Evaluation of Students' Learning Engagement in the Implementation of Blended Learning

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Abstract. The rapid development of technology encourages the integration of technology in education, one of which is online learning. However, online learning, especially synchronous learning has a weakness which is the lack of interaction and students' learning engagement. Therefore, the blended learning scheme is believed to be a bridge in obtaining maximum benefits from using technology in education without losing learning engagement. This study aims to evaluate students' engagement in blended learning implementation. The research subjects were 71 postgraduate students at XYZ University, Jakarta. The research data were analyzed descriptively. The results showed that face-to-face onsite learning builds student engagement better than synchronous online learning. In addition, asynchronous online learning with LMS Moodle, which provides several activities such as watching videos, doing quizzes, and discussing in forums, also succeeded in building high student learning engagement.

Keywords: learning engagement · blended learning · technology · synchronous · asynchronous

1 Introduction

The rapid development of technology also impacts the education sector, one of which is integrating technology in learning activities. Technology, one of which is the internet, makes it easier for students and teachers to obtain learning resources from various sites that can be accessed at any time [1]. In addition, technology facilitates communication between lecturers and students and fellow students outside the onsite class [2]. Moreover, technology also provides learning management system (LMS) facilities that are useful for managing various learning activities on a platform [3].

One form of technology integration in the management of the educational practice is a blended learning scheme. Blended learning is a model that accommodates offline face-to-face and online learning [4]. In particular, online learning can be divided into two types, which are synchronous and asynchronous learning [5]. Synchronous learning is real-time learning with direct communication and interaction between students and lecturers, which is carried out online through the virtual classroom platform [6]. On the other hand, asynchronous learning is structured learning that does not accommodate

real-time meetings but provides opportunities for students to learn independently and self-paced [7]. Asynchronous online learning allows students to learn anywhere and anytime, or what is commonly called a ubiquitous learning environment [8].

Blended learning aims to ensure that students achieve effective interactive learning, including collaborative learning, without losing engagement in face-to-face meetings [9]. It is important because students' engagement is crucial in assessing online learning quality [10]. Students' learning engagement is the feeling and motivation to continue to be active in learning activities, with teachers and peers [11]. Dixon defines learners' engagement as an effort made by students to have a psychological commitment to continue engaging in learning activities to gain knowledge and build critical thinking [12].

University XYZ Jakarta has implemented lectures with a blended learning scheme in one of the postgraduate study programs since 2019. In early 2019, blended learning was balanced between onsite and online lectures (50:50). Onsite learning is done face-to-face on campus, while online learning is carried out asynchronously. However, during the COVID-19 pandemic, lectures were conducted 50% synchronously online with Ms.Teams virtual classes and 50% online asynchronously with the Moodle learning management system (LMS). The study program considers that it is important to evaluate students' learning engagement to evaluate the quality of the blended learning process. It aims to obtain input to make improvements in future lectures. Therefore, this study aims to discuss the results of a survey related to students' learning engagement in implementing blended learning in one of the postgraduate study programs, XYZ University, Jakarta.

2   Research Method

This research was conducted with a quantitative approach with a survey method. The data obtained were analyzed using descriptive statistics. Data collection was carried out in June 2021, December 2021, and June 2022 when students completed their studies. This research instrument uses an online questionnaire posted in the Moodle LMS managed by the University so that all students can access it. The questionnaire consisted of a close-ended statement with a five range of answers: always, often, sometimes, rarely, never. It also provided open-ended questions that allowed students to express their aspirations. Student aspirations are also presented in this study in the form of excerpts. In order to maintain the confidentiality of respondent data, this study uses pseudonyms in the excerpts displayed. The research subjects were 71 postgraduate students in one study program, University of XYZ, Jakarta. The following is a detailed profile of the respondents in this study (Table 1).

3   Results and Discussion

Blended learning at the XYZ University, Jakarta, was balanced between face-to-face onsite and asynchronous online learning (50:50) in 2019. However, during the COVID-19 pandemic, lectures were carried out 50% synchronously online with a virtual class Ms.Teams, and 50% online asynchronous with LMS Moodle. Asynchronous learning

Table 1. Respondents' Profile

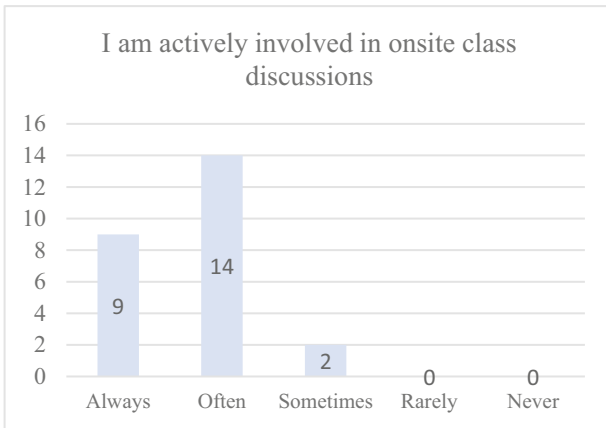| Categories		Number	Percentage
Sex	Male	23	32.39%
	Female	48	67.61%
Cohort	2019 (intake Agustus)	25	35.21%
	2020 (intake Januari)	16	22.54%
	2020 (intake Agustus)	30	42.25%

Fig. 1. Onsite Discussion

activities consist of several parts, namely: (1) watching video briefings, (2) studying lecture material videos from lecturers with voice-over, (3) taking quizzes, and (4) having discussions with peers in discussion forums related to lecture topics.

Referring to the learning engagement theory proposed by Dixson and Rajabale et al., that engagement is defined as a student's effort to continue to be active and involved in learning activities [11, 12], this study measures student engagement by assessing student participation in learning activities. Based on the results of a survey of 71 postgraduate students at XYZ University Jakarta, it was found that the level of student engagement in onsite lectures (completed by 25 cohort 2019 students) was quite high. It is known from the survey results in which students chose often and always on the questionnaire item "I am actively involved in onsite class discussions". The detail of the survey is presented in Fig. 1.

Related to the lecture assignments in onsite learning, the students also stated that they were often and always on the item "I am actively involved in completing the onsite meeting assignments". It shows that students have a high level of engagement. This result is also in line with the opinion of Boelens et al., who stated that face-to-face meetings in the classroom have the advantage of being able to build good student learning
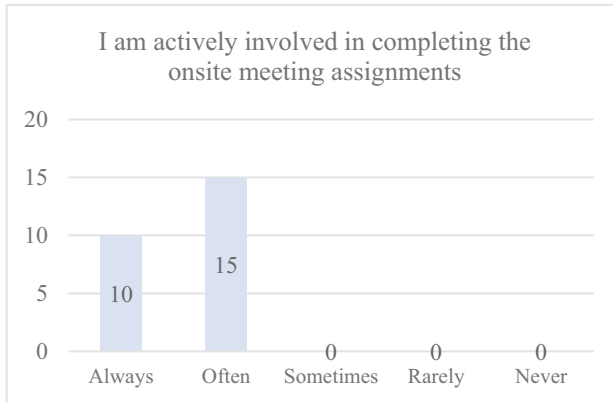
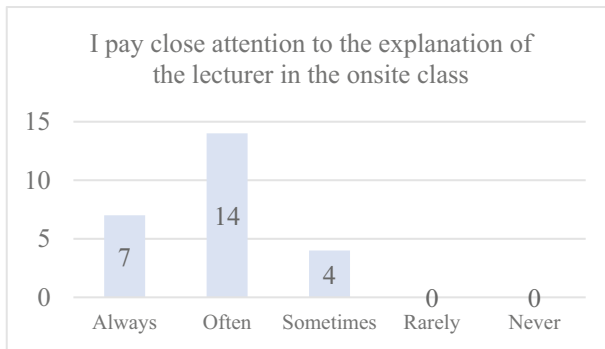**Fig. 2.** Completing the Onsite Meeting Assignments

Fig. 3. Pay Close Attention in the Onsite Class

engagement and bridge engagement in blended learning [9]. The details of the survey are presented in Fig. 2.

Regarding engagement with lectures delivered by lecturers in class, most students chose often and always on the questionnaire item "I pay close attention to the lecturer's explanation in the onsite class". The students can interact directly with the lecturer when explaining the learning material [13]. Students can also easily ask about the lessons and respond to questions given by the lecturer when learning takes place. However, a small number of students chose sometimes on this questionnaire item. The details of the survey are presented in Fig. 3.

A survey was also conducted regarding the implementation of synchronous online learning where students and lecturers conduct real-time lectures through virtual classes using Ms. Teams. This survey was filled out by 71 students, namely the 2019 and 2020 cohorts. An interesting finding from this section is that students have various answers to the item "I pay close attention to the lecturer's explanation in the synchronous class" and the item "I am actively involved in synchronous class discussions". This result indicates that students lack engagement in synchronous learning. This result is in line with Pei
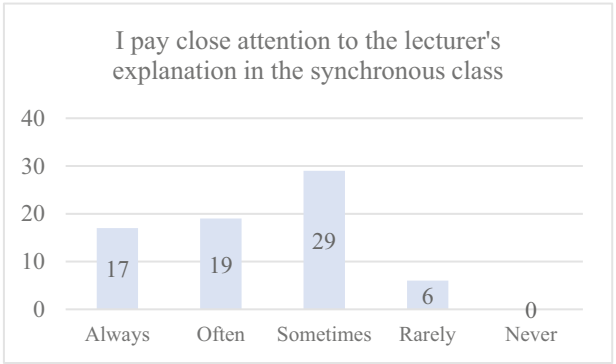
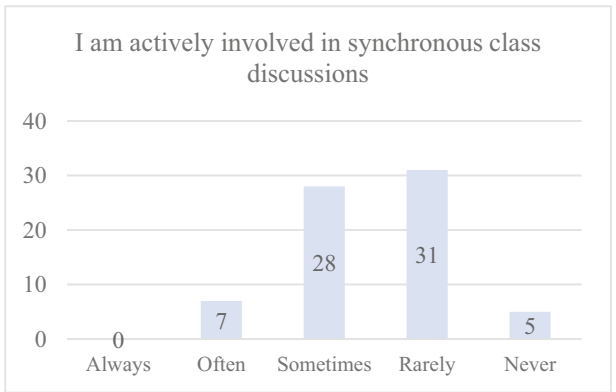**Fig. 4.** Pay Close Attention in the Synchronous Class

Fig. 5. Synchronous Class Discussions

and Wu's research which found that synchronous online learning has the disadvantage of lack of built-in interaction between lecturers and students [13]. The survey details are presented in Fig. 4 and Fig. 5.

Based on open-ended questions in the survey, the students stated that synchronous learning through virtual classes was monotonous because there was no direct interaction. Some students also stated that they were less motivated to discuss in virtual classes because they lost focus when listening to lecturers' explanations for a long duration. This result was also found in the research of Sharma et al., where 75% of students are not engaged in online learning interactions [14]. The following are some excerpts from students using pseudonyms to maintain the confidentiality of respondent data.

Excerpt 1

"Usually, the lecturer explains the material in one direction first, then gives the opportunity to ask questions, so the class feels monotonous and less interactive" [Rama]
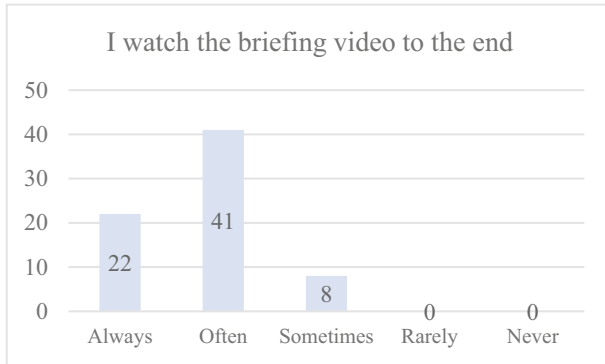
Fig. 6. Watching Briefing Video

Excerpt 2

"When the lecturer explains the learning material for quite a long time, I sometimes lose focus, so I am not motivated to be involved in the discussion" [Sinta]

The students were also asked to answer surveys related to asynchronous learning that had been implemented. The first evaluation was conducted related to implementing the activity of watching video briefings. The video briefing is a brief and simple explanation of the outline and learning objectives explained by the lecturer who appears in the video, accompanied by key points that are displayed in the form of writing or images in the video. The duration of the video briefing is between 3–5 min. Based on the survey results obtained data that students are engaged in watching video briefing activities. It is known from the item "I watch the briefing video to the end". The students answered often and always on the item. This result shows that students have high watch retention because the video briefing has a short duration (less than 6 min), therefore, students can have high focus [15]. The details of the survey are presented in Fig. 6.

Related to the activity of studying lecture material videos from lecturers with voice over. Lecture material videos contain PowerPoint presentation accompanied by supporting pictures and lecturer explanations with voice-over. This video is about 20–30 min long. Lecturers also provide examples of real cases in the explanation of the material. Lecturers also provide guiding questions to attract students' attention in paying attention to learning material videos [16]. These guiding questions are important to maintain student engagement, especially in achieving high watch retention, because students need examples that help them to make sense of the lessons [17]. Some students answered often and always on the item "I watch the learning content video until it is finished". The details of the survey are presented in Fig. 7.

Regarding the activity of doing quizzes, the students showed high engagement in completing the task. The survey results showed that all students always do the quiz in asynchronous learning. It is known from the item "I always do quizzes in asynchronous class". Almost all students always work on quizzes given in asynchronous learning. Only a few students stated often and sometimes. This result is in line with the opinion of
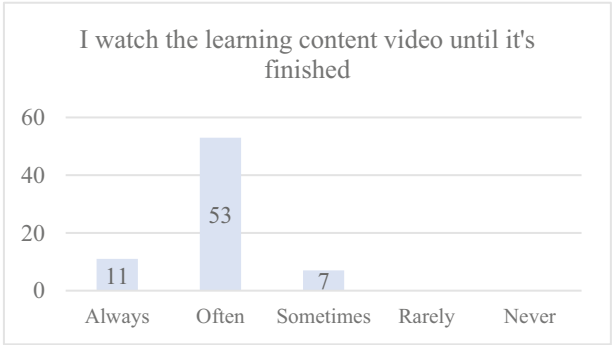
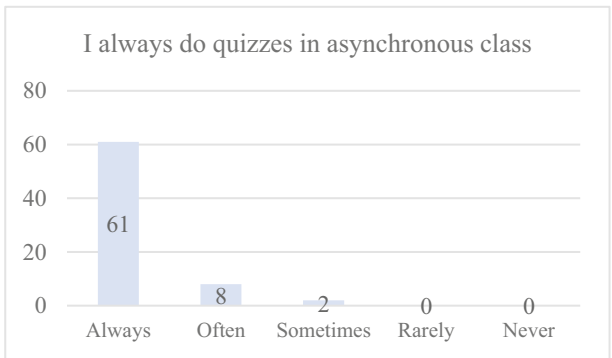**Fig. 7.** Watching Learning Content Video

Fig. 8. Doing Asynchronous Quizzes

Wu et al., who explained that giving quizzes in learning activities can increase students' learning engagement [18]. The details of the survey are presented in Fig. 8.

Although the students showed high engagement in doing the quizzes in the asynchronous class, from the open-ended questions, it was found that some students complained that the time for taking the quizzes was insufficient. They said that they were less than optimal when working on them. In addition, some students also stated that there was no quiz discussion in synchronous meetings to follow up on the quiz results. The following is an excerpt example from a student.

Excerpt 3

"The quizzes given are in accordance with the material and provide an opportunity to check student understanding. However, the processing time is not long enough, so when taking the quiz, it becomes rushed, and the score is not optimal." [Mawar]

Excerpt 4

"There is no follow-up of the results of doing the quiz. Students are only limited to doing and getting grades. It would be better if the quiz were discussed at the synchronous meeting after the asynchronous finished." [Anggrek]
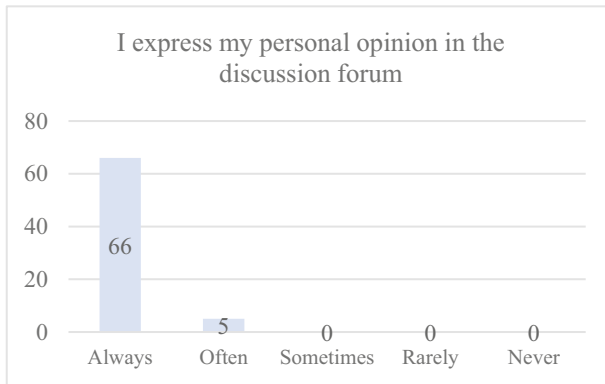
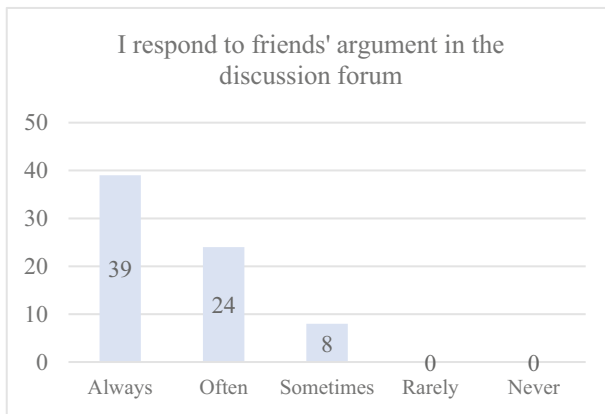**Fig. 9.** Giving Personal Opinion in Asynchronous Discussion

Fig. 10. Responding to Friends' Argument in the Asynchronous Discussion

Finally, students were also asked for their opinions regarding asynchronous discussion activities through the Moodle LMS. The students stated often and always on the item "I express my personal opinion in the discussion forum". In addition, students also often stated and agreed on the item "I respond to friends' arguments in the discussion forum". This result shows that students have high engagement in forum discussion activities. These results also align with the research of Sharma et al., who found that discussion forums were highly recommended in online learning, especially asynchronously, to answer doubts about the lack of interaction and student engagement [14]. The survey details are presented in Fig. 9 and Fig. 10.

4   Conclusion

Based on the survey results, it can be concluded that students have a fairly high engagement in onsite lectures and asynchronous lectures. The students were actively involved

in paying attention to the lecturer's explanations, doing assignments, and discussing both onsite and in the Moodle LMS. On the other hand, in synchronous online lectures, students do not enjoy monotonous activities, which makes students' learning engagement low. The students are also not motivated to discuss in the virtual class. Therefore, it is crucial for lecturers to think of solutions to overcome the low student engagement in synchronous lectures.

This study has a limitation, in which this research is a preliminary study where research data is only analyzed descriptively. Therefore, it is recommended that further research be made with more specific research methods to examine predictors of students' learning engagement to provide a more comprehensive discussion.

Authors' Contributions. Niko Sudibjo: Forming idea, collecting data, constructing instrument, analyzed and interpreted data, wrote paper.

HG Retno Harsanti: Forming idea, collecting literature, collecting data, analyzed and interpreted data, wrote paper.

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