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WORDWALL AS AN INNOVATIVE GAMIFICATION TOOL FOR GRAMMAR ASSESSMENT AMONG FIRST-YEAR BACCALAUREATE EFL LEARNERS IN A PRIVATE EDUCATIONAL INSTITUTION

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Abstract

This study examined the use of Wordwall as an innovative gamification tool for assessing grammar skills among first-year Baccalaureate English as a Foreign Language (EFL) learners at a private educational institution. The research was conducted over one school year using a quantitative pre-experimental design with a one-group pre-test/post-test structure. Participants completed an initial grammar pre-test to establish their baseline performance, after which Wordwall-based activities were systematically integrated into grammar instruction and formative assessment. The intervention included interactive quizzes, sentence-ordering tasks, matching activities, missing-word exercises, and timed challenges designed to reinforce grammatical structures and provide immediate feedback. At the end of the school year, a post-test was administered using criteria comparable to those of the pre-test. The results showed a clear improvement in students' grammatical performance across the assessed dimensions, including verb tense accuracy, subject–verb agreement, sentence structure, contextual use of grammatical forms, and sentence completion. The overall mean increased from 1.67 in the pre-test to 3.57 in the post-test, indicating substantial progress during the intervention period. These findings suggest that Wordwall can support grammar learning by combining formative assessment, immediate feedback, repeated practice, and gamified interaction. Nevertheless, because the study did not include a control group, the results should be interpreted cautiously. The study concludes that Wordwall represents a promising complementary tool for grammar assessment in secondary EFL education.

Keywords: Wordwall, gamification, grammar assessment, EFL, Baccalaureate students, formative assessment.

Resumen

El presente estudio examinó el uso de Wordwall como una herramienta innovadora de gamificación para la evaluación de habilidades gramaticales en estudiantes de primer año de Bachillerato que aprenden inglés como lengua extranjera (EFL) en una institución educativa privada. La investigación se desarrolló durante un año lectivo completo mediante un enfoque cuantitativo y un diseño preexperimental de un solo grupo con pretest y postest. Inicialmente, los participantes realizaron un pretest de gramática para establecer su nivel de desempeño, tras lo cual se integraron sistemáticamente actividades basadas en Wordwall como parte de la enseñanza y evaluación formativa de la gramática. La intervención incluyó cuestionarios interactivos, actividades de ordenamiento de oraciones, ejercicios de asociación, tareas de completar espacios

y desafíos cronometrados destinados a reforzar las estructuras gramaticales y proporcionar retroalimentación inmediata. Al finalizar el año lectivo, se administró un postest utilizando criterios comparables con los empleados en la evaluación inicial. Los resultados evidenciaron una mejora considerable en el desempeño gramatical de los estudiantes en las dimensiones evaluadas, entre ellas el uso correcto de los tiempos verbales, la concordancia sujeto-verbo, la estructura de las oraciones, el uso contextualizado de las formas gramaticales y la precisión en la completación de oraciones. La media general aumentó de 1,67 en el pretest a 3,57 en el postest, lo que refleja un progreso sustancial durante el período de intervención. Los hallazgos sugieren que Wordwall puede contribuir al aprendizaje de la gramática mediante la combinación de evaluación formativa, retroalimentación inmediata, práctica recurrente e interacción gamificada. No obstante, debido a la ausencia de un grupo de control, los resultados deben interpretarse con cautela. Se concluye que Wordwall constituye una herramienta complementaria prometedora para la evaluación de la gramática en la enseñanza de inglés como lengua extranjera en el nivel de Bachillerato.

Palabras clave: Wordwall, gamificación, evaluación gramatical, inglés como lengua extranjera, estudiantes de Bachillerato, evaluación formativa.

Riassunto

Il presente studio ha esaminato l'uso di Wordwall come strumento innovativo di gamification per la valutazione delle competenze grammaticali in studenti del primo anno di Baccalaureato che apprendono l'inglese come lingua straniera (EFL) presso un'istituzione educativa privata. La ricerca è stata condotta durante un intero anno scolastico attraverso un approccio quantitativo e un disegno pre-sperimentale con un solo gruppo, utilizzando un pre-test e un post-test. Inizialmente, i partecipanti hanno svolto un pre-test di grammatica al fine di stabilire il loro livello di partenza; successivamente, le attività basate su Wordwall sono state integrate sistematicamente nell'insegnamento e nella valutazione formativa della grammatica. L'intervento ha incluso quiz interattivi, attività di riordinamento delle frasi, esercizi di abbinamento, completamento di spazi vuoti e sfide a tempo, finalizzati a rafforzare le strutture grammaticali e a fornire un feedback immediato. Al termine dell'anno scolastico, è stato somministrato un post-test utilizzando criteri comparabili a quelli impiegati nella valutazione iniziale. I risultati hanno evidenziato un considerevole miglioramento delle prestazioni grammaticali degli studenti nelle dimensioni valutate, tra cui l'uso corretto dei tempi verbali, l'accordo soggetto-verbo, la struttura della frase, l'uso contestualizzato delle forme grammaticali e l'accuratezza nel completamento delle frasi. La media complessiva è aumentata da 1,67 nel

pre-test a 3,57 nel post-test, indicando un progresso sostanziale durante il periodo di intervento. I risultati suggeriscono che Wordwall può contribuire all'apprendimento della grammatica attraverso la combinazione di valutazione formativa, feedback immediato, pratica ripetuta e interazione gamificata. Tuttavia, a causa dell'assenza di un gruppo di controllo, i risultati devono essere interpretati con cautela. Si conclude che Wordwall rappresenta uno strumento complementare promettente per la valutazione della grammatica nell'insegnamento dell'inglese come lingua straniera a livello di Baccalaureato.

Parole chiave: Wordwall, gamification, valutazione grammaticale, inglese come lingua straniera, studenti di Baccalaureato, valutazione formativa.

Introduction

The integration of digital technologies into English as a Foreign Language (EFL) education has progressively transformed the way teachers approach instruction, practice, and assessment. Contemporary learners are increasingly exposed to interactive digital environments outside the classroom, creating expectations for learning experiences that are participatory, visually engaging, and responsive. Within this context, technology-enhanced language learning has gained considerable relevance because digital tools can provide learners with opportunities for repeated practice, immediate interaction, individualized feedback, and greater autonomy. A comprehensive review by Shadiev and Yang (2020), which analyzed 398 studies on technology-enhanced language teaching and learning, demonstrated the extensive incorporation of digital technologies across different language skills and educational settings. Nevertheless, the pedagogical value of technology does not depend solely on its novelty; rather, its effectiveness is determined by how appropriately it is integrated with clearly defined learning objectives and instructional practices.

One area in which technological innovation may be particularly relevant is grammar instruction and assessment. Grammar continues to represent an essential component of second and foreign language competence because it provides learners with the structural resources required to construct meaningful, accurate, and comprehensible messages. Despite the increasing emphasis on communicative competence, research in second language acquisition has consistently demonstrated the value of focused grammatical instruction. Norris and Ortega (2000), in their influential meta-analysis of experimental and quasi-experimental studies, found that focused second-language instruction produced substantial gains in target linguistic forms and that explicit instructional approaches were generally effective. Similarly, Ellis (2006) highlighted that grammar instruction remains compatible with communicative approaches

when grammatical forms are connected to meaningful language use rather than presented merely as isolated rules.

However, grammar is frequently perceived by learners as one of the more challenging dimensions of English language learning. Conventional grammar practices often rely on teacher explanations, textbooks, worksheets, sentence transformations, and repetitive written exercises. Although such practices can provide necessary opportunities for controlled practice, excessive dependence on them may lead learners to associate grammar with memorization rather than meaningful language use. This issue becomes particularly relevant during adolescence, when maintaining attention and active participation is an important classroom concern. Recent research exploring students' experiences with Wordwall-based grammar activities suggests that learners may perceive traditional paper-based grammar exercises as difficult or monotonous, whereas interactive digital quizzes can make practice more enjoyable and increase motivation to engage with grammatical content.

The need to balance linguistic accuracy with engagement has contributed to growing interest in gamification as an educational strategy. Gamification is generally understood as the incorporation of elements associated with games into activities that are not games themselves. Deterding et al. (2011) conceptualized gamification as the use of game-design elements in non-game contexts, distinguishing it from the use of complete educational games. Within education, these elements may include scores, points, challenges, levels, competition, time restrictions, rankings, badges, progress indicators, and immediate feedback. Their pedagogical purpose is not simply to entertain learners but to restructure an activity in ways that can stimulate participation, persistence, goal-directed behavior, and feedback-driven learning.

The motivational potential of gamification has been supported by a substantial body of research, although its outcomes are not uniformly positive in every context. Hamari et al. (2014), in a review of empirical gamification research, concluded that gamification generally produced positive outcomes, while emphasizing that its effectiveness depended strongly on the characteristics of learners, the context of implementation, and the manner in which game elements were designed. This observation is particularly important in educational contexts because it prevents gamification from being interpreted merely as an entertaining addition to otherwise unchanged instruction. Instead, the interaction among game mechanics, pedagogical objectives, feedback, learner characteristics, and classroom conditions should be considered when evaluating its effectiveness.

More recent evidence specifically from EFL and ESL contexts further supports the potential of gamified learning. Zhang and Hasim (2022) systematically reviewed empirical

studies involving gamification in EFL/ESL instruction and identified benefits related to learner motivation, engagement, interaction, and language learning outcomes. At the same time, their review noted that the effects of gamification may vary according to instructional design, technological conditions, learner characteristics, and the game elements employed. Similarly, a systematic review focusing on gamification and its assessment in EFL education found that teachers generally perceived gamification platforms as useful and reported favorable effects on learner motivation and learning outcomes. Together, these findings suggest that digital gamification can function as more than an entertainment mechanism; when aligned with linguistic objectives, it may create conditions that encourage learners to participate repeatedly in language-focused practice.

Among the technological platforms associated with this trend, Wordwall has emerged as a flexible tool for creating interactive instructional and assessment activities. The platform enables teachers to transform educational content into different activity formats such as quizzes, matching tasks, missing-word exercises, classification activities, random wheels, word ordering exercises, and game-like competitions. Such formats are particularly relevant to grammar because grammatical knowledge frequently requires learners to identify patterns, select appropriate forms, distinguish between alternatives, recognize errors, and construct accurate structures. The possibility of providing immediate responses after an answer also allows students to identify errors during the learning process rather than receiving feedback only after a conventional assessment has been completed.

From a pedagogical perspective, Wordwall can therefore serve two interconnected purposes: practice and formative assessment. In a conventional grammar assessment, students may receive a score after completing an entire exercise or test, with limited opportunity to respond immediately to mistakes. In a gamified digital environment, assessment can become part of the learning process itself. Students answer items, receive indications of correctness, repeat activities, compare their performance, and make adjustments during subsequent attempts. In this sense, gamified assessment may reduce the separation between learning and evaluation by turning assessment into an iterative process in which performance generates information that learners can use to improve subsequent responses.

Empirical evidence specifically concerning Wordwall in language education has expanded considerably in recent years. Studies have investigated the platform in relation to vocabulary acquisition, learner engagement, grammatical competence, and student perceptions. For instance, research examining Wordwall in EFL learning has reported positive relationships between its use and engagement across cognitive, emotional, and behavioral

dimensions, indicating that interactive tasks may support not only participation but also learners' perceived understanding of instructional content. Other recent investigations involving vocabulary learning have found improvements following Wordwall-supported instruction, further suggesting that repeated interactive exposure and gamified practice can positively contribute to language learning outcomes.

More directly related to grammar, Salsabila and Budianto (2023) explored EFL learners' perceptions of Wordwall.net for grammar learning and analyzed students' acceptance of the platform through dimensions such as perceived usefulness, ease of use, attitude toward technology, and intention to continue using it. Their work is important because the successful implementation of a technological tool is influenced not only by measurable learning outcomes but also by learners' willingness to engage with the platform. Positive learner perceptions can support sustained participation, whereas technological difficulties, unclear activity design, or excessive competition may undermine the potential benefits of gamification.

Recent experimental evidence also provides more direct support for Wordwall-supported grammar instruction. Sulianto et al. (2025) investigated the use of Wordwall as digital gamification media for tenth-grade students and examined its effect on grammar achievement. Their study addressed a common instructional concern: learners' difficulty constructing grammatically accurate sentences when grammar teaching is perceived as monotonous or insufficiently engaging. The findings supported the potential contribution of Wordwall to grammar achievement, reinforcing the idea that gamified practice can provide an alternative environment for working with linguistic structures.

Evidence from the Ecuadorian educational context is particularly relevant to the present research. Vásquez Duran et al. (2026) examined Wordwall as a technopedagogical tool for English grammar learning among eighth-grade EFL students in Ecuador. Their quasi-experimental study involved thirty learners from a private educational institution, with an experimental group receiving Wordwall-supported practice and a control group receiving conventional instruction. Both groups studied the present simple tense, while grammar performance was evaluated through pre-test and post-test measures involving syntax, morphology, semantics, and punctuation. The experimental group demonstrated higher post-intervention performance and greater gains across the assessed grammatical dimensions. These findings are especially valuable because they provide empirical evidence within an Ecuadorian private-school setting and suggest that Wordwall-supported learning can have measurable effects beyond students' subjective perceptions of enjoyment.

Other recent research has produced comparable results. A classroom action study involving tenth-grade students reported substantial improvement in grammar performance following the implementation of Wordwall, alongside highly positive perceptions regarding enjoyment, grammatical accuracy, and engagement. Likewise, qualitative research examining Wordwall grammar quizzes found that students considered the activities helpful for understanding grammar, reducing boredom, and increasing motivation. Although differences in research design, sample size, and educational context mean that these findings should not be generalized without caution, the emerging body of evidence consistently indicates that Wordwall has potential as a support mechanism for grammar teaching and learning.

Nevertheless, a distinction should be made between using Wordwall to teach grammar and using Wordwall to assess grammar. Much of the available literature emphasizes achievement, motivation, perceptions, vocabulary acquisition, or general engagement. Comparatively less attention has been given to Wordwall as an assessment environment in which grammatical competence can be evaluated through gamified activities. This distinction is important because assessment represents a fundamental component of instruction. An instructional tool may be engaging, but its pedagogical significance becomes greater if it can also generate meaningful information regarding what learners understand, what grammatical structures continue to present difficulties, and whether performance changes following an intervention.

Furthermore, existing Wordwall research has been conducted across different educational levels, with considerable attention given to primary education, lower secondary students, vocabulary instruction, and learner perceptions. Research specifically examining first-year Baccalaureate EFL learners in private educational institutions remains comparatively limited. Learners at this stage represent an important population because they are expected to consolidate grammatical knowledge that supports increasingly complex reading, writing, listening, and speaking tasks. At the same time, adolescents' familiarity with interactive technologies creates an educational environment in which digital assessment can potentially become more responsive to their learning habits without abandoning academic rigor.

Another relevant consideration concerns the type of feedback generated through gamified assessment. Effective grammar learning requires learners not only to know whether a response is correct but also to notice discrepancies between their existing linguistic knowledge and target forms. Digital activities that provide rapid confirmation of responses can create frequent feedback cycles. Repeated exposure to these cycles may encourage learners to reconsider incorrect forms, identify recurring patterns of error, and gradually strengthen

grammatical accuracy. However, gamification should not replace teacher explanation, communicative practice, or pedagogical feedback. Instead, Wordwall can be understood as a complementary tool capable of expanding opportunities for practice and formative evaluation within a broader instructional sequence.

The literature therefore indicates three interconnected trends. First, focused attention to grammatical form continues to play an important role in second and foreign language development. Second, technology-enhanced and gamified learning environments can increase opportunities for participation, interaction, repetition, and immediate feedback. Third, emerging empirical studies involving Wordwall suggest that the platform may positively influence grammar achievement, learner motivation, and classroom engagement. Nevertheless, the effectiveness of gamification remains context dependent, and additional empirical research is necessary to establish how Wordwall performs specifically when it is used as a grammar assessment tool rather than simply as an instructional activity.

Against this background, the present study focuses on the use of Wordwall as an innovative gamification tool for grammar assessment among first-year Baccalaureate EFL learners at a private educational institution. The research seeks to determine whether integrating gamified Wordwall activities into grammar assessment can contribute to improved grammatical performance while creating a more interactive evaluation experience. By examining this population and educational context, the study aims to contribute to the growing literature on digital gamification in EFL education and, more specifically, to the still developing body of evidence concerning technology-mediated grammar assessment. The study is expected to provide practical implications for English teachers seeking assessment strategies that combine pedagogical validity, technological innovation, learner participation, and meaningful feedback.

METHODOLOGY

Participants

The participants in this study were first-year Baccalaureate students enrolled in English as a Foreign Language (EFL) classes at a private educational institution. The intervention was implemented during one complete school year, which allowed the researchers to observe students' grammar development over an extended period rather than through a short-term classroom activity.

The participants belonged to the same academic level and followed the regular English curriculum established by the institution. They had previously studied English as part of their

formal education and demonstrated heterogeneous levels of grammatical competence at the beginning of the study. This diversity reflected the natural composition of the classroom and was considered valuable because the intervention was designed to examine the effectiveness of Wordwall under authentic teaching conditions.

Students participated in regular grammar lessons covering grammatical structures appropriate for first-year Baccalaureate learners. Throughout the school year, Wordwall activities were incorporated as a complementary gamified assessment strategy. Participation in the activities took place during normal English lessons, thereby avoiding major disruptions to the established academic schedule.

The study focused specifically on learners' grammatical performance. Therefore, students' progress was measured by comparing their results before and after the implementation of the gamified assessment strategy. The use of the same group across the intervention period made it possible to identify changes in grammar achievement associated with the systematic use of Wordwall.

Instruments

The principal instruments used for data collection were a grammar pre-test and a grammar post-test. Both instruments were designed to evaluate students' grammatical knowledge before and after the implementation of Wordwall-based activities.

The pre-test was administered at the beginning of the school year to establish a baseline of students' grammar competence. It included objective items addressing grammatical structures included in the first-year Baccalaureate English curriculum. The test assessed students' ability to recognize and apply grammatical forms within contextualized sentences and short language-use situations.

The post-test was administered at the end of the intervention period. It maintained the same level of difficulty and evaluated the same grammatical domains as the pre-test in order to ensure comparability between the two measurements. Although the wording and order of some items could be modified to reduce recall effects, both tests followed equivalent content specifications.

The tests included multiple-choice items, sentence completion exercises, grammatical recognition tasks, and contextualized language-use questions. The purpose was not only to measure students' knowledge of grammatical rules but also their ability to select and apply appropriate forms within meaningful contexts.

In addition to the pre-test and post-test, Wordwall activities functioned as formative assessment instruments throughout the school year. These activities included quizzes, matching

exercises, sentence-ordering tasks, missing-word activities, and other interactive formats available on the platform. Immediate feedback was provided after students completed the activities, allowing them to identify errors and reinforce grammatical structures during the learning process.

The scores obtained from the pre-test and post-test constituted the main quantitative data for the study. These results were later compared to determine whether students demonstrated measurable improvement in grammar performance after participating in the Wordwall-supported intervention.

Design and Procedure

The study followed a quantitative pre-experimental research design with a one-group pre-test/post-test structure. This design was selected because the same group of students was evaluated before and after the implementation of Wordwall as a gamified grammar assessment tool. The purpose was to determine whether students' grammatical performance changed following sustained exposure to the intervention.

The research was conducted over one complete school year. At the beginning of the academic period, students completed the grammar pre-test under standardized classroom conditions. The results were recorded and used as the baseline measurement of their grammatical competence.

Following the pre-test, Wordwall was systematically integrated into grammar instruction and assessment throughout the school year. The teacher created interactive activities aligned with the grammatical topics included in the institutional curriculum. Rather than replacing regular instruction, Wordwall was used as a complementary tool for reviewing, practicing, and assessing grammatical structures.

During each stage of the intervention, students participated in gamified activities after grammatical content had been introduced and practiced through regular classroom instruction. Depending on the grammar topic, activities included multiple-choice quizzes, matching tasks, sentence reconstruction, classification activities, missing-word exercises, and timed challenges. Students received immediate feedback on their answers, which allowed them to recognize incorrect responses and revise their understanding.

The gamification elements incorporated through Wordwall included scoring systems, time limits, interactive challenges, immediate feedback, and competitive elements when pedagogically appropriate. These features were intended to make grammar assessment more dynamic while maintaining alignment with the learning objectives of the course.

The teacher also monitored students' participation and recurrent grammatical difficulties during the intervention. When particular errors appeared frequently in Wordwall activities, additional explanation and reinforcement were provided during subsequent lessons. In this way, the platform served not only as an assessment tool but also as a source of formative information for instructional decision-making.

At the end of the school year, the grammar post-test was administered under conditions comparable to those of the pre-test. Students' post-test scores were then compared with their initial results. The difference between pre-test and post-test performance was used to evaluate the extent to which grammatical achievement improved during the intervention.

The collected quantitative data were organized and analyzed using descriptive and inferential statistical procedures. Measures such as mean scores, standard deviations, score differences, and percentage improvement were calculated. A paired-samples statistical comparison could also be applied to determine whether the difference between pre-test and post-test scores was statistically significant. This procedure allowed the researchers to assess the effectiveness of Wordwall as a gamified grammar assessment strategy among first-year Baccalaureate EFL learners in a private educational institution.

Results

The data obtained from the pre-test and post-test were processed and analyzed using IBM SPSS Statistics. Descriptive statistics were calculated to determine the grammatical performance of the participants before and after the implementation of Wordwall as a gamified assessment tool. The assessment focused on five dimensions of English grammar: **verb tense accuracy, subject–verb agreement, sentence structure, use of grammatical forms in context, and grammatical accuracy in sentence completion**. A four-point performance scale was used, in which **1 represented the initial level, 2 the developing level, 3 the satisfactory level, and 4 the outstanding level**. Mean scores were calculated for each evaluation criterion, and an overall grammar performance mean was obtained for both the pre-test and post-test. The difference between the two measurements was also considered to determine the magnitude of change observed after the Wordwall-supported intervention.

Table 1

Pre-test and Post-test Results for English Grammar Skills

Evaluation Criteria	Pre-test Mean	Post-test Mean
Using verb tenses accurately in contextualized sentences	*1.68*	*3.52*
Applying subject–verb agreement correctly	*1.74*	*3.61*

Constructing grammatically accurate sentence structures	*1.59*	*3.47*
Selecting appropriate grammatical forms according to context	*1.65*	*3.58*
Completing sentences with grammatical accuracy	*1.71*	*3.66*
Overall Grammar Performance Mean	*1.67*	*3.57*

Authors' elaboration based on the results obtained from the pre-test and post-test.

Table 1 presents the descriptive comparison between the pre-test and post-test results for the five criteria used to assess the students' English grammar skills. The findings show a consistent increase in mean scores across all evaluation criteria following the implementation of Wordwall as a gamified grammar assessment strategy. Pre-test mean scores ranged from 1.59 to 1.74, indicating that the participants initially demonstrated grammatical performance predominantly between the initial and developing levels. In contrast, post-test mean scores ranged from 3.47 to 3.66, positioning the participants primarily between the satisfactory and outstanding performance levels.

The greatest improvement was observed in constructing grammatically accurate sentence structures, which increased from a pre-test mean of 1.59 to a post-test mean of 3.47, representing a difference of 1.88 points. This finding suggests that the systematic use of Wordwall activities may have provided students with repeated opportunities to identify, organize, and apply grammatical structures in interactive contexts. Activities such as sentence ordering, missing-word exercises, quizzes, and matching tasks may have contributed to reinforcing sentence construction through immediate practice and feedback.

A substantial improvement was also found in the students' ability to select appropriate grammatical forms according to context, with the mean increasing from 1.65 to 3.58, corresponding to a gain of 1.93 points. This was the largest numerical increase among the evaluated dimensions. The result indicates that students demonstrated greater ability to distinguish between alternative grammatical forms and select structures according to the linguistic context presented in the assessment activities. The interactive characteristics of Wordwall may have supported this development by exposing learners to contextualized grammar questions rather than requiring only the memorization of isolated rules.

Similarly, students demonstrated considerable progress in the accurate use of verb tenses. The mean score increased from 1.68 in the pre-test to 3.52 in the post-test, resulting in an improvement of 1.84 points. This improvement suggests greater control over the grammatical forms assessed throughout the school year. Since verb tense selection frequently

represents a challenge for EFL learners, repeated exposure to gamified exercises may have facilitated the recognition and application of tense patterns within meaningful sentences.

Performance in subject–verb agreement also showed a marked increase, from a pre-test mean of 1.74 to a post-test mean of 3.61. Although this criterion obtained the highest mean score in the pre-test, the results indicate that students continued to improve considerably after the intervention. The 1.87-point difference suggests that the Wordwall-supported assessment activities helped consolidate grammatical rules that students may have partially understood before the intervention but had not yet applied consistently.

The highest post-test performance was observed in completing sentences with grammatical accuracy, with a mean score of 3.66, compared with 1.71 in the pre-test. This represented an improvement of 1.95 points. The result may indicate that students became increasingly capable of recognizing linguistic cues within sentences and selecting grammatically appropriate responses. Immediate feedback provided through Wordwall may have been particularly relevant in this area because students were able to recognize incorrect selections and reconsider grammatical patterns during repeated practice.

Overall, the mean grammar performance increased from 1.67 in the pre-test to 3.57 in the post-test, representing an overall improvement of 1.90 points on the four-point performance scale. At the beginning of the school year, students' overall performance was situated primarily within the developing level. By the end of the intervention, however, the overall mean had moved toward the upper range of the satisfactory level and approached the outstanding level. This descriptive change indicates substantial development in the grammatical competence assessed during the study.

The results therefore reveal a clear positive pattern between the systematic incorporation of Wordwall and students' grammar performance during the school year. Improvements were not restricted to a single grammatical dimension; rather, increases were observed across all five assessment criteria. These findings suggest that the integration of gamified assessment provided students with repeated opportunities to practice grammatical structures, receive immediate feedback, identify errors, and reinforce previously studied content. Consequently, Wordwall appears to have functioned not only as an engaging digital resource but also as a useful formative assessment environment for monitoring and strengthening grammar learning among first-year Baccalaureate EFL students in the private educational institution.

Discussion

The findings of the present study indicate a clear improvement in the grammatical performance of first-year Baccalaureate EFL learners after the systematic incorporation of Wordwall as a gamified assessment tool during the school year. The increase observed between the pre-test and post-test suggests that the use of interactive digital activities may have contributed to strengthening students' ability to recognize, select, and apply grammatical structures more accurately. Rather than limiting assessment to traditional paper-based exercises, the intervention provided learners with continuous opportunities to interact with grammatical content through quizzes, sentence-ordering activities, matching exercises, and contextualized tasks.

These results are consistent with previous research highlighting the educational potential of gamification in EFL and ESL contexts. Zhang and Hasim (2023), in their systematic review of 40 empirical studies, found that gamified language-learning environments were frequently associated with improvements in language performance, motivation, engagement, attitudes, and learner autonomy. Their review also identified feedback, quizzes, points, challenges, time limits, and competition among the most commonly employed elements in gamified EFL instruction. The characteristics incorporated into the present Wordwall intervention closely reflect these elements, suggesting that the improvement observed in grammar performance may be related not merely to the use of technology itself, but to the interactive and feedback-oriented nature of the learning experience.

The overall grammar performance in the present study increased considerably from the pre-test to the post-test. This pattern suggests that the learners were able to consolidate grammatical knowledge progressively throughout the academic year. One possible explanation is that Wordwall transformed grammar assessment from an isolated evaluative event into a more continuous process of practice, feedback, correction, and reinforcement. Students were repeatedly exposed to target structures and were able to identify whether their answers were correct almost immediately. Such repeated interaction may have encouraged greater awareness of grammatical forms and allowed learners to recognize recurring errors before the final assessment.

This interpretation is also supported by research on technology-enhanced language learning. Shadiev and Yang (2020), in a review of 398 studies, concluded that digital technologies have been extensively used to support language learning by facilitating interaction, access to learning resources, feedback, and different forms of learner-centered practice. However, they also emphasized that technology produces meaningful educational benefits when its use is pedagogically aligned with instructional objectives. In the present

study, Wordwall was not employed simply as an entertaining classroom activity. Instead, the tasks were directly connected to the grammar objectives of the first-year Baccalaureate curriculum and were systematically incorporated as part of the assessment and reinforcement process throughout the school year.

A particularly relevant finding was the improvement observed in the students' ability to select appropriate grammatical forms according to context. This dimension showed one of the largest differences between the pre-test and post-test. The result may indicate that students developed a greater capacity to move beyond the memorization of isolated grammatical rules and apply grammatical knowledge when interpreting contextual information. Wordwall activities can facilitate this process because teachers are able to construct questions in which students must discriminate between alternative forms, complete sentences, reconstruct structures, or identify appropriate answers according to a specific situation.

The improvement in sentence construction is equally significant. At the beginning of the intervention, this criterion represented one of the weakest areas of student performance. By the end of the school year, however, learners showed considerably stronger results. This development may be related to repeated exposure to sentence-ordering and completion exercises, which required students to actively manipulate grammatical structures rather than simply identify definitions or rules. From a pedagogical perspective, such activities may help learners internalize syntactic patterns through repeated application.

Recent empirical evidence specifically involving Wordwall and grammar learning supports this interpretation. Vásquez Duran et al. (2026) examined Wordwall-supported grammar learning among Ecuadorian EFL students in a private educational institution and reported higher post-intervention performance among students exposed to Wordwall activities. Their study evaluated grammatical dimensions including syntax, morphology, semantics, and punctuation and found improvements following the implementation of the digital tool. Although the participants and educational level differed from those of the present study, the similarity in context is especially important because both investigations were conducted with Ecuadorian EFL learners in private educational settings.

The improvement observed in verb tense accuracy and subject–verb agreement further suggests that Wordwall may be particularly useful for grammatical structures requiring repeated discrimination and application. These aspects of grammar often require substantial practice before learners can consistently use them correctly. Traditional instruction may provide limited opportunities for immediate repetition because teachers must divide classroom time among explanation, practice, communication, and assessment. Digital gamification can

extend the amount of active practice students receive without necessarily requiring additional teacher-led explanation for each individual response.

At the same time, the results should not be interpreted as evidence that Wordwall alone produced the observed improvement. The intervention took place over an entire school year, during which students also received regular English instruction. Therefore, progress likely resulted from the interaction between classroom teaching, continued exposure to English, conventional instructional practices, and Wordwall-supported assessment. This distinction is important because educational technology should be understood as a pedagogical support rather than a substitute for instruction.

The duration of the intervention represents an important characteristic of the study. Much research involving gamified tools examines relatively short implementation periods, making it difficult to determine whether improvements reflect sustained learning or temporary increases in engagement. Zhang and Hasim (2023) specifically noted that some gamification studies have reported short-lived positive effects and that outcomes can depend considerably on the implementation context and design. In contrast, the present study incorporated Wordwall throughout one school year. The increase observed at the end of that extended period suggests that gamified assessment can be integrated as a sustained component of grammar instruction rather than being used exclusively as an occasional motivational activity.

Nevertheless, gamification must be implemented carefully. Competition, time pressure, technical difficulties, or excessive emphasis on points may negatively affect some learners. The systematic review by Zhang and Hasim (2023) identified technological problems, the competitive nature of some activities, and potentially temporary motivational effects among the limitations reported in previous studies. Consequently, teachers should avoid interpreting gamification simply as the addition of scores, rankings, or time limits. Activities should remain aligned with clear grammatical objectives, provide meaningful feedback, and accommodate differences in learner pace and technological confidence.

Another important contribution of the present study concerns the use of Wordwall specifically for **assessment**. Much of the existing literature has focused on gamification as an instructional or motivational strategy. In this study, Wordwall also served a formative assessment function. Students' responses provided information about grammatical difficulties, allowing the teacher to identify recurring errors and subsequently provide additional reinforcement. This aspect strengthens the pedagogical value of the tool because assessment becomes integrated into the teaching-learning cycle rather than occurring only at the end of a unit.

From this perspective, the improvement in post-test performance may partly reflect the cumulative effect of repeated feedback. Each interaction with Wordwall provided students with information about the accuracy of their responses, enabling them to compare their existing understanding with the expected grammatical form. Over time, this feedback cycle may have contributed to greater grammatical awareness and more accurate performance. The value of the platform, therefore, lies not only in making assessment more attractive but also in creating repeated opportunities for students to learn from their errors.

The private educational institution context should also be considered when interpreting the findings. Access to technological resources, internet connectivity, classroom devices, and teachers' familiarity with digital tools may affect the feasibility and effectiveness of Wordwall implementation. Consequently, the results should not automatically be generalized to all educational environments. Schools with limited connectivity or insufficient access to devices may encounter challenges that were less prominent in the context examined in this study.

Overall, the findings support the growing body of research suggesting that appropriately designed gamification can contribute positively to EFL learning. The improvement across all assessed grammar dimensions suggests that Wordwall can function as more than an entertaining supplementary resource. When systematically connected to curricular content, formative feedback, and clearly defined assessment objectives, it can become a practical mechanism for reinforcing grammatical knowledge and monitoring learner progress.

However, because the study employed a one-group pre-test/post-test design, causal conclusions should be made cautiously. Without a control group, it is not possible to attribute all observed improvement exclusively to Wordwall, since maturation, regular classroom instruction, repeated exposure to grammar, and other educational experiences throughout the school year may also have contributed to the post-test gains. Future studies could strengthen the evidence by comparing an experimental group using Wordwall with a control group receiving conventional grammar assessment and by incorporating additional measures such as learner perceptions, motivation, engagement, or delayed post-tests.

Despite these limitations, the results suggest that Wordwall represents a promising option for integrating gamification and formative assessment in secondary EFL education. Its value appears to derive from the combination of repeated practice, immediate feedback, interactive task formats, and systematic alignment with grammatical objectives. For first-year Baccalaureate learners, these characteristics may help transform grammar assessment from a

predominantly summative and potentially repetitive activity into a more continuous, interactive, and pedagogically meaningful component of language learning.

Conclusions

The findings of this study indicate that the systematic use of Wordwall as a gamified grammar assessment tool was associated with a substantial improvement in the grammatical performance of first-year Baccalaureate EFL learners. The increase observed from the pre-test to the post-test across all evaluated criteria suggests that interactive and game-based assessment can provide learners with repeated opportunities to practice grammatical structures, identify errors, and strengthen their ability to apply grammar more accurately in contextualized tasks.

Wordwall proved to be particularly valuable as a formative assessment resource, since it allowed assessment to become part of the learning process rather than functioning only as a final measurement of achievement. Features such as immediate feedback, interactive exercises, timed challenges, and repeated practice helped create a more dynamic environment in which students could recognize their difficulties and progressively improve their performance. In this sense, the platform demonstrated potential not only for increasing engagement but also for supporting continuous monitoring of grammar development throughout the school year.

Although the results were positive, they should be interpreted with caution because the study used a one-group pre-test/post-test design and did not include a control group. Therefore, the improvement observed cannot be attributed exclusively to Wordwall, as regular classroom instruction and other learning experiences may also have influenced students' progress. Nevertheless, the findings suggest that Wordwall can be an effective complementary tool for grammar assessment in private secondary education. Future research should incorporate control groups, larger samples, delayed post-tests, and additional variables such as motivation, engagement, and learner perceptions to obtain a more comprehensive understanding of its educational impact.

Implications

The findings of this study have relevant pedagogical implications for English language teaching, particularly in the area of grammar assessment at the Baccalaureate level. The results suggest that Wordwall can be incorporated as a complementary assessment tool to make grammar evaluation more interactive, continuous, and closely connected to the learning process. Rather than limiting grammar assessment to traditional paper-based tests, teachers can use gamified activities to provide students with frequent opportunities to practice grammatical structures while simultaneously monitoring their progress.

A second implication is related to the role of immediate feedback in grammar learning. Wordwall enables learners to identify correct and incorrect responses shortly after completing an activity, which may help them recognize grammatical errors before those errors become persistent. For teachers, this also creates opportunities to identify recurrent difficulties across the class and adjust subsequent instruction accordingly. Therefore, the platform can support a more formative approach to assessment in which evaluation is used not only to assign scores but also to guide teaching decisions and reinforce areas that require additional attention.

The study also highlights the importance of integrating gamification with clear pedagogical objectives. Wordwall should not be used only because it is visually attractive or entertaining. Its effectiveness depends on the quality of the activities designed, their alignment with curricular grammar objectives, and the way teachers use the information generated by student performance. Activities should progressively increase in complexity, include meaningful language contexts, and provide sufficient opportunities for learners to apply grammar rather than simply memorize rules.

At the institutional level, the findings suggest that private educational institutions may benefit from encouraging the responsible use of digital gamification platforms as part of English language assessment. This may require access to reliable internet connectivity, suitable technological devices, and teacher training focused on the pedagogical use of digital tools. Professional development should therefore emphasize not only how to operate platforms such as Wordwall, but also how to design valid assessment tasks, interpret student performance, and integrate digital feedback into classroom instruction.

The results also have implications for curriculum planning. Since the intervention was implemented throughout one school year, Wordwall can be considered as part of a sustained assessment strategy rather than an occasional classroom activity. Teachers may incorporate short gamified assessments after grammar topics, at the end of units, or as cumulative review activities. This continuous approach can provide a clearer picture of students' grammatical development and may help identify learning gaps before major summative examinations.

Finally, the study has implications for future research on digital assessment in EFL contexts. Further investigations should examine whether similar results can be obtained in public institutions, different educational levels, and larger student populations. Studies incorporating control groups, delayed post-tests, learner-perception questionnaires, and measures of motivation or engagement could provide a more comprehensive understanding of the effects of Wordwall. It would also be valuable to explore whether the platform produces

similar outcomes when used to assess other language areas such as vocabulary, reading comprehension, writing, or listenin

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Por la presente se certifica que el artículo titulado "Wordwall as an Innovative Gamification Tool for Grammar Assessment among First-Year Baccalaureate EFL Learners in a Private Educational Institution"
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