Exploring Different Types of Engagement in Online Class

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ABSTRACT

Engagement is a crucial part in the learning process, for both face-to-face and online learning. The different types of engagement between the many key aspects in learning such as learners, instructors and contents can lead to multiple outcomes, specifically in ensuring the success in the process. Understanding the types of engagement in different modes of learning can help both instructors and learners to optimally strategize their teaching and learning. Thus, this quantitative study aims to explore the different types of engagements in online class. A purposive sample of 171 participants among higher learning institutions in Malaysia responded to the survey. There are 4 sections in the instruments, specifically on demographic profile, learner-to-learner engagement, learner-to-instructor engagement, and learner-to-content engagement. Based on the findings, it was revealed that there is a strong positive correlation between all types of engagements, with the highest mean score recorded for learner-to-instructor engagement. Future research could focus on impactful interactions with the learners by different learning approaches, as well as the effectiveness of lessons by the evaluation done on the application of knowledge input in problem solving or problem-based learning.

Keywords— Types of Engagement, Online Learning, Online Engagement

INTRODUCTION

Background of Study

Students' engagement in learning is a key factor in ensuring the success of the teaching and learning process. Engagement can be defined as a process that encourages learning and elevates success in academics. (Turner & Patrick, 2004; Marks, 2000). When students are engaged, they show great interest in their work, stay persistent in spite of any obstacles, and exhibit gratification once the task is completed (Yang, Lavonen & Niemi, 2018). Reeve (2012) proposed that engagement is a behaviour that can be observed publicly, meanwhile motivation; another key concept in learning, is considered to be more internal.

Previous research (Azevedo, 2015; Sinatra, Heddy & Lombardi, 2015) contends that the term engagement is not easily definable, and involves various conceptual, theoretical, methodological aspects for the term to be defined accurately. With regards to engagements in online learning, Moore's (1993) proposed an interaction framework which highlighted three types of interaction essential in effective online courses; learner-to-learner interaction, learner-to-instructor interaction, and learner-to-content interaction.

Heflin, Shewmaker & Nguyen (2017) highlighted the importance of understanding learner-to-content engagement in their study which found that mobile technology in online learning is associated with positive students' perception of collaborative learning. However, it also leads to increased disengagement by students during class. This may also affect learner-to-learner engagement in the learning process, which is a part of active

learning. Peer support among learners with similar interest and focus can lead to significant improvement in engagement levels in online learning (Dzulkifli et al., 2023), which in turn results in good academic achievement.

As learner-to-instructor engagement is concerned, Dahalan, Hasan & Atan (2012) proposed that learner's attitude which leads to engagement is a critical factor to ensure the success of e-mentoring programs, where instructors and learners virtually communicate and engage, both synchronously and asynchronously.

In the context of higher education, student engagement is an area which is consistently highlighted to have a crucial influence on student learning outcomes, with successful completion of studies being a part of it (Redmond et.al., 2018). This is supported by Halverson and Graham (2019) who contend that there is a correlation between learner engagement and important educational outcomes, such as academic achievement and satisfaction.

Statement of Problem

The rapid transition from traditional classroom settings to online learning, accelerated by the COVID-19 pandemic, has introduced new challenges for both educators and students. Despite the advantages of online learning, such as greater accessibility and flexibility, maintaining student engagement remains a significant problem. Engagement is crucial for student satisfaction, motivation, and academic success in online education. However, different types of engagement—learner-to-learner, learner-to-instructor, and learner-to-content—each present unique challenges that must be addressed to improve online learning experiences.

Learner-to-learner engagement is vital for creating a sense of community and encouraging collaborative learning. Studies by Martin and Bolliger (2018) and Dzulkifli et al. (2023) show that peer interaction and support are essential for keeping students engaged. However, many online courses lack the necessary structure to facilitate effective group work and peer collaboration, as noted by Moore (1993).

Learner-to-instructor engagement involves the interaction between students and their teachers. Martin and Bolliger (2018) found that students highly value regular feedback, announcements, and communication from instructors. Similarly, Ahoto et al. (2022) showed that strong learner-instructor interactions are linked to higher student satisfaction. Despite this, many online courses struggle to provide the level of instructor presence needed to keep students engaged. Dahalan et al. (2012) emphasized the importance of e-mentoring, where instructors provide personalized support and guidance, but this approach is still not widely used.

Learner-to-content engagement focuses on how students interact with the course materials. According to Heflin et al. (2017), while mobile technology can enhance engagement with content, it can also lead to distractions if not properly managed. Martin and Bolliger (2018) and Moore (1993) stress that engaging and relevant content is essential for deep learning and retention. Yet, many online courses fail to provide materials that actively involve students.

Furthermore, the overall learning environment and the feeling of connection within the online class also impact student engagement. Sun et al. (2022) found that a positive psychological atmosphere and a strong sense of social presence are important for student engagement and learning outcomes. These aspects are often overlooked, leading to reduced engagement and lower academic performance.

Given these challenges, it is clear that a comprehensive approach is needed to enhance engagement in online learning. Addressing the specific issues related to learner-to-learner, learner-to-instructor, and learner-to-content engagement can significantly improve the effectiveness of online education. This study aims to explore the three different types of engagement in online class, thereby improving student satisfaction, motivation, and academic success in online learning environments.

Objective of the Study and Research Questions

This study is conducted to explore different types of engagement in online classes. Specifically, it aims to answer the following questions:

1. How does learner-to-learner engagement occur during online interaction?
2. How does learner-to-instructor engagement occur during online interaction?
3. How does learner-to-content engagement occur during online interaction?
4. Is there a relationship between all types of engagement?

LITERATURE REVIEW

Types of Online Engagement

Online learning has significantly changed the field of education, providing increased access and flexibility to learners worldwide. The shift from traditional classroom settings to virtual environments has introduced new ways for students to interact with their courses, instructors, and peers. Understanding the different types of online engagement is crucial for educators and researchers to design effective learning experiences that enhance student satisfaction, motivation, and academic success. There are three primary types of online engagement: learner-to-learner, learner-to-instructor, and learner-to-content. Each type plays an important role in developing an interactive learning environment, which is essential for the effectiveness of online education.

Learner-to-Learner Engagement

Learner-to-learner engagement is a crucial component of effective online learning. This type of engagement involves interactions among students, fostering a sense of community and collaborative learning. Collaborative activities, such as group projects, peer reviews, and discussion forums, enhance students' understanding and retention of course material. Martin and Bolliger (2018) highlight that structured group roles and clear objectives are essential for successful collaborative learning, which can lead to improved academic outcomes and reduced feelings of isolation. Meanwhile, Dzulkifli et al. (2023) emphasize the importance of peer support in maintaining high levels of engagement and motivation among students. Moore (1993) also underscores the significance of learner-to-learner interaction, noting that it is vital for effective distance education.

Learner-to-Instructor Engagement

Learner-to-instructor engagement focuses on the interactions between students and their instructors. This type of engagement is characterized by regular and meaningful communication, which includes timely feedback on assignments, regular announcements, and prompt responses to student inquiries. Martin and Bolliger (2018) and Ahoto et al. (2022) emphasize that such interactions help students feel supported and valued, significantly impacting their engagement and satisfaction with the course. E-mentoring, as discussed by Dahalan et al. (2012), involves instructors guiding and supporting students through electronic means, such as email, online chat, and discussion boards. This personalized support fosters a supportive learning environment and enhances the overall learning experience. Moore (1993) highlights the necessity of learner-to-instructor interaction for successful learning outcomes, indicating that instructor presence is essential for student engagement and motivation.

Learner-to-Content Engagement

Learner-to-content engagement involves students' interactions with the learning materials. This type of engagement is critical for fostering a deeper understanding and retention of information. Interactive content, such as multimedia presentations, simulations, and real-world projects, encourages students to apply, analyze, and reflect on the information (Heflin et al., 2017; Martin & Bolliger, 2018). Effective content engagement requires materials that are informative, engaging, and relevant to students' needs and interests. Autonomous learning, where students manage their own learning processes, including self-paced study and accessing materials as needed, is also a significant aspect of learner-to-content engagement (Dahalan et al., 2012; Heflin et al., 2017). Moreover, Moore (1993) identifies learner-to-content interaction as a fundamental component of effective learning experiences, indicating that students must actively engage with the content to achieve meaningful learning outcomes.

Past Studies on Online Engagement

Learner-to-learner engagement is a fundamental aspect of online education, fostering collaborative learning and a sense of community among students. Martin and Bolliger (2018) conducted a study with 155 students enrolled in online courses to investigate student perceptions of various engagement strategies. Using a 38-item survey, they found that collaborative activities, such as group projects and peer reviews, significantly enhance students' understanding and retention of course material. The study emphasized the importance of structured group roles and clear objectives, which lead to improved academic outcomes and reduced feelings of isolation among students. Similarly, Dzulkifli et al. (2023) examined learner-to-learner engagement among 117 bachelor's degree students. The survey results indicated that peer support was the highest-ranked aspect of engagement, while collaborative learning was the lowest. These findings highlight the critical role of peer interaction in maintaining high levels of engagement and motivation.

The interaction between learners and instructors is crucial for online learning success. Ahoto et al. (2022) investigated factors influencing African students' satisfaction with online education, focusing on 100 participants. Their survey revealed that learner-instructor interaction was a strong predictor of student satisfaction. Similarly, Dahalan et al. (2012) focused on e-mentoring and its impact on student engagement, surveying 205 participants from University Sains Malaysia. The adapted questionnaires indicated that learner autonomy and the role of teachers as assisted tutors are critical for predicting e-mentoring success. Meanwhile, Martin and Bolliger (2018) identified learner-to-instructor engagement as the highest-rated type of engagement among students. The study also highlighted the benefits of regular announcements, feedback, and email reminders.

Engagement with learning materials, or learner-to-content engagement, is another critical component of effective online education. Heflin et al. (2017) evaluated the impact of mobile technology on student engagement, critical thinking, and attitudes toward collaborative learning. The quasi-experimental study involved 159 first-year university students divided into three types of collaborative learning environments. Video observations, written responses, and electronic surveys indicated that interactive content, such as multimedia presentations and real-world projects, encourages students to apply, analyze, and reflect on information, leading to deeper understanding and better retention. Martin and Bolliger (2018) also highlighted the importance of engaging and relevant content for effective learner-to-content engagement, with real-world projects were most appreciated for learner-to-content engagement.

Conceptual Framework

Instructors of online learning need to consider several factors so learners do not lose out on engagement in non-face-to-face classes. In online learning, learners need to be given attention, they need satisfaction, feel the relevance of the lesson, and feel confident (Rahmat et al., 2021). Figure 1 shows the conceptual framework of the study. This study replicates the study by Martin & Bolliger (2018) who presented three types of engagement such as learner-to-learner, learner-to-instructor, and learner-to-content engagement.

Fig.1 Conceptual Framework of the Study Types of Engagement in Online Class

METHODOLOGY

This quantitative study is done to explore different types of engagement in online class. A purposive sample of 171 participants responded to the survey. The instrument used is a 21-item, 5 Likert-scale survey and is rooted from Martin & Bolliger (2018) to reveal the variables in table 1 below. The survey has 4 sections. Section A has items on demographic profile. Section B has 6 items on learner-to-learner engagement, Section C has 7 items on learner-to-instructor engagement, and Section D has 8 items on learner-to-content engagement.

TABLE 1 Distribution of Items in the Survey

SECTION	TYPE OF INTERACTION	No. of Items	Cronbach Alpha
B	Learner-to-learner	6	.779
C	Learner-to-Instructor	7	.873
D	Learner-to-Content	8	.895
	Tot no. of Item	21	.927

The analysis shows a Cronbach alpha of .779 for learner-to-learner, .873 for learner-to-instructor, and .895 for learner-to-content; thus, revealing a good reliability of the instrument used. Further analysis using SPSS is done to present findings to answer the research questions for this study.

FINDINGS

Findings for Demographic Profile

TABLE 2 Percentage for Gender

1	Male	42%
2	Female	58%

Table 2 represents the percentage for respondents' gender. There are more female respondents (58%) as compared to male (42%) for this study.

TABLE 3 Percentage for Semester

1	Part 1-2	12%
2	Part 3-4	67%
3	Part 5-6	18%
4	Part 7-8	3%

Table 3 illustrates the percentage of respondents' semester. Majority of the respondents are students of Part 3-4 (67%), meanwhile Part 7-8 students are the minority among the respondents (3%).

TABLE 4 Percentage for Level of Studies

1	Diploma	84%
2	Degree	16%

The percentage for respondents' level of studies is depicted in Table 4. 84% of the respondents consist of diploma level students, meanwhile 16% of the respondents are degree level students.

TABLE 5 Percentage for Faculty

1	Science & Technology	30%
2	Social Sciences	63%
3	Business Studies	7%

Table 5 presents the distribution of different faculties represented by the respondents. The highest percentage that contributes to the majority of respondents in this study is from Social Science faculties (63%), followed by Science and Technology (30%). The lowest percentage is 7%, which represents the respondents from Business Studies faculties.

TABLE 6 Percentage for Learning Location

1	Home	90%
2	College	10%

Table 6 depicts the percentage for respondent's learning location. Most respondents reported home as their learning location (90%), as compared to only 10% of them who learn at the college.

TABLE 7 Percentage for Internet Access

1	Slow	4%
2	Medium	64%
3	Strong	32%

The percentage for Internet access among the respondents are shown in Table 7. Most respondents have access to medium speed internet (64%) meanwhile only some of them use slow speed internet (4%). 32% of the respondents reported having access to strong speed internet.

TABLE 8 Percentage for Institution

1	Public	96%
2	Private	4%

Table 8 illustrates the percentage for respondents' institutions, namely public and private. Majority of the respondents represents public institutions at 96%, and only 4% of them are from private institutions.

Findings for Learner-to-Learner Engagement

This section presents data to answer research question 1- How does learner-to-learner engagement occur during online interaction?

TABLE 9 Mean for Learner-to-Learner Interaction

Statement	Mean
L2LQ1 Does collaborative learning promote peer-to-peer understanding?	3.7
L2LQ 2 Are you more likely to ask for help from your peers?	3.8
L2LQ 3 Do you prefer to be in the same group with your chosen peer for online activities?	4

L2LQ 4 Do you think that the sense of community helps you to engage in online class?	3.9
L2LQ 5 Do you think support from peers motivates you to finish tasks?	4.1
L2LQ 6 Do you think that support from peers prevents you from dropping out of course?	3.8

Table 9 presents mean values for six statements regarding the impact of peer support in a collaborative online learning environment. The statement "Does collaborative learning promote peer-to-peer understanding?" received a moderate average rating of 3.7, indicating that respondents generally agree with this notion. Respondents showed a relatively high likelihood of asking for help from their peers, with a mean score of 3.8. They also expressed a strong preference for working with chosen peers in group activities, reflected in the highest average rating of 4.0. The sense of community was seen as beneficial for engagement in online classes, with a rating of 3.9. Peer support was particularly valued for motivating task completion, receiving the highest score of 4.1. Additionally, respondents agreed that peer support helps prevent course dropout, with an average rating of 3.8. Overall, the data suggests that peer support is beneficial, especially for motivation and task completion in online learning environments.

Findings for Learner-to instructor engagement

This section presents data to answer research question 2- How does learner-to-instructor engagement occur during online interaction?

TABLE 10 Mean for Learner-to-Instructor Interaction

Statement	Mean
L2IQ1 Does your instructor's teaching style involve students' active participation?	4.0
L2IQ2 Do you feel encouraged by your instructor to keep engaged in online classroom?	3.9
L2IQ3 Does your instructor provide feedback from your previous assessment?	3.9
L2IQ4 Do you feel feedback from your instructor on your performances is clear and positive?	3.9
L2IQ5 Does your instructor use more than two communication tools to stay connected with students?	3.9
L2IQ6 Do you think that online platforms used by your instructor for your online class are effective and convenient?	3.9
L2IQ7 Does your instructor maintain the ongoing interaction with students after online class?	3.9

Table 10 provides mean scores for statements related to learner-to-instructor interactions in online learning environments. The highest mean score, a 4.0, is rated to the statement regarding whether the instructor's teaching style involves active student participation, indicating strong engagement in this area. Other aspects of instructor interaction, such as encouraging student engagement in the online classroom, providing clear and positive feedback on student performance, using multiple communication tools to stay connected, and maintaining ongoing interaction after class, all received a consistent mean score of 3.9.

Findings for Learner-to-Content Engagement

This section presents data to answer research question 3- How does learner-to-content engagement occur during online interaction?

TABLE 11 Mean for Learner-to-Content Interaction

Statement	Mean
L2CQ1 Do you think that the synchronous activities (i.e. online discussion) could offer immediate assistance?	3.7

L2CQ2 Do you think that the asynchronous activities (i.e. assignment) could offer immediate assistance?	3.7
L2CQ3, Do you think the activities could improve the understanding of subject-matter?	4.0
L2CQ4, Do you think the activities in online learning could improve your critical thinking skills?	3.8
L2CQ5, Do you think you can use relevant knowledge wisely in the learning process?	4.0
L2CQ6, Do you feel that the ease of online content is important?	4.0
L2CQ7, Do you feel that it is important to get an overview of the content before the class begins?	4.1
L2TQ8, Do you think that ODL gives more benefits than drawback?	3.4

Table 11 presents mean scores for various statements concerning learner-to-content interaction in online learning environments. The data shows that participants rate both synchronous (i.e., online discussions) and asynchronous activities (i.e., assignments) equally effective in providing immediate assistance, with each receiving a mean score of 3.7. Respondents believe strongly that these activities can enhance their understanding of the subject matter and improve their critical thinking skills, shown by mean scores of 4.0 and 3.8, respectively. The application of relevant knowledge in the learning process and the ease of accessing online content are both highly valued, each scoring a 4.0. Moreover, obtaining an overview of the content before class begins is seen as particularly important, achieving the highest mean score of 4.1. In contrast, the overall benefits of online distance learning (ODL) compared to its drawbacks received a slightly lower mean score of 3.4, indicating some concerns among learners about the effectiveness of ODL.

Findings for Relationship between all types of engagement

This section presents data to answer research question 4 - Is there a relationship between all types of engagement? To determine if there is a significant association in the mean scores between all types of engagement, data is analysed using SPSS for correlations. Results are presented separately in table 12 and 13 below.

TABLE 12 Correlation between Learner-to-Learner and Learner-to Instructor Engagement

Correlations

		L2L	L2I
L2L	Pearson Correlation	1	.578**
	Sig. (2-tailed)		.000
	N	171	171
L2I	Pearson Correlation	.578**	1
	Sig. (2-tailed)	.000	
	N	171	171

**. Correlation is significant at the 0.01 level (2-tailed).

Table 12 shows there is an association between learner-to-learners (L2L) and learner-to-instructor (L2I) engagement. Correlation analysis shows that there is a high significant association between learner-to-learners (L2L) and learner-to-instructor (L2I) engagement. (r=.578**) and (p=.000). According to Jackson (2015), coefficient is significant at the .05 level and positive correlation is measured on a 0.1 to 1.0 scale. Weak positive correlation would be in the range of 0.1 to 0.3, moderate positive correlation from 0.3 to 0.5, and strong positive correlation from 0.5 to 1.0. This means that there is also a strong positive relationship between learner-to-learners (L2L) and learner-to-instructor (L2I) engagement.

TABLE 13 Correlation between Learner-to-Instructor and Learner-to-Content Engagement

Correlations

		L2I	L2C
L2I	Pearson Correlation	1	.651**
	Sig. (2-tailed)		.000
	N	171	171
L2C	Pearson Correlation	.651**	1
	Sig. (2-tailed)	.000	
	N	171	171

**. Correlation is significant at the 0.01 level (2-tailed).

Table 13 shows there is an association between learner-to-instructor (L2I) and learner-to-content (L2C) engagement. Correlation analysis shows that there is a high significant association between learner-to-instructor (L2I) and learner-to-content (L2C) engagement. (r=.651**) and (p=.000). According to Jackson (2015), coefficient is significant at the .05 level and positive correlation is measured on a 0.1 to 1.0 scale. Weak positive correlation would be in the range of 0.1 to 0.3, moderate positive correlation from 0.3 to 0.5, and strong positive correlation from 0.5 to 1.0. This means that there is also a strong positive relationship between learner-to-instructor (L2I) and learner-to-content (L2C) engagement.

CONCLUSION

Summary of Findings and Discussions

This study is conducted to explore different types of engagement in online classes. The first research question focuses on learner-to-learner interaction. The result indicates positive response to this type of interaction, and suggests that peer support is beneficial, especially for motivation and task completion in online learning environments. A similar finding was highlighted by Oyarzun et.al (2018) who contend that designed interactions or interactions that have high levels of cooperative intent affect learner achievement and satisfaction positively.

The second research question seeks to understand the interaction between learner to instructor. The result highlights that the respondents also respond positively to this type of interaction, especially on the aspect of instructor's teaching style which recorded the highest mean score, followed by other aspects such as encouraging student engagement in the online classroom, providing clear and positive feedback on student performance, using multiple communication tools to stay connected, and maintaining ongoing interaction after class. These are crucial in ensuring a positive outcome of the learning process. As suggested by Morrison (2018), increased learner-instructor interaction in online courses using strategies lead to better student engagement with the course, and consequently greater student success in overcoming barriers and challenges to online learning.

The third question highlights learner-to-content interaction. The results show positive responses from the participants, especially on the aspect of content overview prior to online class sessions. Other aspects such as types of lessons - synchronous and asynchronous, efficiency of learning activities to improve students' understanding, as well as application of existing knowledge also scored positively in this section. Powell & Leary (2021) in their study on learner-content interaction highlight the importance of identifying constructs to be considered and the measurement tools being used in content development. They also suggest some crucial aspects in the content to ensure positive interaction with the learners, such as proactive, engaging, having a strong pedagogical base, and measuring a variety of learning experiences.

The last research question points to the relationship between satisfiers and dissatisfiers. Correlation analysis shows that there is a high significant association between satisfiers and dissatisfiers. This means that there is a strong positive relationship between these two motivational factors.

Pedagogical Implications and Suggestions for Future Research

In the context of online learning, the importance of creating as many chances as possible for the students to engage well in such an environment cannot be denied (Martin & Bolliger, 2018), as online classes are much more challenging as compared to physical classes. Institutions and instructors need to keep up with the diversity of their current and potential learners. This requires instructor's consistent observation and needs analysis based on students' engagement and performance. It also involves monitoring their performance based on different approaches in the learning process to ensure optimal outcomes. Gillett-Swan (2017) suggests doing this is by catering various options and approaches in the learning process that suit their learners' engagement. This is in line with Hewett (2016) who particularly focuses on the significance of building in human interaction in considering a range of factors for those involved with blended workplace learning programs.

Although this study advances understanding of online engagement, further research is needed to address its limitations and expand its scope. Future research could further investigate causal relationships and contextual factors, as well as the influence of demographic variables on students' engagement experiences. Examining these aspects may yield valuable insights into the emergence of specific engagement patterns in online learning environments. Longitudinal research designs could also be employed to capture trends in engagement across semesters, with particular attention to how students adapt over time to online learning. In addition, future research could systematically examine problem-based and project-based learning models to evaluate their efficacy in fostering deeper and more sustained online engagement. Furthermore, investigations into the causal relationships between factors such as instructors' roles and the use of collaborative learning tools in learner-to-content engagement may provide actionable strategies for enhancing teaching and learning practices in higher education.

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