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Integrating Interactive Technology: A Case Study at SMP Negeri 3 Manggeng

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Abstract

This study aimed to explore students' and teachers' experiences in using the smartboard in English learning and to identify the challenges they faced during the teaching and learning process. A qualitative research design was employed to obtain an in-depth understanding of participants' perceptions and experiences. The participants consisted of students and English teachers at SMP Negeri 3 Manggeng. Data were collected through semi-structured interviews and analyzed using qualitative content analysis with the assistance of NVivo. The findings revealed that students had positive experiences using the smartboard. They reported that the smartboard increased their motivation, created a new and more enjoyable learning experience, and helped them understand English materials more easily. Teachers also expressed positive perceptions of the smartboard, stating that it improved teaching efficiency, provided greater flexibility in presenting learning materials, and effectively supported students' learning and classroom participation. Despite these benefits, both students and teachers encountered several challenges. Students identified unstable internet connectivity and power outages as the main obstacles that interrupted learning activities. Meanwhile, teachers reported limited skills in operating the smartboard, electricity disruptions, and technical problems as the primary challenges in integrating the technology into classroom instruction.

Keywords: Smartboard, Experience, Challenges

Abstrak

Penelitian ini bertujuan untuk mengeksplorasi pengalaman siswa dan guru dalam penggunaan smartboard pada pembelajaran bahasa Inggris serta mengidentifikasi tantangan yang mereka hadapi selama proses belajar mengajar. Penelitian ini menggunakan desain penelitian kualitatif untuk memperoleh pemahaman yang mendalam mengenai persepsi dan pengalaman para partisipan. Partisipan penelitian terdiri atas siswa dan guru bahasa Inggris di SMP Negeri 3 Manggeng. Data dikumpulkan melalui wawancara semi-terstruktur dan dianalisis menggunakan analisis isi kualitatif dengan bantuan perangkat lunak NVivo. Hasil penelitian menunjukkan bahwa siswa memiliki pengalaman yang positif dalam menggunakan smartboard. Mereka melaporkan bahwa smartboard meningkatkan motivasi belajar, menciptakan pengalaman belajar yang baru dan lebih menyenangkan, serta membantu mereka memahami materi bahasa Inggris dengan lebih mudah. Guru juga menyampaikan persepsi yang positif terhadap penggunaan smartboard, dengan menyatakan bahwa teknologi tersebut meningkatkan efisiensi mengajar, memberikan fleksibilitas yang lebih besar dalam menyajikan materi pembelajaran, serta secara efektif mendukung proses belajar dan partisipasi siswa di kelas. Meskipun demikian, baik siswa maupun guru menghadapi beberapa tantangan. Siswa mengidentifikasi koneksi internet yang tidak stabil dan pemadaman listrik sebagai hambatan utama yang mengganggu kegiatan pembelajaran. Sementara itu, guru melaporkan keterbatasan keterampilan dalam mengoperasikan smartboard, gangguan listrik, dan masalah teknis sebagai tantangan utama dalam mengintegrasikan teknologi tersebut ke dalam pembelajaran di kelas.

Kata kunci: Smartboard, Pengalaman, Tantangan

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INTODUCTION

Technology has become an important tool to support learning English (Nandia, 2023). The use of technology has grown rapidly and has created major changes in teaching and learning processes. Technology such as computers, mobile applications, and online platforms can make learning more

interesting, interactive, and flexible. It also helps improve students' language skills, including vocabulary, communication, listening, reading, and writing (Taylor. 2024). In addition, technology can increase students' motivation, provide access to real language resources, and support personalized learning experiences. Technology-enhanced learning also has a positive effect on students' language achievement and collaboration skills.

One example of technology used in learning English is the smartboard. A smartboard is an interactive digital board that connects to a computer and allows teachers and students to interact directly with learning materials. According to Gavin Dudeney and Nicky Hockly (2017), the use of technology in language learning can increase student engagement and provide more interactive learning experiences. In addition, Stephen Bax (2023) explains that technology can support more effective and natural language learning when it is well integrated into the classroom. Smartboards can display videos, images, and interactive activities that make English lessons more interesting and easier to understand.

Smartboards have been used in Aceh Barat Daya to support teaching and learning activities. One of the schools that uses this technology is SMP Negeri 3 Manggeng on January 3rd, 2025. The use of smartboards in this school helps teachers present English lessons more interactively and interestingly. Teachers can show videos, images, and digital materials directly on the screen, which makes it easier for students to understand the lesson. In addition, students become more active and motivated because they can interact with the smartboard during the learning process.

Moreover, at SMP Negeri 3 Manggeng, the use of a smartboard in English learning is an interesting topic because it demonstrates how digital media is applied in a real classroom. The smartboard helps students understand English materials more clearly through visual and audio support, and it also increases their enthusiasm during learning activities. However, students face challenges, such as limited time on the board, technical issues, or difficulty adapting to new learning media. Therefore, it is important to explore students' real experiences in learning English by using the smartboard.

Preliminary observations on May 24th, 2026, conducted at SMP Negeri 3 Manggeng revealed that although the school has begun integrating interactive technology into English language teaching, its implementation has not been fully optimized. As a result, technology is often used only as a presentation tool rather than as a medium for interactive and student-centered learning. In addition, differences in students' engagement and participation during technology-assisted lessons indicate that the effectiveness of interactive technology in enhancing learning outcomes has not yet been fully understood.

In the interviews with teachers at SMP Negeri 3 Manggeng, several challenges are found in using smartboards in English learning. One main challenge is that some teachers still have limited technical skills, so they need more training to use the smartboard effectively. Another problem is the unstable electricity and internet connection, which sometimes interrupts the teaching process and makes the lesson less smooth. In addition, preparing digital materials takes more time and effort compared to

traditional teaching methods, so teachers feel an increased workload. These challenges show that although technology is helpful, proper support and preparation are still needed for effective implementation.

Several previous studies have examined the advantages and limitations of using smartboards or interactive technology in teaching English. First, a study by Wati and Afrida (2022) found that interactive technology can increase students' motivation and participation in English learning, but teachers often face challenges due to limited technical skills and lack of training. Second, research by Sari (2021) showed that the use of digital media, including smartboards, helps students understand vocabulary and pronunciation more easily; however, unstable internet connection and limited school facilities become major limitations. Third, a study by Pratama (2020) reported that technology-based learning improves student engagement and classroom interaction, yet it also increases teachers' workload in preparing digital materials and requires strong school support. These studies indicate that while smartboards and interactive technology provide significant benefits in English teaching in Indonesia, challenges related to infrastructure, teacher readiness, and technical support remain important issues.

The novelty of this study found in its focus on the real classroom implementation of interactive technology, especially smartboards. Unlike previous studies that mainly discuss the general benefits of technology in English learning, this study provides direct evidence from teacher interviews about how smartboards are used, the challenges faced, and how these challenges are managed in daily teaching practice. It also highlights the local context of Aceh Barat Daya, where access, teacher readiness, and infrastructure may differ from urban schools. Therefore, this study offers a more specific and practical understanding of integrating interactive technology in English learning, especially in schools with limited resources.

Based on this background, this study aims to describe students' experience in learning English by using the smartboard at SMP Negeri 3 Manggeng. The study focuses on how students perceive the use of the smartboard by teachers, their perceived uses, and the challenges they face. The findings are expected to provide useful information for English teachers, schools, and future researchers in improving technology-based English teaching.

The research problems can be formulated as follows:

1. What are students' and teachers' experiences in using the smartboard?
2. What challenges do students and teachers face when learning and teaching using the smartboard?

METHOD

This study used a qualitative approach with case study design. It was to explore and describe teacher' and students' experiences in learning English by using the smartboard. According to Creswell (2014), qualitative research was suitable when the researcher wanted to understand participants' meanings and views about a particular phenomenon. In this study, the phenomenon was the use of the

smartboard in English learning.

The subject of research was selected by using purposive sampling. According to Creswell (2022), purposive sampling was commonly used in qualitative studies because it helped the researcher obtain rich and meaningful data from participants who understand the research topic. There were 3 teachers and 6 students of seventh and eighth grade as participants in the interview.

The teachers and students were selected based on several of the following criteria. For teachers, the criteria include: first, teachers who had actively taught at SMP Negeri 3 Manggeng for at least 3 years. Second, teachers must had direct experience in using the smartboard in the teaching and learning process. Third, the teachers must have used the smartboard for at least one semester. Fourth, teachers must be willing to participate in the interview and able to communicate their ideas clearly. Lastly, the teachers have basic knowledge of technology and the use of digital learning tools.

In addition to the teachers, the criteria for students are as follows: first, the students must be actively enrolled in Grade VIII at SMP Negeri 3 Manggeng. Second, the students must have participated in classes that regularly use the smartboard. Third, students should be willing to participate in the interview and able to express their opinions. Last, students should represent different levels of academic ability (high, medium, and low) to provide varied perspectives on the use of the smartboard.

This study employed semi-structured interviews as the primary instrument for data collection. Each teacher and student was asked five interview questions. Questions 1 to 3 explored their experiences using the smartboard in the teaching and learning process, while Questions 4 and 5 focused on the challenges they encountered when implementing smartboards in the classroom. The interview was developed as open-ended so that participants could describe their real experiences, such as their interest, interaction, and engagement during the lesson. Meanwhile, the interview both teachers' and students' challenges faced when using the smartboard were to identify problems such as technical issues, limited skills in using the technology, and difficulties in adapting to digital learning media.

The data in this study were analyzed using content analysis supported by NVivo to organize and interpret qualitative data systematically. First, the interview transcripts were imported into NVivo, and the researcher read the data carefully to understand the overall meaning. Then, the researcher conducted coding by identifying important words, phrases, or sentences related to students' experiences and challenges in using the smartboard. These codes were grouped into categories and themes, such as motivation, participation, learning benefits, and technical difficulties. NVivo helps the researcher manage large amounts of data, visualize patterns, and ensure that the analysis was more structured and accurate. Through this process, the researcher can draw clear conclusions based on recurring themes and meaningful patterns in the data, which was a key principle of qualitative content analysis (Creswell, 2024).

RESULT AND DISCUSSION

Results of the study include a descriptive section on word frequency and an analytical-descriptive analysis of interviews with both teachers and students, with data coded using NVivo 27. The interview with teachers was on June 15th, 2026, with a duration of 25 minutes. Meanwhile, the interview with students was on June 14th and 15th, 2026, with a duration of 30 minutes. It was found that students' and teachers' experiences in using smartboards were generally teachers' and students' experiences in teaching using smartboards were fun for learning, increased motivation in learning, and made the material easy to understand.

Specifically, students' experiences in learning by using a smartboard can be seen in Figure 1.

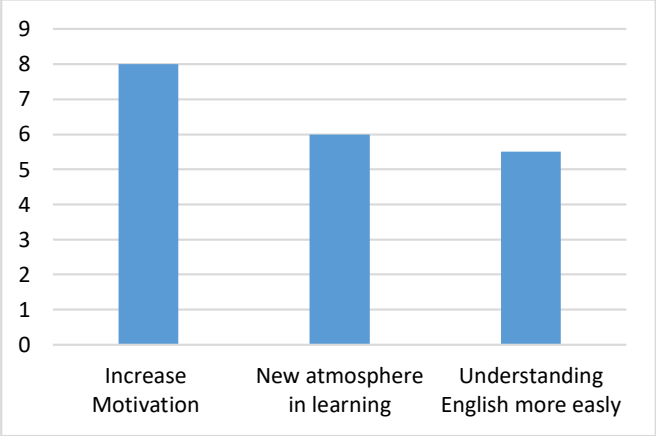

Figure 1. Chart of students' experience in learning using the smartboard

Figure 1 showed the use of smartboards in learning can increase students' motivation in learning, new atmosphere in learning and help students understand learning material easily. In addition, the teacher has specifically experiences in teaching by using smart boards as seen in the following figure 3.

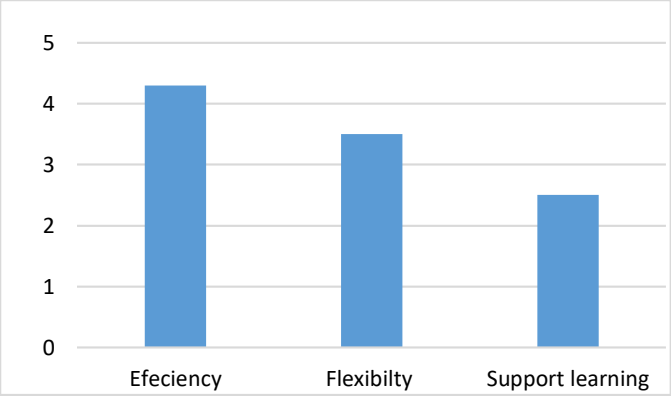

Figure 2. Chart of teachers' experience in learning using the smartboard

Figure 3 shows that the use of a smartboard in teaching allows teachers to teach efficiently, flexibility and support learning.

Students' and teachers' challenges in using the smartboard

The result of the interview with the teacher and students, it can be summarized the challenge in using smartboard in the following table.

Table 1. Teachers' and students' challenges

Teachers' challenges	Students challenges
Limited smartboard Technical problems Electricity	Power storage Internet connectivity

Table 1 presented the challenges experienced by both teachers and students when using the smartboard in English learning. Teachers reported three major challenges. The first challenge was the limited number of smartboards available at school. The second challenge involved technical problems, such as difficulties operating the smartboard, software errors, and calibration issues. The third challenge was related to electricity.

Meanwhile, students identified two main challenges during English learning with the smartboard. The first challenge was power outages, which interrupted classroom activities because the smartboard could not be used without electricity. The second challenge was internet connectivity. Although many smartboard activities required access to online videos, websites, or interactive learning applications, unstable internet connections often delayed or interrupted the learning process.

Students' experiences in using the smartboard

The first experience is that a smartboard can motivate learning. There are two students who describe that a smartboard can improve their motivation in learning.

"Learning by using a smartboard can motivate me in learning". (student 1)

"Smartboard makes me interested in learning". (Student 2)

"*by using a smartboard, the class is more enthusiastic and doesn't bore*. (Student 3)

The use of a smartboard is an effective tool to improve motivation for students in learning. It is supported by Rahayu and Makmur (2024), a smartboard can improve students' motivation in learning because it provides interactive, visual, and engaging learning experiences that attract students' attention and encourage active participation. In addition, research Uqba et al., (2024) found that interactive smartboard increase students' attention, motivation, and classroom participation because they combine visual, auditory, and kinesthetic learning experiences. Therefore, the use of smartboards can significantly enhance students' motivation by creating a more engaging, interactive, and student-centered English learning environment.

Second, a smartboard creates a new atmosphere in learning because it transforms the classroom from a teacher-centered into a digital learning. There are three students who stated that the smartboard gave differences experiences in learning.

"my experience in learning by using a smartboard, I feel more active and in a new learning environment". (Student 2)

"*Smartboard is interesting because we can learn material and watching while learning."* (Student 4)

As a result, learning became more enjoyable, less monotonous, and more meaningful. This finding is supported by a study by Arya Wira Aziz, et al,, (2024) found that students perceived the

Smart Interactive Whiteboard as creating a positive and pleasant learning atmosphere by increasing engagement, motivation, focus, and participation through the integration of audio-visual and interactive learning materials. Likewise, Yuliana (2025) reported that smartboards provide new learning experiences by integrating multimedia, make classroom activities more interactive, innovative, and student-centered rather than relying solely on traditional teaching methods.

Third, there are three students reported that the use of the smartboard made learning materials easier to understand. This finding is reflected in the participants' responses.

"Using a smartboard makes it easier for me to understand the learning materials." (Student 1)

"The smartboard makes it easier for me to follow the teacher's explanations." (Student 4)

"The smartboard helps me understand the subject being taught more easily." (Students 6)

These responses indicate that the smartboard enhances students' comprehension by presenting learning materials in a more engaging and accessible way. This result is also stated by Pratama et al., (2024) reported that smartboard facilitate students' understanding of English lessons by integrating multimedia resources that make learning more interactive and meaningful. Furthermore, Rohmawati et al., (2024) also concluded that smartboard enhances students' conceptual understanding by presenting learning materials in an engaging and interactive format, enabling students to process information more effectively and achieve better learning outcomes.

Teachers' experiences in using the smartboard

Moreover, the findings of this study also found the teachers' experiences in teaching using smartboards. The first is a smartboard as an effective tool for efficiency in teaching.

"Using the smartboard is very easy during the teaching and learning process. It helps me explain the material because students respond more quickly to my instructions. I also no longer need to switch between markers while teaching." (Teacher 1)

"The teaching method, which was previously conventional, has become a more interactive, visual, and efficient learning experience." (Teacher 2)

"With the smartboard, I have greater flexibility in delivering my lessons." (Teacher 3)

Collectively, these findings suggest that smartboards not only enhance classroom efficiency but also enable teachers to implement more interactive and student-centered instructional approaches. It is also supported by Mumpuni and Mulyawati (2024), smartboards improve teaching efficiency by enabling teachers to integrate multimedia resources into classroom instruction and reduce the time needed to present learning materials. Similarly, Rahayu and Makmur (2024) found that smartboards enhance teaching innovation by simplifying lesson delivery and improving classroom management through integrated digital features.

Second, the smartboard provides greater flexibility in teaching. There two teachers responded that teaching was more flexible using a smartboard.

"I no longer need to switch between markers while teaching." (Teacher 2)

"At first, it takes about five to ten minutes to turn on the device." (Teacher 3)

Teachers perceived the smartboard as a flexible instructional tool that streamlines lesson delivery and supports a more effective teaching process. These findings support previous research by Rustianti and exis (2023), who found that teachers used smartboard flexibly to access educational software, PowerPoint presentations, online platforms, and YouTube resources, allowing them to design more varied and student-centered English lessons. In addition, Andrini and Wahyuna (2023) concluded that interactive whiteboards support flexible instructional practices and encourage innovative classroom teaching.

The third, smartboard supports students' learning. Teachers consistently reported that the integration of smartboards created a more interactive classroom atmosphere and encouraged students to participate actively in the learning process.

"Based on my teaching experience, the classroom atmosphere becomes more lively. The students are very enthusiastic during the learning activities." (Teacher 1)

"Students become much more enthusiastic because the images displayed on the smartboard make them more motivated and stimulated to ask questions." (Teacher 2)

"The smartboard makes it much easier for me to find learning topics that are more relevant, up-to-date, and easier to present to students." (Teacher 3)

These findings indicated that smartboards not only foster students' enthusiasm and motivation but also enable teachers to deliver more current, engaging, and meaningful learning experiences, thereby supporting students' overall learning process. Uqba et al., (2024) reported that smartboards significantly improve learning innovation by increasing student engagement, motivation, and conceptual understanding. Similarly, Rahayu and Makmur (2024) concluded that interactive whiteboards support English learning by improving students' language skills, classroom interaction, and learning attitudes while creating a more engaging learning environment.

Students' challenges in using smartboards

Despite these positive experiences, both students and teachers identified several challenges that limited the optimal use of the smartboard. The findings of the study showed that there are two challenges faced by students in using smartboards. First, power storage. As Student 1 stated that, *"The difficulties are unstable internet connections and sudden power outages."* Similarly, Student 3 stated, *"The difficulty in learning using the smartboard occurs when there are technical problems, such as power outages."* Meanwhile, another participant remarked, *"The difficulty arises when the electricity goes out."* When electricity was interrupted, teachers cannot display learning materials, videos, animations, or interactive activities, forcing them to stop or change the lesson to conventional teaching methods. As a result, students lose opportunities to interact with digital learning resources, their concentration was disrupted, and the continuity of the learning process is affected. This finding is consistent with previous studies conducted in Indonesia. Fitria (2024) reported that electricity disruptions are one of the major obstacles to implementing smartboard-assisted English learning because they reduce the effectiveness of technology integration and interrupt classroom activities. Similarly, Rahayu and Makmur (2024)

found that although SmartBoard Interactive enhances students' engagement and understanding, its effectiveness depends on adequate infrastructure, particularly a reliable electricity supply. These studies suggest that stable electrical infrastructure is an essential requirement for maximizing the benefits of smartboards in English language teaching.

The second challenge is internet connectivity. Students reported that poor network quality frequently disrupted the use of smartboards during classroom activities, limiting access to online learning resources and interrupting lesson delivery. As Student 2 explained, *"The difficulty is the unstable internet connection."* Similarly, Student 5stated, *"The challenge is that the internet connection is often interrupted."* These findings indicate that reliable internet access is essential for maximizing the effectiveness of smartboard-assisted learning. As a result, students cannot fully benefit from the interactive features of the smartboard, making the learning process less effective. These findings are consistent with previous studies conducted in Indonesia. Aidah and Fazli(2024) reported that unstable internet access and inadequate technological infrastructure are among the main obstacles to implementing smartboard-assisted English learning, particularly in schools outside major urban areas. Similarly, Raisa and Ketut (2024) found that although SmartBoard Interactive enhances learning, its effectiveness depends heavily on reliable electricity and internet connectivity, as technical interruptions reduce student participation and limit teachers' ability to deliver multimedia-based instruction. Therefore, improving school infrastructure, including a stable electricity supply and reliable internet connection, is essential to maximize the benefits of smartboard technology in English classrooms.

Teachers' challenges in using smartboards

The teachers' challenges in using the smartboard: first, the limited number of smartboards in the school.

"We have one smartboard in the school; it has become a challenge for us". (Teacher 2)

These findings are supported by the study by Fitria (2024), who identified insufficient access to technological resources as a first-order barrier that hinders teachers' integration of educational technology. Similarly, Marpung and Manurung (2024) found that limited availability of technological equipment and infrastructure is one of the most common obstacles preventing teachers from effectively incorporating technology into classroom teaching.

The second is technical problems. Although teachers acknowledged the instructional benefits of smartboards, they also reported several technical issues that occasionally disrupted the teaching process. Two teachers explained that technical problems became challenges in using smartboards.

"The touch function often freezes. When students try to press the letter 'A,' it accidentally selects the letter 'C.'" (Teacher 2)

"Initially, it takes about five to ten minutes to turn on the device." (Teacher 3)

These findings indicate that technical limitations, including touchscreen inaccuracies and lengthy startup times, can reduce the efficiency of classroom instruction and temporarily interrupt the teaching and learning process.

The third challenge experienced by teachers is the dependence of smartboard use on a stable electricity supply. Teachers reported that power outages immediately disrupted classroom instruction and prevented them from using the smartboard effectively.

"The learning process stops immediately when the electricity goes out." (Teacher 1)

"One of the challenges I have experienced is frequent power outages and unstable internet connectivity." (Teacher 3)

These findings indicate that reliable electricity and internet infrastructure are fundamental prerequisites for the successful integration of smartboard technology in teaching. When either resource is unavailable, instructional activities are interrupted, reducing the continuity and effectiveness of technology-enhanced learning. These findings are consistent with Nugroho and Singh (2024), who identified inadequate technological infrastructure, including unreliable electricity and internet access, as major barriers to integrating educational technology in schools. Wijaya et al., (2024) emphasized that infrastructure-related problems, such as unstable power supply and technical support limitations, significantly hinder teachers' ability to implement digital technologies effectively in classroom instruction.

CONCLUSION

This study can be concluded that both students and teachers had experiences using the smartboard in teaching and learning. Students perceived the smartboard as an engaging and interactive learning medium that increased their motivation, attention, participation, and understanding of English lessons easily. The integration of multimedia resources, including images, videos, animations, and interactive quizzes, made learning more enjoyable and helped students comprehend lesson content more effectively. Similarly, teachers reported that the smartboard enhanced the quality of classroom istruction by making lessons more interactive, efficient, and student-centered.

Despite these positive experiences, both students and teachers encountered several challenges in using the smartboard. The most significant challenges included the limited number of smartboard units available at the school, unstable internet connectivity, frequent electricity outages, and occasional technical problems with the device, such as touchscreen inaccuracy and lengthy start-up time. These issues sometimes interrupted classroom instruction and limited the optimal use of the smartboard's interactive features.

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