



Using the Wayground Platform to Improve Participation and English Learning Outcomes for 10th Grade Students at SMAN 07 Samarinda

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Abstract

Background: The rapid integration of digital technology in secondary education requires instructional innovation that enhances student participation and measurable learning outcomes. Classroom observations at SMAN 07 Samarinda indicated limited engagement and vocabulary retention in Grade 10 English lessons delivered through conventional approaches.

Aims: This community service initiative aimed to implement the Wayground digital platform within the P2LP framework to improve classroom participation, strengthen vocabulary acquisition and grammar competence, and enhance formative assessment efficiency in English instruction.

Methods: The program was conducted over four weeks using a participatory action cycle involving planning, implementation, observation, and reflection. Wayground-based quizzes, flashcards, and collaborative challenges were integrated into regular English lessons. Learning progress was documented through descriptive observation and a pretest–posttest assessment focusing on vocabulary and simple present tense usage.

Result: Classroom engagement increased noticeably, with broader student participation during interactive sessions. The mean pretest score of 6.6 improved to 12.1 in the posttest, reflecting a mean gain of 5.5 points and an overall improvement of 83.3%. Students demonstrated enhanced vocabulary retention, improved grammatical accuracy, and greater willingness to participate in learning activities. Teachers also benefited from real-time feedback and automated performance summaries that supported instructional responsiveness.

Conclusion: The structured integration of Wayground functioned as a pedagogically embedded digital tool rather than a supplementary technology. The initiative successfully enhanced participation and English learning outcomes while promoting student-centered, feedback-rich instruction aligned with the Merdeka Curriculum.

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INTRODUCTION

The rapid advancement of digital technology has transformed educational practices across all levels of schooling, including secondary education. In Indonesia, the implementation of the Merdeka Curriculum encourages teachers to integrate digital tools that promote student-centered learning, autonomy, and meaningful classroom engagement. English as a compulsory subject for Grade 10 students requires consistent vocabulary development, grammar practice, and active participation in communicative tasks. However, classroom observations at SMAN 07 Samarinda revealed that students demonstrated limited engagement when instruction relied primarily on conventional textbook-based approaches. This challenge reflects broader findings indicating that passive

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instructional strategies reduce learner motivation and participation in language learning contexts (H. Chen et al., 2020). Consequently, there is a pressing need for innovative digital interventions that can enhance engagement and learning outcomes in English classrooms.

Digital learning platforms incorporating gamification elements have gained increasing attention as effective tools to enhance student engagement and academic performance. Gamified learning environments, characterized by points, badges, leaderboards, and real-time feedback, have been shown to improve motivation and active participation across subject areas (X. Chen & Hu, 2020). In language education, interactive digital quizzes and flashcard systems significantly support vocabulary retention and grammar comprehension through repetition and immediate corrective feedback (P.-L. Liu et al., 2025). Furthermore, digital formative assessment tools enhance monitoring of student progress and provide teachers with actionable learning analytics (Banihashem et al., 2025; Gross et al., 2025). Studies in secondary education contexts indicate that interactive platforms increase behavioral engagement, emotional involvement, and cognitive processing during classroom instruction (Hooshyar et al., 2020). These findings collectively suggest that integrating gamified digital platforms into English instruction can improve both participation and measurable learning outcomes.

Despite the growing body of international research on gamified digital learning, there remains limited empirical exploration of its application within Indonesian senior high school English classrooms, particularly in community service-based field practice programs such as P2LP. Most existing studies focus on higher education or general digital learning adoption rather than structured classroom integration aligned with national curriculum objectives. Moreover, research rarely addresses the dual focus of participation enhancement and vocabulary-based learning outcomes within a four-week school-based intervention model. Therefore, a contextualized implementation examining how an interactive digital platform can influence participation and learning achievement in Grade 10 English classes remains underexplored.

Grounded in student-centered pedagogy and gamification theory, this initiative sought to integrate the Wayground digital platform as an instructional innovation within the P2LP framework. The rationale stems from the need to create a more dynamic and interactive learning atmosphere capable of addressing low classroom participation and vocabulary retention challenges. Digital formative tools that provide immediate feedback and structured repetition are known to enhance language acquisition efficiency. By embedding interactive quizzes, flashcards, and group challenges into routine English instruction, the program aimed to foster intrinsic motivation, collaborative learning, and sustained engagement. Furthermore, aligning digital innovation with the Merdeka Curriculum supports national efforts to modernize classroom practices through technology-enhanced learning.

This community service initiative aimed to examine the implementation of the Wayground digital platform as an innovative instructional tool to enhance classroom participation and improve English learning outcomes among Grade 10 students at SMAN 07 Samarinda. Specifically, the program sought to increase active student engagement during English lessons, strengthen vocabulary acquisition and basic grammatical competence through interactive and gamified activities, improve the efficiency of formative assessment using real-time digital feedback, and foster a more dynamic, motivating, and student-centered learning environment aligned with the principles of the Merdeka Curriculum.

METHOD

Community Service Design

This community service activity was conducted within the School Field Service Program (P2LP) and was implemented using a participatory action-oriented cycle to ensure that the Wayground platform was integrated in a manner that was feasible, responsive to classroom needs, and sustainable for teachers' routine practice. The design actively involved collaboration between university facilitators and the classroom teacher to co-identify learning challenges and co-construct contextually relevant digital learning strategies. The approach emphasizes collaborative improvement through iterative cycles of planning, action, observation, and reflection, which is widely recognized in participatory action work in education and teacher development (Townsend & Taylor, 2022).

Participants

The activity involved Grade 10 students of SMAN 07 Samarinda who attended regular English classes during the four-week implementation period, the supervising English teacher as the classroom partner, and university student practitioners assigned to P2LP as facilitators. Participation occurred within the natural schedule of the school's English instruction to preserve authenticity and minimize disruption to existing learning routines.

Population and Sampling Approach

Because this was a community service initiative embedded in a school partnership context, participant selection followed a contextual and inclusive approach rather than probabilistic sampling. The target group comprised students who were enrolled in the designated Grade 10 English class during the P2LP schedule, reflecting a pragmatic, service-oriented implementation model intended to improve practice in the class.

Instrumentation and Instrument

To document learning progress in a practical and teacher-friendly manner, a brief pretest-posttest knowledge check was administered through Wayground. The instrument focused on vocabulary recognition and basic grammar use relevant to descriptive text learning, consistent with the platform-supported activities implemented during the sessions. In line with technology-based formative assessment principles, the instrument was designed to provide rapid feedback and generate actionable performance summaries that can support instructional decision making (Bez et al., 2025a).

The knowledge check consisted of short objective items (e.g., vocabulary meaning matching, selecting appropriate adjectives for descriptive sentences, and simple present tense subject-verb agreement). Each correct response was scored as 1 and incorrect as 0, producing a total score that could be summarized at the class level. Content appropriateness was reviewed collaboratively with the English teacher to ensure alignment with classroom objectives.

Procedures and Time Frame

The program was implemented over four weeks. During Week 1 (Planning), facilitators conducted classroom observation and a short consultation with the English teacher to identify key challenges such as limited vocabulary retention and low participation during oral responses. Based on the diagnosis, facilitators prepared Wayground learning assets (flashcards and quizzes) aligned with the targeted content.

During Weeks 2–3 (Action and Observation), Wayground was integrated into weekly English sessions. Each meeting began with a brief warm-up quiz to review prior vocabulary, followed by flashcard-supported input of new words and short grammar-focused quizzes. To encourage participation among quieter students, the session concluded with group challenges designed to promote cooperative discussion and a positive sense of competition. Evidence from gamification-informed training contexts supports the use of feedback, goals, and interaction features to strengthen sustained participation (T. Liu et al., 2023).

During Week 4 (Reflection), facilitators and the teacher reviewed platform outputs and classroom observations to evaluate participation patterns, identify learning obstacles, and formulate feasible follow-up strategies for continued use of Wayground in subsequent lessons. This reflective closure aligns with action-oriented improvement cycles in educational practice (Lapidot-Lefler, 2025).

Analysis Plan

Data were summarized descriptively, including mean and percentage changes from pretest to posttest and a brief interpretation of Wayground-generated performance indicators (e.g., item accuracy trends). Because the primary aim was service improvement and classroom strengthening, the analysis prioritized interpretability and teacher usability rather than advanced inferential testing. Technology-based formative assessment literature supports the value of quick, interpretable summaries that help teachers translate results into instructional decisions (Bez et al., 2025b).

Scope and Methodological Limitations

This community service activity was time-bounded (four weeks) and implemented within a single school-class context; therefore, results should be interpreted as evidence of contextual improvement rather than broad generalization. Variation in students' device access, connectivity stability, and initial confidence levels may also have influenced participation patterns and response speed during gamified quizzes.

RESULTS AND DISCUSSION

Results

The integration of the Wayground digital platform into Grade 10 English instruction produced observable improvements in classroom participation and behavioral engagement. Prior to implementation, participation was largely limited to a small group of confident students, while many others hesitated to respond verbally. During the four-week intervention, structured digital quizzes, flashcard-based vocabulary review, and group challenges fostered broader involvement. Observational records indicated a clear increase in voluntary responses, peer discussion during collaborative tasks, and sustained attention throughout the sessions. Students who previously demonstrated reluctance to speak in front of the class were more willing to participate through the platform interface, as the gamified environment reduced anxiety and created a supportive competitive atmosphere. The use of real-time feedback and leaderboard displays appeared to encourage repeated attempts and greater persistence in completing tasks.

To complement observational findings, a structured pretest and posttest assessment was administered to measure vocabulary recognition and basic grammar comprehension related to descriptive texts and simple present tense structures. The maximum score was 15 points (Table 1).

Table 1. Pretest and Posttest Scores of Students

No	Initials	Pretest	Posttest	Gain
1.	AR	7	12	5+
2.	BN	6	11	5+
3.	CA	8	13	5+
4.	DF	5	10	5+
5.	ES	7	12	5+
6.	FA	6	12	6+
7.	GN	8	14	6+
8.	HR	7	13	6+
9.	IS	6	11	5+
10.	JL	5	10	5+
11.	KM	7	12	5+
12.	LN	8	14	6+
13.	MR	6	11	5+
14.	NS	7	13	6+
15.	OP	5	9	4+
16.	QR	8	14	6+
17.	ST	6	12	6+
18.	TU	7	13	6+
19.	VA	6	11	5+
20.	WY	7	12	5+

Note: Mean Pretest Score: 6.6; Mean Posttest Score: 12.1; Mean Gain: 5.5 points;
Percentage Improvement: 83.3%

The data indicate a substantial increase in knowledge scores across participants. The average score improved from 6.6 to 12.1 out of 15, reflecting a mean gain of 5.5 points. Nearly all students

demonstrated improvement, with gains ranging from 4 to 6 points. This consistent upward trend suggests improved vocabulary retention and grammatical accuracy following structured Wayground-based instruction.

The combined observational and quantitative results indicate that the integration of Wayground contributed positively to both behavioral engagement and academic achievement. The notable increase in mean scores demonstrates improved conceptual understanding of descriptive text structures and vocabulary use. Repeated exposure through flashcards and immediate corrective feedback likely reinforced retention and reduced common grammatical errors (Figure 1).



Figure 1. Implementing Team in Learning Activities

Furthermore, the gamified structure appeared to reduce participation barriers by allowing students to engage through personal devices, thereby minimizing fear of public mistakes. The descriptive analysis supports the premise that digital formative tools can simultaneously enhance engagement and measurable learning outcomes when implemented in a structured and reflective manner. Overall, the results demonstrate that the Wayground platform functioned not merely as a technological supplement but as a pedagogically integrated tool capable of strengthening participation, improving vocabulary acquisition, and increasing classroom motivation within the P2LP framework.

Discussions

This community service initiative indicates that integrating the Wayground platform within regular Grade 10 English lessons can strengthen both participation and learning outcomes, as reflected in the observed rise in student engagement and the consistent pretest–posttest score gains. The improvement in participation is particularly meaningful because it suggests that technology-mediated interaction can broaden involvement beyond a small group of outspoken learners. In classroom contexts where hesitation and fear of making mistakes limit oral participation, game-like response formats can provide a psychologically safer entry point for students to contribute and practice, gradually increasing confidence and willingness to engage.

The learning gains shown in the pretest–posttest results are consistent with evidence that digital game-based or gamified language-learning activities can support vocabulary development through repeated exposure, feedback, and sustained attention. In particular, research in System highlights that learner engagement in digital game-based vocabulary learning is multidimensional (behavioral, cognitive, and emotional) and that stronger engagement is positively associated with vocabulary development (R. Zhang et al., 2023). In this program, Wayground activities such as time-bound quizzes, rapid corrective feedback, and structured repetition likely promoted deeper processing and more frequent retrieval, which are foundational mechanisms for vocabulary learning.

The participation effect can also be interpreted through the lens of motivational internalization. When learning tasks are framed as achievable challenges and progress is visible, learners may experience greater competence and task value, which fosters persistence. Evidence from Springer's Education and Information Technologies shows that gamified formative assessment (e.g., Quizizz as

a representative platform) can enhance EFL learners' motivational regulation and performance indicators, supporting the idea that gamified assessment experiences can shift students toward more engaged, self-driven participation (Z. Zhang & Crawford, 2024). Although Wayground differs by brand and interface, the underlying pedagogical mechanism is comparable: students receive rapid feedback, can monitor their progress, and experience learning as an interactive sequence rather than a passive routine. Another important interpretation concerns language learning anxiety. Students who were previously reluctant to respond publicly may benefit from mediated participation through personal devices, which reduces the perceived social risk of errors. A recent systematic review in System emphasizes that foreign language anxiety is malleable and can fluctuate across time and contexts, implying that classroom design and interaction formats can meaningfully shape students' emotional experiences of language learning (Sun et al., 2025). The Wayground-based structure in this program may have functioned as an affective scaffold, allowing students to attempt answers privately first, then gradually participate more actively in peer discussion and class interaction.

From a practical classroom-assessment standpoint, this initiative also illustrates how digital systems can support teacher decision-making by making participation and accuracy patterns more visible. Evidence from Elsevier's Teaching and Teacher Education shows that teachers' formative assessment practices are shaped by both personal and contextual factors, including self-efficacy and school support (Yan et al., 2022). Within the P2LP setting, the combination of teacher collaboration and platform-generated learning traces likely reduced the burden of manual checking and helped the teacher respond more quickly to common errors. In community service terms, this is a meaningful contribution because the intervention not only benefits students but also strengthens feasible teacher routines that can be sustained after the program ends.

Finally, the results suggest that the effectiveness of Wayground did not come merely from "using technology," but from structured pedagogical integration: clear learning targets, repeated cycles of practice, feedback, and reflective review. This reinforces the principle that digital platforms are most impactful when they are embedded into coherent lesson design and aligned with curriculum goals, rather than used as occasional add-ons. The convergence of increased participation and improved learning scores in this program therefore provides a strong argument that a gamified, feedback-rich learning environment can support both affective and cognitive dimensions of English learning within a school-based community service initiative.

Implications

The findings of this community service initiative carry important pedagogical and institutional implications. First, the measurable increase in participation and vocabulary mastery indicates that gamified digital platforms can serve as structured engagement scaffolds in secondary English classrooms. Rather than functioning merely as supplementary tools, platforms such as Wayground may operate as formative learning environments that integrate assessment, feedback, and repetition into a unified instructional sequence. Second, the results suggest that participation barriers in language classrooms, particularly anxiety and hesitation, can be reduced through mediated interaction formats that provide immediate feedback and individualized response opportunities. Third, the initiative demonstrates that curriculum alignment is critical; digital integration must remain anchored to clearly defined learning objectives and competency standards. In this respect, the Merdeka Curriculum's emphasis on student-centered and technology-enhanced learning can be operationalized effectively through structured gamified instruction. Therefore, digital pedagogical innovation, when systematically embedded into lesson design, may contribute to sustainable improvements in classroom engagement and language acquisition.

Contribution of Community Service

This initiative contributes to community-based educational innovation by demonstrating how university-school collaboration can generate practical, context-responsive instructional transformation. Through the P2LP framework, university facilitators worked alongside the classroom teacher to co-design learning materials, implement interactive sessions, and reflect on instructional outcomes. This collaborative model strengthened professional exchange and ensured contextual adaptation rather than externally imposed technological intervention. Additionally, the program provided a replicable model for integrating digital formative assessment into everyday classroom

practice within Indonesian senior high schools. The documented improvements in participation and learning outcomes illustrate that modest, well-structured digital interventions can produce meaningful academic impact without requiring large-scale infrastructure changes. Thus, the initiative reinforces the role of higher education institutions as active partners in school-based pedagogical development and sustainable innovation.

Limitations

Despite its positive outcomes, several limitations should be acknowledged. The implementation was conducted within a single Grade 10 classroom over a four-week period, which restricts the generalizability of findings to broader educational contexts. The evaluation relied primarily on descriptive statistical analysis and observational documentation rather than controlled experimental comparison. Additionally, the short duration limits conclusions regarding long-term retention of vocabulary and sustained motivational effects. Variability in students' access to stable internet connections and device functionality may also have influenced participation levels during certain sessions. Therefore, the findings should be interpreted as context-bound evidence of improvement rather than definitive proof of large-scale instructional transformation.

Suggestions

Future community service initiatives are encouraged to incorporate longitudinal follow-up assessments to examine retention of vocabulary knowledge and sustained engagement over extended periods. Expanding implementation across multiple classes or schools would enable comparative analysis and strengthen external validity. Incorporating mixed-method evaluation approaches, such as validated motivation scales, learner perception surveys, and qualitative interviews could provide deeper insight into affective and cognitive mechanisms underlying observed improvements. Furthermore, professional development workshops for teachers focusing on gamified lesson design may enhance scalability and sustainability beyond the P2LP program duration. By integrating systematic evaluation, teacher capacity building, and curriculum alignment, digital formative platforms can evolve from short-term interventions into sustainable components of English language instruction in secondary education.

CONCLUSION

The use of Wayground in English language learning for Year 10 students at SMAN 07 Samarinda during the P2LP programme has shown very positive results. The integration of this platform has proven to significantly increase student participation, especially among students who previously tended to be passive in learning activities. In addition, students' vocabulary and grammar skills have also improved thanks to the support of interactive learning features that facilitate understanding and retention of material. Wayground has also contributed to increasing student motivation to learn, as learning activities are designed to be interesting and enjoyable, creating a more lively classroom atmosphere. From the teachers' perspective, the use of Wayground has helped make the evaluation process more efficient through an automatic tracking system and real-time feedback. Overall, Wayground is considered highly suitable as an innovative digital tool that effectively supports English language learning and has the potential to be integrated sustainably into classroom learning activities.

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AUTHOR CONTRIBUTION STATEMENT

NC conceptualized the community service program, designed the instructional integration of the Wayground platform, coordinated school collaboration, and drafted the initial manuscript. NFS supervised the pedagogical framework, guided methodological alignment within the P2LP scheme, and critically revised the manuscript for intellectual content. SJ and AF contributed to instructional material development, classroom facilitation, and data documentation during implementation. MN and AAZ assisted in platform configuration, student monitoring, and descriptive data analysis. MBU and JN supported reflective evaluation, contributed to interpretation of findings, and reviewed the manuscript for academic consistency. All authors approved the final version of the manuscript and agreed to be accountable for all aspects of the work.

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