

Original Paper

Learning Grit and the Intervening Effects of MOOCs in Learning the English Language among College Students

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Abstract

Learning a foreign language such as English usually takes a considerable amount of effort on the part of non-native speakers. The English language as the modern-day lingua franca in almost all aspects of global communications spanning from business to the academe requires that students should be adept of it after they finished their tertiary education. The Southeast Asian Region in which the Philippines belong, is trying to catch-up with the global productivity index that must produce college graduates that are adept in using the English language in order to be competitive. Learning English in college through the use of traditional teaching methods makes students disinterested and disengaged in their course works. The advent of technology specifically the Internet has offered an alternative method to learn English in a more interesting and engaging way through synchronous and asynchronous learning methods such as the massive open online courses (MOOCs). This learning modality has eased the tension of acquiring the necessary English language proficiency among college students. This study is anchored on the structural equation modelling about the effects of MOOCs in learning the English language along with their learning grit from the vantage point of Filipino college students.

Keywords

learning grit, English language learning, second language learning, communication skills, massive open online courses

1. Introduction

Among the challenges faced by educators is how to properly convey the message of the course materials and the knowledge contained therein to the students. Although there is no sweeping generalization that one method of delivering the lesson is superior to another, there has been empirical

proofs that innovative methods can sustain the interest of students as well as deeply engage them in learning the subject matter.

It has been universally understood that almost all course materials delivered in the sphere of higher education were developed in the English language. In the Philippines, there is a general consensus in higher education institutions on the benefit of acquiring competency and adeptness of the English language (Dawe, 2014). Students whose first language is not English has been found out to experience difficulties and challenges amidst their learning. This has been attributed to the decoupling of the language used in the instructional process and the ability of the students to comprehend the content of the learning materials which is usually written in the English language. The English language is considered as the international language for communication (Koo, 2008; Tinsley & Board, 2013) and the language of trade and business (Lazaro & Medalla, 2004).

A typical four-year college curriculum in the Philippines other than English major would embed an 18-units English subjects scattered across the duration of the four-year study. Each English subjects would usually carry a three-unit credit, which implies that every week a student has to undergo three-hours of learning for the English subject. However, this kind of curricular offering among higher learning institutions has failed to substantiate the learning competencies among college students-both for oral and written mastery of the English language. The mastery concern becomes amplified on the aspect of grammatical rules (Tafida & Okunade, 2016). It appears that the three-hour learning duration every week may not be enough for the students to grasp all the necessary concepts with regard to the acquisition of knowledge in learning the English language. Notwithstanding also that the grit factor or perseverance among college students in learning the English language plays a major role.

The advent of the 21st century technologies particularly the Internet has made an important breakthrough in the field of education and training (Dankbaar & de Jong, 2014; Raja & Nagasubramani, 2018; Sutton, 2013). The Internet has fueled the proliferation of synchronous and asynchronous English language learning modalities that cut across national boundaries. This phenomenon has challenged the way teaching and learning has been offered and delivered in the preceding eras. The Internet has supported the development of massive open online courses (MOOCs) which is very useful in reinforcing the learning process of students especially those with academic difficulties. MOOCs are innovative learning technologies accessible everywhere as long as there is the presence of Internet connection (Barak et al., 2016). The introduction of MOOCs has allowed students to access cost-free reinforcing learning resources (Corrado et al., 2021).

MOOCs as disruptive innovation in learning a second language

Massive open online courses can be considered as game changer in the field of educational landscape (Gaspar & Prakash, 2014; Jacoby, 2014; Mezied, 2016). It enables students to avail free course content which has disrupted the way educational institutions offer their business model of keeping knowledge as a commodity. It first appeared in 2008 with the launching of Connectivism and Connective Knowledge Course (Fini, 2009) also known as the CCK08 introduced by Siemens and Downes (2008).

This was considered as the first generation MOOCs and the focus is on connectivist pedagogy (Conole, 2016). The second generation MOOCs evolves into behaviorist pedagogical approach with focus on individualized learning rather than learning with other people (Conole, 2016). During the second evolution of MOOCs, several providers and platforms appear such as Coursera, EdX, Audacity, Open2Study among others, which until now continue to provide interactive media in the form of lectures delivered through videos and texts. Since 2013, heightened interest among researchers investigating the MOOCs framework expanded to a considerable level (Bozkurt et al., 2017). MOOCs were not actually conceptualized during the time of their inception as to compete with the traditional educational institutions. It was actually intended to augment and supplement the mainstream educational institutions' business model of providing educational content to students particularly in face-to-face setup (Kurzman, 2013). Most MOOCs are offered free of charge. Some platforms can be directly accessed and others will require registration.

The only lacking ingredient as of the moment is the non-accredited status of MOOCs from an accrediting agency, hence, a certificate of completion from the provider cannot be considered as a legitimate certificate or diploma. Nevertheless, the provision of MOOCs appears to compete with the way traditional educational institutions operate. Further benefits of MOOCs can be seen especially that the educational landscape has already shifted to virtual classes due to the Covid-19 situation. There can be a trajectory in the long run that MOOCs can compete with the traditional educational institutions, considering their capability to offer knowledge content in both economies of scale and scope (Yuan & Powell, 2013) in an open educational resource platform (Chiappe-Laverde et al., 2015). At the end of various and numerous contending notions on the benefits and drawbacks, the consumers and stakeholders will always be the one to decide on the value of MOOCs. In the long run, the prevailing circumstances that will dictate the trajectory of the teaching-learning process continuum will further judge the merits of MOOCs. It is to the consumers of MOOCs to appreciate its value weighed against cognitive and knowledge growth (Stracke & Trisolini, 2021) and for the usage of such whether in will be for work or for personal consumption of every learner. Nonetheless, MOOCs is envisioned to supplement the learning of a second language such as English especially when they are provided by native speakers which can greatly enhance the learning environment and further improve the method of language acquisition (Begibaeva, 2018; Qureshi, 2019).

Learning grit and students' perseverance to learn a second language

During the course of their studies, students may feel burned-out and demotivated to pursue the learning process due to mental fatigue and other difficulties accompanying the knowledge acquisition activities. There are students however that are persistent and shows unwavering interest towards their studies. Such learners exhibit learning grit which is a desirable attitude in accomplishing an academic challenge despite shortcomings and failures experienced along the way (Bashant, 2014; Reed & Jeremiah, 2017; Tang et al., 2019). The concept of grit was initially proposed by Duckworth et al. (2007) which referred to as a characteristic of an individual to withstand struggles and challenges at the same time keeping his

or her passion alive in completing a goal over a sustained period of time. Goodwin and Miller (2013) considered grit as an integrated positive traits pertaining to perseverance, resilience, stamina and tenacity. There have been some scholars (Riddle, 2018; Senters, 2020; Usher et al., 2019) that attribute learning grit to Bandura's self-efficacy theory (1977) as well as to the theory of planned behavior (Ajzen, 1991; Wang & Baker, 2018). However, some also contend that learning grit is a matter of how students value their academic performance (Alhadabi & Karpinski, 2019; Carmona et al., 2008). This proposition gives emphasis on the notion of performance value (Wigfield & Cambria, 2010) espoused by students. Along with self-discipline and placing importance on academic achievement (Duckworth, 2009; Steinmayr et al., 2019; Tarabashkina & Lietz, 2011), grit can be attainable although would solicit great effort on the part of students.

MOOCs can be considered to have aided the development of grit among students and vice-versa (Aparicio et al., 2017). Students that manifest higher learning stamina tends to become successful in finishing an academic task and in the long-run be able to hurdle the completion of an academic degree (Eskreis-Winkler et al., 2016). Learning and mastering a second language such as the English language can be challenging to most Filipino students. It is necessary for a student to develop his or her learning grit when trying to acquire considerable competency for a second language (Teimouri et al., 2020). Learning grit is necessary due to apparent challenges and setbacks that students will encounter during the process of English language learning (Khajavy et al., 2020). Learning a second language can be difficult to some students and negative outlook among them can surmise brought about by anxiety and disappointment of their very own performance (Shao et al., 2020).

1.1 Objective of the Study

The purpose of this study is to verify the intervening effects of MOOCs between learning grit and English language academic performance among freshmen and sophomore college students.

The research hypothesis of this study contends that MOOCs has a positive intervening effects between learning grit and English language academic performance of the students.

2. Methods

This study utilized the structural equation modelling based on the conditional process approach to verify the intervening effects of MOOCs between the learning grit and performance of the students in learning the English language. The main function of conditional process analysis is to test the proposed hypothesis or hypotheses with the aim of verifying the significant effects of a mediator or moderator within the context of a selected model or models (Hayes & Rockwood, 2019).

Conditional process approach has the capability of analyzing the effects of mediation and moderation in an integrated model. It can also detect the occurrence of a significant effect on three varying levels of data clusters within the interquartile range. Conditional process models are flexible yet robust analytical mechanisms that confirms the effects of mediation and moderation or a combination thereof such as mediated moderation or moderated mediation. It has been accepted among researchers

particularly those utilizing path analysis to establish cause and effect confirmatory studies that conditional process approach outcomes are well within scientific and scholarly bound (Bachl, 2017). Studies have confirmed that there exists some causality among chain of events that are associated by some certain temporal precedence within the context of boundary conditions of a given system. These phenomena are naturally occurring and are observable and quantifiable. A thorough investigation of such phenomena require certain degree of sophisticated analytical tool such as the conditional process approach which can model or capture the reality of such system being studied. Conditional process approach has by far demonstrated its ability to unravel these phenomena and their underlying chain of causal events at the same time enabled the researchers to address the concerns for measuring the vector quantity and quality of such systems being investigated (Hayes & Preacher, 2013). The rationale of using the principles and procedures of an analytical approach utilizing the conditional process modeling is deemed by many natural and social scientists to be valuable in establishing the sequence of causal events under investigation. The conditional process can be transmuted into a model that can be computed through statistical tools where the parameters can then be approximated and estimated using a structural equation modeling (SEM) program. Figure 1 shows the structural equation framework of the study.

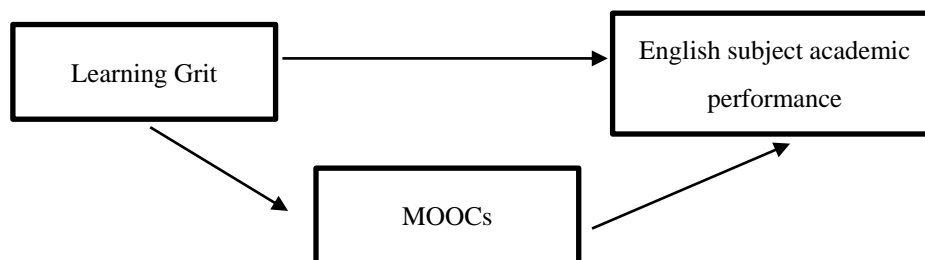


Figure 1. Structural Equation Framework of the Study

2.1 Respondents of the Study

The respondents of the study were the freshmen and sophomore college students enrolled in the business management program from a state university and a local government college in the Philippines. The respondents were purposively selected considering that they were taking introductory English language course as part of their curriculum requirement. A total of 228 respondents were retrieved from the survey comprising freshmen and sophomore college students.

2.2 Instrument

The research instrument was designed by the researchers based on the current literatures underpinning the importance of MOOCs in learning the English language as well as the parameters surrounding the learning grit based on the context of this study.

The reliability index was determined through a small sample size of 15 pilot respondents utilizing McDonald's omega coefficient for one-factor model (McDonald, 1999; Deng & Chan, 2017). The omega coefficient for learning grit is 0.94 and on the other hand, the parameter pertaining to MOOCs

yielded a result of 0.88.

The English subject academic performance were taken from the final grades of the students from the second semester of school year 2020-2021.

The result of the Harman's single factor test is 39.41% which suggests that there is a minimal common method bias produced by the research instrument.

3. Results

Table 1 presents the intervening effect (mediation analysis) of MOOCs between learning grit and English subject academic performance. It shows that the path of a ($\beta=0.76$, $p = 0.000$) and b ($\beta=0.43$, $p = 0.000$) are significant since the confidence interval has no presence of zero. The modeled path analysis is presented in Figure 2 (this corresponds to Hayes' Model 4 under PROCESS). The intervening (indirect) effect which refers to the mediation path is 0.33 with a 95% confidence interval of 0.22 for the lower level and 0.44 for the upper level signifying that there is a significant intervening (mediation) effect since no zero is present in the confidence interval. Thus, the research hypothesis of this study is supported. The coefficients of determination (R^2) are also highly significant ($R^2= 0.54$, $p=0.000$; $R^2= 0.58$, $p=0.000$).

Table 1. Intervening Effect of MOOCs

Parameters	β	95% CI	Int
Learning grit	0.76***	0.67, 0.85	Significant Non-Zero CI
MOOCs	0.43***	0.31, 0.54	Significant Non-Zero CI
Indirect effect of learning grit to English subject academic performance	0.33	0.22, 0.44	Significant Non-Zero CI; Research Hypothesis is Supported, Mediation Exist
Model Summary: $R^2= 0.54$ ***, 0.58 ***			

Legend: * $p < .05$; ** $p < .01$; *** $p < .001$

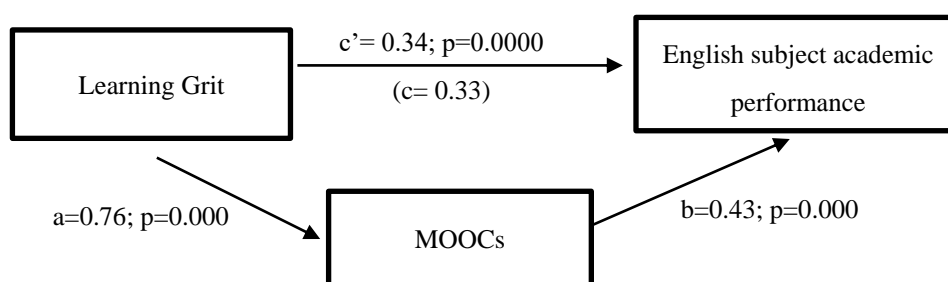


Figure 2. Mediation Model (Intervening Effect) for the Indirect Effect of MOOCs between Learning Grit and English Subject Academic Performance

The empirical result of this study showed that MOOCs can supplement the cognitive enhancement of students (Wang & Baker, 2018) which has positive effects on academic performance. This specifically pertains to the improve academic performance of the students in learning the English language. The findings of this study thus supports the research hypothesis that MOOCs has a positive intervening effects between learning grit and English language academic performance of the students.

Along with learning grit, MOOCs can sustain students' interest and motivation to accomplish a specific learning task (Eskreis-Winkler et al., 2014) or eventually complete an educational program (Duckworth & Quinn, 2009). MOOCs are also considered as continued source of life-long cognitive enhancement and personal upskilling (Kalz, 2015). Although not all participants enrolled in MOOCs will be able to finish an entire course (Wang & Baker, 2018), majority can accomplish a specific-segment to aid them enhance their academic knowledge (Ho et al., 2015). MOOCs can be viewed not as total replacement for the current traditional educational set-up but rather an initiative to help students become more self-reliant and increased their self-efficacy that is necessary in improving their academic performance. MOOCs are supplemental mechanisms that does not directly compete with the mainstream instructor-led learning process but should be considered as readily available resources that augments the traditional classroom (virtual and face-to-face) learning process (Henderikx et al., 2017; Reich, 2014).

4. Discussion

This research has confirmed the positive effects of MOOCs among freshmen and sophomore students to help enhance their knowledge and skills in learning the English subjects. The students learning grit also plays a major role in the improved performance of second language acquisition. Although it is natural for Filipino students to speak in a combination of their native tongue and some bits of English words, the necessity to learn how to speak the English language in a proper and correct manner is very important in formal conversations and communications. The impact of globalization and networked-environment necessitates that Filipino students must have a solid grasp of communicating the English language in a proper manner. This enables them to become competent and world-class individuals especially when communicating to foreigners. Enrolling in MOOCs hastens the ability of the Filipino students to learn and practice their English language competency as they are being exposed to native English speakers.

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