

Exploring Students' Experiences in Using Digital Collaborative Whiteboards for Reading Activities

Ifadah Zulfa^{1*}, Zainul Aminin²

^{1,2}English Language Education Study Program, State University of Surabaya, Surabaya, Indonesia
ifadah.22164@mhs.unesa.ac.id^{1*}, zainulaminin@unesa.ac.id²

Abstract

The use of Digital Collaborative Whiteboards (DCWs) has become increasingly important in the context of English language learning for collaborative reading activities. Nevertheless, there has been a lack of studies on how students perceive these platforms in higher education. Thus, the purpose of the current study is to examine the experiences of students, their benefits, and obstacles in using Digital Collaborative Whiteboards to help with reading activities. For the study, a qualitative research design was applied by implementing the Basic Interpretive Study which included 15 undergraduate students studying English Education and having some experience in using Digital Collaborative Whiteboards for reading activities. Data were collected using semi-structured interviews with the help of students' collaborative learning results and were analyzed with qualitative data analysis. The results show that students had experience with the use of Digital Collaborative Whiteboards in terms of participation, interaction, and the sense of presence. In addition, the participants found that these platforms helped them better understand and engage in the process of collaboration and interaction in reading activities. However, there were some challenges such as technical problems, difficulties in comprehending platform features, and distraction caused by the abundance of information on collaborative boards.

Keywords: Collaborative Learning; Digital Collaborative Whiteboards; Reading Activities; Students' Experiences



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INTRODUCTION

Reading is an important language skill in English language learning since reading helps students gain information, build their vocabulary, improve critical thinking skills, and make sense of the written information (Anwar & Sailuddin, 2022). Higher education not only expects students to comprehend academic information through reading, but also expects them to critically analyze, synthesize, and interpret academic information (Anwar & Sailuddin, 2022). With the development of digital technology in educational practices, the process of English language learning has utilized technology-based learning environment to foster student engagement and collaboration when reading (Prabawati et al., 2021). There have been many types of digital learning media that have been used for fostering collaborative learning, among those Digital Collaborative Whiteboards (DCWs). DCWs consist of interactive tools including sticky notes, comments, annotations, and others to help students exchange information and construct knowledge collaboratively while learning (Khoiriyah et al., 2022; Salsabila, 2023).

Using Digital Collaborative Whiteboards is a chance for students to actively engage in discussions with their classmates and lecturer and collaborate in the creation of meaning from the reading texts (Khoiriyah et al., 2022). In collaborative learning settings, students will be encouraged to interact, reflect on different views, and gain insights as well through learning collaboratively (Gomes et al., 2025). Moreover, based on Mayer (2002), meaningful learning takes place when learners actively make sense of what they have learned by processing information verbally and visually.

Several previous works have shown the advantages of digital learning media in the process of English language learning. For instance, Anwar & Sailuddin (2022) stressed that academic reading is associated not only with vocabulary but also with the necessity for higher-order thinking such as synthesis and interpretation of information. Prabawati et al (2021) stated that digital learning media affected positively the students' motivation and involvement in the process of online learning. Also, Salsabila (2023) found that Jamboard encouraged students' involvement and collaboration while learning to read. In addition, Gomes et al (2025) pointed out that students' experience of learning is demonstrated through their participation, interaction, and presence, and Andresen et al (2023) stressed the role of support interaction in the process of creating a meaningful learning experience.

However, despite these positive results, prior research has mostly concentrated on the effects on learning or on motivation and implementation of a particular digital medium. Little attention has been paid to the experience of the students using different kinds of Digital Collaborative Whiteboards, especially in reading tasks in higher education. Prior studies provide evidence for the question of whether the use of digital media enhances the learning process, yet little is known about the ways in which students engage, interact, build their meanings and recognize benefits and problems of working on collaborative digital platforms.

Addressing the gap, this study examines the experience of the use of DCWs in enhancing reading activities among students from the aspects of participation, interaction, and presence while also considering the strengths and weaknesses associated with the use of such technologies. It is anticipated that the outcomes of the study will help build on the existing literature about technology-enhanced language learning. In addition, there will be some practical recommendations made regarding the design of collaborative reading activities that utilize DCWs for English language lecturers.

RESEARCH METHODS

This study employed a qualitative research approach using a Basic Interpretative Study was utilized in the current study for understanding students' experiences in using DCW for performing reading tasks at higher education institutions. As indicated by Ary et al (2015). Basic Interpretative Study involves the analysis of the way people interpret experiences within

a certain context. This is why Basic Interpretative Study was found to be an appropriate method for the current study since the present research aimed at exploring students' experiences.

The focus of the current research is made on the experiences of students in using Digital Collaborative Whiteboards during reading tasks. In the current research, students' experiences have been analyzed through such dimensions as participation, interaction, and presence as well as strengths and weaknesses associated with the use of DCW. The above dimensions were adopted from the model suggested by (Gomes et al., 2025).

This research was carried out in the English Education Study Program in the same class and the same cohort at a university in Surabaya, Indonesia. There were fifteen university students selected as the participants of the study, all of whom had used Digital Collaborative Whiteboards such as Jamboard, Padlet, Canva Whiteboards, and Miro in their collaborative reading practices. They were chosen through purposive sampling, as they fulfilled the pre-determined qualifications that would relate to the objectives of the study. According to (Ary et al (2015), purposive sampling helps in selecting participants that can offer meaningful insights about the phenomena under investigation.

The primary source of data consisted of students' responses obtained through semi-structured interviews, while students' collaborative learning outputs on Digital Collaborative Whiteboards served as supporting data. According to Cresswell (2015), a semi-structured interview is an instrument where participants have the opportunity to describe their experiences, perceptions, and emotions in detail and the researcher, in his/her turn, has the freedom to ask additional questions. For this reason, the use of such instrument was regarded as relevant in gathering information about students' experiences in engaging in collaborative reading. The interview guideline was prepared based on the theory of students' experience provided by (Gomes et al 2025), including the dimensions of participation, interaction, and sense of presence. Additionally, the interview questions on the pros and cons of Digital Collaborative Whiteboards utilization were designed based on existing literature. Prior to conducting the study, the interview guideline was checked by experts to be clear and relevant.

Data collection involved semi-structured interviews performed with each participant. Interviews were recorded audio visually and the transcripts were created verbatim for analysis. Additionally, learning outcomes that emerged from collaboration amongst students while undertaking reading were collected as well as supplementary documents to facilitate the interpretation of interview results. In order to increase credibility of the study, member checks were done whereby the transcripts and interpretations of interviews were confirmed with some of the participants (Cresswell, 2015).

The collected data were analyzed using the qualitative data analysis techniques outlined by Ary et al (2015) familiarization with the data was the first step in analyzing the data where the researcher read the data repeatedly in order to become more familiar with it. Then, significant units of data were coded into categories based on their similarities in terms of meaning. These categories were then expanded to form themes that represented the experience of the students, benefits, and drawbacks associated with using the Digital Collaborative Whiteboards.

RESULT AND DISCUSSION

This section presents the findings of the study regarding students' experiences in using Digital Collaborative Whiteboards (DCWs) to support reading activities. The findings are organized into three main themes based on the research objectives: (1) students' experiences, (2) students' perceived advantages, and (3) students' perceived challenges. Each finding is followed by its discussion through comparison with relevant theories and previous studies.

Students Experiences in Using Digital Collaborative Whiteboards for Reading Activities

According to the results, students perceived Digital Collaborative Whiteboards usage through three interlinked dimensions – participation, interaction, and sense of presence. As for the first dimension, there were active, conditional, and passive participations of students within collaborative reading exercises. The first type of participation presupposed contributing ideas, responding to classmates' opinions, and conducting collaboration within the discussion. For instance,

"I actively read the text, tried to understand the material, wrote my opinion, and reacted to ideas of my classmates during the discussion." (S12)

Another example of active participation is provided by the statement:

"The platform encouraged me to express my ideas using sticky notes and interacting with responses of my classmates." (S7)

However, there were also conditional participants whose level of activity depended on their comprehension of the reading material, interest in the topic, and classroom situation.

"I became more active when the topic was interesting and understandable." (S15)

At the same time, some students mentioned that they often used the passive form of participation, i.e., completed all the necessary tasks but did not participate in the discussions actively.

"I answered the questions and rarely responded to opinions of my classmates." (S11)

The results also revealed that the students had meaningful interactions with the lecturers, their peers, and the reading material using collaboration features like comments, sticky notes, annotations, and responses.

"Interacting with the lecturer became easier as I was able to post questions and get responses using comments and sticky notes." (S4)

Moreover, students experienced both cognitive and social presence while collaborating on the reading task.

"Reading my peers' answers helped me to gain an insight into the text from various angles." (S9)

"I felt connected as all could view and answer each other's questions." (S12)

These results show that the Digital Collaborative Whiteboards enabled students to participate, interact, and have meaningful experiences of collaborative learning. These results are in line with the assertion made by Gomes et al (2025), where they state that the experiences of the learners are portrayed through participation, interaction, and sense of presence. The results are also in accordance with the views of Andresen et al (2023), which assert that the supportive interaction between teachers and learners enhances the belongingness of students and enables them to have positive learning experiences. As compared to other studies carried out earlier, the current research contributes to the literature by showing that the experiences of the students include not only participation but also cognitive and social engagement as well.

Students Advantages in Using Digital Collaborative Whiteboards for Reading Activities

There were two main benefits of employing Digital Collaborative Whiteboards while engaging in reading sessions which included improvement of understanding and engagement as well as collaboration and interaction. Students said that thanks to the collaborative nature of the tool, it was easier for them to arrange their thoughts, find the most valuable information, compare answers, and analyze views of their peers.

One participant noted:

"I could understand the reading passage better because I could highlight important information and make notes." (S3)

Another one said:

"I was able to understand the text better by analyzing the responses of my classmates." (S9)

Moreover, students felt that there were opportunities for discussion and feedback provided.

"The platform was like a discussion board because everyone saw and replied to everyone else's thoughts." (S12)

"The learning process was collaborative because there was feedback from peers and lecturers." (S5)

These results indicate that Digital Collaborative Whiteboards foster collaborative knowledge creation since they allow for the exchange of ideas among students, reflection upon multiple viewpoints, and greater involvement while conducting reading activities. This result supports the findings of Khoiriyah et al (2022), who noted that collaborative digital media facilitate the active participation of learners and interactions while they learn the English language. Furthermore, Salsabila (2023) indicated that using Jamboard increased students' motivation and engagement in collaborative reading activities. However, the current study provides additional information about the perceived benefits, which go beyond increasing engagement and also include enhanced reading comprehension and collaboration in meaning-making through interactions with peers and lecturers.

Students Challenges in Using Digital Collaborative Whiteboards for Reading Activities

However, in addition to the above-mentioned benefits, students faced several challenges while learning with Digital Collaborative Whiteboards. Three major difficulties were revealed: issues related to technicalities and internet connection, difficulties with comprehending the features of the platform, and distractions from collaborative reading activities.

Thus, one participant noted,

"Sometimes unstable internet connection caused delays and I could not keep up with the discussion." (S6)

Moreover, one participant stated,

"I was confused with how to use some of the collaborative features at first." (S11)

Excessive information appearing on collaborative whiteboards, according to students' statements, distracted them from learning.

"Too many sticky notes sometimes distracted me from reading the actual material." (S14)

The findings prove that technological readiness is still one of the key aspects influencing students' learning experience. The findings correspond to the results by Hargreaves et al (2022), who found that although digital learning resources make education more accessible and flexible, technological constraints can negatively impact the learning process. Moreover, Irmayani et al (2022) stressed the role of low digital literacy and unfamiliarity with the digital platform for students' learning process. According to the current study results, it can be stated that the successful deployment of Digital Collaborative Whiteboards should include not only the necessary technological framework but also proper guidance, digital literacy instruction, and collaboration activities. The conduct of orientation workshops and instructional guidance prior to the use of Digital Collaborative Whiteboards may ensure the maximum benefit from the activity.

Discussion

The findings indicate that Digital Collaborative Whiteboards (DCWs) provided meaningful learning experiences during collaborative reading activities. Learners had various levels of participation, interactions, and presence while at the same time feeling that the use of the platforms increased their level of comprehension, involvement and also assisted them in

collaborating with other learners and instructors. However, learners faced some challenges such as technical problems, internet connection issues, lack of knowledge on how to use some of the features of the platforms, and distractions due to too much visual information.

The results confirm the views presented by Gomes et al (2025) on how learning experience is portrayed by participation, interaction, and presence. The participants who interacted and shared ideas with one another had rich learning experience and understanding of the readings. The results further agree with the arguments presented by Andresen et al (2023) that interactive experiences play a significant role in ensuring meaningful learning experiences. In addition, the results resonate with those of (Khoiriyah et al., 2022; Salsabila, 2023) on the fact that collaborative digital platforms facilitate participation and engagement in English language learning. Unlike previous studies, this research goes beyond what others have done before by adding a new dimension in terms of students' learning experiences.

Even though the above positive experiences have been observed in the current research, there are still a number of challenges faced by the learners in the course of learning. In accordance with the results found by (Hargreaves et al., 2022; Irmayani et al., 2022) the technical issues and lack of experience of students working with digital applications led to their decreased level of participation and concentration when performing collaborative tasks. It can be stated that the teachers should give proper guidance on how to use the Digital Collaborative Whiteboards and conduct collaborative activities efficiently.

CONCLUSIONS

This study investigated the experiences of the learners when using Digital Collaborative Whiteboards (DCWs) in order to assist reading activities at the university level. The findings showed that learners experienced the process of using the Digital Collaborative Whiteboards via three interrelated dimensions; namely, participation, interaction, and sense of presence. Furthermore, learners felt that the Digital Collaborative Whiteboards helped them comprehend and engage in reading tasks along with assisting them in collaborating and interacting during reading activities. These findings answer the research objectives by demonstrating that Digital Collaborative Whiteboards provide meaningful collaborative reading experiences while presenting several practical challenges that should be considered during their implementation.

The present study is an important addition to the research field related to English language learning since it gives insight into the overall experience of students in employing various Digital Collaborative Whiteboards in collaboration for reading activities at the tertiary level of education. Unlike earlier studies that concentrated mostly on the outcome of learning or implementing the specific platform, this study emphasizes the experience of the students in terms of participation, interaction, feeling of presence, perceived benefits, and perceived problems. However, the study is confined to a fairly small number of participants from the same English Education Study Program and deals with the reading activity alone. Thus, it is suggested that further research be conducted among participants from varied levels of education and institutions, exploring the use of Digital Collaborative Whiteboards in other skills of the language or comparing different collaborative tools to gain more insight into technology-assisted language learning.

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