Engaging Online Students in Blended Synchronous Learning: An Exploratory Study

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Abstract

Blended synchronous learning (BSL) is an instructional approach that enables online students to participate in classroom activities from geographically separated sites using video conferencing technologies. Despite its educational benefits, maintaining and increasing the engagement of online students is challenging. In this study, some strategies were adopted in two classes (N=22 & 23) to investigate how online students could be effectively engaged and their perceptions of the strategies applied. Surveys and focus group discussions were administered. Results showed that leading group discussions was helpful for online students to be engaged. However, it had challenges for online students as they did not know who was talking and not every member could be observed in the video. Having a teaching assistant (TA) was highly rated. It enabled the instructor to pay close attention to the questions posted to the chat box promptly and helped online students know what was happening in class when the connection was unstable. Giving peer feedback was another useful strategy. However, it only worked when everyone was familiar with the assignment topics of others. Using an interactive tool like Pear Deck did not noticeably increase student engagement. It seemed the design of learning content and activities was more important than the tool itself. In addition, the students commonly indicated that they were highly engaged, and they did not think that their engagement level was lower when they were online. This finding was inconsistent with existing literature, which requires further investigation in the future. Implications for practitioners and researchers are discussed.

Keywords: Blended Synchronous Learning, Engagement, Interaction, Video Conferencing, Strategy

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Introduction

Blended synchronous learning (BSL) is defined as a learning approach that online students participate in classroom learning activities from geographically separated sites by using technologies like real-time video conferencing. BSL has many educational benefits for onsite and online students. For classroom students, they have opportunities to interact with a wide variety of students (Bower et al., 2015). They continue to attend classroom activities when they are absent from class due to health conditions or natural catastrophes (Wang et al., 2018). For online students, while benefiting the convenience and flexibility of online learning, they enjoy a live classroom atmosphere and high social presence of the instructor and classmates (Wang & Huang, 2023).

Nevertheless, we cannot assume that putting students in a BSL setting will make the online students be equally engaged in the learning process, as many factors may prohibit them from participating in the learning process. Existing research has identified that the engagement level of online students is often lower than that of the classroom students as they often have limited interactions with classroom counterparts and encounter technical difficulties (Wang & Huang, 2023). Therefore, maintaining and increasing the engagement level of online students becomes crucial in a BSL setting. The purpose of the study was to explore how to effectively engage online students when they were participating in classroom learning activities from other sites. The research questions were:
- What are useful strategies to engage online students in BSL?
- What are the students' perceptions of the strategies applied?

Conceptual Framework

Engagement is the students' commitment or effort involved in learning. It has three dimensions - behavioural, emotional, and cognitive (Fredricks et al., 2004) - or four areas - academic, behavioural, cognitive, and psychological (Appleton et al., 2006). Behavioural engagement is the observable behaviours necessary to the achievement of learning objectives, such as attendance, participation, and assignment completion. In an online learning environment, behavioural engagement is reflected by the indicators of the number/frequency of visits, the number of clicks, the number of posts, the time-on-task (Liu et al., 2015), or the number of page views, time spent on pages (Henrie et al., 2015). Emotional engagement includes 'both the feelings learners have about their learning experience, such as interest, frustration, or boredom, and their social connection with others at school' (Henrie et al., 2015, p.37). Cognitive engagement is often defined as the student's investment in learning. It often includes self-regulation and metacognitive behaviours. Among the dimensions, behavioural engagement and emotional engagement are more observable, and cognitive engagement is less observable but more related to learning outcomes.

As shown in Figure 1, to engage themselves, online students must actively interact with learning content, the instructor, and peers via technology in BSL. The learning content includes learning materials, tasks, activities, and assessment. The learning content must be authentic (Hew, 2018), relevant (Herrington et al., 2003), and challenging (Zepke & Leach, 2010). Using continuous e-assessment helps with engaging online students (Holmes, 2017). The instructor's behaviour affects the student engagement. For example, after studying the highly rated MOOCs, Hew (2018) reports that the instructor's accessibility and passion are among the key factors that affect students' engagement. Accessibility is the extent an instructor interacts with students. A low degree of instructor accessibility may cause students

to feel that they are ignored, or no one cares about them. Passion is the positive power that drives an instructor to put effort in teaching. Research also shows that the interaction between students and students and between students and the instructor helps in promoting student engagement (Junco et al., 2010). In addition, technology is a mediating tool for online learners to participate in class activities from remote sites (Cloonan & Hayden, 2018). However, technology often becomes a limiting factor. For instance, noise or echo affects the clarity of oral communication and learners' concentration and engagement in a BSL environment (Wang & Huang, 2023).
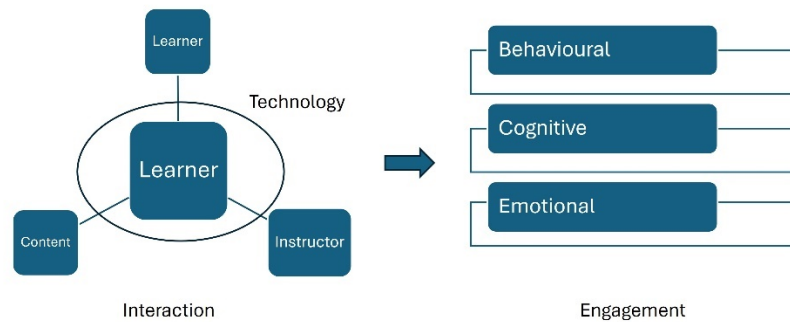

Figure 1. Conceptual framework

Methods

This is an exploratory study to explore how online students could be effectively engaged in BSL. Though the engagement of classroom students is equally important, the emphasis of this exploratory study was on investigating how the online students in BSL could be engaged by applying certain strategies and their perceptions of the strategies employed.

This study was conducted in two classes taking Masters' programmes in a teacher training institute. There were 22 and 23 participants in the classes, respectively. There were 13 teaching weeks and 10 of which were conducted in the BSL mode. About 2-5 students attended classroom learning activities via Zoom video conferencing and the rest were in the physical classroom in each BSL session. The two courses were taught by the same instructor. One course (called H) heavily involved hands-on activities to practise on various ICT tools and the other (called T) was more theoretical. The instructor was situated in the classroom. There were two cameras in the classroom, one focusing on the front area of the classroom where the instructor was frequently standing, and the other targeting at the entire room for online participants to observe what was happening in the room. The following strategies were purposefully applied in the BSL sessions to engage the online students:
- The online participants were required to keep their cameras on
- The instructor frequently asked online participants to answer questions
- The instructor designed interactive learning activities like online polls or quizzes
- A TA at the classroom monitored the chat box and communicated with the online participants
- Each student gave peer feedback to the sharing by others
- Pear Deck with some embedded interactive learning activities was piloted in one session

In Course T, the following strategies were employed:
- Small group discussions using Zoom breakout rooms were involved with each group composing of 1 online and 3-4 classroom students
- An online template with scaffolding questions was created to facilitate group discussions
- The online students facilitated and presented their group discussions

Both quantitative and qualitative data were collected. The instruments included online surveys and focus group discussions (FGDs). The online surveys composing of five-point Lickert scale items were administered at the end of the courses with some items being customized for the two courses. 18 and 16 students responded to the surveys. Means and SDs were calculated. For the focus group discussions, three focus group discussions with 3-4 students in each group were conducted via Zoom and each discussion lasted about an hour. Content analysis was carried out to code the responses. The unit of analysis was a sentence of each response.

Results and Discussion

The survey results from the two classes are presented in Tables 1 and 2. In both classes, the students indicated that the instructor played an active role to frequently invite them for contribution (M=4.33, 4.06) and interact with them (M=4.11, 4.27), and the instructor addressed their concerns promptly (M=4.06, 4.31). The online students could follow the instructor's presentation (M=4.44, 4.31) or demonstration (M=4.13) and stayed focused (M=4.33, 4.38). However, they did not frequently interact with the instructor (M=3.78, 3.81) or peers (M=3.78, 3.75). This result is consistent with the findings of other studies like Shi et al. (2021). It implies that enhancing the interaction between online students and others is an area to be further explored for improving students' engagement.

Having group discussions (in Course T) was useful for engaging online students. They actively participated (M=4.44) and facilitated (M=4.50) group discussions. In addition, using online templates to facilitate group discussions made their discussions focused (M= 4.56). They were highly engaged when they were presenting their discussion results to the class (M=4.44). In Course H, the students also mentioned that they were more engaged when they were presenting their artefacts to the class than listening to others' sharing (M=4.44 vs 4.13). In both classes, they mentioned giving peer feedback engaged them (M=4.28, 4.06).

The students in both classes were satisfied with the course content and they did not encounter critical technical difficulties in the session. They did not feel using Pear Deck in Google Slides was more engaging than using Zoom with PowerPoint and Poll Everywhere (M=3.78, 3.38). It seemed that students preferred using familiar technological tools and the design of learning activities was more crucial than the tool itself.

The students in both classes indicated that they were equally engaged in the classroom and online (M=4.17, 4.13), and their engagement level was not lower than when they were in the classroom (M=3.39, 2.56, negatively coded). Nevertheless, the online students in Course T were more engaged (M=4.39) than the students in Course H (M=3.87).

In summary, the following strategies were identified useful for engaging online students in BSL:
- Group discussions using breakout rooms in Zoom
- Online students leading and presenting group discussions
- Having a TA to keep contact with the online students
- Giving peer feedback on familiar topics

Table 1: Survey Result from Course T (N=18)

	Min	M	SD
1. The instructor paid close attention to us (online participants) during lectures	2	4.11	.900
2. The instructor frequently invited us (online participants) for contributions (e.g., comments, questions, or answers) during the lecture	3	4.33	.686
3. The instructor had frequently interactions with us in the BSL sessions	2	4.11	.963
4. The instructor addressed our concerns and/or questions promptly in the BSL sessions	2	4.06	.966
5. Having a teaching assistant in the classroom helped in notifying the instructor to address our concerns posted to the chat box	3	4.56	.616
6. I closely followed the instructor's presentations from homes in the BSL sessions	3	4.44	.616
7. I stayed focused during the BSL sessions	3	4.33	.594
8. I frequently interacted with the instructor during the BSL sessions	2	3.78	.878
9. I kept contact with classroom peers using backchannels like WhatsApp during the instructor's presentations in BSL sessions	1	3.78	1.060
10. Group discussions were frequently involved in the BSL sessions	4	4.78	.428
11. I actively participated in group discussions in breakout rooms during BSL	3	4.44	.616
12. Group discussions gave me opportunities to interact with peers	4	4.61	.502
13. Using templates in group discussions made our discussions focused	3	4.56	.616
14. I was empowered to take leadership roles (e.g., as a facilitator or presenter) in group discussions during BSL	3	4.06	.802
15. As a group discussion facilitator/presenter, I was motivated to put more effort in group discussions during BSL	4	4.50	.514
16. I was highly engaged when I was presenting to the class	2	4.44	.784
17. I was engaged when others were presenting to the class	3	4.11	.471
18. Giving peer evaluation made me concentrate on peers' sharing	3	4.28	.669
19. The learning content of the course was relevant	4	4.78	.428
20. The learning content of the course were helpful	4	4.78	.428
21. I did not encounter technical difficulties in the BSL session using Zoom.	1	4.11	1.023
22. The session using Pear Deck (in Google Slides) was more engaging than the sessions using Zoom only	2	3.78	1.114
23. I was highly engaged in the BSL sessions	3	4.39	.608
24. I was equally engaged wherever in the classroom or at home in the BSL sessions	2	4.17	.786
25. My engagement level was lower when I was online than when I was in the classroom in the BSL sessions	1	3.39	1.092

Table 2: Survey Result from Course H (N=16)

	Min	M	SD
1. The instructor paid close attention to us (online participants) during lectures	3	4.06	.772
2. The instructor frequently invited us (online participants) for contributions (e.g., comments, questions, or answers) during the lecture	3	4.06	.772
3. The instructor had frequently interactions with us in the BSL sessions	3	4.27	.799
4. The instructor addressed our concerns and/or questions promptly in the BSL sessions	3	4.31	.704
5. I closely followed the instructor's presentations when I was online in the BSL sessions	2	4.31	.873
6. I stayed focused during the BSL sessions	3	4.38	.719
7. I frequently interacted with the instructor during the BSL sessions	1	3.81	.981
8. I kept contact with classroom peers using other backchannels like WhatsApp during the instructor's presentations in BSL sessions	2	3.75	1.000
9. I could follow the instructor's demonstration during the hands-on activities in BSL	3	4.13	.619
10. I was highly engaged during the hands-on activities	3	4.25	.683
11. I was highly engaged when I was sharing my artefact with the class	4	4.44	.512
12. I was engaged when others were sharing their artefacts with the class	2	4.13	.885
13. Giving peer feedback made me concentrate on peers' sharing	3	4.06	.772
14. The feedback received during peer feedback was helpful for improving the artefact	3	4.13	.640
15. The learning content of the course was relevant	3	4.37	.619
16. The learning content of the course were helpful	4	4.47	.516
17. I did not encounter technical difficulties in the BSL sessions using Zoom	2	4.25	.856
18. The session using Pear Deck (in Google Slides) was more engaging than the sessions using Zoom only	2	3.38	.957
19. I was highly engaged in the BSL sessions	3	3.87	.619
20. I was equally engaged wherever in the classroom or at home in the BSL sessions	2	4.13	.885
21. My engagement level was lower when I was online than in the classroom in the BSL sessions	1	2.56	1.365

In addition to the benefits, the participants in the FGDs also mentioned some limitations associated with the above strategies. For instance, having a TA in the class helped in many ways. It enabled the instructor to pay close attention to their questions posted to the chat box promptly and enables them to know what was happening in the class when the connection was unstable. Nevertheless, they further expected the TA to provide instructional support in addition to technical support or notifying the instructor only. In addition, letting the online student moderate group discussion was useful but challenging. They sometimes did not know who was talking as not every member was displayed in the video. Giving peer feedback was engaging. However, it was hard for them to give informative feedback when they were not familiar with the project topics of the other groups.

Using an interactive tool like Pear Deck did not increase student engagement. The design of learning content and activities seemed to be more important than the tool itself. In addition, the students did not feel that their engagement level was lower when they were online. This finding varied from other studies, which often report that the engagement level of online students is lower than that of classroom ones (Conklin et al., 2019). Further studies are needed to verify this result.

The findings of the study have implications for both practitioners and researchers. Practitioners can apply the identified strategies to engage online students, like letting the online student facilitate and present group discussions and having a TA to support the instructional process. On the other hand, they must bear in mind that each strategy has its limitations too. To effectively engage online students, practitioners must deliberately adapt the strategies to make them effective for specific target groups of learners. For researchers, they can further explore if the engagement level of online students is generally lower or higher than that of classroom students and why.

This study has some limitations. The participants were adult learners, and the research context was higher education. The findings might not be transferable to other dissimilar contexts like primary or secondary schools. Therefore, further research is needed to verify the effectiveness of the identified strategies in other contexts. In addition, the class sizes were relatively small, and the findings were less representative.

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