

Students' Engagement in Online Learning Amidst Covid-19 Pandemic

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Abstract

The Philippine school system has welcomed flexible learning and made adaptations to allow for remote instruction via digital platforms since the COVID-19 pandemic dramatically switched traditional study to online learning. QCU launched complete online learning in 2020–2021, 2021–2022, and blended learning in 2022–2023. Online learning was not widely accepted before the pandemic. Thus, researchers want to know how much students learned online during the pandemic. The study also gives teachers, university policymakers, and designers ideas for student engagement strategies to improve academic performance. This also makes accreditation and benchmarking data more accessible. Since online students rarely interact with the institution, Martin and Bolliger stress student engagement. Newmann, Wehlage, and Lamborn defined student engagement as "the student's psychological interest in and effort towards obtaining, comprehending, or mastering the knowledge, skills, or crafts required for academic performance." (a) How engaged are online students? Does student engagement affect academic performance? A descriptive cross-sectional survey was chosen. Focus group discussions and interviews confirmed, explained and triangulated the investigation's findings. This study involves QCU students enrolled in the second semester of the Academic Year 2022–2023. A total of 657 students responded to the invitation to answer the questionnaire. A Shapiro-Wilk's test and a visual inspection of their histograms and normal Q-Q plots showed that the respondents' midterm general weighted average was not normally distributed. However, the distributions of Likert scores for the Online Classroom Student Engagement Scales (OCSES) were approximately normal for all the indicators. Students' overall level of engagement revealed a mean score of 3.37, which was interpreted as moderate engagement. Among the indicators, assignment activity was the highest. Online student engagement does not have much effect on the midterm grades of the students except on assignment activity which usually requires a higher level of active engagement by the students. In general, students would be more engaged in learning when they are given activities or tasks that involve deeper learning. Therefore, it is recommended to provide tasks, activities, discussions, and interactions that involve deeper learning, understanding, or analysis from the students.

Keywords: *Academic performance, COVID-19 pandemic, Traditional learning, Flexible learning, Online learning, Student Engagement*

Introduction

When COVID-19 arrived in the Philippines in the first quarter of 2020 and classes were canceled for the rest of the academic year, academic administrators considered the actions of the many academic programs affected (Torrefranca, 2020). The Philippine school system has welcomed flexible learning and made adaptations to allow for remote instruction via digital platforms since the COVID-

19 pandemic dramatically switched traditional study to online learning. QCU launched complete online learning in 2020–2021, 2021–2022, and blended learning in 2022–2023. Online learning did not gain widespread acceptance before the pandemic (Perry and Pelati, 2011), and according to the World Economic Forum (2020), there are still obstacles to overcome, such as the need for reliable internet connectivity, technological issues, and an obvious income divide, all of which limit participation in digital learning during COVID-19. According to the World Economic Forum (2020), there are still challenges to overcome, such as the requirement for reliable internet connectivity, technological struggles, and an obvious income divide, all of which limit participation in digital learning in the COVID-19 period. In fact, ever since schools transitioned to remote education in 2020, students in a variety of schools have struggled to meet the rigors of online education (Magsambol, 2021).

The goal of this study is to determine how much students engaged in online learning in the midst of the Covid-19 Pandemic. This study offers suggestions for specific engagement tactics or approaches that should be made available for students in order to support teachers, university policymakers, and designers in improving students' academic performance and achievement.

Specifically, this study aims to answer these questions:

- a) What is the level of student engagement in online learning?
- b) Is there a relationship between the level of student engagement and academic performance?

The fact that online learners have few opportunities for interaction with the institution makes student participation in online learning particularly crucial, according to Martin and Bolliger (2018). As stated by Martin and Bolliger (2018), student engagement is "the student's psychological interest in and effort towards obtaining, comprehending, or mastering the knowledge, skills, or crafts required for academic performance." The premise behind "student engagement" is that when students are inquisitive, interested, or inspired, they learn better, and when they are bored, apathetic, disillusioned, or otherwise "disengaged," learning suffers. Most educators desire greater student participation. Student engagement models and techniques can improve online learning for instructors and course creators. According to Kuh (2005, in Amora, 2016), student engagement can be used as an empirical measure to help schools improve the student experience and learning outcomes over time. For Kuh (2005, in Amora, 2016) institutions could use the amount of student engagement as a real-world indicator to think about how to improve the student experience and long-term learning outcomes. (Amora, 2016). Meyer (2014) adds that involvement may be a key factor in making online learning an important part of higher education and a necessary part of an institution's future. Online learning could help QCU achieve its goal of being the top local institution for employable graduates. According to Chen (2020), undergraduate students can improve their learning engagement to compete for jobs after graduation.

Student engagement in online learning is crucial, especially during the COVID-19 epidemic, when distant learning is the norm. In an online environment, student engagement is more crucial due to the fact that feelings of isolation and separation from their friends may experience (Dixon, 2014). Despite this importance, there is still a need to investigate the students' level of engagement, especially during this time of pandemic where online learning is a must. In addition, this involvement could have significant implications for students' academic achievement and importantly for their success. Thus, the inquiry intends to make a bridge and allow an understanding of the student engagement level, particularly in these times of unforeseen event. This scholarly work can be an instrument to improve student engagement and serve as a foundation for achieving the effectiveness of the set learning outcomes, specifically in an online learning environment.

Methodology

This study conducted a descriptive cross-sectional survey due to time constraints. As Splendor and Chikeme (2020) explain, a descriptive cross-sectional study is a research method that gathers data at a particular point in time to describe the current state of a phenomenon or the relationships between different phenomena. It's essentially a "snapshot" of the prevalence and characteristics of a condition within a specific population at a specific point in time.

This study involves QCU students enrolled in the second semester of the Academic Year 2022-2023. Researchers estimated the total sample size of 400 students who will willingly answer the questionnaire during the first tryout of administration, provided they respond with valid, unique, and verified email addresses so that the results were made truthful and have consistent responses to the survey. A total of 657 students responded to the invitation to answer the questionnaire across year levels and various courses. Out of this number, 28 responses were removed due to inconsistency of responses.

The researchers targeted 200 QCU students from 1st-year to 4th-year level in various courses for the instrument final run. However, 180 gave their consent to be involved in the study, while 167 remain to have completed the given online classroom student engagement scale and consented to the researchers to obtain their midterm grades from the registrar's office.

According to the findings of an extensive review of the literature on student engagement in online education, the researchers constructed the instrument. Following the indicators of engagement in the online classroom (Mandernach, 2012), five-point Likert-type items have been generated using Google Forms during the first tryout of the instrument. The indicators of engagement were demonstrated by participation in asynchronous discussions, assignment activities, and course involvement (Mandernach, 2012). In the same way, as the institution employs Google Meet as a tool for teleconferencing to meet the planned classes of students, synchronous discussion and student participation were included as another indicator of student engagement in the online environment.

The initial draft of the instrument was distributed to all contributing experts who have at least five (5) years of expertise in online education before completing its final version. A copy of the instrument's Word/pdf file, for them to analyze the instructions, and all the questions, make revisions, add or eliminate pertinent items that are not important, and evaluate the items using a form that enables instrument validation, has been provided to these experts. The first draft was amended in accordance with the opinions and suggestions of the experts who reviewed the questionnaire. The revised instrument was distributed to a group of 10 students with the purpose of determining whether or not the vocabulary used in the instrument is understandable at their level. The students were also asked to evaluate the comprehensibility of the instrument's vocabulary, with the words or groups of phrases that they do not understand being circled. In addition, they were instructed to write the term that they believe will be most appropriate for their level of proficiency. The researchers undertook a focus group discussion to further validate students' responses. The ideas and suggestions of students were taken into consideration when determining the final form of the instrument.

To conduct field-testing for the instrument and to assess the validity and reliability of the questionnaire, the final version of the instrument was sent out to groups of students using Google Forms as part of the instrument's field-testing. Standards for Educational and Psychological Testing, AERA, APA, NCME, Joint Committee on Standards for Educational and Psychological Testing (US) (2014) have all stated that instrument field-testing is extremely helpful in evaluating some of the psychometric characteristics of test questions.

Following the data-collecting phase, Cronbach's alpha coefficients as shown in Table 1 were determined in order to confirm the instrument's item consistency and internal reliability. This result suggests that OCSES items have an excellent internal consistency among items.

Table 1.

Reliability Estimates of Online Classroom Student Engagement Scale (OCSES)

Indicators of Engagement	Cronbach's Alpha
Online Discussion	0.943
Assignment Activity	0.943
Course Involvement	0.938
Overall	0.974

Additionally, the item-total correlation has been performed to estimate the indices of discrimination for each instrument's item and to gather evidence on the reliability of the scores generated by the instrument, respectively. Furthermore, descriptive statistics such as frequency counts, percentages, means, and standard deviations were used to analyze the question posed in this study.

Results

The respondents' midterm general weighted average showed that there was no normality, skewness of -1.214 (SE=0.188), and kurtosis of 1.712 (SE=0.374), based on the picture of their histograms and normal Q-Q plots as well as the results of Shapiro-Wilk's test ($p < .05$) (Shapiro & Wilk, 1965; Razali & Wah, 2011). However, the distributions of Likert scores for the Online Classroom Student Engagement Scales (OCSES) were approximately normal for all the indicators such as online- synchronous/asynchronous discussion (skewness=0.076, SE=0.188; and kurtosis=-0.193, SE=0.374), assignment activity (skewness=-0.171, SE=0.188; and kurtosis=-0.015 and SE=0.374), course involvement, (skewness=0.087, SE=0.188; and kurtosis=-0.069 and SE=0.374), and for the overall respondents rating on their online classroom engagement has a skewness of -0.026 (SE=0.188) and kurtosis of -0.033 (SE=0.374) (Cramer, 1998; Cramer & Howitt, 2004; Doane & Seward, 2011)

Table 2 shows the level of student engagement in online learning with the identified Likert interval scale.

Table 2.

Likert interval scale and its corresponding level of student engagement in online learning

Scale	Description	Meaning	Interval	Interpretation
5	Always	The action happens all the time without exemption or 100%	4.2 – 5.00	Very High
4	Often	The action happens most of the time, or up to 90%.	3.40 – 4.19	High
3	Sometimes	The action happens occasionally, but not on all occasions or just half of the time or up to 50%.	2.60 – 3.39	Moderate
2	Rarely	The action happens almost never or just up to 10%.	1.80 – 2.59	Low
1	Never	The action never happens at all or 0%.	1.00 – 1.79	Very Low

Table 3 reports the level of student engagement according to the indicators of student engagement in online learning.

Table 3.

Comparison of the level of student engagement based on the indicators in online learning.

Indicators of Engagement	Mean	Standard Deviation	Interpretation
Online Discussion	3.18	0.58	Moderate
Assignment Activity	3.64	0.58	High
Course Involvement	3.26	0.59	Moderate
Overall	3.37	0.52	Moderate

As shown in the table, students' overall level of engagement revealed a mean score of 3.37, which was interpreted as moderate engagement. Among the indicators, assignment activity was the highest ($Mean=3.64$). This may suggest that the respondents with high levels of engagement in online learning actively participated in various learning activities. So, high student engagement in online learning tends to have better learning (Khan, R.A., Atta, K., Sajjad, M., & Jawaid, 2021). In addition, this further validates Manning-Ouellette, A., & Black, K. (2017), discovery that students in online classrooms may demonstrate a high level of engagement compared to those in traditional classroom set-ups when it comes to deeper learning on assignments.

Highlighting the connection between the level of student engagement with their academic performance, this investigation correlates these variables via Spearman's rank correlation coefficients. The respondents' midterm performance revealed a not normal distribution. The median of the respondents' midterm grades of 88.38 and its quartile deviation of 2.66 indicates that the majority of the respondents' midterm grades are relatively close to the median with a small amount of variation. However, since the distribution of midterm grades is negatively skewed, this means that there were some students who performed exceptionally well which led to negative skewness and a somewhat flatter shape compared to normal distribution.

The Spearman's rank correlation coefficients between the level of student engagement with their academic performance are presented in Table 4.

Table 4.

Correlation coefficients between the respondents' midterm grades and the indicators of online learning

Indicators of Engagement	Midterm grades Spearman's Rho	p-value	Interpretation
Online Discussion	0.013	0.868	Not significant
Assignment Activity	0.178	0.021	Significant
Course Involvement	0.075	0.336	Not significant
Overall	0.102	0.188	Not significant

Discussion

The midterm general weighted average of the respondents seems to not follow a normal distribution, according to the findings. On the other hand, the Likert scores for the Online Classroom Student Engagement Scales (OCSES) show that the distributions for all the indicators, including online-synchronous/asynchronous discussion, assignment activity, course involvement, and overall respondents' rating on online classroom engagement, are roughly normal. Hence, while the online classroom student engagement between students is not varied, there is a huge variation in the midterm grades as between students. Students may have roughly the same level of online engagement, but the midterm grades may not be roughly the same.

The overall degree of student engagement in online learning was moderate, with a mean score of 3.37. Out of all the indicators, assignment activity had the highest mean score (3.64). This shows that students who showed high levels of engagement actively engaged in various learning activities, especially assignments. According to this result, greater learning outcomes are correlated with more student participation in online learning. This also supports the notion that, as compared to students in traditional classroom settings, those enrolled in online classes may exhibit higher levels of engagement, particularly in terms of deeper learning on assignments. This supports the result that the indicator with the highest mean score, assignment activity, indicated active participation and engagement in online learning. It's crucial to remember that the distribution of the respondents' midterm grades was not uniform. The midterm grade median was recorded as 88.38, and the quartile deviation was 2.66. This suggests that there was little to no fluctuation in the midterm grades of the vast majority of the responders. The distribution's negative skewness, on the other hand, indicates that there were certain students who performed particularly well, producing a flatter shape than a normal distribution.

According to the study's findings, only the assignment activity significantly influences both the midterm grades and the online engagement metrics. The midterm grades and the metrics for online participation have an insignificant linear relationship. We can therefore conclude that the online student engagement does not have much effect on the midterm grades of the students except on assignment activity, which usually requires a higher level of active engagement by the students.

In general, students would be more engaged in learning when they are given activities or tasks that involve deeper learning. Therefore, it is recommended to provide tasks, activities, discussions, and interactions that involve deeper learning, understanding, or analysis from the students. Thus, it is recommended for future researchers to determine activities that would make students be more involved or engaged to learn.

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