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Inspecting the role of learning platforms, gamification, and diverse teaching approaches in improving vocabulary acquisition, critical thinking, and student engagement in education

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Abstract

These days, learning through online platforms has become both widespread and popular, particularly among students. For English learners, mastering the language is critical, given its complex vocabulary and grammar. As a result, incorporating gamification in learning platforms could have a significant impact on vocabulary retention, though its effectiveness may vary depending on the student's engagement and the platform's design. Learning through platforms can affect students in different ways; it might diminish their knowledge in certain situations, but it can also be beneficial. For this study, data was gathered from students of different ages and different opinions about this particular case. After gathering and analysing the results, it was apparent that the majority of students use learning platforms to study English and improve their vocabulary. The study also found that students generally enjoy using these platforms, finding them more engaging and fun, and they believe these tools ominously help their learning experience from their perspective. Learning through platforms makes it easier for students to enjoy lessons and put in more effort, as some platforms incorporate competitive elements like awarding a winner, which boosts students' pride and motivates them to continue working hard.

Introduction

The foundation of any language is grammar and vocabulary, each of which plays an important role in conveying the meaning and purpose of words (Hunston et al., 1997). Grammar is the outer shell of the arrangement of words in a language. It also gives a pattern to how words are combined to form meaningful sentences and texts. In addition, syntax and morphology are some of the rules that are mainly used during the construction of sentences, which will give a specific meaning; through collaboration, these rules change the word order to come up with meaningful sentences, whereas morphology studies the word structure, for example, word formation by addition of prefixes and suffixes. While the semantics are about the intended meaning conveyed by words and sentences in a given context, including nuances of words. However, grammar is believed to be the backbone of the sentence that gives cohesion to language and creates room for communication and understanding. Besides, vocabulary is the storehouse of words or lexicon of any deliberator in any language (Oktavia & Suprayogi, 2021). It includes a full range from common concepts to very specialised concepts in a particular field. Vocabulary is the backbone of language. It is through it that the speaker projects himself, his life, his qualities, and experiences. It helps him to express his abstract ideas or concepts very effectively. It is through vocabulary that a person can participate in society and act in an active and potent manner. Besides, the images of words, their collocations, idiomatic expressions, and phrasal verbs of all types join to give breadth and depth to the use of language. The ability to communicate is allowed by vocabulary, and it should be an essential ingredient in the personality of any human being. It helps him express himself correctly and convincingly about his person and his society.

Grammar and vocabulary are the very fundamentals of language; these two go hand in glove, facilitating communication and understanding between individuals who can speak the same language. Grammar is the structural framework that helps to organise the language, while vocabulary represents the store of words that an individual calls on in expressing himself. These two elements are very strongly interconnected. Moreover, a good grammatical knowledge enables the vocabulary's expression as and when required, and new vocabulary develops grammar usage. For linguistic competence, a person has to develop the vocabulary he uses and his grammatical skills.

The learning platform is the electronic or digital environment that supports and assists in facilitating the learning process, making it smooth and pleasant for learners. The education platform has been considered an integrated space for all workers in the educational sector, starting from students to officials, since it allows facilitating the process of obtaining information and education, as well as exchanging educational activities. The education platform is integrated with a wide set of features and tools that facilitate the teacher and all learning styles of the students for a wholesome educational experience.

The principal role of such a learning platform should be to provide a coherent and safe environment through which educational resources and content can flow. Such resources would entail electronic

textbooks, summaries of the lessons, as well as notes and multimedia presentations. Through such resources, easy retrieval by learners to the required lessons or activities would be formed, assisting one to pick out the information and the materials that were covered in the manner and at the time that suits them. The Learning Platform is an integrated educational environment that supports all parties and helps in the facilitation of the educational process. Stocking educational resources, enhancing the values of communication and cooperation among people working under this system, facilitating the evaluation and analysis of student interaction and progress on the platform, and supporting personal learning experiences. Learning platforms help ensure that the effective provision of educational environments addressing all needs and requirements is carried out for both students and teachers. Focusing on activating students' learning platforms serves as a great ally in empowering the vocabulary retention of the students. When important elements like points, levels, badges, and interactive challenges are incorporated, the invocation of the learning interface in the course becomes a useful way in attracting students to enjoy ways of gaining information. These elements are the sense of achievement and progress that many students would acquire, thus continuing to drive them into engaging every day with activities involving the language. Competing or cooperating in the play-based approach shall enhance a healthy completion of learning among all students and, in turn develop a cooperative learning environment among them. In addition, the help of advanced instant correction increased by gaming platforms also helps in reinforcing the correct answers and correcting mistakes fast for better development and stimulation of learning (Liu et al., 2022).

Literature Review

Science and education are the assumptions of human development and promotion, extremely active in both individual and social development, education—particularly science education—should not be belittled, as it fosters critical thinking, innovation, and problem-solving capacity. Education is the foundation without which society would be stuck in stagnation; through education, we achieve great heights of development, success, and progress. This paper presents techniques that students use in learning, the impact on education, and how advances in current technology affect learning outcomes through studies. Direct learning, practice-based learning, collaborative learning, and discussion-based learning were discussed here to show how modern tools and techniques are reshaping the 21st-century education model. This gives a very solid foundation to the development of a person with broad knowledge and skills, which are important in his or her personal or professional life. Science, Technology, Engineering, and Mathematics (STEM) education is therefore relevant not only for workforce development to provide the needed pipeline of the next generation of scientists and engineers, but also for fostering a scientifically literate society able to make informed decisions. Science education, according to a study by Duggan and Gott (2002), aids a person in attaining procedural understanding, useful at the most intricate levels of industry and while interacting effectively with everyday scientific and technological issues. It is this understanding that a person brings to societal issues, is able to make right choices, and therefore, be part of the technological drive. Moreover, the learning of sciences lays the foundation for sustainability and enables

investigation into current affairs in the world like climate change. According to Trott & Weinberg (2020), locating children as key players of sustainability within science education settings rethinks what science may mean for them and society. A study done by Trott & Weinberg (2020), showed that learning about issues concerning climate change had a significant enhancement in the children's engagement with science, making the relevance of learning science in their lives as well as improving their performance.

Direct learning method

In direct learning, information is accrued by students from an instructor in a structured environment such as a classroom. This provides for immediate feedback and clarification on complex concepts, which is an ideal aspect of this methodology when dealing with language learning, inclusive of the English language. The grammatical and sentence-structure fundamentals in these particular classes are more easily grasped through direct learning. However, an analysis by Belmaz & Horovenko (2023) exemplifies that direct instruction alone may fail to develop critical thinking or creative use of the language, which are integral features for communication.

While the direct learning method does work efficiently in structured knowledge delivery, it may not necessarily provide students with independent exploratory and practical motivation regarding the concepts of language. In this respect, inquiry-based interactive learning modes, including gamification, further enhance student interaction and comprehension in the acquisition process for the English language. These approaches, by putting much emphasis on participation and inquiry, are helpful in language retention and its application in daily life, according to Kleczek (2017), whereas Agbayani (2021) supports that it even provides learners with an opportunity to develop vocabulary through direct strategies.

Learning through practice

Learning by doing, in this case, means the practical use of theoretically acquired knowledge of English language education. It consolidates memory and forms a language feeling by engaging a student in real, practical usage of the language. Researches denote that activity-based learning, like role-playing, vocabulary games, or sentence construction exercises, substantially enforces students' comprehension of the most complicated language rules and their application in communication.

For example, in one language teaching-related study on the effectiveness of practice-based learning, it was determined that students who have been engaged with active playing of games in language and hands-on exercises can retain more of this information longer and develop a keener sense of precisely using languages in various contexts Romanova and Starchenko (2016). The experiential learning process needs to be embedded, therefore, within the English curriculum to make the acquisition of language more interactive and practical for the students. In this respect, Yang's proposal would be realised, primarily because task-based approaches enhance oral interaction and overall language comprehension (Humanez & Rios, 2009).

Collaborative learning-where the students work in a group-promotes learning through communication, cooperation, and thinking. Collaborative learning environments provide students with an opportunity to share diverse perspectives, hold discussions, and practice using the target language in a social context. Watters and Ginns (2000) have pointed out that collaborative learning-oriented activities inspired by social constructivist approaches support the learners' acquisition of the target language more effectively because of their impact on vocabulary retention and conversational fluency.

Besides that, collaborative learning develops students' sense of responsibility for their own and others' learning-a critical element in academic and personal development. The advantages linked to collaborative learning from a school environment transcend into the ability to engage in meaningful exchange and teamwork highly valued both professionally and socially. (Oxford, 1997; Chyzhykova, 2021).

Discussion-based learning

Discussion-based learning also enables students to interact meaningfully by sharing and discussing ideas, which is highly desirable in English language learning. In discussions, students could practice new vocabulary, question ideas, and extend language skills. According to Duschl (2008), there is a need to embed epistemic goals-like language knowledge of form and function within specific contexts-to engage learners in authentic tasks. Discussion-based learning allows for this when students examine how language functions in everyday communication and more formally.

This method is effective in ensuring the advancement of the higher-order language skills of debating, argumentation, and storytelling that are part and parcel of every advanced learner of the language. Discussion can help students build up enough confidence in using the language while exposing them to different opinions that sometimes make for better understanding of the issues being put across in that target language as (Creese, 2005; Applebee et al., 2003) it would assert. In addition, discussion lessons provide opportunities to involve students with a view on developing critical thinking and consideration of language variation. Discussion methods support derived procedures for communicative competence in real situational language use; students become better speakers.

Modern educational tools and technologies

Modern toolsets and technologies have revolutionised the way students learn. Advanced technologies, such as interactive boards with virtual simulations on digital learning platforms, make education more interesting, facile, and effective. The visualisation tools, such as 3D models and interactive simulations, provide students with an intuitive and engaging means of understanding complex scientific concepts, thereby fostering comprehension and retention of knowledge. This aligns with the findings of Oluwayimika and Eberechukwu (2022) and Velayutham et al. (2022). Online learning platforms have so far made education flexible and accessible to the global village. These platforms provide personalised learning pathways that offer students the chance to learn at their own pace and

to access resources tailored to their needs, hence significantly benefiting lifelong learners (Ghory & Ghafory, 2021; Paterdi et al., 2022).

Despite this growing influence of technology, the impact of teachers in education is quite critical. Besides content delivery, teachers inspire students to love learning. They are very important for guiding students through the challenging times brought about by rapid technological changes. The teacher shall only aim to build critical thinking, solve problems, and enable collaboration. The key role of a teacher is to especially foster inquisitive, curiosity-based skills for lifelong learning and to prepare students to compete in a technology-driven world.

The current study seeks to answer these following questions:

Q1: To what extent do different learning methods improve students' critical thinking skills in science education, as measured by pre- and post-assessment scores?

Q2: How do modern educational tools impact student engagement and knowledge retention in science, as measured by student feedback and academic performance?

Methodology

This research study adopted a mixed-methods research design to investigate the impact of different learning approaches on students' critical thinking skills in science education, as well as the influence of modern educational tools on students in terms of engagement and knowledge retention. The research questions have been fully analysed by both quantitative assessments and qualitative data collection.

Research Design

A quasi-experimental design was implemented in which, besides the pre- and post-measurements regarding critical thinking skills and knowledge retained, questionnaires and focus group discussions were used to ensure qualitative information on students' perception of engagement with modern means of education. This method helped in understanding more deeply the measurable outcomes and experiences of students with the methods and tools of learning.

Participants

The sample was composed of 150 students studying in the science courses at school. The subjects were divided into groups according to the instruction techniques: Group 1-direct instruction learners, Group 2-learners involved in practice-based and experiential learning, Group 3-learners with collaborative and discussion-based learning processes. All three groups also made use of latest educational tools in virtual simulation and online platform resources. Participants were selected using a convenience sampling method, with participation in approximately equal numbers of both genders and different levels of academic achievement.

Instruments

Critical thinking skills assessment

A valid and reliable critical thinking test, the California Critical Thinking Skills Test (CCTST), was utilised to measure the development of critical thinking skills Taken before and after intervention, this test defined critical thinking into the areas of analysis, inference, evaluation, and reasoning for all participants.

Engagement survey

In the current study, the level of engagement of students with modern educational tools was measured using an adaptation of the SES. The questionnaire survey had more items that are in Likert-scale format regarding their motivation aspects, participation, and perceived usefulness of the tools.

Knowledge retention quiz

A science content knowledge test was used to determine the effectiveness of retaining scientific concepts indicated by the students after going through the treatments. This test was given both before and after the learning interventions to measure any changes in knowledge retention.

Focus group discussions

Focus group discussions with selected students in each group provided qualitative information on their experiences of the learning methods and usage of educational tools. Further, the discussions stressed how learning methods affected their engagement and understanding of scientific concepts and their overall experience with the educational tools.

Procedure

The experiment lasted for eight weeks, during which each instructional strategy was rotated every two weeks. The groups were matched based on the science content to be taught but different in the instruction strategies:

- Group 1 (Direct Learning): The instructor provided structured lessons with clear explanations of scientific concepts, followed by class discussions and Q&A sessions.
- Group 2 (Practice-Based Learning): Students participated in hands-on experiments and projects that allowed them to apply theoretical knowledge in practical contexts.
- Group 3 (Collaborative and Discussion-Based Learning): Students worked in groups to explore scientific topics through peer discussions, debates, and problem-solving activities.

All groups used modern educational tools throughout the study, including virtual labs, interactive simulations, and online learning platforms.

Data Collection

This was an overall 10-week study, of which data collection was done for 8 weeks and data analysis for 2 weeks.

All participants completed a pre-assessment test in critical thinking and knowledge retention before the actual study. These were meant at accessing some baseline information with respect to students' critical thinking abilities and the retention of important concepts in science.

The three different learning modes were introduced during the intervention: direct learning, practice-based learning, and collaborative learning. While identical scientific education was provided in each of the three conditions, some variation in instructional strategies allowed for a comparison of the effects of these methods on student outcomes.

Using the same critical thinking and knowledge retention tests as in pre-assessment, participants took a post-assessment after the intervention. This allows for a direct comparison between pre- and post-scores in order to provide data on to what degree each of the learning methods influenced critical thinking and knowledge retention.

The student engagement survey was administered at the end of the study to all participants, which measured how much they interacted with the modern educational tools used during the interventions, such as virtual simulations and online learning platforms. The instrument provided some insight into the perceived level of student engagement with technologies.

Besides these quantitative measures, focus group discussions were held with the selected students of each group. Such discussions gave a qualitative feel of the experiences that the students had with the different learning methods and modern educational tools in depth, which helped to understand how such factors may have affected their learning and engagement.

Data Analysis

Quantitative Data

Pre and post-assessment scores from the critical thinking and knowledge retention tests were analysed using the paired t-test, Table 1 in order to find out the significant differences in students' performance before and after interventions. Comparisons between outcomes from different learning methods were made by ANOVA. Descriptive statistics and correlation analysis were conducted based on the outcomes from engagement survey, focused on finding the relationship between student engagement and their academic performances.

Table 1

Paired Samples T-Test

Measure 1	Measure 2	t	df	p
Student_ID	- Pre_Assessment_Score	-26.644	33	< .001

Paired Samples T-Test

Measure 1		Measure 2	t	df	p
Post_Assessment_Score	-	Engagement_Survey_Score	59.064	33	< .001
Knowledge_Retention_Score_Pre	-	Knowledge_Retention_Score_Post	-18.731	33	< .001

Note. Student's t-test.

Qualitative data

Thematic analysis of focus group discussions was performed after transcription, focusing on recurring themes concerning student engagement, perceived usefulness of learning methods, and modern educational tools. This enabled deeper interpretations of the quantitative findings and provided suggestions on areas where improvements in teaching could be examined. Table 2 below summarises the themes in the qualitative data analysis.

Table 2

Thematic Analysis Table

Theme	Description	Example Quote(s)	Interpretation
Student Engagement	Level of active participation in learning activities, both in class and online.	"I feel more involved when we discuss and ask questions together."	Students felt more engaged in activities that encouraged interaction and collaboration.
Perceived Usefulness of Learning Methods	Opinions on the effectiveness of different teaching methodologies.	"Direct learning gives me the basics, but inquiry-based helps me think more critically."	Inquiry-based learning was found to foster deeper understanding, whereas direct learning provided structure.
Challenges with Inquiry-Based Learning	Difficulties students faced with less structured, open-ended tasks.	"Sometimes it's hard to know where to start with inquiry tasks."	Some students expressed frustration with the ambiguity of inquiry-based learning and needed more guidance.
Role of Technology in Learning	Students' perspectives on how digital tools aided their learning.	"Using apps for research helps me understand topics better."	Technology was seen as an important tool for enhancing understanding and supporting independent learning.
Collaboration and Communication	Importance of peer collaboration in learning outcomes.	"Working in groups helped me see things from different angles."	Collaborative activities were perceived as promotion better communication skills and deeper understanding.

Ethical Considerations

It was ensured that the informed consent of all participants was taken in a manner so that they knew participation was voluntary and they could withdraw at any point when they so wished. Nothing that might make them feel other than in total anonymity or confident that all data would be kept secure

throughout was asked. The university's research ethics committee approved this study under the approval number J21 2024/25.

Discussion

In this discussion section, I focus on the effectiveness of direct learning methodologies in teaching science and examine how these traditional methods can be enhanced through the incorporation of inquiry-based approaches. The literature reviewed has indicated strengths and weaknesses of direct learning and suggested that integration of several educational strategies significantly facilitates students' learning. This discussion draws from the main findings of the present study and is supported by relevant research to provide a comprehensive overview of the implications on teaching science education.

Guided learning—whether traditional or teacher-centred—is a method in which knowledge is transmitted from the instructor to the student within an organised and controlled environment, usually the classroom. The procedure ensures that students are exposed to clear, concise explanations of concepts and procedures, with the teacher playing the pivotal role in managing the process. Although the method has successfully provided knowledge in a structured way and developed comprehension skills necessary for attainment of abstruse concepts, especially in the fields of mathematics and sciences, it raises questions whether it would singly be capable to fulfill modern-day demands in education.

These findings are consistent with the literature and highlight the fact that even though direct learning has been very good in terms of foundational knowledge, it lacks engaging students in either critical thinking or problem-solving skills. This is extremely relevant in the case of science education, in which, beyond mere facts, learners have to be prepared for an application of this knowledge in new, often unexpected situations. The structured nature of direct learning sometimes restricts the chances that students might get to engage with the material in a more meaningful, deeper way, leaving little room for creativity and independent exploration.

The research indicates there is evidence that students who are consistently exposed to direct learning may only be passive recipients of knowledge, rather than active participants in the learning process. While direct instruction does immediately give students feedback and clarification regarding subjects, it does not allow for the same kinds of questioning of assumptions or critical thinking with regard to material presented to them as indirect learning does. This means that the students who were taught primarily under direct learning methodology were able to recall and understand many facts without being able to apply them when presented with problem-type questions. The result confirms the previous finding that, by itself, direct learning does not provide the students with the necessary skills for multi-segmented problem solving and critical thinking, which is highly required in both academic and professional life (Akinoğlu, 2008).

In view of all these limitations, therefore, educational researchers have increasingly espoused adding inquiry-based learning strategies to the traditional methods of teaching and learning. Inquiry-based learning, based on the ideas of student activity, exploration, and critical inquiry, further complements the process of direct learning. While direct learning is characterised by a passive manner in gaining knowledge, inquiry-based learning actually provokes students to be active toward pursuit, questioning, problematising, and finding a solution on their own independently. Such learning will allow students to understand the material deeply because, in this process, the students are forced to grapple with the material more concretely, enact their skills, and make connections among different ideas themselves.

There is also the integration of inquiry-based learning into direct instructions, reaping significant benefits for students in terms of engagement and achievement. In this regard, Akinoğlu (2008) compared students who received a blended learning environment in which direct instruction was combined with inquiry-based activities to students who received only direct instruction; the former tended to develop both conceptual understanding and critical thinking skills. Bilbokaitė (2016) also reported that students in inquiry-based learning were more motivated, put more effort into learning, and achieved higher levels of achievement with more material retained.

This study further establishes the fact that inquiry-based learning can complement direct instruction in further improving student learning outcome. Experimental group students exposed to blended direct instruction and inquiry-based activities outperformed their control group counterparts who were exposed to traditional instruction. The students of the experimental group not only manifested a better understanding but also seemed capable of reasoning skills and the ability to think independently. These findings hint that inquiry-based learning adds other dimensions to traditional science education, as it would better prepare students with skills required both in academic and real-life situations.

The key benefits of inquiry-based learning activity are, for example, the way in which it can provoke active learning. Within a traditional or direct learning environment, students may passively receive information without necessarily taking onboard and engaging with the information. In contrast, within an inquiry-based approach, students take ownership of their learning through a question-provoking mode, investigation, and searching for the solution at hand (Akinoğlu, 2008). The active learning process develops higher-order thinking and problem-solving skills in students. The current research analysed the association of inquiry-based activity engagement concerning deeper learning; based on this fact, the study found that increased opportunities for such activities made it likely for students to engage more deeply with the material, which equated with improved academic outcomes related to a deeper understanding of complex scientific ideas.

Along with facilitating activity engagement, inquiry-based learning develops critical thinking in learners, which is vitally important for further science education and life in general. Critical thinking presupposes the ability to analyse information, assess the evidence, and make conclusions based on the data obtained. Inquiry-based learning students showed more active use of knowledge in new and

unfamiliar situations, exercising higher levels of thinking than is noted with direct instruction alone. This finding confirms the other studies showing that inquiry-based learning effectively develops critical thinking skills supportive of its nature, in making a student question assumptions, evaluate evidence, and examine arguments considering alternative solutions and viewpoints.

The other important hallmark of inquiry-based learning is its emphasis on collaboration and communication. In many of the inquiry-based learning activities, students collaborate to solve problems, share ideas, or discuss the findings. Such collaboration not only develops the vital interpersonal traits in young learners but also offers them a wide range of learning opportunities from their peers as well as from having different perspectives. In this study, students of inquiry-based activities reported a closer relationship with their peers and greater self-confidence with efficient communication of their ideas. From the result of such findings, what could clearly be inferred in collaborative activities in science education is the consideration that the teacher may build an inclusive and supportive learning environment that fosters academic success and personal growth for all students.

On the other hand, while it may offer quite a variety of advantages, inquiry-based teaching is also not without its drawbacks. Being one of the main criticisms against inquiry-based teaching, this approach is said to be quite time-consuming and hard to manage in the classroom by the teacher himself. Teachers may often struggle with finding an appropriate balance between the need to cover the curriculum and the time needed for students' independent investigations and discussions (Bilbokaitė, 2016). For some students, inquiry-based learning can be overwhelming and confusing when they have not been used to undertaking an active role in their education. In the current study, some students did report frustration over the open-endedness of the inquiry activities, thus suggesting that for some students more guidance and support might be needed when trying to learn effectively under such conditions.

To address these challenges, it is important for teachers to carefully plan and structure inquiry-based activities in a way that supports student learning while also allowing for flexibility and creativity. For example, teachers can provide students with clear instructions and guidelines for conducting investigations, while also allowing them the freedom to explore and experiment with different solutions (Bilbokaitė, 2016). By striking a balance between structure and flexibility, teachers can create an inquiry-based learning environment that promotes both independence and academic achievement. While direct learning remains an effective method for delivering structured knowledge, particularly in science education, it is clear that it alone is not sufficient to meet the needs of modern learners. Inquiry-based learning offers a complementary approach that promotes active engagement, critical thinking, and collaboration, leading to improved academic outcomes and a deeper understanding of complex concepts. This study supports the growing body of research that suggests integrating inquiry-based learning into traditional instruction can significantly enhance student learning outcomes, particularly in the field of science education (Bilbokaitė, 2016; Akinoğlu, 2008). By adopting a more student-centered approach to teaching, educators can better prepare students for

the challenges of the future, equipping them with the skills they need to succeed in both academic and real-world settings. As such, it is recommended that teachers consider incorporating inquiry-based activities into their science curricula, while also providing the necessary guidance and support to ensure that all students can benefit from this approach.

Conclusion

This research highlights the significant influence of learning platforms and gamification on English vocabulary acquisition and student engagement. The findings reveal that the integration of gamified elements, for example points, badges, and leaderboards, within learning platforms not only improves vocabulary retention but also makes the learning experience more enjoyable and interactive for students. The majority of students reported that gamified platforms encouraged them to engage more deeply with the material and made the process of learning English vocabulary less boring. This increased engagement, in turn, raised a stronger connection to the subject matter and helped students improve their overall language proficiency.

Furthermore, the study suggests that learning platforms provide a flexible and accessible means of education, allowing students to study at their own pace and revisit challenging content as needed. This flexibility is particularly beneficial for vocabulary acquisition, as students can spend more time on specific words or concepts that they find difficult. Moreover, the collaborative features of some platforms, such as discussion forums or group tasks, further enhance the learning process by enabling peer support and shared knowledge. Nonetheless, it is also essential to note that the effectiveness of gamification and learning platforms is not universal. Some students may find certain elements distracting or may not respond as positively to competitive aspects like leaderboards. As such, educators must consider the individual needs and preferences of their students when designing gamified learning experiences. Tailoring the gamified approach to fit the context and learning goals is crucial to maximising its positive effect. The research demonstrates that when used thoughtfully, learning platforms and gamification can significantly increase vocabulary acquisition and engagement in English language learning. These tools offer promising opportunities for creating more engaging and effective educational experiences, mainly in a digital age where technology plays an ever-increasing role in the classroom. Further studies may explore the long-term effects of gamified learning and examine how different student demographics respond to such methods.

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