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STUDENT ENGAGEMENT LEVEL IN ONLINE LEARNING: THE NEW NORMAL

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Abstract

This research explored the level of student engagement based on the four dimensions which illustrate how students spend their time and energy during online learning: (1) Skill engagement; (2) Emotional engagement; (3) Participation engagement; and (4) Performance engagement. Furthermore, the challenges that affect student engagement were also highlighted in the current research to improve the effectiveness of the online classroom instructions and enhance in-class engagement among the students. A modified version of the Student Course Engagement Questionnaire (SCEQ) was used for this research. The data was gathered and collected online using a survey consisting of 40 items. 125 Universiti Selangor (UNISEL) undergraduate students were the respondents in this research who have undergone online classroom during the Covid-19 pandemic. The data collection was analysed using the IBM SPSS Statistics software package. The findings show that the overall level of student engagement according to the data collected indicates a positive engagement (from moderate to high) based on the calculated mean for each item apart from the challenges faced by the respondents during online classrooms. To conclude, further research should be conducted to find effective methods to enhance student engagement during the online classroom.

Keywords: Student Engagement, Online classroom, Student Course Engagement Questionnaire

INTRODUCTION

Over the past years, information technology has become a vital need for tertiary education. Most institutions are aware that technology has become the most practical means in facilitating the teaching and learning process and, at the same time, enhancing the students' experience

and knowledge. Thus e-learning comes to light whereby teachers and students depend more on the internet to search for information, get ideas for teaching material, and complete tasks. Moreover, due to the global spread of the COVID-19 pandemic, conducting physical classes is almost impossible these days. Hence, e-learning, or online learning, is no longer an option but has become a common practice in all learning institutions to fulfil the teaching and learning process needs. However, this practice became a challenge for educators to support the construction of knowledge or provide a learning context that fosters students' focus during learning.

In online settings, the learning activity is based on student autonomy and interactive learning activities (Liaw et al., 2007). Student engagement and teacher-student interaction during online learning play an important factor that can affect students' learning satisfaction and academic performance (Howland & Moore, 2002). Focusing on student engagement can benefit the instructors in conducting an effective teaching and learning process in traditional or online classrooms (Mohd Nasir et al., 2020). Examining student engagement is an important factor for the instructors as these lead to students' satisfaction and positive learning outcomes. Hence, it is believed that student engagement should be assessed constantly, especially during online learning.

According to Harper and Quaye (2009), engagement is more than involvement or participation, but it is necessary to incorporate our emotions, have a constituent mind, and participate in an activity. Kuh (2003) also asserted that student engagement is about "*the time and energy students devote to educationally sound activities"* (p. 25). Moreover, the term *'student engagement'* was evoked as participating in the effective educational practices in a classroom situation that may generate measurable outcomes (Kuh et al., 2007). Student engagement can be described in three factors: behavioural engagement, cognitive engagement, and emotional engagement (Fredericks et al., 2004). These three factors correlate with one another, which mutually influence each other over time, and in such would then influence students' active and effective participation in a classroom setting.

Behavioural engagement includes the students' involvement in academic, social, as well as extra-curricular activities. It is also considered essential to achieve positive outcomes in academics and to prevent students from dropping out. Teacher-student interactions are

essential to foster a strong and positive relationship as it benefits the students' behavioural engagement (Cooper, 2014). Student-student or peer interaction is also another crucial element factor that correlates with a positive interpersonal environment. The highly involved students with other students participate in the same activities will be the source of increased participation (Nguyen et al., 2016).

Emotional engagement is essential in the learning process. A source of energy (Skinner and Pitzer, 2012) as humans' emotions can affect their awareness, recognition, memory skills, problem-solving, and decision-making skills (Pekrun, 2011 as cited in Halverson & Graham, 2019). In addition, Skinner and Pitzer (2012) also argued that emotions or feelings are "the catalyst for high-quality learning through behavioural and cognitive interaction" (p. 33). The positive level of emotional engagement directly influences the students' needs to complete the workload given and the willingness to participate in the institution's expectations.

Cognitive engagement highlights the idea of the students' investment towards their learning, which includes thoughtfulness and their willingness to put in the effort needed to comprehend complex ideas and tactics and master challenging skills that would aid their learning. This dimension also includes factors that indicate the quality of an engagement, primarily cognitive and metacognitive strategy use, individual interest, and deep concentration (Halverson et al., 2014). Effort, concentration, persistence, and time on task are more outwardly evident indications that mental energy is being placed into learning (Henrie, Halverson, and Graham, 2015).

On another note, Handelsman et al. (2005) also proposed additional dimensions focused on student engagement in the classroom context. Those four additional dimensions exemplify the student's dedication of time and energy towards the four branches: skill engagement, emotional engagement, participation/interaction engagement, and performance engagement. These factors are expected to come from the students in both relational and behavioural elements. The measure of the level of student engagement can be made within the virtual classroom purposes.

On the other hand, challenges during virtual learning classes may also affect student engagement in online classes. According to study by Chung et al. (2020a), among the challenges faced during online classes, faced undergraduate students are Internet connectivity,

various approaches in virtual teaching and learning, constrained broadband data usage, lagging devices, having trouble concentrating, demotivated due to less physical interaction, difficulty comprehending the lesson content material and lack of technical skills. Other than that, various online learning platforms may impede students' level of engagement due to the age gap, which causes them not to be experts with technologies and devices (Hidayu Shafie et al., 2019); Yaakob et al., 2016).

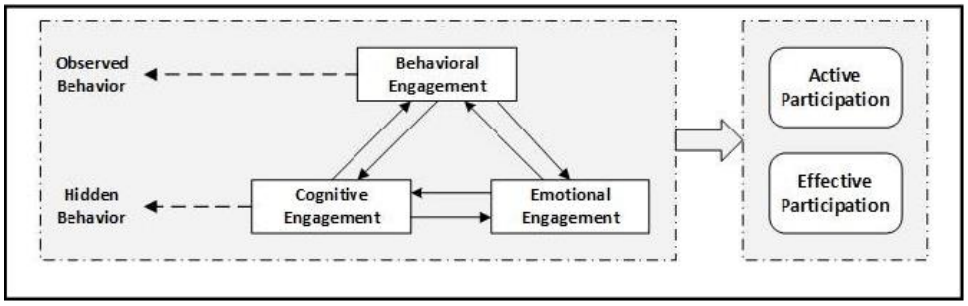

Figure 1: A framework for Student Engagement

Research Questions

Two research questions to be answered are:

1. What is the level of engagement of UNISEL students in an online classroom?

2. What are the challenges faced by the UNISEL students that may affect their engagement during virtual classrooms?

METHODOLOGY

The data of this quantitative research was collected from 125 UNISEL undergraduate students in answering a 5-point Likert scale questionnaire. *"Student Course Engagement Questionnaire (SCEQ)"* by Handelsman et al. (2005) was adapted and used in this research which was initially designed to investigate student engagement in traditional and on-campus courses. However, SCEQ is also relevant to online learning, with a few modifications made to the items. This questionnaire consists of 23 items measuring four dimensions of student engagement with their courses (Mohd Nasir et al., 2020) as seen in Table 1.

Table 1: Dimensions of Student Engagement

Dimensions of Student Engagement	No. of Items	Description
Skills engagement	9	The student engagement through practicing skills
Participation/interaction engagement	6	The level of interaction with either instructors or fellow students
Emotional engagement	5	the level of emotional involvement with class material
Performance engagement	3	the level of class performance or learning outcomes

The questionnaires were gathered online by utilizing Google Form because of the COVID-19 outbreak. All the collected data were then analyzed using the IBM SPSS Statistics software package. The means and standard deviations for each dependent variable of various groups were calculated and presented. A mean score between 1.00 and 3.00 is considered negative engagement, while for positive engagement, the score is between 4.00 and 5.00. In other words, 1.00 to 3.00 is interpreted as low, 3.01 to 4.00 is interpreted as moderate, 4.01 to 5.00 is classified as high.

RESULT AND DISCUSSION

Table 2 illustrates the responses for the skill dimension of students' engagement. The skill engagement is to gauge how well the respondents engage in the teaching and learning process. Based on the mean scores for all items, it can be concluded that the skills engagement of the respondents during online learning shows a positive engagement, and over half of the mean score for each item is classified as a moderate level. Item 7, *"I make sure to listen attentively during an online class"* shows the highest mean score of 4.02 (SD=0.847), proves that the majority of respondents were well-aware of the importance of focusing on a lesson during online class for their benefit. Item 2, *"I always think about the course between online class*

meetings" shows a mean score of 3.36 (SD=0.875), which proves the effort that the students' made to prepare for a lesson. On the contrary, item 6, *"I regularly contact the professor to review assignments or tests or to ask questions"* holds the lowest mean score of 2.78 (SD=0.847). The finding shows a slightly negative engagement among the respondents as they were reluctant to directly engage with their lecturers regarding classes when it comes to online learning. The overall finding of this engagement showed that the respondents displayed positive engagement of this dimension.

Table 2: Students' Level of Engagement: Skills Dimension

Item Statistics

	Mean	Std. Deviation	N
I always take good notes during an online class.	3.05	1.177	125
I always think about the course between online class meetings.	3.46	.875	125
I always stay up on reading the course materials.	3.04	1.073	125
I look over class notes between classes to make sure I understand the material.	3.37	1.036	125
I make sure to study on a regular basis.	3.32	1.021	125
I regularly contact the professor to review assignments or tests or to ask questions.	2.78	1.084	125
I make sure to listen attentively during an online class.	4.02	.847	125

Table 3 presents the statistical outputs, means, and standard deviation of 6 items for participation engagement. This dimension measures students' involvement in-class activities. The mean score above depicts that the students' participation during an online class is moderate, as indicated in the table according to the Likert-scale interval. Item 4, "*I find myself having fun while engaging in virtual classroom activities",* scored an average mean score of 3.06 (SD=1.072). Although the mean score of this item is at the moderate level, the standard deviation is relatively high, which means some of the respondents agreed and disagreed that they enjoyed participating in an online learning environment.

In addition, since online classes have become a new norm, the majority of the respondents agreed that they are actively helping each other in comprehending the content as

shown in item 6; "*I make sure to help fellow students during lessons to ensure we understand the course better"* with the highest mean score of 3.99 (SD=0.920).

It can be concluded that the findings above illustrate that only a few of the respondents were at the moderate level, and the majority of them displayed a high level of engagement based on the overall statistical outputs for participation engagement.

Table 3: Students' Level of Engagement: Participation Dimension

Item Statistics

	Mean	Std. Deviation	N
Answering questions in class via microphone.	3.26	1.114	125
Participate in activities during an online class.	3.65	.882	125
Raise questions when I don't understand the instructor.	3.22	1.077	125
I find myself having fun while engaging in virtual classroom activities.	3.06	1.072	125
Actively participate in discussions or forums.	3.65	.953	125
I make sure to help fellow students during lessons to ensure we understand the course better.	3.99	.920	125

Table 4 displays students' level of engagement in terms of their enthusiasm and involvement in simulated courses carried out by their teachers as part of a dimension of predictive performance emotional engagement. As shown in the table, item 5, *"I try to be present for every online class"* holds the highest mean score of 4.55 (SD=0.808). The finding indicates that the respondents were committed to the learning and have shown a positive attitude in attending classes to gain knowledge and understand the lecture. Meanwhile, for item 1; *"I make sure to apply the course material to my life, so I get a better grasp during learning"* (M=3.46; SD=0.894), shows that most of the respondents enhanced their understanding of the learned knowledge by connecting to their life which proves that the respondents are inclined to learning. Therefore, based on the above findings, it can be said that the respondents posed a positive attitude in terms of emotional engagement.

Table 4: Students' Level of Engagement: Emotional Dimension

Item Statistics

	Mean	Std. Deviation	N
I make sure to apply the course material to my life so I get a better grasp during learning.	3.46	.894	125
Finding ways to make materials relevant to my life.	3.57	.910	125
Find ways to make the course lesson interesting.	3.49	.972	125
I have the desire to learn the material.	3.60	1.032	125
I try to be present for every online class.	4.55	.808	125

Table 5 portrays the statistical outputs for items underperformance dimension according to the SCEQ. The performance dimension indicates the students' ability to set goals and expectations to achieve success. Both items 1 and 2 hold the highest mean score of 4.46 (SD=0.778). The finding indicates that the respondents are well-aware that they need to bring their assigned assignments into effect for any online course and highly motivated to perform and score well in their classes. On the contrary, item 5, "*Being confident that I can learn and do well in the class"* obtained the lowest mean score, which is 3.98 (SD=1.016) and is at the moderate level of engagement. Overall, it can be concluded that the respondents had shown a positive performance engagement as most of the obtained mean scores for all items are between 4.00 to 4.46.

Table 5: Students' Level of Engagement: Performance Dimension

Item Statistics

	Mean	Std. Deviation	N
I ensure to get a good grade for the course to track my improvement.	4.46	.778	125
Putting forth effort on homework/assignments given.	4.46	.788	125
Logging on to the class e-learning regularly.	4.39	.879	125
Doing all the homework problems.	4.19	.868	125
Being confident that I can learn and do well in the class.	3.98	1.016	125

Table 6 illustrates the finding of the challenges faced by the respondents during online learning. Item 1; *"My internet connection is always unstable in an online class"* (M=3.29; SD=1.378) shows that some respondents had internet connection problems during online classes, which may affect their focus and understanding of the taught knowledge. The second item, which is at a high level of mean score of 4.1 (SD=1.032), indicates that most respondents tend to be out of focus due to their setting.

Table 6: Challenges Faced During Online Learning

Item Statistics

	Mean	Std. Deviation	N
My Internet connection is always unstable during an online class.	3.29	1.378	125
The surrounding environment makes me lose concentration during an online class.	4.13	1.032	125
I am unable to adapt to the online class environment.	3.19	1.242	125
I feel isolated during online learning due to the lack of regular interaction.	3.66	1.295	125
I do not have sufficient technology to cater to online learning (Laptop, Smartphone, Tablet, Wifi/data, etc).	2.10	1.177	125
I feel demotivated during online class due to the lack of engagement.	3.63	1.125	125
I have insufficient knowledge about the use of technology needed for online learning.	2.45	1.241	125
I am unable to understand what is being taught during online learning.	3.40	1.085	125
I always experience technical difficulties during an online class.	3.21	1.291	125
I am unable to manage my time between online classes and personal affairs.	3.30	1.289	125
I have a hard time completing a group assignment during online learning.	2.98	1.335	125
I have a harder time learning in classes that require hands-on activities online.	3.53	1.175	125
I feel more burdened with loads of assignments in online classes compared to physical classes.	4.16	1.035	125
I find it confusing when there is a message overlapped which leads to miscommunications among instructors and students and vice versa.	4.25	.947	125
I do not feel confident to voice out my opinions via microphone or answer the instructor's question in the chatbox.	3.41	1.271	125
I am afraid of making mistakes when doing my tasks or assignments during online learning.	3.91	1.129	125
I have had a harder time completing a task on my own during online learning.	3.66	1.270	125

The finding also shows that most respondents have a problem getting used to online learning, as seen in item 3; "*I am unable to adapt to the online class environment"* (M=3.19; SD=1.242). It is also proven that online learning tends to make the respondents feel alienated.

Thus, some students need face-to-face interaction, as shown in item 4; "*I feel isolated during online learning due to the lack of regular interaction"* (M=3.66; SD=1.295). However, most respondents own sufficient technology for online classes, as seen in item 5, which scores the lowest mean score of 2.10 (SD=1.177). Since the start of online learning, the instructors need to create a variety of methods in order to cater to the students' needs of interest when learning, as seen in Item 6; "*I feel demotivated during online class due to the lack of engagement"* where some of the respondents lost their interests to learn as the classroom atmosphere is dull with the mean score of 3.63 (SD=1.125).

On the other hand, some issues should be taken into consideration in terms of respondents' comprehension of the content material taught by the instructor, technical difficulties faced during online classes, and juggling between online classes and personal affairs, which can be seen in item 8 (M=3.40; SD=1.085), item 9 (M=3.21; SD=1.291) and item 10 (M=3.30; SD=1.289), respectively.

As most of the respondents are well-versed in the technology based on the mean score gained for item 7, which is at the low level, only a few of them experienced a hard time completing a group assignment during online learning' based on the mean score of 2.98 (SD=1.335) for item 11. The mean score for item 17 also supports that most of the respondents are in favour of conducting tasks in groups rather than individually.

Nevertheless, it is understandable that it is not easy to do practical and hands-on activities in online classes as compared to the traditional classroom, as shown by item 12, *"I have a harder time learning in classes that require hands-on activities online"* which moderately agreed by the respondents (M=3.53; SD=1.175). Other than that, most respondents find it quite burdensome for them to complete loads of assignments in online classes compared to physical classes, which stresses them a lot.

One of the other aspects that need to consider when it comes to online learning is the miscommunication between the lecturers and the students due to the confusion that occurred because of overlapping messages. This is shown in items 13 and 14, which hold the highest mean scores of 4.16 (SD=1.035) and 4.25 (SD=0.947), respectively.

Another aspect that may impede the respondents' academic performance can be seen in item 15, "*I do not feel confident to voice out my opinions via microphone or answer the instructor's question in the chat box"* which scores 3.41 (SD=1.271) as this indicates that some of the respondents were unable and afraid to express their thoughts and opinions. This can be due to fear of rejection, as shown in item 16, *"I am afraid of making mistakes when doing my tasks or assignments during online learning"* with a mean score of 3.91 (SD=1.129).

The findings of the current research have demonstrated that most of the respondents scored higher in student engagement. Surprisingly, even though the respondents face a new norm of the learning process, their level of engagement in online classrooms is moderate to high. None of the four dimensions investigated placed at a low level of engagement. As for skills engagement, emotional engagement, and performance engagement, it can be concluded that the respondents displayed a positive or moderate level of engagement. The respondents also showed a high level of performance engagement apart from the challenges they faced during online classes, which may decrease their motivation to stay positive during these challenging times. Overall, the findings indicate that the change in the learning environment has little effect on the students' level of engagement in all dimensions.

CONCLUSION

The main purpose of this research was to identify the level of engagement among UNISEL students in online learning, which focuses on four dimensions as proposed by Handelsman et al. (2005). This research provided evidence that the level of student engagement in online classrooms is satisfactory even though most of them are experiencing new norm learning methods. The outcomes of this research can provide helpful information to both instructors and learning institutions as students' dedication is crucial for academic success, particularly during the current condition where all classroom activities are conducted online. Understanding and assessing student engagement is another issue that should be focused on as it directly relates to the instruction's effectiveness and enhances student engagement level in the online classroom.

However, there are still some limitations in this research that worth noting. Although the reliability of the measurement is acceptable, it is believed that it was caused by the number of items used to conduct the research. Modifying and adding some items of the instrument might give a better result. Another limitation that might change the overall finding is the

number of respondents, as it may give a different outcome if the respondents are of higher quantity and variety.

Several issues are also identified in this research which can be examined further in future research. Providing an eloquent and engaging strategy when conducting virtual classes by utilizing varied online learning platforms such as BigBlueButton, Skype, Google Meet, or Zoom is another issue that is worth investigating. Further studies can be conducted to overcome the issues highlighted in this research to specific groups of various geographical areas. Other than that, as suggested by Chung et al. (2020b), comparative research on students' academic performance in online classrooms versus traditional classrooms should be considered to determine the effectiveness of online classes. It is hoped that the findings from this research may feasibly assist other researchers in discovering profuse methods to overcome these limitations.

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