RESEARCH ARTICLE

Assessing Students' Online Learning Readiness: Are College Freshmen Ready?

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Abstract: Advancements in technology and pedagogy with respect to distance education have highlighted the need for higher education institutions to adapt to these changes and embrace online learning as an alternative approach to instructional delivery. To assess students' readiness to this non-conventional modality, the current study utilized the online learning readiness scale (OLRS) by administering an online version of the instrument to 457 college freshmen in a private college. The overall mean scores and standard deviations obtained for the five dimensions of online learning readiness are as follows: motivation for learning ($\bar{x}$ = 4.23, SD = 0.61), computer/Internet self-efficacy ($\bar{x}$ = 4.05, SD = 0.64), online communication self-efficacy ($\bar{x}$ = 3.76, SD = 0.75), self-directed learning ($\bar{x}$ = 3.74, SD = 0.63), and learner control ($\bar{x}$ = 3.41, SD = 0.68). Nonparametric tests were employed to examine differences in the OLRS dimensions based on sex, academic program, and duration of Internet use. No significant difference in online learning readiness between male and female students was detected using Mann-Whitney U test. A similar test performed on the duration of Internet use found that students who spend more than four hours online have significantly higher computer/Internet self-efficacy scores. Moreover, the results of Kruskal-Wallis H test revealed that students' academic programs pose significant differences in three dimensions, namely, computer/Internet self-efficacy, online communication self-efficacy, and motivation for learning. Overall, the results reflect positively on the readiness of freshman students for online learning.

Keywords: computer self-efficacy, learner control, motivation for learning, online learning readiness, self-directed learning, online communication self-efficacy

Introduction

The exponential development of online learning is transforming higher education by changing the way instruction is delivered in the college classroom (Hamann et al., 2020; Wladis & Samuels, 2016) there have been no well-controlled studies to confirm whether these instruments predict online outcomes specifically (as opposed to predicting course outcomes more generally. Online learning, as opposed to conventional, face-to-face education, leverages the use of multimedia resources to improve interaction and promote learner agency (Tsai, 2009). For many students at the college level, online learning is an appealing alternative because it promotes increased access to information and solves learning-related

time and place limitations (Dube & Scott, 2017). In addition to ensuring convenience when doing course work (Waschull, 2001), an online learning system allows learners to formulate a learning strategy by viewing course content, completing assignments, and using available material all in their own time (Topal, 2016). Furthermore, online learning tools are not only useful assets for the distribution of content but also for developing skills that help foster job success, such as digital literacy, professional conduct, and self-directed learning (Levy, 2017).

Despite its advantages, online learning can present students with obstacles that they may not have experienced in a face-to-face class (Tsai, 2009). Similar to other modes of instructional delivery, online learning "requires certain capacities that students need to develop prior to engaging with online learning materials" (Pillay et al., 2007, p. 222) little regard has been given to the prerequisite personal and technical qualities required for academic achievement and satisfaction within this environment. In recognition of this, researchers have been exploring the design, development and testing of diagnostic tools to assess student readiness for online learning. This study builds on previous work by the authors to further validate their diagnostic tool for assessing Tertiary students' readiness for online learning (TSROL) such that effective learning will require a high level of preparation in terms of technical skills, motivation, communication competencies, and ability to self-learn (Topal, 2016).

"Readiness which is effective in face-to-face learning is also effective in online learning, e-Learning, and distance education" (Horzum et al., 2015, p. 760). Research areas on readiness include how to conceptualize and assess barriers to and enablers of online learning (Blayone et al., 2018). This investigation aims to assess the online learning readiness of college freshmen pursuing different academic degree programs at a private tertiary institution in Manila. Specifically, this study will explore the following research questions:

1. What is the level of online learning readiness among freshman students in terms of the following dimensions: (a) computer/Internet self-efficacy, (b) self-directed learning, (c) learner control, (d) motivation for learning, and (e) online communication self-efficacy?

2. Is there is a significant difference in college freshman students' online learning readiness in terms of the following factors: (a) sex, (b) academic program, and (c) duration of Internet use?

The remaining sections of the paper will present prior research related to online learning readiness, describe the methodology used, discuss the findings, and propose recommendations for further studies.

Literature Review

Online readiness contributes to students' success in an online learning environment (Engin, 2017). Also referred to as digital readiness, it is connected to the use of technology tools for personal learning gains by an individual (Horrigan, 2016). Readiness for online learning requires mental and physical preparedness to engage in an online learning experience (Borotis & Poulymenakou, 2004, as cited in Engin, 2017). It describes abilities related to managing one's time, understanding learning preferences, and seeking knowledge for internal satisfaction (Smith, 2005).

Previous studies have explored several determinants of online learning readiness that have the potential to contribute to success in online settings (Bovermann et al., 2018). The Online Readiness Survey by McVay (2000, 2001, as cited in Dray et al., 2011) includes items that pertain to the respondents' use of previous learning and experience, setting of learning goals, evaluation and monitoring of learning, and selection of learning strategies and learning resources (Smith et al., 2003). On the other hand, online learning readiness was assessed by Watkins et al. (2008) in terms of access to technology, online skills and relationships, technical competencies, motivation, online audio-video content, Internet discussions, and other factors related to success in an online course.

The more recent scales that measure online learning readiness consists of four or five factors. These include the following: students' online learning readiness (SOLR) instrument (Yu & Richardson, 2015), e-readiness scale (Ilgaz & Gülbahar, 2015), and online learning readiness scale (Hung et al., 2010). In the SOLR model, readiness was determined by learners' competencies when socially interacting with the instructor and classmates online (i.e., social

competencies), communicating with others in an online set-up (i.e., communication competencies), and using technology in online learning activities (i.e., technical competencies). The e-readiness scale was used to assess readiness level based on factors deemed critical to online learning success, such as individual properties, information and communication technology competencies, access to technology, motivation, and attitude (Ilgaz & Gülbahar, 2015). The online learning readiness scale (OLRS) integrated five dimensions: self-directed learning, motivation for learning, computer/Internet self-efficacy, learner control, and online communication self-efficacy (Hung et al., 2010).

The roles of motivation and self-directed learning in promoting achievement among learners are significant issues in teaching and learning. Students with strong motivation to learn exhibit enthusiastic participation in the learning process (Ibrahim & Nat, 2019) and those with self-directed learning skills respond strategically to the demands of a given learning environment (Geng et al., 2019). Because the OLRS incorporates these two important variables, the instrument developed by Hung et al. (2010) was selected for the purposes of the current study.

The OLRS (Hung et al., 2010) was used by Kirmizi (2015) in his study that sought to explore readiness, satisfaction, and academic success among 84 distance education learners. Positive and significant correlations were found among all five dimensions of online learning readiness, satisfaction, and success. Regression analyses revealed that motivation is the best predictor of student satisfaction in the course, although self-directed learning is the strongest determinant of academic success. A similar investigation on the relationship between readiness and satisfaction was conducted by Topal (2016) among 352 university students who have completed at least one online course. Overall, students' readiness for online learning was found to be high in all dimensions. Students with higher readiness levels in terms of self-directed learning, motivation for learning, and learning control reported greater satisfaction with the online course. Another study by Wei and Chou (2020) among 356 online students in Taiwan showed that computer/Internet self-efficacy and motivation for learning positively affected satisfaction in the course.

Online learning readiness and achievement in a blended computer literacy course were examined by Cigdem and Ozturk (2016) using the OLRS.

Although students reported having high motivation for learning, this dimension had no significant effect on their final grades in the course. Findings revealed that self-directed learning strongly predicted academic achievement. In Iran, readiness to online or e-learning by 347 art students was explored by Rasouli et al. (2016) using a survey that assessed the following factors: communication and participatory skills, meta-cognitive skills, access level and skill to work with computer and the Internet, cognitive skills, and self-direction. The results did not show any significant difference in e-learning readiness with respect to gender and major (e.g., textile design, photography, performing arts and cinema, sculpture, etc.). However, e-learning readiness was revealed to be significantly different among undergraduate, master's, and PhD students. Among students enrolled in a business-forecasting course, evidence on the significant association between time spent online on the course website and academic performance was generated (Korkofingas & Macri, 2013). Furthermore, some related papers reported that a longer time spent online is associated with higher grades (Calafiore & Damianov, 2011).

In addition to course satisfaction and academic performance, online learning readiness has also been linked with learner's academic engagement (Kim et al., 2019), emotional intelligence (Engin, 2017), learning styles (Jena, 2016) and perceived learning (Mehmet et al., 2015). In the Philippines, an instrument was proposed by Doculan (2016) to measure e-learning readiness of higher education institutions using teachers as respondents. Given this, online learning readiness among Filipino students in a technology-supported environment seems to be a promising area of research. As an exploratory study, this investigation aims to examine the potential relationships between the different OLRS dimensions and sex, academic program, and duration of Internet use.

Methods

Context and Participants

For this investigation, a non-probability sampling scheme was employed. A total of 457 freshman students from different academic programs at a private higher education institution (HEI) in Manila, Philippines, were purposively selected to participate in this study. All respondents have experience in blended

learning using the institution's learning management system (LMS), Brightspace D2L, to supplement face-to-face sessions with online learning activities for one academic term (i.e., 14 weeks).

The online survey was conducted between January and April 2019 through an electronic link sent to students' LMS accounts. Participation in the study was voluntary, and no incentive was offered to those who completed the survey. Compliance with existing data privacy guidelines was observed to maintain confidentiality and ensure the anonymity of respondents.

The study group represents approximately 16% (457 out of 2,810) of the freshman population for SY 2018–2019. Data were checked for repeat entries by comparing respondents' email addresses, and duplicate responses were removed. Of the 457 students, 61.6% (281) are females and 38.5% (176) are males. Based on the academic program, 321 (70.2%) students are from the culinary, hospitality, and tourism (CHT) programs, 74 (16.2%) from the diplomacy and governance (DAG) programs, 39 (8.5%) from the design and arts (DAA) programs, and 23 (5.0%) from the management and information technology (MIT) programs.

Nearly all (95.84%) of the respondents reported that checking grades is the primary activity they perform online. Other notable school-related activities include information search using the Internet in class (82.49%), downloading course content (77.02%), emailing teachers (75.49%), emailing classmates (59.08%), and enrolling in courses (56.24%). Majority of the respondents also expressed high (202 out of 457, or 44%) to very high (120, or 26%) self-confidence in using the college's LMS.

Research Instrument

The online survey instrument consisted of three parts. The first part included the survey information and consent agreement, the second part collected demographic and related data (e.g., sex, academic program, gadgets used in online learning, and level of confidence in using the LMS) from the respondents, and the third part consisted of items related to online learning readiness.

To examine students' online learning readiness, the present study adopted (with permission) the OLRS developed by Hung et al. (2010). The scale consisted of 18 items categorized into five dimensions: computer/Internet self-efficacy (3 items), self-directed learning (5 items), learner control (3 items), motivation for learning (4 items), and online communication self-efficacy (3 items). Computer/Internet self-efficacy (CIS) evaluates the ability of the learners to demonstrate appropriate computer and Internet skills. Self-directed learning (SDL) emphasizes the tendency of learners to claim responsibility for their own learning and meet the learning objectives they set for themselves. Learner control (LC) is measured by the actions of learners to steer their own learning with complete flexibility, which is reflected when they purposefully review or disregard the materials of the course. Motivation for learning (MFL) encompasses the attitudes of learners towards online learning, whereas online communication self-efficacy (OCS) explains the adaptability of learners to the online environment through active participation in online exchanges. For every dimension, a five-point Likert scale was used (1 = strongly disagree to 5 = strongly agree). Means were interpreted as "very low" (1.00−1.80), "low" (1.81−2.60), "moderate" (2.61−3.40), "high" (3.41−4.20), and "very high" (4.2−5.00).

Reliability analysis of the original OLRS was recorded between 0.727 and 0.871 (Hung et al., 2010). To confirm the instrument's reliability in the local context, its reliability was retested and measures for CIS, SDL, LC, MFL, and OCS were all found to be acceptable at 0.736, 0.871, 0.727, 0.843, and 0.867, respectively. The overall internal consistency of the scale was 0.889 using Cronbach's alpha.

Data Analysis

Descriptive statistics was used to determine the overall means and standard deviations of students' responses to the OLRS items. To determine whether the data follow a normal distribution, the Shapiro-Wilk test was performed ($p < 0.05$; data deviate from a normal distribution). Nonparametric tests such as Kruskal-Wallis H and Mann-Whitney U were utilized to test significant differences in students' readiness for online learning with respect to sex, academic program, and duration of Internet use. Additionally, Dunn's pairwise test was used for post-hoc analysis of significant results. All relevant statistical analyses were performed using SPSS version 23.

Results

Readiness is one of the important factors of effective learning, and understanding student readiness for online learning is an essential element to consider when implementing an effective learning system (Cigdem & Yildirım, 2014; Jena, 2016)developing, and implementing virtual Learning initiatives across the Indian education sector. Effective and successful use of Virtual Learning Environments (VLEs. This investigation will focus on the five OLRS dimensions described by (Hung et al., 2010), namely computer/Internet self-efficacy, self-directed learning, learner control, motivation for learning, and online communication self-efficacy.

Online Learning Readiness Among College Students

The overall mean scores and standard deviations of the five OLRS dimensions are presented in Table 1. The means obtained for online learning readiness ranged from 3.41 to 4.23, which are within the verbal interpretations "high" and "very high." The LC dimension recorded the lowest mean, whereas MFL was the highest.

Differences in Online Learning Readiness by Sex

According to Basargekar and Singhavi (2017), gender is a factor that influences attitudes towards technology. In this study, gender is translated into sex as a variable.

Both male and female students indicated the highest readiness in terms of MFL and the lowest for LC. Male students obtained higher scores in the following dimensions: CIS, MFL, and OCS. Data were not found to be normally distributed ($p < 0.05$); thus, Mann-Whitney U test was done. Table 2 shows the Z and p values of the different OLRS dimensions in terms of sex. Statistically, no significant difference in online learning readiness was found between the two groups.

Table 1

Descriptive Statistics and Interpretation for OLRS Dimensions (n = 457)

OLRS Dimensions	Mean	SD	Interpretation
CIS: Computer/Internet self-efficacy	4.05	0.64	High
SDL: Self-directed learning	3.74	0.63	High
LC: Learner control	3.41	0.68	High
MFL: Motivation for learning	4.23	0.61	Very high
OCS: Online communication self-efficacy	3.76	0.75	High

Table 2

Descriptive Statistics and Mann-Whitney U Test of Sex on OLRS Dimensions (n = 457)

OLRS dimensions	Sex/Mean (SD)				*Z*	*p*
	Male (n = 176)		Female (n = 281)			
CIS	4.06	(0.70)	4.05	(0.61)	-0.913	0.36
SDL	3.65	(0.66)	3.79	(0.60)	-1.856	0.06
LC	3.40	(0.64)	3.40	(0.71)	-0.492	0.62
MFL	4.24	(0.66)	4.23	(0.58)	-0.752	0.45
OCS	3.80	(0.77)	3.75	(0.75)	-0.918	0.36

Differences in Online Learning Readiness by Academic Program

Data obtained do not follow a normal distribution ($p < 0.05$) that is why Kruskal-Wallis H test was used to determine whether significant differences in the OLRS dimensions with respect to academic program exist. Three online learning dimensions namely, CIS ($\chi2 = 11.11$, $p < 0.05$), MFL ($\chi2 = 9.93$, $p < 0.05$), and OCS ($\chi2 = 13.68$, $p < 0.05$) were found to be significantly different among the four academic programs (Table 3).

In comparison with students from other academic programs, students from DAA obtained the highest scores in three dimensions (i.e., CIS, MFL, and OCS). Within their track, CHT students showed the highest readiness in MFL. This observation is also evident within the DAG and DAA programs. As expected, students from MIT scored highest in the CIS dimension. Within their individual academic tracks, all students indicated the lowest readiness in the LC dimension.

Differences in Online Learning Readiness by Duration of Internet Use

Table 4 shows the online learning readiness of respondents based on the duration of Internet use. Mann-Whitney H test was utilized to assess this factor due to the non-normal distribution of study data ($p < 0.05$). Online learning readiness with respect to CIS and MFL was found to be high regardless of Internet

usage. Among the five dimensions of OLRS, only computer/Internet self-efficacy showed a significant difference in terms of duration of internet use ($Z = -2.05$, $p < 0.05$).

Discussion

Various factors and enabling conditions have been identified as significant variables that can predict readiness for online learning (Blayone et al., 2018; Bovermann et al., 2018). The dimensions suggested in the OLRS (Hung et al., 2010) were used as the model of this study.

Online Learning Readiness Among College Students

Overall, the study results support the online learning readiness of freshmen students in college. Whether online or face-to-face, motivation is key to helping learners accomplish their course requirements (Geng et al., 2019). Consistent with findings from related studies (Cigdem & Ozturk, 2016; Cigdem & Yildirim, 2014), the respondents in this study expressed the highest readiness in terms of motivation for learning. This dimension considers how enthusiastic a student is in terms of participating in learning activities and how much attention and effort the student puts into different academic engagements (Cave, 2003, as cited

Table 3

Descriptive Statistics and Kruskal-Wallis H Test of Academic Program on OLRS Dimensions (n = 457)

| OLRS dimensions | Academic program/Mean (SD) | | | | $\chi2$ | p | Significant differences between groups (*p* value) |
	CHT (n = 321)	DAG (n = 74)	DAA (n = 39)	MIT (n = 23)			
CIS	4.00 (0.66)	4.09 (0.61)	4.32 (0.50)	4.25 (0.57)	11.11	0.01*	CHT-DAA (0.00)
SDL	3.73 (0.63)	3.77 (0.85)	3.74 (0.64)	3.77 (0.51)	0.47	0.93	None
LC	3.41 (0.72)	3.36 (0.64)	3.44 (0.54)	3.54 (0.51)	1.85	0.60	None
MFL	4.19 (0.62)	4.31 (0.56)	4.46 (0.57)	4.12 (0.56)	9.93	0.02*	CHT-DAA (0.00)
OCS	3.70 (0.75)	3.91 (0.84)	4.03 (0.70)	3.65 (0.42)	13.68	0.00*	CHT-DAA (0.00)

*$p < 0.05$, significant

Table 3

Descriptive Statistics and Mann-Whitney Test of Internet Use on OLRS Dimensions (n=457)

OLRS dimensions	Duration of Internet use (hours per day)/Mean (SD)		Z	p
	4 hours or less (n=295)	More than 4 hours (n=162)		
CIS	4.02 (0.63)	4.12 (0.66)	-2.05	0.04*
SDL	3.71 (0.60)	3.79 (0.67)	-1.55	0.12
LC	3.41 (0.65)	3.41 (0.74)	-0.17	0.87
MFL	4.21 (0.58)	4.26 (0.65)	-1.15	0.25
OCS	3.75 (0.74)	3.80 (0.79)	-.078	0.44

*$p < 0.05$, significant

in Horzum et al., 2015). In an online setting, students with high MFL are expected to perform online tasks more readily (Geng et al., 2019) and achieve better grades (Horzum et al., 2014).

In the present study, computer/Internet self-efficacy is the second dimension that received the highest rating. This means that freshmen college students have neither discomfort with using the Internet nor apprehension in navigating basic computer software. Although CIS was ranked highest by university students in the work of Chung et al. (2020), findings from this research still lend support to the importance of this dimension. This result may also be explained by the attributes self-reported by the students themselves, about 66% of whom expressed high to very high confidence in their ability to use the institution's online learning platform.

Although ratings for online communication self-efficacy, self-directed learning, and learner control were interpreted as "high," all three dimensions were recorded below 4.0. These results confirm previous studies which found OCS (Kayaoglu & Dag Akbas, 2017), SDL (Chung et al., 2020), and LC (Engin, 2017) to be much lower compared to other OLRS dimensions. Nevertheless, successful online learning will challenge learners to be comfortable and confident when communicating with the instructor and other learners (Smith, 2005), take responsibility for self-learning (Zhoc & Chen, 2016), and monitor learning progress (Chung et al., 2020).

Differences in Online Learning Readiness by Sex

In this investigation, female respondents reported higher scores than males in the dimension of self-directed learning. Self-directed learning pertains to the ability of the learner to actively participate in the learning process (Zhoc & Chen, 2016). Although this finding suggest that female freshman students seem more heavily invested in their learning progress than their male counterparts, this difference was not found to be significant.

Prior studies showed no significant differences in all five dimensions of the OLRS between males and females (Chung et al., 2020; Hung et al., 2010). However, there are others that conveyed otherwise. An investigation by Örs (2018), which assessed SDL readiness among undergraduate midwifery and nursing students, found that the average scores of male students were significantly lower than those of female participants. Findings from the work of Grover and Miller (2014) provided moderate reinforcement on the effect of sex (also gender) on SDL practices, such that women are more conscious about directing their own learning. According to Tekkol and Demirel (2018), female students are more self-directed because they have stronger cognitive and affective attributes, as demonstrated by their ability to manage learning experiences and sustain motivation.

Differences in Online Learning Readiness by Academic Program

When comparisons were made among the four academic programs, namely, CHT, DAG, DAA, and MIT, significant differences were noted only in the dimensions of CIS, MFL, and OCS. This means that all respondents, regardless of the degree program they are pursuing, possess comparable online learning readiness in terms of self-directed learning and learner control. This result shows partial congruence

with the findings of Cigdem and Yıldırım (2014) that reported significant differences in CIS and OCS among vocational students from five departments (i.e., computer technology, electronic, civil construction, mechatronics, and business administration) after post-hoc analysis, but obtained no significant differences with respect to SDL, LC, and MFL.

Kruskal-Wallis H test provided very strong evidence of a difference ($p < 0.00$) between CHT and DAA students in terms of CIS, MFL, and OCS dimensions. To cite, students taking CHT programs reported significantly lower scores in the computer/Internet self-efficacy dimension than DAA students. Understandably, students from the design and arts programs are likely to have greater exposure to a variety of software and applications that relate to their disciplines, whereas those from culinary, tourism, and hospitality programs are expected to have limited experience with such technologies. Results from the present study also indicate that students' academic programs may play an important role in their computer/Internet and online communication self-efficacy levels.

Differences in Online Learning Readiness by Duration of Internet Use

Students represent a majority of Internet users worldwide, and a number of studies have revealed the existence of Internet dependency among university students (Ngoumandjoka, 2012). In the current study, it was observed that about 65% (295 out of 457) of college freshmen spend up to four hours each day using the Internet. The said duration of Internet use is within the reported 4-hour national average for social media utilization in 2017 (Bondoc, 2018). The nature of online engagement, notwithstanding, this finding suggests that a level of Internet dependency exists among the respondents.

According to Blayone et al. (2018), how often an action is done may be used as an index of competency such that routine practice improves the transfer of knowledge. In the context of online learning readiness, this means that frequency or duration of Internet use is associated with computer/Internet self-efficacy. In the current study, a significant difference was detected in terms of CIS such that students with more than four hours daily Internet usage obtained higher self-efficacy scores in relation to technology use than those who use the Internet for four hours or less each day. This finding, however, is contradicted by another

investigation which found students who spend less than five hours online per week to have higher computer self-efficacy as a result of their confidence in using the Internet for course-related work than those who spend more than 20 hours (Kuo et al., 2013).

Conclusion

This study was an initial attempt to assess online learning readiness in a local higher education context. According to Dabbagh (2007), among the skills that contribute to academic success in online learning settings include being persistent in accomplishing goals, using appropriate learning strategies, making decisions about what and how to learn, communicating, and utilizing technology. In terms of online learning readiness, the above-mentioned skills comprise the scale used to assess whether college freshmen are ready to learn in a virtual set-up.

Although all respondents were found to have similar readiness for online learning across all five dimensions regardless of sex, notable differences were observed with respect to academic programs and duration of Internet use. In terms of the academic program, significant differences were found in three dimensions: computer/Internet self-efficacy, motivation for learning, and online communication self-efficacy. With respect to the duration of Internet use, students who spend more than four hours online were found to have significantly higher scores in the computer/Internet self-efficacy dimension of online learning.

Motivation for learning, computer/Internet self-efficacy, and online communication self-efficacy were evidently high among the respondents of this study. However, measures or interventions need to be put in place to improve self-directed learning and learner control. Because the very nature of an online learning environment promotes self-directed learning, learners are expected to plan, implement, monitor, and evaluate their learning process (Leatemia et al., 2016). Thus, higher education teachers have an important role to play in the development of these worthwhile skills while at the same time addressing learner diversity (e.g., sex and academic programs). By teaching learners to be more independent and to remain motivated while learning at their own pace in an online setting, their self-directedness and control of

learning may be improved (Heo & Han, 2018). These two dimensions are important components of online learning readiness (Horzum et al., 2015), as well as predictors of academic motivation and perceived learning.

The increasing integration of online approaches to instruction by higher education institutions (Glowatz & O'Brien, 2017; Joosten & Cusatis, 2020; Rodriguez & Anicete, 2010) continues to generate the need for an effective instrument that will help predict student success in online settings (Hall, 2009 as cited in Clark, 2013). Future studies may explore whether the OLRS can be utilized as an effective predictor of students' academic performance in online courses. Given the attributes of the study respondents, caution must be observed when generalizing findings to other populations. Related research may be conducted among upperclassmen, as well as graduate students for comparative purposes.

Declaration of ownership:

This report is our original work.

Conflict of interest:

None.

Ethical clearance:

This study was approved by our institution.

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