of *perceived competence* ($\bar{x}$ = 3.88). This means that the students were motivated to take the MOOC-CBI because they felt that they were good at the subject, skilled at learning the course, and confident that they could apply the concepts and theories learned in the program. Also, the students' perceived competence that pertains to the intrinsic factors such as conquering a challenging activity, allowing a learner to expand and test their abilities, and the realization that they are doing well in the program motivate them as well in doing the MOOC. This finding corroborates with the study of Lan and Hew (2020), where *perceived competence* was found to have the largest impact on their engagement in MOOCs.

To sum it up, the overall motivation of students in MOOCs was *an upper-medium level* of motivation ($\bar{x}$ = 3.54). This implies that MOOC developers should design courses that would allow the participants to enjoy their sense of autonomy, celebrate their uniqueness and being in an active virtual community, and appreciate their learning experience by giving them opportunities to reflect on their progress and successes in the program.

Several studies have explored learner motivations as a way to address the low completion rate and increase learner retention in MOOCs (Garrido et al., 2016; Shapiro et al., 2017; Zheng et al., 2015). While the learner's *perceived autonomy* and *perceived competence* reveal a favorable implication from these results, the *sense of relatedness* in the MOOC learning experience needs more improvement.

Students' level of engagement in the CBI − MOOC

Like the level of motivation of the students in taking a MOOC, the MEM Scale of Lan and Hew (2018) was also adopted in determining the level of engagement of the students. Table 3 shows the level of engagement of university students in MOOCs.

Engagement Components	Mean	Mean Interpretation
Emotional Engagement	4.30	High Level
Cognitive Engagement	4.15	High Level
Behavioral Engagement	4.21	High Level
General Weighted Mean (GWM)	4.22	High Level

Table 3. Level of engagement of the students while enrolled in the CBI − MOOC.

Emotional engagement refers to the students' positive and negative emotions, from feelings of excitement to boredom towards their learning experience in MOOCs (Deng et al., 2020; Fredricks et al., 2004). As shown in Table 3, the students showed a *high level of engagement* concerning their *emotional engagement* ($\bar{x}$ = 4.30). Particularly, the students felt good and interested in the program and they enjoyed learning new things in the course. In the MOOC environment, the satisfaction of the challenge of taking the MOOC and the novel environment it presented to the students affected their emotional engagement with the course.

The second criterion under the identification of the level of engagement is *cognitive engagement,* which refers to how students self-regulate their learning and self-efficacy toward an activity (Hartnett, 2019). As shown in the Table, the respondents had a high level of *cognitive engagement* ($\bar{x}$ = 4.15). This implies that the students put a lot of effort into the course for them to finish it on time. This finding corroborates with the findings of Lan & Hew (2020), where it is reported that the strongest predictor of MOOC completion was the respondents' cognitive engagement with an odd ratio of 1.202 meaning students who are cognitively engaged in a course are 1.2 times more likely to finish the course.

Lastly, the students also had a high level of *behavioral engagement* ($\bar{x}$ = 4.21) during the course. Behavioral engagement in MOOC environments refers to the participation of the students in various learning activities such as watching videos, doing quizzes, submitting assignments, and taking notes to achieve their learning goals (Deng et al., 2020; Lan & Hew, 2018; Veletsianos, et al., 2015). This data implied that the students actively participated in the activities. This was also noted in a study that examined learner behavior patterns in MOOCs (Anderson et al., 2014).

Overall, the students had *a high level* of engagement ($\bar{x}$ = 4.22) in the CBI – MOOC. Desirable findings were found in the degree of their behavioral engagement and emotions. Their positive emotional engagement could be attributed to factors such as the CBI MOOC's relatedness to their course as an English language major, thus heightening their self-efficacy (Miltiadou & Savenye, 2003). Furthermore, the students' level of behavioral engagement also showed a positive result as it represents their active participation in learning through the platform.

Thus, the implications of these results suggest that the college student's level of engagement is significant to their completion of MOOCs. This finding is significant as the students' level of learning engagement predicts their retention in the program (Xiong et al., 2015).

Furthermore, the social learning community's role in the form of MOOC camps served as the middle ground between the MOOC course and traditional classes that offered a balance of instructional strategies. The MOOC camp intended to form a social experience and enhance learning engagement for every student, both during and after the MOOC (Anders, 2015). With the aid of a facilitator, MOOC camps strive to meet students' diverse learning needs while working towards a set learning goal such as completion and time objectives.

College students' perceived benefits in MOOCs

This section presents the perceived benefits of MOOCs according to the respondents. The data from the FGD were coded and analyzed to answer Research Question 3, which reveals five themes in terms of their perceived benefits in MOOCs: *appreciation of self-paced learning, complementation to formal learning, international certification, provision of professional development opportunities,* and *attainment of intercultural competencies.*

Appreciation of self-paced learning

As opposed to a traditional classroom setup where the instructors are the ones who direct the period of learning, the design of MOOCs allows learners to learn at their own pace, making them feel that they are in control of their learning process. L4-S5 supported these ideas during the FGD.

> *I am learning and not being pressured by time allotment because it lets me work at my own pace.* (L4-S5)

Most university students are classified as adult learners. This covers students who have other obligations such as a part-time job or a family to take care of (Knowles, 1996). Thus, in a statement by L3-S2 and L4-S3, they acknowledged the MOOCs' accessibility and the flexibility that conformed to the time demands of university students' other activities outside of school.

> *It gives students like me the control to take over the lectures individually and work on our own.* (L3-S2)
>
> *You can access the course and do the work whenever you have the most time. (L4-S3)*

The flexibility and the self-paced nature of MOOCs allow learners to access videos and learning materials in their own free time. The findings corroborated with Liu et al. (2020) who found that their respondents' MOOC experience was much better because of the self-paced learning feature of MOOCs.

Complementation to formal learning

MOOCs offer a specific course for a specific set of skills, professions, and specializations. The participants found that the CBI-MOOC greatly supported their English language course. This benefit of MOOCs is seen in L4-S3 and L3-S5's statements below.

> *The courses there are so relatable to the subjects we are taking. It gives additional resources.* (L4-S3)
>
> *It is a fun and informative experience because it provided us with some advanced knowledge.* (L3-S5)

Aside from the free instructional materials from MOOCs that can facilitate and supplement their classroom learning, the students also thanked MOOCs for offering an avenue for free international education as stated by L3-S5.

> *The course is free and it was truly the best opportunity for us since we are still students and we cannot yet afford to pay for online courses because sometimes they are expensive. Not all students have the privilege. Not all students are taking international courses such as MOOCs…* (L3-S5)

These findings agreed that MOOCs can be used to provide advanced additional resources through *flipped learning* as students gain access to new material outside of class and use the designated class time to incorporate gained knowledge (Waks, 2018). Further, the result supported the study of Mabuan (2019) when he found that there was a high satisfaction rate with the course characteristics such as the topics of the modules, presentation of the content, and various activities. Moreover, the study also revealed the students' perceived benefits in integrating MOOCs in a classroom, such as applying what they have learned

in classroom discussions. Therefore, when used creatively, MOOCs can be helpful and deemed a valuable complement to traditional classroom instruction (de Dios, 2015).

The educational innovation that MOOCs present is to reduce educational costs primarily around the world (Bozkurt & Keefer, 2018). Access to open and high-quality resources from premier institutions may decrease the gap in the existing inequalities in education (Tang & Carr-Chellman, 2016). Correspondingly, a study centered on Rural Rwanda highlighted the importance of in-class sessions to address the MOOC platform's gaps and challenges in rural areas (Warugaba et al., 2016). The positive implications of these previous studies suggest exploring MOOCs' integration as a *flipped learning* model to present new opportunities and keep up with the demands of 21st century learning (Adesope & Rud, 2019; Mabuan & Ebron, 2018). From these findings, MOOCs can help reduce tuition and additional fees as they offer these students the experience and privilege to supplement their current college course (Waks, 2018).

International certification

When MOOCs were first launched in 2008, the paradigm shift in education began when top universities such as the University of Manitoba began issuing certificates upon completing the courses (Hollands & Tirthali, 2014). A certificate offered by a MOOC is often an indication of success, completion, and meeting a course's requirements, which participants could use in their future careers. This was mentioned by L4-S3, L4-S4, and L3-S3 in these statements:

> *The certificates also give me additional credentials that can help me when I apply for work.* (L4-S3)

> *Earning a certificate is an honor for me to be part of the MOOC, especially getting a certificate from the US Embassy.* (L4-S4)

> *The certificate we earned, in my opinion, would guarantee our credibility in the future.* (L3-S3)

This corresponds to previous studies, which stated that certification and the recognition it gives to a learner remains a top motivator for enrolling in and completing a course (Mabuan et al., 2018). Therefore, certificates and the credentials earned in a MOOC can contribute to the learner's credibility.

Provision of professional development opportunities

Since the inception of MOOCs, their potential was seen as a promise to democratize education (Dillahunt et al., 2014). Open educational resources (OER) across the web provide free resources recognized and provided by prestigious universities worldwide (Kinshuk et al., 2017). Several studies have found that learners' top motivations for enrolling in MOOCs are related to their future career development (Loizzo et al., 2017; Shapiro et al., 2017). This was stated by L3-S3 and L3-S1 in this study.

> *The experience will benefit us in our future professional careers since we have learned contemporary knowledge about the course, which aids our needs as professionals in a contemporary world.* (L3-S3)

College students are known as adult learners or lifelong learners. They tend to be engaged in subjects with immediate applicability or relevance in their professional careers or personal lives (Knowles, 1996).

> *…although MOOCs alone might not get you the job, they certainly can increase your—or my chances of getting my dream job.* (L3-S1)

As stated by L3-S1, MOOCs in their future lives as professionals, are credentials that they can use to impress their future employers (Waks, 2018; Zheng et al., 2015).

A MOOC, as a professional development tool, is efficient for adult learners. Its self-paced features and openness fit an active professional lifestyle (Dillahunt et al., 2014). Accordingly, a MOOC can help keep a professional are up-to-date with the current needs in their respective professions (Sablina et al., 2018).

Attainment of intercultural competencies

Globalization is significantly enhanced by information communication technology (ICT) in the 21st century. The capacity to communicate and adjust well to different cultures is something that everyone strives for in the new globalized age. These intercultural competencies are most required in the workplace (Perifanou, 2016). The diversity that MOOCs bring to the educational landscape allows learners worldwide to interact with each other. As a result, the intercultural competencies of MOOC participants' are enhanced through the interaction in the courses. This is supported in the statements of L3-S2, L3-S3, and L4-S5 below.

> *… MOOC allows us to experience the interaction of cross-cultural learning not only along the CBI concepts but our appreciation of the culture of others as well.* (L3-S2)

> *… I have experienced learning from the perspective of teachers who have taught in different cultures.* (L3-S3)

> *It [MOOCs] enables us to interact with other people belonging to different cultures.* (L4-S5)

The opportunities online learning and ICT offer involve the multi-cultural exchange between instructors and participants (Ivan, 2012). In the case of the participantss of this study, their course facilitator and camp master (an ELF), as pointed out by L3-S3, were both from the United States. Moreover, the students were able to interact with participants coming from various countries (L4-S5) which greatly enriched their learning experience. Online courses, such as MOOCs, and exposure to different cultures (L3-S2) through MOOCs have the effect of increasing personal and societal consciousness (Luyt, 2013). Therefore, offering students a rich experience and immersing them in a multi-cultural context allows them to have meaningful interactions with people from other cultures and gain communicative competencies that they will need in the workplace.

College students' challenges in MOOCs

This section discusses the students' challenges in MOOCs derived from their narratives in the focus group discussion (FGD). Specifically, five themes emerged - *language barriers, lack of social interaction, digital divide, time-related constraints,* and *challenging course content.*

<u>Language barriers</u>

The majority of the MOOCs use English as a medium of instruction. This may be attributed to its global reach, generally serving diverse learners from all over the world. However, the majority of them are from English-speaking countries (Kizilcec et al., 2013).

Like most MOOCs being offered by various agencies, the CBI–MOOC uses English as its medium of instruction. This is expected to be so as RELO Manila sponsored the offering of the program.

As revealed by the students, the language barrier is one of the challenges they experienced while enrolled in the program. The language should not be a problem among them as their specialization is the English language. However, the data show otherwise. This is reflected in the interview transcripts below:

> *…I have difficulties to* [sic] *comprehend what I read, because, uhm, I'm limited in my vocabulary…*(L4-S2)

> *I was challenged by vocabulary because, in MOOC, I experienced being confused in terms of the words that are not familiar to me.* (L3-S4)

> *There are some terminologies that I cannot understand.* (L4-S1)

It can be gleaned from the transcripts that the students struggled to understand the concepts being discussed because of the terminology (L4-S1) used in the modules and by the course facilitator. In addition, they felt that they lacked the vocabulary (L4-S2, L3-S1) that they needed to articulate their thoughts during class conversations. This finding supports the report of Liu et al. (2010) who found that the Chinese students in their study experienced language difficulty as well.

Since MOOCs are situated in western countries, challenges such as language barriers are expected to be experienced by non-native English speakers. If not given proper attention by course and MOOC camp facilitators, the language difficulty could demotivate the students to participate in discussions and to read course materials and eventually could be their reason to quit. According to Sanchez-Gordon and Luján-Mora (2018), language barriers might discourage learner engagement in MOOCs. For instance, in a study that examined MOOCs in China, language barriers and unfamiliar accents in the instructional video caused a participant to drop out (Tang & Carr-Chellman, 2016). The implications of these studies suggest that MOOCs should deliver context-relevant content to learners and adopt the MOOCs into different languages (Misra, 2018). Due to a commitment to promoting more geographic diversity, countries that are part of the Global South, countries in Asia, Africa, the Caribbean, the Middle East, and Latin America offer MOOCs in their languages and contexts (Zhang et al., 2019).

<u>Lack of social interaction</u>

MOOC platforms suggest that learners create their knowledge across social networks while constructing their learning networks in digital environments (Kop & Hill, 2008). While most MOOC platforms provide social networking opportunities via forums, several studies reveal that most participants neglect this feature (Barak et al., 2016; Park et al., 2015). In the present study, the students were limited to building a community due to their limited involvement in social interaction online. This was observed in the transcripts of L4-S2 and L3-S5.

> *… I'm a little bit lonely because I prefer personal interaction with other people…* (L4-S2)

> *I was hesitant to join the forum because I was afraid they might laugh at me if my thoughts were not good or if my post was ungrammatical.* (L3-S5)

… I think I don't have the skills yet to interact with foreigners… I may not be able to understand them… (L3-S4)

It can be deduced from the transcripts above that the students were not that participative in the virtual communities in the MOOC-CBI because of several factors: 1) preference for the mode of communication (L4-S2), confidence in communication (L3-S5), linguistic competence, and general confidence (L3-S5); and interpersonal and intercultural communication skills.

The observation found in Table 1 referring to the sense of relatedness got the lowest score on the scale ($\bar{x}$ = 2.73), supporting the reflections of L4-S2 and L3-S5. Hence, students must enhance their level of confidence, linguistic competence, and communication skills to maximize the benefits of being a part of a virtual community.

Digital divide

Anyone with internet access can enroll in free MOOCs (Prinsloo & Ainslie, 2018). According to a survey in 2020, 67% of the total population of the Philippines were internet users even though the speed of the country's mobile internet connection was only half the average in the ASEAN (Association of Southeast Asian Nations) region (Kemp, 2021).

Despite this fact, many students in the study did not have the technical resources that were essential for the completion of an online course. MOOCs' geographic reach promotes equity in the distribution of OERs, but fails to acknowledge usage barriers such as technology and internet access. This creates the digital divide that is common in developing countries like the Philippines, which eventually hinders MOOCs from delivering their promise of liberating education to all corners of the world (Mcauley et al., 2010). This was noted by L3-S3, L3-S1, and L3-S5, as reflected in the transcripts below.

…occasional internet interruption affects my accomplishment of tasks, and sometimes I have to re-do an assignment or quiz because my internet was acting up. (L3-S3)

…videos and audio lectures sometimes are unable to play with an unstable internet connection. (L3-S1)

… the lack of a strong internet connection can be a challenge, especially when taking quizzes or in passing some activities. (L3-S5)

Due to an underdeveloped internet infrastructure, the quality of connection remains a challenge for learners as it affects their participation in MOOCs, especially when viewing instructional videos, as well as completing their quizzes and requirements on time. Several studies report the problems imposed by internet disparities in developing countries, affecting participants' engagement and retention in MOOCs (Dillahunt et al., 2014).

Aside from the lack of internet connection, barriers can also come in access to resources, such as the lack of technological tools to participate in the course as expressed in L3-S5 below.

…while doing the MOOC, uh, course, I'm only using my phone. I don't have any laptop that could help me with the course. (L3-S5)

Only a few MOOC platforms are optimized for mobile use. It was noted in a study by Garrido et al. (2016) that many students in the Philippines and South Africa rely on their mobile devices to access MOOCs. This supports the 2021 survey in the Philippines that found that 96.5% of users access the internet using their mobile devices (Kemp, 2021). While smartphones are bridging the digital divide, the internet data costs and consumption needed to watch videos, download resources, and actively participate in the MOOC platform remains high. The Philippines has been observed to be one of the most expensive internet providers in the world (The World Bank, 2020).

Time-related constraints

While learners appreciated MOOCs' self-paced learning style, one of the persisting challenges is the lack of time. In studies in which participants were adult learners, time issues were said to cause problems for completing a course (Zheng et al., 2015) due to the amount and duration of the participants' workday and the level of demands on their time (Min & Foon, 2019; Shapiro et al., 2017). The issues above were supported in the statements of L3-S5 and L4-S4.

…we also had different school activities that we must [sic] finish and prioritize. Therefore, managing my time was a challenge. (L3-S5)

… I was doing my MOOC while doing [during] our class. (L4-S4)

MOOCs require a learner to be self-regulated since there are no time restrictions within the course. Efficient time management and setting learning goals had positive effects on their participation (Min & Foon, 2019). Many students were unable to participate in MOOCs because they were unable to find time to work on them because other obligations ate up their valuable time (Kizilcec & Halawa, 2015; Zheng et al., 2015).

Moreover, another issue concerning time management was the lack of pressure to study and a tendency to forget to complete activities.

> *I keep on forgetting to answer…when my friends don't remind me to answer, uh, I tend to forget the activities.* (L4-S5)

To prevent this, some researchers recommend that learners set goals and self-direct their learning because MOOCs' self-paced features may lead students to forget deadlines (Kizilcec & Halawa, 2015; Li, 2019).

Moreover, Zheng et al. (2015) suggest that courses should accommodate different types of learners. However, because of its diversity, the course content and timeline should be divided between those who are learning-driven and certificate-driven learners. Learning-driven courses would have very flexible learning schedules and access to the course whenever they need to without waiting for the next session. Meanwhile, certificate-driven courses would require more structured instruction to obtain certification upon completion.

Challenging course content

Challenges in course content were revealed in several studies exploring attrition rates in MOOCs (Khalil & Ebner, 2014; Kizilcec & Halawa, 2015; Shapiro et al., 2017). If enrollment is primarily based upon curiosity and interest, then comprehension of the course material could be difficult for those enrolled in MOOCs. Moreover, the lack of face-to-face interaction has also been noted as a barrier to learning the course materials (Garrido et al., 2016). Furthermore, the structure of MOOCs and their heavy amount of reading materials have discouraged learners from completing a course (Liu, et al., 2015; Park et al., 2015; Zheng et al., 2015). Some learners find themselves overwhelmed when trying to learn new knowledge and concepts because of the amount of information provided. This was supported by the statements of L3-S3 and L3-S4.

> *…there are so many new concepts to learn and it was a challenge for me to take it all in…* (L4-S5)
> *There is too much information in a way that leads me to be confused.* (L3-S4)

Similarly, the use of too many technical terms in the course content can contribute to a learner's abandonment of a MOOC, especially if they are using mobile devices, making it more difficult to visualize the entire course all at once (Hone & El Said, 2016). However, in a study by Petronzi & Hadi (2016), the design of the course content positively impacted on students' completion of the course.

Conclusion

Based on the findings of the study, the following conclusions can be drawn. Firstly, the level of motivation of the students showed that they were motivated to take the MOOC. However, their perceived sense of relatedness, the respondents' need to be socially connected online during the MOOC, showed that the course missed to fully provide said need. Secondly, the student's level of engagement showed that they are highly interested in the CBI – MOOC, perhaps leading to their ultimate goal—to finish the course. Thirdly, the students were highly motivated by the MOOC because of the perceived benefits which outweighed the challenges that the students experienced. This was reflected in the high completion rate and the students' levels of reactions to the program. Lastly, the participants showed persistence despite challenges such as language barriers, the digital divide, and challenging course content and completed the course.

Pedagogical implications

The following suggestions for future MOOCs are a result of the findings of this study.

MOOC providers, instructors, and facilitators should integrate collaborative activities as part of a course to improve their sense of belonging in the learning environment.

Content creators and instructors should be aware of the learner diversity in MOOCs. Therefore, it is recommended that they use instructional materials that are straightforward with minimal jargon to accommodate the non-native English speaker.

Organizers are encouraged to use existing MOOC platforms to facilitate an intercultural immersion among learners that will allow them to communicate with each other more.

Learner diversity and the sociodemographic factors should always be considered by course designers and instructors when offering MOOCs in developing countries, especially those without easy access to the internet and related technology. Furthermore, studies indicate that integrating MOOCs in meetings and MOOC camps makes it easier for learners to become successful in the course.

The resiliency of learners and facilitators despite the usage and access barriers MOOCs may bring to developing countries should be noted by higher education institutions, policymakers, and all concerned agencies to utilize MOOCs to address existing gaps in education.

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Appendices

Appendix 1

MOOC Engagement and Motivation Scale (MEM Scale)

Part I: This part of the questionnaire determines the online activities and motivating factors that influence the respondents' participation in MOOCs.

A. **Participation in MOOCs**: This part of the questionnaire determines students' activities related to their participation in MOOCs. Please be guided by the scale below:

    5 – always
    4 – often
    3 – sometimes
    2 – rarely
    1 – never

Criteria	5	4	3	2	1
Watching Videos					
Reading forum messages					
Doing readings					
Submitting quizzes					
Submitting other assignments					

B. **Motivating Factors**: This part of the questionnaire determines the students' motivating factors that influenced their participation in MOOCs.

Which of the following factors motivated you to participate in the course activities? Please rank the factors from the most important (1) to the least important (8).

Criteria	Rank
Personal Challenge	
Certificate/credential given for successful completion	
Increase in knowledge and skills	
Social community	
Interest in the topic	
Review of concepts	
For future employment	
Required by my professor	

Part II: This part of the questionnaire includes the MOOC Engagement and Motivation Scale (MEM Scale) developed by Lan and Hew (2018).

Instruction: When answering the questions, remember the MOOC you enrolled in. Indicate to what extent you agree with the statements by putting a check on the corresponding scale. Please be guided by the scale below:
    (1) Strongly disagree
    (2) Disagree
    (3) Neither agree nor disagree
    (4) Agree
    (5) Strongly Agree

Items	Criteria	5	4	3	2	1
1	I can decide which activities I want to complete.					
2	I have a certain freedom of action.					
3	When I interact with peers, I feel ignored.					
4	I think I am pretty good at this online course.					
5	After attending this online course for a while, I felt pretty competent in applying the concepts or theories.					
6	During the course, I work as hard as I can					
7	When I work on something on the course, I feel good.					
8	I enjoy learning new things in the course.					
9	When I watch the videos, I listen very carefully and take notes.					
10	I put in a lot of effort.					
11	I wish we could continue with the course for a while.					

Appendix 2

Focus Group Discussion Interview Guide

1. How would you describe MOOCs as a supplementary learning resource?
2. What are the challenges you experienced during your participation in this MOOC?
3. How can you relate your challenges and triumphant experiences with your course as an English Language Major?
4. How will you benefit from completing a MOOC and earning a certificate?