

Nearpod: A Web Based Tool to Promote Students' Engagement in ESP Class

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ABSTRACT

The call for new ways to engage students in this digital era is especially urgent. This research documents how a web-based tool called Nearpod can promote student engagement in ESP class by exploring behavioral and affective domains. By using a self-report questionnaire and observing the Nearpod post-session report, the data gained will be interpreted using descriptive statistical analysis. Results show that the level of behavioral engagement is 4.59 with attention and concentration as the highest contributing factor. The affective engagement obtains 4.42 value with vitality as the indicator with the highest score. Additionally, the observation results are also aligned with the findings from the self-report questionnaire. Some benefits and drawbacks of implementing Nearpod in ESP classroom are also explored.

In higher education, it is a daunting task to let students participate in English classes. As quoted in Marks (2000), an early study portrayed dispirited teachers and disengaged students 'putting in their time' while negotiating a sprawling and fragmented curriculum. In most classrooms, teaching followed a transference model, leading to student passivity and boredom. Twenty years ago, colorful pictures and stickers were seen as engaging tools to encourage student participation in class. However, Tapscott (2010) notes that the current generation of students are so immersed in multimedia that they "see everything as part of the natural landscape." Therefore, alternative ways are now needed to overcome the problem of disconnection from the teaching and learning process.

Marks (2000) conceptualizes student engagement as "a psychological process, specifically, the attention, interest, investment, and effort students expend in the work of learning". Student engagement plays a vital role in improving low academic achievement, boredom in the classroom, alienation, and high dropout rates (Fredricks et al., 2004). With this in mind, the researcher tries to investigate how the strategy is used in promoting students' engagement in ESP (English for Specific Purpose) class at the University of Muhammadiyah Malang. In ESP class consisting of 42 pharmacy students, the disengagement issue has occurred. Some of the problems which have unfolded are superficial participation, feeling disconnected from the class because of burdensome tasks of pharmaceutical subjects and laboratory works, and lack of interest. This problematic situation has led to the use of a Web-based tool called Nearpod in delivering materials and carrying out instructional activities in ESP classrooms. Nearpod is an education web browser that provides features to deliver learning materials, operate and evaluate the learning process. Sanmugam, Selvarajoo, Ramayah, Lee (2019) described that using Nearpod seems to offer an alternative teaching approach compared to traditional lectures to engage students for better and enhanced learning experience. While using Nearpod, teachers can share their materials by sharing a unique code or link to start the session. Then, when the materials are presented, the teacher and students are engaged in a live interaction. During the learning process, the teacher can see the number of active students making the learning session and students' engagement monitored. Thus, the level of participation of each student and their involvement in every activity as the main aspects of engagement can be unraveled.

A recent study conducted by Pupah & Sholihah (2022) revealed that Nearpod can successfully support the reading learning process for students because of its user-friendliness and it enabled teachers to monitor students' progress during the teaching process. The previous studies show that Nearpod has a positive impact in creating interactive and engaging learning atmosphere. However, most of them merely describe the distinctive features of Nearpod which can be seen as great means of promoting students' engagement. There are still limited studies with further investigations on the multidimensional aspects of student engagement.

Several researchers agreed that engagement is a construct with multidimensional interpretations. Several frameworks have been proposed for identifying the components of engagement. Some have identified three distinct aspects of student engagement: academic, behavioral, affective, and cognitive (Appleton et al., 2006; Christenson et al., 2008). Cognitive engagement, behavioral engagement, and emotional engagement (Fredricks et al., 2004). Despite multiple interpretations of the domain, each share similar underlying premises: student engagement, investment, or interest in learning activities (Steinbrenner & Watson, 2015). In this study, the researcher conceptualizes his two domains of student engagement proposed by his Marks (2000): the affective domain and the behavioral domain. The affective domain includes the student's emotional engagement and interest in learning, while the behavioral domain relates to student engagement. Thus, the research problems will be formulated as follows:

1. To what extent does Nearpod promote students' affective engagement in ESP class?
2. To what extent does Nearpod promote students' behavioral engagement in ESP class?

METHOD

This current study will employ a qualitative approach, to get a holistic understanding in what way Nearpod can promote students' affective and behavioral participation in ESP class. In this design, the researchers collect the data using two research instruments. First, a self-report questionnaire was distributed among students to measure their behavioral and affective participation in ESP class. To gain in-depth information and enrich the data, an observation reporting students' main behavioral engagement was recorded via Nearpod's post-session report.

Participants

The participants of the study are 42 students of Nursing class who are taking ESP class in their first semester. They are freshmen in their first semester who are taking ESP Integrated class as a compulsory subject. Their ages are ranging from 19 to 20 years old. 10 students are males and the rest are females. They were selected due to the occurrence of the disengagement issue as the results of their occupancy in Nursing-related subjects. The students are already familiar with the use of mobile assisted learning devices. Moreover, the classroom is also equipped with LCD installation and internet connection. Therefore, it was most suitable to explore the potential of Nearpod apps to ameliorate student engagement in English for Specific Purpose class. In order to protect participants' privacy, their right to anonymity and confidentiality is protected.

Data Collection Instruments

The researcher will use students' self-report questionnaires to uncover their behavior and affective engagement during the implementation of Nearpod in ESP class. The questionnaire containing 13 statements is adapted from Skinner, Marchand, Furrer, Kindermann (2008) which cover the affective and behavioral indicators of students' engagement in the classroom. A 4-point scale questionnaire ranging from never, rarely, sometimes to always is used to measure their self-involvement in classroom activities using Nearpod. The questionnaire was categorized into two categories, namely: behavioral and affective participations. Furthermore, the 13 statements were formulated by referring to the behavioral and affective engagement indicators proposed by Skinner, Marchand, Furrer, Kindermann (2008). Behavioral engagement covers action initiation, effort exertion, attempts and persistence, intensity, attention and concentration, absorption, and involvement. Meanwhile, affective engagement is indicated by enthusiasm, interest, enjoyment, vitality and satisfaction.

To certify that the questionnaire will result in meaningful and adequate measurements, the following two steps will be taken: establishing the content validity and the reliability of the questionnaire. First, for the sake of achieving validity, the questionnaire will be authenticated by the expert in the field of ELT. To ensure the accuracy of the participants' responses, the questionnaire was translated into Indonesian (the mother tongue of the participants). Second, to quantify the reliability of the questionnaire, the questionnaire was piloted to five students. The piloted questionnaire enabled the researcher to check the clarity of the questions and to perform a reliability test. The data gathered from the questionnaire will be analyzed using a descriptive statistical measurement.

Additionally, the observation of students' main behavioral engagement will be recorded at the end of each teaching session in a Nearpod's post-session report and was analyzed descriptively using the observation protocol of students' engagement called BERI (The Behavioral Engagement Related to Instruction) developed by Lane and Harris (2015). A total of 4 sessions (60 min each) will be observed over the course of 4 weeks.

Observation Protocol Coversheet	
Date of Observation	:
Course Name	:
Instructor (s)	:
Observer's name	:
Room	:
Estimate of class attendance	:
Notes on classroom environment: (i.e., description of space and seating arrangement, abnormal temperature, use of technology).	
Brief description of instructional method: (i.e., traditional lecture mixed with clicker questions).	
Notes about group of students being observed: (i.e., 5/10 of the students are using laptop/cellphone)	

Figure 1. Observation Protocol Coversheet adapted from BERI (The Behavioral Engagement Related to Instruction) developed by Lane and Harris (2015)

While conducting an observation, the researcher refers to the description of student in-class behaviors that indicate they are engaged. It was initiated by Lane and Harris (2015) and constructed as follows:

Table 1. The Behavioral Engagement Related to Instruction (BERI) protocol developed by Erin S. Lane and Sara E. Harris (2015)

Descriptions of student in-class behaviors that indicate they are engaged	
Engaged	
Listening	Student is listening to a lecture. Eye contact is focused on the instructor or activity and the student makes appropriate facial expressions, gestures, and posture shifts (i.e., smiling, nodding in agreement, leaning forward).
Writing	Student is taking notes on in-class material, the timing of which relates to the instructor's presentation or statements
Reading	Student is reading material related to class. Eye contact is focused on and following the material presented in lecture or preprinted notes. When a question is posed in class, the student flips through their notes, textbook, or screen device.
Engaged device use	Students are following along with lectures on their own device or taking class notes in a word processor or on the presentation. Screen content matches lecture content.
Engaged student interaction	Student discussion relates to class material. Student verbal and nonverbal behavior indicates he or she is listening or explaining lecture content. Students are using hand gestures, pointing at notes or screens, and interacting with others verbally or using their device.
Engaged interaction with instructor	Student is asking or answering a question or participating in an in-class discussion or activities

FINDINGS

This section commences with the quantitative statistical results. Second, it presents a detailed exposition of the observed data. Descriptive statistics were employed to analyze students' responses to the self-report questionnaire items in terms of the level of frequency and percentage to verify students' level of engagement toward Nearpod usage in ESP class. The 5-point scale questionnaire (Never, Rarely, Sometimes, Often, and Always) was given a code from 1 to 5. Code 1 was assigned if the students never have experience related to each engagement indicator, code 2 was in case of rare frequency, code 3 was for the sometimes option, code 4 was for often, and code 5 for always or full percentage of engagement.

Self- Report Questionnaire Result

Table 2 displays students' behavioral engagement of their experience in using Nearpod during ESP class.

Behavioral Engagement

Table 2. Self-report questionnaire results on students' behavioral engagement

No	Indicators	Score	Percentage
1	Involvement	4.37	87.4
2	Action initiation	4.35	87.0
3	Attention and concentration	4.73	94.6
4	Attempts and persistence	4.68	93.6
5	Intensity	4.68	93.6
6	Effort exertion	4.65	93.0
7	Absorption	4.65	93.0

As indicated, students reported general agreement that the Nearpod was helpful in promoting students' engagement in relation to each indicator of behavioral participation with the total score 4.59 gained from the mean value of scores from all indicators. The highest level of behavioral involvement was gained from attention and concentration. Conversely, with slight difference from other indicators, action initiation appears to gain the lowest score of 4.35. The involvement aspects follow the previous one with the total score 4.68 are attempts and persistence and also intensity. Additionally, effort exertion and absorption come next with the score obtained is 4.65. Then, the involvement aspect gained a 4.37 score compared to other aspects. All in all, most indicators show significantly high value which indicates the positive perception of the students towards the utilization of Nearpod in ESP Classroom.

Affective Engagement

Table 3. Self-report questionnaire results on students' affective engagement.

No	Indicators	Score	Percentage
1	Enthusiasm	4.39	87.8
2	Interest	4.50	90.0
3	Enjoyment	4.52	90.4
4	Vitality	4.65	93.0
5	Satisfaction	4.06	81.2

It was revealed from the table that from five indicators of affective engagement, vitality has the greatest value of 4.65. In contrast, satisfaction has the lowest score which is 4.06. The other three indicators gained different scores with slight differences. Interest comes after vitality as the highest value, followed by interest and enjoyment. It can be concluded that the students' affective engagement level in ESP class with the implementation of Nearpod is significantly high with the overall score 4.42. In other words, students gave a positive perceptual response when Nearpod was leveraged in the classroom.

Observational Report

Behavioral participation is one of the observable domains of student engagement. In order to get deeper understanding the researcher conducted an observation on the post-session report downloaded from Nearpod in every session. There are 4 post-session reports which have been observed. While observing the students' behavioral participation, the researcher referred to The Behavioral Engagement Related to Instruction (BERI) observation protocol developed by Lane and Harris (2015). From the four post-session reports downloaded from Nearpod, it shows that the behavioral engagement observable aspects differ in several ways.

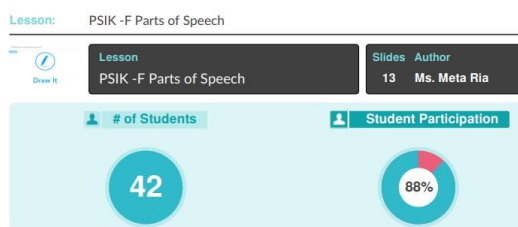


Figure 2. Nearpod Post-Session Report Session 1

It was revealed from the post-session report that there are 42 students who actively used the device. In session 1, there are two activities conducted using Nearpod namely Draw It and Matching pairs. Draw It activity was used as a warming up activity to elicit the vocabulary about the topic that they are going to encounter for that day. From 42 students who joined the

Nearpod, there are several students who did not collaborate in the writing process. From the post-session discussion, it was revealed that the students felt unfamiliar with the Draw It feature because they never had that previously.

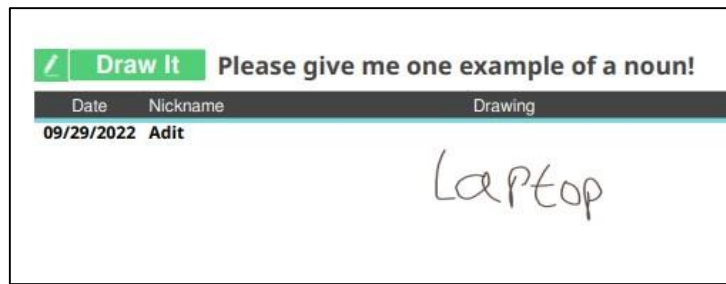


Figure 3. The result of Draw It activity in session 1

In addition, for matching pair activity, there are only limited number of students who can accomplish the task well. Only 7% of the total number of students can totally finish the matching vocabulary activity.

Matching Pairs Match the word with its part of speech. 7%

Date	Nickname	Other	Matches	Tries	Activity Completed
09/29/2022	Adit	Aditlah	7	15	✗
09/29/2022	Aiman Al Habib	Aiman	2	4	✗
09/29/2022	Amelia	Amel	5	7	✗
09/29/2022	andini febriyanti	dini	1	2	✗
09/29/2022	Andra Hairunnisa Maulida	Andra	1	8	✗
09/29/2022	Ardityya	Ardi	1	10	✗
09/29/2022	AYASHECA SHEIMA ASHIL EL HARUMI	SHECA	4	11	✗
09/29/2022	Badriyatun nufrika	Nufrika	0	2	✗
09/29/2022	Badriyatun nufrika	Nufrika	-	-	✗
09/29/2022	Brilliant Yunita Adiratna	Lina	1	3	✗
09/29/2022	Chaerul Rahman Firmansyah	Hairul	1	6	✗
09/29/2022	Desy Nabila ayu Pratama	Desy	0	1	✗

Figure 4. The result of students' participation on Matching Pairs activity in Session 1

From the reflection time at the end of the session, the instructor asked the students regarding their accomplishment in matching pair activity and it turns out that they need more time to finish the task as the timer was set in 2 minutes.

In session 2, there was significant decrease on the number of students' participation. Form 39 students in the classroom, only 38% of the students showed they active participation in activities carried out through Nearpod.

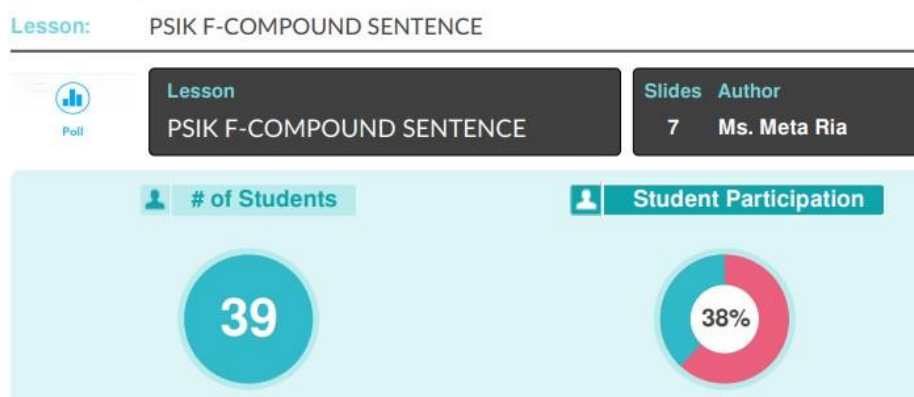


Figure 5. Nearpod Post-Session Report Session 2

Throughout the session, there were three activities administered through Nearpod which are Poll, Time to Climb and Open Ended Question which can be responded by typing an answer or recording their voice. Firstly, polling activity was initiated to open their scemata of the topic about simple and compound sentence. The students identified which sentence shown on Nearpod is simple and compound sentence. The result was 90% of the students actively took parts for the polling activity

while the others had no answers. Secondly, the materials were delivered through Nearpod slides and the students can follow the explanation by paying attention to the slides shown by the teacher as well as interacting using their own device. The last activity shows different level of participation since almost half of the students reported to the instructor that their device is incompatible that makes them unable to respond the open-ended questions using voice recording feature of Nearpod. They have limited time based on the timer set by the instructor. It enables them to also respond using written expression. Thus, the overall level of participation falls drastically into 38% because of unexpected technical problem.

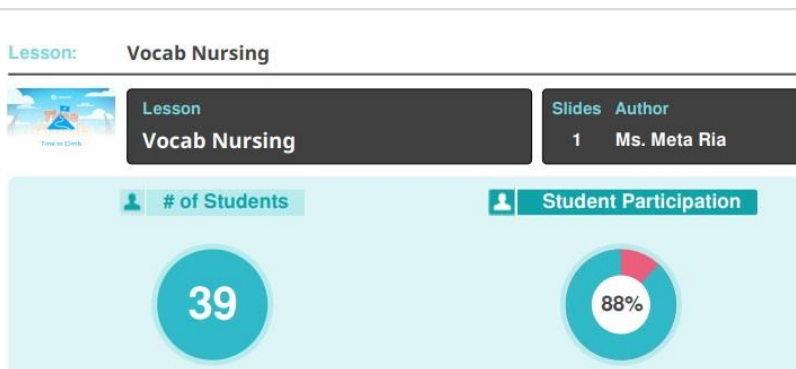


Figure 6. Nearpod Post-Session Report Session 3

In the third session, Nearpod was utilized to carry out vocabulary enrichment activity before the reading session. Time to Climb is a gamification tool of Nearpod which allows students to choose specific character to answer questions and reach the top of the mountain. The level of participation is 88%. It is higher compared to the previous session.



Figure 7. Nearpod Post-Session Report Session 4

In the last session, the material was about writing suggestion to the patient. So, through Nearpod, the students learn to match the specific problem with appropriate solution by doing matching pairs activity. The number of students being involved in the matching pair activity was 72%. Furthermore, they were asked to give written suggestion based on the patient's problem they read on their device when using Nearpod. It was revealed from the post session report that 61% of 39 students were actively engaged by writing suggestion. The other 39% showed up with no answer. Overall, the level of engagement shown from the post session report is 69% from the total of 39 students.

The four post session reports generated by Nearpod indicated over 71% of the students participated in the lessons. The actual percentages of student participation should be much higher than that because of the researchers' dummy accounts and the students' duplicated accounts during the lessons. Other aspects that restrain the level of student participation are unstable internet connection, limited time, and incompatible device.

DISCUSSION

Student engagement in this study was quantified using two research tools (questionnaire and observation). In terms of quantitative data, student responses totaled 4.59 for behavioral engagement and 4.42 for emotional engagement, indicating a positive bias for engagement structure. They found that the Nearpod increased learning motivation, increased participation,

maintained focus, facilitated group work, and made ESP lessons more enjoyable. These results are consistent with those of Hakami (2019) that using Nearpod in BYOD learning environment assists in increasing student engagement. The way Nearpod controlled learning activities engaged all students in the class and helped control the learning materials presented to them. As McClean and Crowe (2017) noted, using Nearpod to present a variety of learning tasks and learning materials, even in large classes, encourages teachers to actively engage students in their learning. This result is consistent with findings from other researchers who reported that Nearpod made teaching much easier compared to other app presentations (Gallegos & Nakashima, 2018; Lowry-Brock, 2016; Siani 2017). However, those studies were conducted in online learning setting which are in contrast to the present study administered in an onsite class.

Furthermore, Nearpod is a highly efficient platform for teaching and learning. It is packed with different types of activities, templates and colors. Burton, (2019) found it to be a very good tool for synchronous online instruction and a useful tool for student engagement. It turns out that Nearpod can also bring significant impact towards the increase of engagement level in ESP classroom which can be conveyed from the present study. In line with this, Wang and Chia (2022) found that using Nearpod to give presentations increases student engagement. In their study, they Students may have been hesitant to speak up in front of their classmates before, but now they can ask questions anonymously and hopefully the teacher will answer them. It provides teachers with the same resources as other presentation tools, but with even more resources, such as Live Poles, for background knowledge checks and fractional answer tests. Teachers can get real-time updates on student participation and access a variety of videos and online resources for her.

Wang and Chia (2022) uncovered the usefulness of Nearpod to provide a space for teachers to showcase their knowledge and engage students in different ways It can also provide an engaging online environment that supports learning and interaction in the online classroom. Another study conducted by Pupah and Sholihah (2022) during the COVID-19 pandemic is the utilization of Nearpod integrated with a genre-based approach in a Reading class. The study design used a four-step action research. Qualitative data were collected through interviews with teachers and field notes, and quantitative data were obtained through pre- and post-testing of student reading. Results showed that students learned to determine key ideas, draw conclusions, and distinguish detailed information from text. They also saw Nearpod as an adaptive and encouraging tool in learning. Statistical reports of student scores on pretest and posttest showed an improvement from 64.7 to 84.8. The students' average scores after the test were higher than their scores before the test. The study found that the Nearpod program successfully supported students' reading learning process due to its ease of use and enabled teachers to monitor students' progress during the educational process.

Nevertheless, from the result of self-report questionnaire and observation on Nearpod post-session report, the present study revealed that there are several drawbacks on the implementation of Nearpod in ESP classroom. First, since the students were unfamiliar with the feature of Nearpod, it takes some time to get used to it. Second, the instructor also needed to set the timer by considering the level of difficulty to get things done in order to make sure that every student can participate accordingly. The last but not least, the major element that support the successful teaching and learning proses using Nearpod is the compatible device and stable internet connection. Thus, the instructor should bare this issue in mind before deciding to utilize Nearpod in a classroom setting.

CONCLUSION

The study has dig up comprehensive result to what extent Nearpod can be used as a tool to boost behavioral and affective engagement in ESP classroom. For behavioral domain, seven indicators namely, involvement, attention and concentration, attempts and persistence, intensity, effort exertion, and absorption were explored. The result shows that most aspects indicate a positive linkage between the utilization of Nearpod and students' engagement level. The highest level of engagement was gained from attention and concentration. It means that, while learning using Nearpod they can pay attention well and focus on what the instructor are delivering. In addition, the affective domain was explored covering five aspects such as enthusiasm, interest, enjoyment, vitality, and satisfaction. From those five indicators, vitality appears to be the most dominant in enhancing students' engagement. It shows that when they have to accomplish a task using Nearpod, they do their best to get involved. Moreover, the results from observational data obtained from Nearpod post-session report are aligned with the questionnaire result.

However, there were several points to ponder that limits the students to reach the maximum level of engagement which are feeling unfamiliar to the use of Nearpod, time allocation for each activity resulting in failure of task accomplishment, and technical things such as unstable internet connection and incompatible devices. In a nutshell, the use of Nearpod in ESP classroom can definitely promote the students' engagement by considering several aspects that can help reaching the optimal desired outcome.

It is suggested for the teachers to ensure the learners readiness and the technical stuffs such as supporting device and internet connection. Additionally, the time allocation and how the materials and activities are designed are paramount. Lastly, this research has several limitations as it only explores the area of students' engagement from the learners' perspective. It is crucial to expand the study to see this phenomenon from the teacher's perspective as well. It will also be more interesting to conduct further study by exploring other domains of students' engagement such as cognitive and academic domain.

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