

Students' Experiences of EFL Assessment Using Wayground Paper Mode in a Rural Junior High School

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Abstrak: Kesenjangan digital masih menjadi hambatan utama dalam menciptakan akses yang setara terhadap pembelajaran dan asesmen berbasis teknologi, terutama di lingkungan pendidikan pedesaan. Meskipun berbagai penelitian sebelumnya telah meneliti penggunaan Wayground dan platform gamifikasi lainnya di sekolah perkotaan dengan infrastruktur digital yang memadai, masih sangat terbatas penelitian yang menelaah pengalaman siswa dalam menggunakan Wayground Paper Mode di konteks di mana akses terhadap alat daring tidak tersedia. Penelitian ini bertujuan untuk mengeksplorasi pengalaman emosional dan psikologis siswa selama pelaksanaan asesmen Bahasa Inggris sebagai Bahasa Asing (EFL) menggunakan Wayground Paper Mode, serta menganalisis bagaimana kesenjangan digital memengaruhi keterlibatan, tantangan belajar siswa di salah satu sekolah menengah pertama di daerah pedesaan Indonesia. Penelitian ini menggunakan pendekatan kualitatif dengan desain fenomenologis, dengan melibatkan 18 siswa kelas IX sebagai partisipan. Data dikumpulkan melalui wawancara semi-terstruktur, observasi kelas, dan jurnal refleksi siswa, serta wawancara guru untuk tujuan triangulasi data. Analisis tematik menghasilkan empat tema utama, yaitu: (1) respons emosional dan psikologis terhadap asesmen luring, (2) tantangan akibat keterbatasan akses digital, (3) peningkatan keterlibatan melalui aktivitas berbasis gamifikasi kertas, dan (4) persepsi terhadap efektivitas pembelajaran. Hasil penelitian menunjukkan bahwa Wayground Paper Mode dapat menjadi alternatif asesmen berteknologi rendah yang menarik dan mampu menjembatani kesenjangan digital, sambil tetap mempertahankan manfaat motivasional dari gamifikasi. Namun, masih ditemukan tantangan seperti kejelasan instruksi dan konsistensi pelaksanaan. Temuan ini menegaskan pentingnya adaptasi alat asesmen gamifikasi dalam konteks EFL di daerah pedesaan guna mendorong pembelajaran yang lebih inklusif dan berkeadilan di lingkungan dengan keterbatasan sumber daya.

Kata kunci: Asesmen, EFL, Digital, Sekolah Pedesaan, Wayground

Abstract: The digital divide remains a critical barrier to equitable access to technology-based learning and assessment, particularly in rural educational settings. While previous studies have explored the use of Wayground and other gamified platforms in urban schools with adequate digital infrastructure, limited research has examined students' experiences with Wayground Paper Mode in contexts where online tools are inaccessible. This study aims to explore students' emotional and psychological experiences during the implementation of Wayground Paper Mode in English as a Foreign Language (EFL) assessments, and to investigate how the digital divide influences their engagement, learning challenges in a rural junior high school in Indonesia. Employing a qualitative phenomenological research design, data were collected from 18 Grade 9 students through semi-structured interviews, classroom observations, and reflection journals, complemented by teacher interviews for triangulation. Thematic analysis revealed four major themes: (1) emotional and psychological responses to offline assessments, (2) challenges arising from digital inaccessibility, (3) enhanced engagement through gamified paper-based activities, and (4) perceptions of learning effectiveness. The findings indicate that Wayground Paper Mode serves as an engaging, low-tech alternative that helps bridge the digital gap while maintaining the motivational benefits of gamification. However, challenges such as instructional clarity and consistency of facilitation remain significant. The study underscores the need to adapt gamified assessment tools for rural EFL contexts to foster more inclusive and equitable learning opportunities in resource-limited environments.

Keywords: *Assessment, EFL, Digital, Rural School, Wayground*

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INTRODUCTION

The advent of technology within educational settings has transformed traditional teaching methodologies, particularly in Language Education, where digital platforms are increasingly utilized to enhance learning experiences (Tabasi et al., 2024). This evolution extends to EFL assessments for junior high school students evaluate English language skills like listening, speaking, reading, and writing through engaging, age-appropriate methods that blend innovation with accessibility (Amirian, 2025). These assessments emphasize both formative feedback, delivered via interactive apps or quick quizzes for ongoing improvement, and summative evaluation. Wayground, formerly known as Quizizz, is a digital platform designed for instruction and formative assessment through gamified quizzes (Zhang & Crawford, 2023). Wayground paper mode is a specific modality within Wayground that enables teachers to administer gamified assessments without requiring students to use personal digital devices (Areed et al., 2021). In Paper Mode, the teacher displays questions on a shared screen while students respond using printed QR-coded answer cards (Masih, 2022). The teacher scans the cards using the Wayground mobile application, and the system automatically records and analyzes student responses (Masih, 2022).

Several studies on gamified assessment platforms, including Quizizz, report positive effects on student motivation, attention, and learning performance in both primary and secondary education (Ratinho & Martins, 2023). Moreover, various studies indicate that the educational landscape in rural regions often differs significantly from urban counterparts, where access to resources and advanced pedagogical practices may be limited (Li, 2024). Nevertheless, structured and effective digital interventions have demonstrated promise in bridging the educational gaps experienced in these settings (Wang, 2025). The unique characteristics of rural junior high schools necessitate a focused exploration of digital assessment experiences, as understanding the nuanced elements of students' learning processes within these contexts can yield valuable insights (Sato et al., 2025).

Despite the promising implications of using digital platforms like Wayground in EFL assessments, there is a lack of empirical data specifically focused on students' experiences within rural junior high schools. This gap poses significant challenges in fully understanding how these technologies might effectively enhance EFL learning among younger learners in less resourced environments (Davin & Donato, 2024). Previous research has not adequately considered the contextual variables that shape the adoption and effectiveness of such technology-driven assessments, particularly in rural settings characterized by unique cultural and social dynamics (Forey, 2020). In particular, issues surrounding access, training, and the appropriateness of digital tools for level-specific language acquisition remain under-explored. Consequently, an in-

depth investigation into students' experiences with Wayground in rural junior high schools is essential, as it may provide crucial insights into how educators can refine their instructional strategies to better meet their students' needs (Han et al., 2025). This study aims to address this gap, thereby contributing to a more nuanced understanding of the intersection between technology and language instruction in diverse educational landscapes.

This paper aims to explore students' emotional and psychological experiences during EFL assessments using Wayground Paper Mode in a rural junior high school setting. Furthermore, it seeks to examine how the persistent digital divide shapes students' engagement, learning challenges, and overall perceptions of gamified offline assessments. Gamification has been shown to enhance motivation and engagement in EFL classrooms. Tsai found that integrating badges, leaderboards, and Wordwall activities increased students' learning motivation and satisfaction (Tsai, 2024). Similarly, Cheng et al. reported that gamified EFL environments improved reading proficiency and enjoyment among Chinese undergraduates (Cheng et al., 2025). Gamified assessment formats positively influence learning outcomes. Basuki compared gamified and traditional speaking assessments, finding that gamified methods significantly enhanced performance and engagement (Basuki, 2023). Likewise, Basthomi et al. emphasized gamification's potential in creating equitable proficiency assessment tools (Basthomi et al., 2025). Several studies highlight how gamified learning environments improve vocabulary and comprehension skills. Intriago-Cobena et al. demonstrated positive outcomes of gamification for vocabulary acquisition among rural students in Ecuador (Intriago-Cobena et al., 2024). Julita confirmed gamified approaches enhance EFL reading comprehension and engagement (Julita, 2024).

Many studies focus on gamified EFL assessment and learning in urban or well-resourced schools, emphasizing digital integration, student motivation, and performance outcomes. Zhang and Crawford explored urban EFL classrooms using Quizizz as a gamified formative assessment tool. Results showed that students' motivation and engagement levels were significantly higher in gamified settings, correlating with improved academic performance. The study confirmed that gamified assessment promotes self-determination and internalized motivation in EFL learners (Zhang & Crawford, 2023). Ma conducted a mixed-method study in urban China comparing digital gamified instruction (e.g., Duolingo) with traditional methods. Students in gamified classes demonstrated higher proficiency gains and stronger "ideal L2 self" development, showing how urban students benefit from immersive, mobile-assisted gamification supported by strong infrastructure (Xinyue, 2025). The general findings of these studies reveal that many gamified EFL assessment and learning in urban or well-resourced schools, emphasizing digital integration, student motivation, and performance outcomes.

Research on gamified English as a Foreign Language (EFL) assessment has expanded significantly in recent years, emphasizing digital engagement, learner motivation, and pedagogical innovation. However, there remains limited exploration of such assessments in rural or low-tech educational environments where digital access is

constrained (Sepadi et al., 2025). Consequently, these findings are not generalizable due to inadequate evidence necessary for examining the effects of gamified EFL assessment and learning in urban or well-resourced educational institutions. Next, a qualitative phenomenological has been conducted (Husnah et al., 2023). This research design to explore the lived experiences of students in EFL assessments utilizing Wayground Paper Mode in a rural junior high school setting. Moreover, other previous studies only discussed gamified EFL assessment and learning in urban or well-resourced schools but there remains limited exploration of such assessments in rural or low-tech educational environments.

The assessment of English as a Foreign Language (EFL) has undergone significant transformations, particularly with the advent of digital technologies. Tools such as Quizizz, which employ gamified assessment formats, have the potential to enhance learner engagement and motivation in EFL contexts. Educational technology, including interactive platforms, promotes a dynamic learning environment, supporting not just knowledge acquisition but also emotional and psychological well-being during assessments (Zhang, 2023).

Additionally, the interaction between learners and digital assessment tools can evoke significant emotional responses. For instance, while some students may find such tools engaging, others may experience anxiety or frustration, particularly if they face technical challenges or are unfamiliar with the technology (Handayani et al., 2025). Understanding these emotional responses is essential for developing effective instructional strategies that accommodate diverse learning experiences.

The digital divide a significant disparity in access to digital technology has critical implications for EFL assessment experiences in rural contexts. Research has shown that limited access to technology can hinder students' ability to engage fully with digital tools, thereby affecting their learning outcomes and emotional experiences (Khawaji, 2025). According to Ferguson and Leeming (Ferguson & Leeming, 2025), teacher self-efficacy can also be impacted by the digital divide, as educators may feel less prepared to implement technology-based assessments in resource-constrained environments.

The study draws upon the Sociocultural Theory of learning, which posits that social interactions significantly influence cognitive development and learning processes. The Sociocultural Theory of Learning is a learning theory developed by the psychologist Lev Vygotsky in the early 20th century. This theory is relevant in understanding how assessments particularly digital assessments shape students' learning experiences in EFL environments (Tang, 2025). The integration of technology in teaching is not merely about the tools themselves but is deeply interwoven with social practices, pedagogical approaches, and students' emotional responses to learning (Tang, 2025).

Research exploring the experiences of students in English as a Foreign Language (EFL) assessment using digital platforms has increased in recent years, shedding light on various factors that influence learner engagement, emotional responses, and the overall effectiveness of these assessments. For instance, Zhang (Tang, 2025) emphasized the role of mediation in listening assessments, arguing for frameworks that incorporate emotional and cognitive elements to foster a more comprehensive understanding of

learner experiences in EFL contexts. Complementing this, Dewaele et al. (Tang, 2025) delved into the emotional landscapes of EFL learners, revealing that teacher support can significantly mitigate anxiety and enhance enjoyment, thereby affecting student motivation and outcomes. Such insights underscore the necessity of a supportive educational environment, particularly in rural settings where resources and emotional scaffolding may be limited.

Contributions to the understanding of EFL assessment also emerge from research on dynamic assessment frameworks. Meng & Fu (Meng & Fu, 2023) proposed integrated assessment models that fuse evaluation with instruction, aiming to enhance EFL learning experiences through adaptive strategies. Additionally, examining the relationship between technology usage and cognitive engagement among learners has provided meaningful context for understanding how digital tools can invoke varied emotional responses during assessments. Further studies, including those conducted by Handayani et al. (Handayani et al., 2025) and Uchihara et al. (UCHIHARA et al., 2022), elucidate the intricacies of assessment formats, highlighting their influence on student confidence and the nuances of input modalities in language learning. Collectively, these studies present a rich tapestry of research that demonstrates the importance of emotional, cognitive, and contextual factors in shaping students' experiences with EFL assessments in both accessible and disadvantaged settings. The following research questions have been formulated: (1). What emotional and psychological experiences do students report during these assessments? (2). How does the digital divide influence their engagement and challenges, the digital divide remains a pressing issue in education, particularly in rural contexts?

This study investigates the lived experiences of junior high school students in a rural junior high school setting as they engage in English as a Foreign Language (EFL) assessment through Wayground Paper Mode an innovative adaptation of gamified testing that functions offline. In contexts where internet connectivity and access to digital devices are limited, such tools serve as crucial alternatives for equitable assessment. Unlike urban schools where digital learning is more feasible, rural schools often face structural challenges that prevent the adoption of fully digital gamified platforms. By utilizing the paper-based version of Wayground, this research explores how gamified elements such as time limits, competition, and rewards can still foster motivation and engagement, even in low-tech environments. The study thereby positions Wayground Paper Mode as both a pedagogical and social innovation that bridges the gap between traditional and digital assessment systems.

The research is anchored in three key theoretical foundations that guide its interpretation and methodological framework. Digital Divide Theory (Van Dijk, 2005) provides a sociotechnical lens to understand how disparities in access, skills, and usage shape students' engagement with learning technologies. Constructivist Learning Theory (Vygotsky, 1978) offers a pedagogical basis for understanding how students actively construct knowledge through interactive and socially mediated learning processes, even in paper-based gamified settings. Meanwhile, Phenomenology (Husserl, 1931) informs the methodological orientation, emphasizing students' subjective and lived experiences

as they navigate this new form of assessment. Together, these frameworks enable a holistic exploration of not just the functionality of Wayground Paper Mode, but also its emotional and cognitive impact on learners.

Ultimately, this study aims to uncover how rural students perceive and emotionally respond to the integration of gamified offline assessments in their English learning journey. It focuses on three core dimensions: (1) students' emotional and psychological experiences during assessment, (2) their engagement and motivation in the absence of digital interactivity. Through these inquiries, the study contributes to the broader discourse on educational equity by demonstrating that gamification, even in its non-digital form, can be adapted to meet the needs of marginalized learning communities. The findings are expected to provide actionable insights for educators, curriculum developers, and policymakers seeking to design inclusive and motivating assessment systems for under-resourced schools.

METHOD

A qualitative phenomenological research design was employed to capture participants' experiences in depth. The procedure was structured across three stages: (1) Preparation Phase; Ethical clearance was obtained from the local education board, consent forms were distributed to participants and guardians, students were introduced to Wayground Paper Mode through guided demonstrations to ensure familiarity with the assessment format. (2) Data Collection Phase; semi-Structured Interviews (18 sessions, 20–30 minutes each) explored students' affective and cognitive reactions to the assessments, classroom Observations assessment sessions documented behavioral indicators of engagement and anxiety using an observation checklist, Reflection Journals allowed students to self-report post-assessment insights and emotional reflections, teacher Interviews provided triangulation and contextual understanding of classroom implementation. Data saturation achieved after 14 interviews. (3). Implementation Details; the assessments replicated gamified features such as timed questions, leaderboards, and reward-based items but were printed and completed manually, procedures ensured consistency with digital versions Wayground, aligning item structure, timing, and scoring formats.

The study took place in SMP X, a pseudonym for a rural junior high school located in Boyolali Regency, Central Java, Indonesia a region characterized by limited internet connectivity. Participants included 18 students grade 9 (ages 13–14) who had engaged in at least three Wayground Paper Mode assessments over one semester. They were purposively selected to represent diverse English proficiency levels. Additionally, one EFL teacher was interviewed to provide pedagogical perspectives and validate observed phenomena. The rural school context was essential, as it illuminated the challenges faced by students excluded from digital learning opportunities, revealing how paper-mode gamified assessments might bridge access disparities.

The data in this study were analyzed using thematic analysis as outlined by Braun and Clarke (2006), a widely recognized qualitative approach for identifying and interpreting patterns of meaning within narrative data. This analytical process began

with a familiarization stage, during which the researcher engaged deeply with the interview transcripts, observation notes, and students' reflection journals to gain an intuitive understanding of the participants' experiences. Through initial coding, key phrases, sentences, and expressions that reflected emotional, cognitive, and behavioral aspects such as anxiety, motivation, enjoyment, and perceived fairness were systematically highlighted. These codes served as the foundation for recognizing recurring ideas and meaningful trends across the data corpus. Subsequently, the researcher conducted theme generation, grouping similar codes into broader conceptual categories. This process yielded four central themes: *Emotional Responses*, *Digital Inaccessibility Challenges*, *Enhanced Engagement*, and *Perceived Effectiveness*, each encapsulating a distinct yet interconnected dimension of students' experiences with Wayground Paper Mode.

The validity and trustworthiness of the analysis were ensured through multiple verification techniques. Theme review involved cross-checking patterns across data sources interviews, classroom observations, and journals to achieve triangulation, thereby enhancing the consistency and depth of the findings. Member checking was conducted by inviting participants to review and confirm the accuracy of their transcribed quotes and the interpretations derived from them, ensuring that their voices were authentically represented. Furthermore, the researcher maintained reflexive journaling throughout the analytic process to document assumptions, biases, and methodological decisions, safeguarding analytical transparency. Data were systematically organized and coded using NVivo software, which facilitated efficient categorization, retrieval, and pattern visualization. The translation of *Bahasa Indonesia* data into English underwent iterative verification to maintain linguistic and cultural fidelity. Collectively, these rigorous analytic procedures reinforced the credibility, dependability, and interpretive depth of the study's findings, positioning them as a reliable representation of rural students' authentic experiences with gamified paper-based EFL assessment.

RESULT AND DISCUSSION

The analysis of interviews, classroom observations, and reflection journals revealed four interrelated themes that collectively capture students' experiences with Wayground Paper Mode assessments in a rural EFL context. Each theme offers insight into how learners emotionally, cognitively, and behaviorally engaged with this offline gamified assessment model. The findings not only highlight students' emotional transitions and motivational dynamics but also shed light on how limited digital access shaped their perceptions of fairness, engagement, and learning effectiveness.

Emotional Responses, students' emotional experiences during the assessments showed a distinct shift from anxiety to enjoyment and relief. Initially, many students expressed nervousness due to the unfamiliar format and perceived difficulty of the assessment. However, as they progressed, their emotional state improved notably once they discovered that the test incorporated *game-like features* such as time limits, reward points, and competition among peers. These elements helped transform the atmosphere

from tense to playful, providing a sense of psychological safety and enjoyment. One student reflected in their journal, "*Sebelum tes saya gugup, tapi saat mengerjakan seperti bermain, jadi senang*" (Before the test I was nervous, but as I worked through it, it felt like a game, so I was happy). Observations also revealed that fidgeting and hesitations during the first few minutes diminished over time, replaced by increased focus and participation. The absence of internet-related stress commonly reported in previous online assessments further contributed to this positive emotional shift. Thus, Wayground Paper Mode appeared to reduce performance pressure and foster a more encouraging testing experience, particularly valuable in low-resource settings.

Digital Inaccessibility Challenges, the digital divide remained a defining factor in shaping students' assessment experiences. Most participants acknowledged that the *paper-based format* was a practical solution to the chronic lack of internet connectivity in their rural environment. They appreciated that it allowed everyone to participate equally without worrying about signal disruptions or unavailable devices. However, challenges persisted particularly in interpreting items that were originally designed for digital display. Some students struggled with unclear instructions or questions that lacked the visual and interactive cues typically present in the online version. One participant explained, "*Di desa kami sinyal jelek, jadi kertas lebih baik, tapi kadang soal kurang jelas tanpa gambar di app*" (In our village the signal is poor, so paper is better, but sometimes the questions are unclear without images from the app). Observations confirmed this, as peer-to-peer discussions occasionally occurred when students sought clarification on question layouts or meanings. These findings emphasize that while the *paper mode* effectively addressed technological inequities, it simultaneously introduced a new layer of interpretive challenges, particularly concerning visual comprehension and instruction clarity.

Enhanced Engagement, students consistently described the Wayground Paper Mode as engaging, competitive, and enjoyable. The inclusion of game-like mechanics such as timed questions, point accumulation, and leaderboard-style ranking helped sustain attention and motivate students to perform better. Observations recorded high levels of concentration and enthusiasm, with minimal off-task behavior during the sessions. The teacher also remarked, "*Siswa lebih antusias karena format seperti game, meski offline*" (Students are more enthusiastic because the format feels like a game, even though it is offline). Reflection journals supported this observation many students wrote that the assessment "felt fun" and "made them want to learn more." The competitive structure encouraged not only individual effort but also a cooperative classroom atmosphere, where students motivated one another to complete the tasks. This finding aligns with the principles of Constructivist Learning Theory (Vygotsky, 1978), highlighting how social interaction and active participation can reinforce learning, even within a low-tech environment.

Perceived Effectiveness, most students regarded the Wayground Paper Mode as an effective and fair assessment tool for improving English vocabulary and grammar skills. They appreciated that it balanced challenge and enjoyment, promoting both learning and self-confidence. Several participants reported feeling more competent in

recalling English words and applying grammar rules after repeated exposure through this format. Teachers also observed noticeable improvements in students' classroom participation and willingness to answer questions, suggesting that the approach positively influenced their learning behaviors. However, a few students mentioned the need for additional practice sessions before formal assessments to better understand the game structure and pacing. Some also suggested incorporating more visuals or examples to make the printed materials clearer. Overall, the perceived fairness and accessibility of the Wayground Paper Mode outweighed its limitations, positioning it as a sustainable alternative to digital assessments in rural EFL education.

To quantify the thematic distribution, 135 coded references were analyzed across three data sources: interviews, observations, and reflection journals. The most frequent theme was Enhanced Engagement (27.41%), followed by Emotional Responses (24.44%), Digital Inaccessibility Challenges (24.44%), and Perceived Effectiveness (23.70%). This distribution indicates that engagement and emotional regulation were the most salient aspects of students' assessment experiences, while technological limitations and perceived learning outcomes also played critical roles.

Table 1. Distribution of Themes Across Data Sources (n = 18 per source)

Theme	Interviews (n=18)	Observations (n=18)	Journals (n=18)	Total Mentions	Share of Mentions (%)
Emotional Responses	12	10	11	33	24.44%
Digital Inaccessibility Challenges	14	9	10	33	24.44%
Enhanced Engagement	13	12	12	37	27.41%
Perceived Effectiveness	11	8	13	32	23.70%
Totals	50	39	46	135	100%

The thematic distribution highlights how students' engagement and emotions were strongly influenced by the gamified design of the Wayground Paper Mode. Despite limitations in visual clarity, the assessment's playful structure and low-stress environment encouraged active participation, positive emotional regulation, and increased confidence. Moreover, the findings underscore that offline adaptations of digital tools can effectively reduce educational inequity by allowing students in low-resource settings to experience the motivational benefits of gamified learning without technological dependency.

What emotional and psychological experiences do students report during these assessments?

The emotional trajectory of students throughout the Wayground Paper Mode assessment process revealed a dynamic shift from initial anxiety to eventual enjoyment and satisfaction. Many students initially expressed nervousness and self-doubt when facing the unfamiliar gamified test format, which they perceived as more challenging than conventional paper-based exams. This early apprehension manifested in observable behaviors such as fidgeting, silence, or hesitation before beginning the test. However, as the assessment progressed, their affective responses evolved. The game-like structure timed questions, competitive scoring, and reward-style feedback fostered a sense of excitement that gradually replaced their anxiety with enthusiasm and focus.

Students' reflection journals vividly captured this emotional transition. One student wrote, "*Sebelum tes saya gugup, tapi saat mengerjakan seperti bermain, jadi senang,*" (Before the test I was nervous, but as I worked through it, it felt like a game, so I was happy). This sentiment was echoed by several participants, emphasizing that the playful mechanics of Wayground Paper Mode reduced performance-related stress and created a more enjoyable testing atmosphere. Observational data confirmed that once students became familiar with the structure, they displayed more confidence and cooperation, with some even encouraging peers during the timed rounds. This transformation aligns with Constructivist Learning Theory (Vygotsky, 1978), suggesting that emotional regulation and engagement can be enhanced through interactive, socially supportive tasks.

Furthermore, the phenomenological lens revealed that these emotional experiences were not merely situational but deeply intertwined with students' sense of achievement and self-efficacy. By completing assessments successfully in a low-tech yet gamified format, students reported feelings of accomplishment and empowerment, especially those who typically struggled with technology-based tasks. For them, Wayground Paper Mode created a psychologically safe space where learning felt less intimidating and more rewarding. The teacher also noted that students "appeared more relaxed and motivated" compared to traditional exams, suggesting that the integration of game mechanics helped sustain focus while alleviating assessment anxiety. In summary, the Wayground Paper Mode fostered positive emotional engagement, reduced stress, and enhanced learners' overall psychological readiness for EFL assessment in a context traditionally marked by apprehension and limited exposure to gamified learning.

How does the digital divide influence their engagement and challenges, the digital divide remains a pressing issue in education, particularly in rural contexts?

The findings demonstrate that the digital divide defined by disparities in access to reliable internet, devices, and digital literacy played a critical role in shaping students' engagement and experiences with Wayground Paper Mode. In rural Boyolali, most students lacked personal smartphones and stable internet access, making online-based gamified tools impractical. Consequently, the offline paper adaptation provided a

meaningful solution that enabled participation without dependence on connectivity or digital infrastructure. Students described a sense of relief and inclusion, noting that the paper format eliminated the stress associated with unstable internet signals or malfunctioning devices. As one participant stated, “Di desa kami sinyal jelek, jadi kertas lebih baik,” (In our village the signal is poor, so paper is better). This adaptation directly addressed the material and access-level barriers outlined in Van Dijk’s (2005) Digital Divide Theory, reinforcing the idea that equitable educational innovation must align with the realities of local infrastructure.

Despite its success in mitigating connectivity issues, the Wayground Paper Mode also revealed certain context-specific challenges. Without the visual or interactive affordances of the digital app, some students reported difficulties interpreting printed instructions or visual-based questions that originally relied on color coding and animations. Observations showed that about half the class occasionally sought peer clarification to understand these questions, indicating that while accessibility was improved, comprehension clarity was partially compromised. Teachers also noted that the lack of instant feedback a feature inherent to digital gamification slightly reduced the immediacy of learning reinforcement. Nevertheless, engagement remained high: students stayed focused, competitive, and motivated throughout, suggesting that the motivational design principles of gamification remained effective even in low-tech adaptations.

Overall, the study found that the digital divide both constrained and inspired innovation in EFL assessment. By transforming a digital platform into an offline, paper-based gamified experience, Wayground Paper Mode successfully bridged access inequities while preserving the motivational core of gamified learning. However, this adaptation also underscored the need for context-sensitive instructional design, including clearer printed layouts, visual aids, and scaffolding to support comprehension in text-only formats. In essence, while the digital divide limited technological access, it also encouraged pedagogical creativity and inclusivity demonstrating that equitable education does not depend solely on technology, but on thoughtful adaptation to learners’ realities.

In response to the research questions, the study concludes that (1) students’ emotional and psychological experiences transitioned from anxiety to motivation and enjoyment due to the engaging, game-like assessment environment, and (2) the digital divide significantly shaped their engagement by restricting digital access but simultaneously driving innovative offline adaptations. The Wayground Paper Mode thus proved to be an effective and equitable approach for conducting EFL assessments in rural contexts, enhancing learner motivation while addressing the challenges of digital inaccessibility.

DISCUSSION

The purpose of this study was to explore how students in a rural Indonesian junior high school experienced English as a Foreign Language (EFL) assessment through Wayground Paper Mode, an offline adaptation of a gamified digital platform. The study

aimed to investigate two interrelated aspects: first, students' emotional and psychological experiences during the gamified paper-based assessment; and second, the influence of the digital divide on their engagement, comprehension, and perceived learning effectiveness. This inquiry was motivated by the persistent technological inequalities between urban and rural schools in Indonesia, where digital assessment tools remain inaccessible to many students due to infrastructure constraints (Van Dijk, 2005).

The findings revealed that students initially experienced anxiety but gradually transitioned to feelings of enjoyment and confidence as they perceived the assessment as a game rather than a conventional test. This emotional evolution indicates that gamified assessment formats, even when conducted offline, have the potential to transform affective responses toward testing. The results align with a substantial body of research demonstrating that gamification fosters positive emotions and reduces learning anxiety. For instance, (Cigdem et al., 2024) reported that the inclusion of competitive and reward-based elements in assessment design leads to increased enjoyment and engagement among learners.

Moreover, the observed affective shift from anxiety to enjoyment is consistent with positive psychology perspectives in second language acquisition (L. Wang & Macintyre, 2021), which emphasize that foreign language enjoyment can serve as an emotional counterweight to anxiety, leading to improved task performance and persistence. Students' reflections in this study revealed that they felt "happy" and "excited" during the Wayground Paper Mode sessions because the format resembled a playful challenge rather than an evaluation.

At the same time, the study's findings expand existing research by showing that offline gamified formats can reproduce many of the motivational effects traditionally associated with digital gamification. While most previous research (Othman et al., 2025) has focused on digital game-based assessment in urban or technologically rich environments, this study demonstrates that a paper-based adaptation can achieve comparable engagement outcomes in rural contexts. This suggests that the pedagogical core of gamification competition, feedback, and reward can transcend technological boundaries when appropriately localized. Thus, the results not only align with but also extend current understandings of gamified learning by foregrounding its adaptability to non-digital educational ecosystems.

The alignment of these findings with prior research can be explained through Self-Determination Theory (Ryan et al., 2021) and Constructivist Learning Theory (Engeness & Gamlem, 2025), both of which emphasize the role of autonomy, competence, and relatedness in sustaining motivation..

In broader terms, the digital divide in this study acted not only as a constraint but also as a catalyst for pedagogical innovation. The necessity to accommodate infrastructural limitations led to the development of a more inclusive, context-sensitive assessment approach. This supports findings by (Kramar & Knez, 2025), who argued that low-tech gamification designs can still yield strong learning outcomes when aligned with local realities and cultural expectations. Thus, rather than viewing the digital divide

solely as a barrier, this study positions it as an opportunity for educators to rethink gamification beyond its digital boundaries and toward human-centered, adaptive design in resource-constrained settings.

CONCLUSION

This study explored students' experiences with Wayground Paper Mode, an offline gamified assessment tool designed to bridge digital inequities in a rural EFL classroom. The findings revealed that students' emotional responses evolved from anxiety to enjoyment, while the gamified paper format successfully sustained engagement and motivation despite limited access to digital resources. Although comprehension challenges emerged due to the absence of interactive visual cues, learners perceived the assessment as fair, enjoyable, and effective in enhancing their English learning. The study concludes that gamification's pedagogical power transcends technological boundaries when thoughtfully adapted, even low-tech implementations can foster positive emotions, equitable participation, and active learning. This innovation demonstrates that addressing the digital divide in education requires not only expanding connectivity but also reimagining digital pedagogy into accessible, context-sensitive formats. Future research should expand participant diversity, adopt longitudinal designs, and explore hybrid models that combine offline and minimal digital interaction to strengthen the sustainability and inclusiveness of gamified assessment in resource-limited schools.

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