

ENHANCING STUDENT-CENTERED LEARNING AND 4C SKILLS THROUGH PADLET IN A RESTRICTED GADGET ISLAMIC BOARDING SCHOOL

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Abstract

This study investigates the use of Padlet as a digital collaborative tool to support student-centered English learning in a restricted gadget environment. The study was conducted at an Islamic girls' boarding school in Malang, East Java, Indonesia. It involved 23 seventh-grade female students who were studying the topic of Indonesian flora and fauna. A convergent mixed-methods design was employed, with data collected through a student perception questionnaire, semi-structured interviews, and handwritten reflection sheets. Findings showed that Padlet significantly increased student motivation, participation, and confidence in sharing ideas in English. The platform also enhanced 4C skills, especially communication and collaboration. The combination of Padlet activities with handwritten reflection tasks effectively encouraged originality and reduced copy-paste habits. Even under strict prohibition of personal mobile phones, Padlet implemented via the school computer laboratory proved practical and effective. This study concludes that a balanced integration of digital collaboration and non-digital reflection offers a promising model for technology-enhanced learning in Islamic boarding schools.

Keywords: *4C skills, handwritten reflection, Islamic boarding school, Padlet, restricted gadget environment, student-centered learning*

Introduction

Education in the twenty-first century requires a significant shift from traditional teacher-centered instruction toward student-centered learning, where students actively construct knowledge through participation, inquiry, and meaningful interaction (Nisa et al., 2024). This paradigm shift aligns with the growing need to develop 21st-century competencies, widely known as the 4C skills: critical thinking, creativity, collaboration, and communication. These skills are crucial so that students do not merely receive information, but can also analyze, create, and communicate knowledge independently in

today's fast-changing world (Listiqowati et al., 2025; Marwa & Herdi, 2023; SITI et al., 2023).

In a classroom language teaching, student-centered approaches are particularly important. When students engage in meaningful communication and collaborative tasks, they not only improve their linguistic skills but also develop greater independence as learners (SITI et al., 2023). However, applying this approach in real classrooms is often difficult, especially when dealing with conceptual topics that require strong visual support such as classifying, describing, understanding spatial relationships, and learning contextual vocabulary. Without good visual aids, lessons usually remain text-heavy. As a result, they become less interactive and less interesting for students (Herawati & Taufiq, 2022; Nurlita & Taufiq, 2025)

A clear example of this problem can be found in the English class on Indonesian flora and fauna for seventh-grade students at an Islamic girls' boarding school in Malang, East Java, Indonesia. In this topic, students are expected to learn new vocabulary about plants and animals, describe their characteristics and habitats, understand descriptive texts, and share their ideas in English.

Ideally, this kind of lesson needs pictures, maps, and interactive activities to help students understand the material better. However, in reality, the teaching often does not meet these expectations. Internal assessments showed that many students had difficulty remembering vocabulary, joining class discussions, and speaking English confidently. These problems became worse because of limited class time, traditional teaching methods, and the lack of engaging visual media. Ideally, the lesson should be supported by pictures, maps, and interactive activities. In reality, however, the teaching often falls short. Internal classroom assessments revealed that many students struggled to remember vocabulary, participate actively in discussions, and speak confidently in English. These difficulties were worsened by limited class time, traditional teaching methods, and the lack of interesting visual media.

The school's special situation makes the problem even more challenging. As an Islamic boarding school for girls, students are not allowed to bring personal mobile phones during school hours. Because of this rule, students can only access digital learning during scheduled times in the computer laboratory. Although this policy helps reduce distractions, it creates a restricted gadget environment. Teachers must therefore design

digital activities carefully and efficiently within a limited time.

In recent years, the fast growth of educational technology has raised new concerns. One major issue is students' over-reliance on artificial intelligence and the habit of copy-paste. Several studies warn that depending too much on AI tools can weaken students' independent thinking, originality, and deep understanding (Al_Amin & Mahjabeen, 2025; Zhang & Feng, 2026). In language learning, these habits often limit students' chances to remember vocabulary by themselves, build their own sentences, and practice real communication.

One digital platform that offers solutions is Padlet. It is a web-based collaborative tool that enables users to share texts, images, videos, links, and comments on a flexible digital board. Some previous researchs have demonstrated that Padlet can enhance student engagement, collaboration, participation, and interaction in language classrooms (Ardini & Marlinda, 2023; Ramadhani et al., 2023; Rizal et al., n.d.; Uspayanti et al., 2022; Zainuddin et al., 2020). Its visual and interactive features are particularly useful for vocabulary building and idea sharing. However, most of these studies were carried out in regular schools or universities where students have free access to personal devices. Very few studies have explored the use of Padlet in Islamic boarding schools, particularly in female-only pesantren that enforce strict restrictions on personal gadgets (Deni & Zainal, 2018; Fuchs, 2014; Taufiq & Megawati, 2023)

Moreover, only a few studies have combined Padlet with locally relevant materials such as Indonesian flora and fauna. This is unfortunate because the topic offers a valuable opportunity to connect English learning with environmental awareness and national identity. In addition, there is very limited research on integrating Padlet with strategies to prevent copy-paste behavior, for example by adding handwritten reflection tasks where students must process what they see on the screen and write their own responses. Such a combination could help strike a better balance between the convenience of digital tools and the need for genuine cognitive engagement and originality.

Based on the gaps mentioned above, this study aims to investigate the implementation of Padlet in teaching English on the topic of Indonesian flora and fauna at an Islamic Boarding School in Malang that only accomodates female students. It specifically examines how Padlet can support student-centered learning and the development of 4C skills within a restricted gadget environment. It also explores the new

method of combining digital Padlet activities with students' reflection through handwriting in minimizing passive learning and promoting meaningful student participation. Through this context-specific inquiry, the research hopefully may provide both practical insights for teachers in similar settings and theoretical contributions to technology-enhanced language learning in general schools.

Methods

Research Design

The approach This study adopted a convergent mixed-methods design. The approach was chosen to provide a more comprehensive picture of Padlet implementation by combining numerical data and rich descriptive insights. Quantitative data were collected to measure students' perceptions of the learning process, while qualitative data offered deeper understanding of their experiences. The two sets of data were collected concurrently and later integrated during the interpretation stage to strengthen the findings through triangulation (Clark & Creswell, 2008).

Research Setting and Participants

The study was conducted at an Islamic girls' boarding school in Malang, East Java, Indonesia. One important feature of this school is its strict rule that does not allow students to bring personal mobile phones during school hours. This policy creates a restricted gadget environment. Because of this situation, the school became a very suitable place to study how digital learning tools can be used effectively when students have very limited access to internet-based devices.

Participants in this study were 23 seventh-grade female students from one class. The researcher chose this class because it was easy to access and the topic of Indonesian flora and fauna was part of their regular English subject. All students already had basic skills in using computers from the school laboratory, but they rarely used personal digital devices in daily life.

Research Instruments

This study used three main instruments to collect data. These included a questionnaire, interviews, and students' handwritten reflections.

First, a student perception questionnaire was given right after the Padlet lesson. The questionnaire used a 5-point Likert scale with 25 items. It asked about five main

aspects: engagement, collaboration, communication, critical thinking, and motivation. There were also some questions about how visual materials helped students learn vocabulary.

Second, the researcher conducted semi-structured interviews with four students. These students were selected to represent different levels of class participation which are active, average, and quiet. Each interview took about 10 to 15 minutes and asked about their views on Padlet, classroom interaction, the mix of digital and handwritten tasks, and their overall learning experience.

Third, students' handwritten reflection sheets gave extra qualitative data. In the reflections, students wrote what they had learned, which new vocabularies they remembered, and how they felt about the lesson. Hopefully, it will get new insight instead of only using the Padlet.

To make sure the instruments were valid, the questionnaire and interview questions were reviewed and improved based on feedback from two experienced English teachers and one expert in educational technology.

Learning Media Preparation

The researchers and the classroom teachers created a special Padlet board for the topic of Indonesian flora and fauna. The board included clear pictures of plants and animals, key vocabulary with pronunciation guides, short descriptive texts, and interactive prompts. A digital map of Indonesia was added so students could easily see the connection between each species and its natural habitat. All materials were carefully chosen by the teacher. This helped students stay focused on the lesson instead of browsing random websites on the internet.

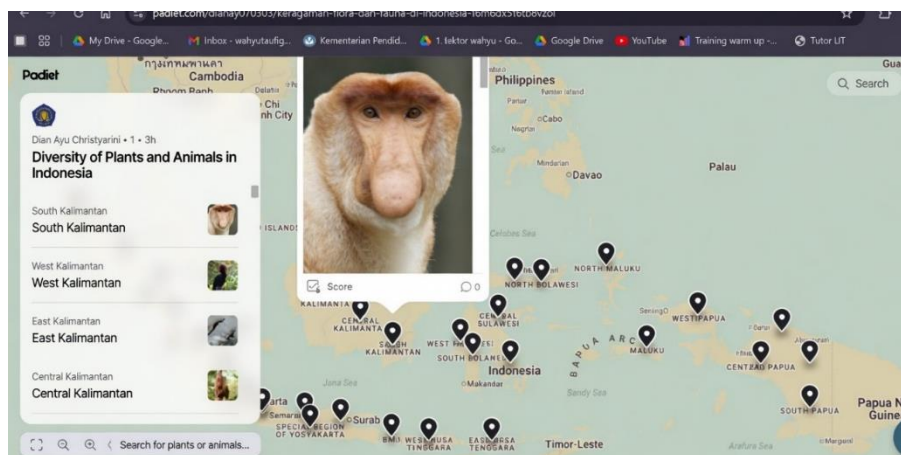


Figure 1. Screenshot of Padlet on Indonesian Flora and Fauna Topic

Procedures of Implementation

The lesson was carried out in one face-to-face session in the school computer laboratory. Since students were not allowed to use personal devices, they accessed Padlet using the school's desktop computers.

The lesson followed these stages:

1. Introduction: The teacher explained the learning objectives and gave a short demonstration on how to use the Padlet board.

2. Exploration: Students worked individually and in small groups. They looked at pictures, read short texts, and wrote down new vocabulary.

3. Collaboration and Communication: Students answered discussion prompts on Padlet, shared their opinions, asked questions, and replied to their classmates' comments.

4. Reflection: At the end of the lesson, students wrote a handwritten reflection. They then displayed their work on the classroom wall for a gallery-walk activity so they could read and comment on each other's reflections.

The handwritten reflection task was intentionally included to help students think more deeply about the material and to stop them from simply copying and pasting information.

Data Analysis

Quantitative data from the questionnaire were analyzed using simple descriptive statistics. These included frequencies, percentages, and mean scores, all processed with Microsoft Excel.

The researchers analyzed the qualitative data from the interviews and students' handwritten reflections using thematic analysis (Braun & Clarke, 2021). They began by reading the data several times to become familiar with the content. Then, they created initial codes, identified possible themes, reviewed and refined those themes, and finally named the main themes that emerged. The key themes were student engagement, collaboration, vocabulary retention, originality, and the challenges of learning.

Finally, the researchers compared the quantitative and qualitative findings. They combined both sets of data to gain a clearer and deeper understanding of how Padlet supported student-centered learning and the development of 4C skills.

Ethical Considerations

The researchers obtained official permission from the school principal before conducting the study. All activities were carried out during regular class hours as part of normal teaching and learning. The students were clearly informed about the purpose of the data collection and participated voluntarily. To protect their privacy, all responses were reported anonymously, and real names were replaced with pseudonyms in the interview transcripts.

Findings and Discussions

This section presents the findings from the study, which are drawn from the questionnaire responses of 23 seventh-grade students, semi-structured interviews with four students, and their handwritten reflection sheets. The findings and discussion are organized according to the main focus of this research: how Padlet supported student-centered learning, helped develop students' 4C skills, and worked effectively in the restricted gadget environment of an Islamic boarding school.

| NO | Aspect | Strongly Agree + Agree (%) | Mean Score |
|----|--------------------------------|----------------------------|------------|
| 1 | Increased motivation | 85% | 4.35 |
| 2 | Easier collaboration | 88% | 4.48 |
| 3 | Confidence in expressing ideas | 83% | 4.26 |
| 4 | Usefulness of visual materials | 92% | 4.57 |
| 5 | Overall satisfaction | 81% | 4.22 |

Table 1. Student Perceptions of Padlet-Based Learning (N = 23)

Padlet and Student-Centered Learning

The findings indicate that Padlet helped shift the learning process toward a more student-centered approach. Questionnaire data showed that 85% of the students felt more motivated during the lesson compared to their usual English classes. This was echoed in the interviews. One student explained:

“Usually, I am afraid to raise my hand in class because I worry about making mistakes. But with Padlet, I have time to think and check my writing before posting. So I feel braver to share my ideas.”

This comment highlights how Padlet lowered affective barriers such as fear of mistakes and shyness issues that are quite common among female students in boarding

school settings. Rather than depending heavily on teacher-led explanation, students became more active in exploring materials, responding to prompts, and contributing to discussions. These results align with the core principle of student-centered learning, in which learners act as active knowledge constructors rather than passive recipients (Nisa et al., 2024)

In the context of this Islamic girls' boarding school, the asynchronous feature of Padlet was particularly helpful. It gave students time and space to think and write their responses without the pressure of speaking directly in front of the whole class. As a result, many students became more confident and felt a stronger sense of ownership over their learning. According to the questionnaire, 83% of the students agreed that Padlet increased their confidence in expressing ideas, with an average score of 4.26.

Enhancement of Communication and Collaboration Skills

Padlet also had a clear positive effect on students' communication and collaboration skills. According to the questionnaire, 88% of the students agreed that group work became easier and more organized when using Padlet. One student described the experience during the interview as follows:

“We divided the tasks. Some friends focused on Western Indonesia, others on Eastern Indonesia. We wrote our findings directly on the Padlet wall while discussing together. It was faster and there was no fighting over notes.”

This comment shows how the shared digital board helped students divide the work more clearly, interact in real time, and participate more equally. Unlike traditional group work which is often dominated by only one or two active students Padlet allowed every student to contribute and be seen. The teacher could also check all the posts immediately and give feedback quickly.

Overall, these activities helped students improve both communication and collaboration skills. They not only practiced expressing ideas in English but also learned how to discuss, negotiate meaning, and build knowledge together. These findings support previous studies about the effectiveness of Padlet in language classrooms (Ramadhani et al., 2023; Rizal et al., n.d.).

Critical Thinking and Focused Learning

Another notable finding concerns students' ability to engage in more focused and critical learning. As many as 92% of the students agreed that Padlet was easy to use and

helped them save time, achieving a high mean score of 4.57. One student noted:

“Before, in the computer lab we often got confused and wasted time searching on Google. With Padlet, everything was already prepared. We just clicked the map and the pictures appeared. So we had more time to discuss instead of searching.”

This statement shows that the teacher-curated Padlet board effectively reduced unstructured internet browsing and redirected students’ attention toward meaningful tasks—analyzing images, comparing information, and discussing characteristics of Indonesian flora and fauna. Rather than being overwhelmed by unlimited online resources, students could concentrate on higher-order thinking skills.

The findings also give a practical answer to the current debate about digital learning. Technology works best not when it gives students unlimited access to information, but when it provides well-organized and purposeful materials.

Creativity and Originality through Handwritten Reflection

One of the most interesting findings came from combining Padlet activities with handwritten reflection tasks. Many students mentioned that writing by hand pushed them to think more deeply about what they had learned. One student explained it this way:

“The discussion on the computer was fast, but if I only typed, I sometimes forgot quickly. When I had to write everything by hand and put it on the wall, I really had to think about my own sentences. I couldn’t just copy-paste.”

This comment clearly shows that the handwritten task served as an effective way to prevent copy-paste behavior. It encouraged students to recall vocabulary, construct their own sentences, and develop personal understanding. Displaying their reflections on the classroom wall during the gallery-walk activity also increased their sense of pride and ownership.

These results are especially important because of the growing concern about students depending too much on AI tools and copy-paste habits (Al_Amin & Mahjabeen, 2025; Zhang & Feng, 2026). This study shows that combining digital activities with non-digital tasks can keep the benefits of technology while still developing students’ deeper thinking and originality.

Learning English through Local Content

Students became more engaged when Indonesian flora and fauna was used as the learning topic. The materials were full of pictures and closely related to their own culture.

This helped them connect English vocabulary with their everyday knowledge. Many students showed greater interest because they were learning about plants and animals from their own country. As a result, this approach improved not only their English skills but also their environmental awareness and sense of national identity.

Overall Discussion

When the quantitative and qualitative data were combined, the results showed high student satisfaction. 81% of the students said they had a positive learning experience. In this study, Padlet was more than just a digital tool. It created a well-organized but flexible learning environment that combined visual materials, interactive discussion, collaboration, and personal reflection.

The findings suggest three important implications. First, student-centered learning and 4C skills can be developed successfully even in schools with limited gadget access. This is possible as long as the technology is well designed and properly supervised. Second, good teaching task design is much more important than having the most advanced equipment in class. Third, combining digital platforms with handwritten reflection is a practical way to balance technology with real thinking and originality. This approach helps students benefit from digital tools while still developing deeper understanding and original ideas.

This study offers important insights for Islamic boarding schools and similar institutions facing the same challenges. It shows that limited access to personal devices does not have to prevent innovation. In fact, such limitations can actually encourage more meaningful and values-based use of technology.

Conclusion

This study concludes that Padlet is effective for teaching English, particularly in the context of Indonesian flora and fauna. It created a more student-centered learning environment in a female Islamic boarding school with limited gadget access. Through well-organized visuals, interactive features, and collaborative tasks, students became more motivated, more confident in expressing their ideas, and more actively engaged in learning.

The findings also show that Padlet supports the development of 21st-century skills, especially the 4Cs: critical thinking, creativity, collaboration, and communication. Students practiced communication and collaboration through real-time interaction, improved critical thinking by analyzing materials, and demonstrated creativity in their

written reflections. Importantly, this study highlights that even schools with strict gadget limitations can implement meaningful digital learning, as long as technology use is supported by thoughtful teaching design and facilitated through shared school resources like computer labs.

Nevertheless, this study has some limitations. It was conducted with only one class in a single school and lasted for a short period. Therefore, the findings cannot be generalized to all schools. Future research could use a larger number of students, a longer period, or compare different types of schools. Researchers may also explore the use of Padlet for other language skills or examine how a balanced approach to technology can support academic integrity and critical thinking in the age of artificial intelligence.

References

- Al_Amin, N., & Mahjabeen, N. (2025). Artificial Intelligence Usage Patterns and Dependency in English Language Learning among Tertiary-Level Students. *European Journal of English Language Studies*, 5(4), 205–219. <https://www.ejels.com/artificial-intelligence-usage-patterns-and-dependency-in-english-language-learning-among-tertiary-level-students>
- Ardini, S. N., & Marlinda, M. (2023). Enhancing writing report texts using Padlet website: the perceptions. *JOLLT Journal of Languages and Language Teaching*, 11(4), 923–932. <https://ojspanel.undikma.ac.id/index.php/jollt/article/view/8316>
- Braun, V., & Clarke, V. (2021). *Thematic analysis: A practical guide*. https://www.researchgate.net/profile/David-Morgan-43/post/How_to_teach_and_or_supervise_qualitative_data_analysis/attachment/5d448bd33843b0b9825d91e4/AS%3A787530584698880%401564773331825/download/Braun+12+APA+Handbook.pdf
- Clark, V. L. P., & Creswell, J. W. (2008). *The mixed methods reader*. Sage. https://books.google.co.id/books?hl=id&lr=&id=iBr6Y7cBmOQC&oi=fnd&pg=PR14&dq=related:6oCv1tkl5bUJ:scholar.google.com/&ots=PYd0UgkCQJ&sig=61s1f-JLHrY7hOC5Rb-z59UoifM&redir_esc=y#v=onepage&q&f=false
- Deni, A. R. M., & Zainal, Z. I. (2018). Padlet as an educational tool: Pedagogical considerations and lessons learnt. *Proceedings of the 10th International Conference on Education Technology and Computers*, 156–162. <https://dl.acm.org/doi/pdf/10.1145/3290511.3290512>
- Fuchs, B. (2014). The writing is on the wall: using Padlet for whole-class engagement. *Loex Quarterly*, 40(4), 4. <https://commons.emich.edu/cgi/viewcontent.cgi?article=1221&context=loexquarterly>
- Herawati, I., & Taufiq, W. (2022). The Analysis of English Teacher Effort For Evaluating Teacher Performance during Online Learning at Islamic Junior High School: ANALISIS UPAYA GURU BAHASA INGGRIS UNTUK MENGEVALUASI KINERJA GURU SELAMA PEMBELAJARAN ONLINE DI SMP ISLAM. *Education and Human Development Journal*, 7(03), 89–96. <https://journal2.unusa.ac.id/index.php/EHDJ/article/view/2292>
- Listiqowati, I., Budijanto, B., Sumarmi, S., Ruja, I. N., Putra, E., & Ishak, N. A. (2025). Project-based Flipped Classroom (PjBFC) for enhancing 4C skills in Geography learning. *Jurnal Pendidikan Geografi: Kajian, Teori, Dan Praktek Dalam Bidang Pendidikan Dan Ilmu Geografi*, 30(1), 5. <https://doi.org/https://doi.org/10.17977/2527-628X.1179>
- Marwa, M., & Herdi, H. (2023). 4C Skills' Integration in English Teaching Documents Used in EFL Classroom. *ELT-Lectura: Studies and Perspectives in English Language Teaching*, 10(1), 1–10. [https://repository.unilak.ac.id/2727/1/4C Skills' Integration In English Teaching Documents Used In EFL Classroom.pdf](https://repository.unilak.ac.id/2727/1/4C%20Skills%27%20Integration%20In%20English%20Teaching%20Documents%20Used%20In%20EFL%20Classroom.pdf)

- Nisa, A. K., Tinofa, N. A., Noptario, N., & Abdullah, F. (2024). Transisi pembelajaran teacher centered menuju student centered: Penguatan literasi teknologi siswa sekolah dasar. *Ideguru: Jurnal Karya Ilmiah Guru*, 9(3), 1453–1460.
<https://doi.org/https://doi.org/10.51169/ideguru.v9i3.920>
- Nurlita, R., & Taufiq, W. (2025). Students' Perceptions of Digital Literacy-Based Media in English Language Learning. *Jurnal Metaedukasi: Jurnal Ilmiah Pendidikan*, 7(1), 8–19.
<https://jurnal.unsil.ac.id/index.php/metaedukasi/article/view/16223/4299>
- Ramadhani, A. S., Dewi, U., Syahnaz, M., & Kihwele, J. E. (2023). The effectiveness of using Padlet in collaborative writing based on students' perceptions. *Child Education Journal*, 5(1), 36–48.
<https://journal2.unusa.ac.id/index.php/CEJ/article/view/3767>
- Rizal, N. A. R., Ngui, W., Emilia, E., & Dewi, F. (n.d.). *Investigating the Impact of Using a Collaborative Web Platform to Enhance Secondary Level Students' Writing Performance*. Retrieved
<https://www.researchgate.net/publication/396900943>
- SITI, N., SINDI, K. S., ULFI, A., & DARUL, I. (2023). Penguatan pendidikan peserta didik melalui keterampilan 4C dengan mengimplementasikan pembelajaran abad 21 dalam pembelajaran Pendidikan Agama Islam. *AL-TARBIYAH: JURNAL ILMU PENDIDIKAN ISLAM Ученедумелу: Sekolah Tinggi Agama Islam Yayasan Pendidikan Islam Kaimuddin Baubau*, 2(1), 239–249.
- Taufiq, W., & Megawati, F. (2023). Technology for English Language Learners. *Umsida Press*, 1–217.
<https://press.umsida.ac.id/index.php/umsidapress/article/view/978-623-464-072-4>
- Uspayanti, R., Bawawa, M., & Indriyani, N. (2022). Students' Interest Towards the Use of Padlet in Grammar Class: A Case in Indonesia. *SHS Web of Conferences*, 149, 1036. https://www.shs-conferences.org/articles/shsconf/abs/2022/19/shsconf_ics2022_01036/shsconf_ics2022_01036.html
- Zainuddin, N. M. M., Azmi, N. F. M., Yusoff, R. C. M., Shariff, S. A., & Hassan, W. A. W. (2020). Enhancing classroom engagement through Padlet as a learning tool: A case study. *International Journal of Innovative Computing*, 10(1).
<https://www.academia.edu/download/93945298/175.pdf>
- Zhang, Q., & Feng, H.-W. (2026). AI learning dependence and interpersonal incompetence in EFL contexts: The moderating role of ethical awareness. *Scientific Reports*. <https://www.nature.com/articles/s41598-026-47158-6>