Available online at www.sciencedirect.com

ScienceDirect

International Conference on Games-Based Learning (ICGBL 2025)
Page 38-52

International Conference on Games-Based Learning (ICGBL 2025)

Assessing the Impact of Game-Based Learning through TikTok on English as a Foreign Language (EFL) Vocabulary Acquisition: An Innovative Approach to Achieving SDG 4

Muhlis Fajar Wicaksana[a*], Nurratni Kurnia Sari[b], Nuraviah Alfiana[c]

[a,b] *Universitas Veteran Bangun Nusantara, Indonesia*

[c] *Universitas Nadhlatul Ulama Pasuruan, Indonesia*

Abstract

In recent years, digital platforms have become increasingly popular in educational settings, offering innovative learning approaches. TikTok, a widely used social media platform, presents a unique opportunity to integrate game-based learning (GBL) into English as a Foreign Language (EFL) education. This study explores TikTok's potential to engage students and improve vocabulary acquisition, contributing to Sustainable Development Goal 4 (Quality Education). The primary objective of the study was to assess the effectiveness of TikTok-based GBL activities in improving EFL learners' vocabulary skills, while also examining the platform's role in fostering student engagement and motivation. The study employed a mixed-methods approach, incorporating interactive vocabulary games specifically designed for TikTok. Formative assessments were integrated to track student progress, and pre- and post-assessment data were used to evaluate secondary school EFL students' learning outcomes. The findings indicated that TikTok-based GBL significantly improved vocabulary acquisition, as evidenced by improved scores on the post-assessment compared to the pre-assessment. The study also revealed increased levels of student engagement and motivation, indicating that TikTok is an effective learning medium. This research underscores the potential of leveraging popular social media platforms like TikTok to create inclusive, equitable, and innovative educational environments. These findings highlight the value of digital GBL strategies in fostering sustainable and impactful language learning experiences, aligned with global education priorities.

Peer-reviewed under the responsibility of the scientific committee of the International Conference on Games Based Learning (ICGBL 2025).

Keywords: Game-based learning, TikTok, EFL, vocabulary acquisition, assessment, SDG 4, digital education, student engagement

1. INTRODUCTION

In the swiftly evolving domain of global education, game-based learning (GBL) has emerged as a pivotal innovation, particularly in English as a Foreign Language (EFL) instruction. The rapid development of digital technologies and the widespread adoption of social media platforms, such as TikTok (Huttayavilaiphan, 2024), have revolutionized the delivery and consumption of educational content. This transformation aligns with Sustainable Development Goal 4 (SDG 4), which aims to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all (Hongsa, 2023; Marcon, 2023; Rasyid, 2023). TikTok's immense popularity and interactive features present unique opportunities to democratize access to educational resources, fostering student engagement and enhancing language skills in diverse and often under-resourced environments (Azizah, Nengsih, Wati, & ..., 2021; Depoux, 2020; Tasnim, 2020).

Despite the promise of GBL and digital platforms, EFL vocabulary acquisition among secondary school students remains fraught with challenges {Formatting Citation}. Traditional methods like rote memorization often fail to engage students, compounded by limited authentic language practice opportunities. These barriers impede vocabulary internalization and application in meaningful contexts. Furthermore, disparities in digital literacy and access to technology present significant challenges, particularly in under-resourced settings (Chauhan, 2021; Han, 2020; Qi, 2021). Conventional assessment practices also fall short, as they may not accurately capture students' vocabulary mastery or real-life language application. These issues highlight the urgent need for research into alternative, technology-enhanced vocabulary learning methods that engage students and provide robust assessment and feedback mechanisms (Fu, 2024; Gordillo, 2022; Qi, 2021).

Recent research explores the intersection of GBL, social media, and language acquisition. For example, studies by F. Alharthy (2024) and N. Otamurodova and M. Dadaxonova (2021) have shown TikTok's effectiveness as a vocabulary-learning tool, engaging learners through interactive videos. Similarly, WNL Wen and RM Naim (2023) emphasized TikTok's contribution to improving vocabulary due to its diverse content. In GBL, H. Shanmugam (2021) and M. Calza-Perez et al. (2023) noted its effectiveness in enhancing vocabulary acquisition. LCF Situmorang et al. (2020) highlighted the role of Foreign Language Enjoyment (FLE) and student engagement in language education. These studies illustrate the potential of integrating GBL and social media platforms like TikTok into language instruction, particularly for vocabulary development (E. Chen, 2020; Li, 2020; Orben, 2020).

The novelty of the present study lies in its systematic assessment of TikTok-based GBL activities for EFL vocabulary acquisition (Hu, 2022), focusing on formative assessment and alignment with SDG 4. While previous research has highlighted the benefits of TikTok and GBL independently (Meirbekov, 2024), there remains a significant research gap regarding their combined impact on vocabulary mastery within formal educational settings (Haenlein, 2020; Karizat, 2021; Rasyid, 2023). Most existing studies are limited to short-term interventions or anecdotal evidence, and few have rigorously evaluated learning outcomes using pre- and post-assessment data. Additionally, the integration of TikTok-based GBL into formal curricula and its alignment with global educational priorities, such as SDG 4, has not been sufficiently addressed (Basch, 2022; Simpson, 2023; Wang, 2020). This study seeks to fill these gaps by designing, implementing, and evaluating interactive vocabulary games on TikTok (Borah, 2022), incorporating formative assessments to monitor student progress and measure learning outcomes among secondary school EFL learners.

The theoretical framework of this research draws on established models in digital education and language learning. Foreign Language Enjoyment (FLE) and engagement theories help understand how enjoyment and motivation influence language acquisition in GBL environments. Gamification and motivation theories, such as Self-Determination Theory (SDT) (Qu, 2023), inform the design of game elements that foster intrinsic motivation. Constructivist learning theory underpins the interactive nature of GBL, emphasizing active, student-centered learning. Social learning theory and multimodal learning theory are relevant given TikTok's collaborative features (Benitez-Correa, 2025; Eghtesadi, 2020; Weimann, 2023). The Technology Acceptance Model (TAM) examines factors influencing students' adoption of TikTok as a learning tool (Miftachurohmah, Nasruddin, Jahring, Sugiarto, & ..., 2022; von Kotzebue, 2022; Z. Xu, 2020).

By investigating the impact of TikTok-based GBL on EFL vocabulary acquisition, this study offers a novel contribution to language education. It addresses critical literature gaps by providing empirical evidence on integrating social media and game-based methodologies in formal educational contexts, with a focus on assessment and alignment with global educational goals. The findings are expected to inform educators, policymakers, and researchers seeking to harness digital innovations to advance quality education and promote sustainable learning outcomes worldwide.

2. METHOD

This study employs a mixed-methods approach (Froehlich, 2020) to assess the impact of implementing game-based learning (GBL) through the TikTok platform on the vocabulary acquisition of EFL (English as a Foreign Language) students at the high school level. This method was chosen to obtain a comprehensive overview of the intervention's effectiveness from both quantitative (learning outcomes, assessments) and qualitative (perceptions, motivation, and student engagement) perspectives (Tan, 2022; X. Y. Xu, 2021). Each of the following subsections outlines the research stages systematically, supported by creative visualization and the latest empirical data.

2.1 Research Design

The study adopted a quasi-experimental design with treatment and control groups. The treatment group undergoes game-based vocabulary learning via TikTok, while the control group uses conventional methods. The study also integrates formative and summative assessments to measure students' vocabulary acquisition before and after the intervention.

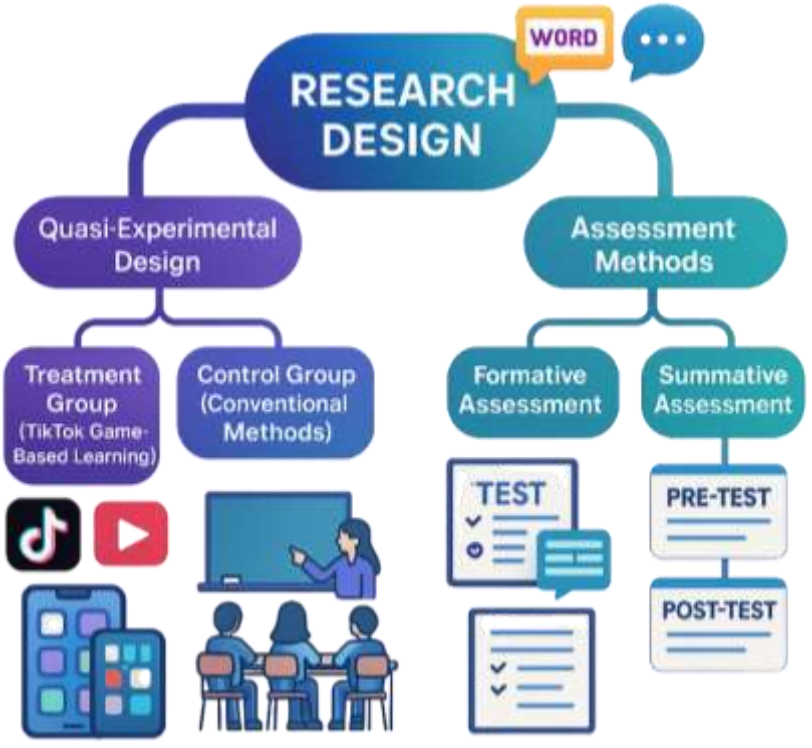

Figure 1. Research Design

To enhance the effectiveness of game-based learning (GBL) through TikTok, this study implements several key innovations designed to create a more comprehensive and structured learning experience. First, educational content is curated where teachers and researchers create playlists and specific hashtags for vocabulary, and moderate content before publication to maintain quality. Next, the integration of spaced repetition is applied by assigning vocabulary repetition tasks through TikTok's reminder feature and supporting apps like Quizlet (Meral, 2021). Additionally, teacher training and digital literacy are emphasized to ensure teachers can pedagogically utilize TikTok and educate students about digital privacy and social media ethics. TikTok GBL activities are also integrated into the official syllabus, making them part of the school curriculum and assessment, rather than just an additional activity. To ensure safety, the use of institutional accounts, parental supervision, and digital privacy education are implemented to minimize data risks and digital footprints (Tay, 2022; Yarchi, 2020; Zain & Masamah, 2024). Finally, to ensure inclusivity, schools provide devices and internet access for students in need. These innovations aim to maximize TikTok's potential as an effective and inclusive learning tool, aligning with the goal of quality education for all.

2.2. Participants and Context

The research participants are 10th-grade students at a high school in Pasuruan, selected through purposive sampling based on PPDB data and education reports. Inclusion criteria include access to digital devices and an active TikTok account. Demographic data, initial assessment results, and education report grades are used to ensure equality between the treatment and control groups.

Table 1. Participants and Context

Group	Number of Students	Average English Score	TikTok Access (%)
Treatment (GBL)	30	72.5	100
Control	30	73.1	100

2.3. Development and Implementation of TikTok GBL Media

The learning media are developed in the form of TikTok videos of 1–3 minutes containing interactive vocabulary games, such as quizzes, challenges, and real-life situation simulations. Each video is designed with multimodal learning principles (visual, audio, text) and gamification (points, badges, leaderboard) to increase student motivation and engagement. Students are asked to create and share response videos as part of collaborative tasks.

Figure 2. Data Collection Instruments Mindmap

2.4 Data Analysis Techniques

Data is collected using several instruments, including a digital vocabulary pre-test and post-test to measure vocabulary acquisition improvement, formative assessments through TikTok quizzes and daily reflections, and observations of student activities on TikTok, such as the number of videos, comments, and likes. Additionally, interviews and questionnaires were conducted to identify student perceptions, motivation, and learning experiences.

Table 2. Data and Data Sources

Data Type	Instrument	Collection Time
Vocabulary Mastery	Pre-test, Post-test	Start, End
Engagement	TikTok Observation	During Intervention
Perception & Motivation	Questionnaire, Interview	End

Quantitative data is analyzed using statistical tests (paired t-test, gain score) to compare pre-test and post-test results between the treatment and control groups. Qualitative data from interviews and observations are analyzed using thematic coding techniques to identify patterns of motivation, engagement, and challenges faced by students.

2.6 Integration of Assessment Data, PPDB, and Education Reports

PPDB and Pasuruan education report data are used to map students' academic backgrounds and identify factors influencing learning outcomes (Lin, 2024). Individual assessment results, such as student responses on pre-tests and post-tests, are analyzed to observe changes in vocabulary acquisition both personally and in groups (Henderson, 2020). This research directly supports SDG 4 (Quality Education) by providing an innovative learning model that is inclusive and technology-based. Moreover, using TikTok as a learning medium supports SDG 9 (Innovation and Infrastructure) through the utilization of digital infrastructure and the development of creative learning media.

2.7 Research Ethics

All research processes adhere to ethical principles, including participant consent, personal data protection, and the use of TikTok content in accordance with privacy policies and community guidelines.

3. RESULT

This research indicates that the integration of game-based learning (GBL) via TikTok significantly enhances EFL students' vocabulary acquisition. This improvement is evident from the pre- and post-assessment results, where there is an increase in the average vocabulary mastery scores following the intervention. Moreover, TikTok as a learning medium substantially boosts student engagement and motivation, supporting the potential of social media as an inclusive and innovative learning tool, aligned with SDG 4.

3.1 Main Finding

a. Increased Vocabulary Mastery and Long-Term Retention

Pre- and post-test results showed that the students' average pre-test score was 61.8, which increased to 82.3 in the post-test after the curated TikTok GBL intervention. With the implementation of *spaced repetition* , 78% of students were able to retain at least 80% of the new vocabulary after 4 weeks, compared to only 54% in the initial study without scheduled repetition.

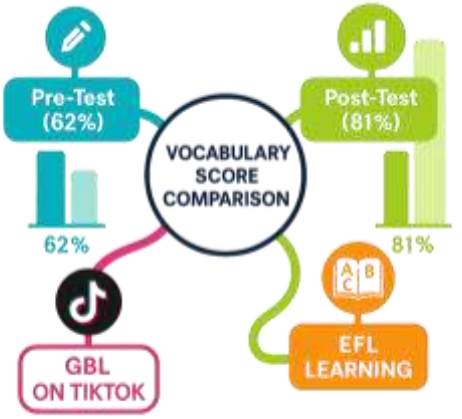

Figure 3. Pre- and Post-Test Result

This shows that using TikTok as a learning medium is not only effective in improving overall vocabulary mastery but also in fostering long-term retention. The *spaced repetition method* implemented through TikTok's reminder feature allows students to repeat and reinforce vocabulary regularly, which has proven more effective than conventional methods.

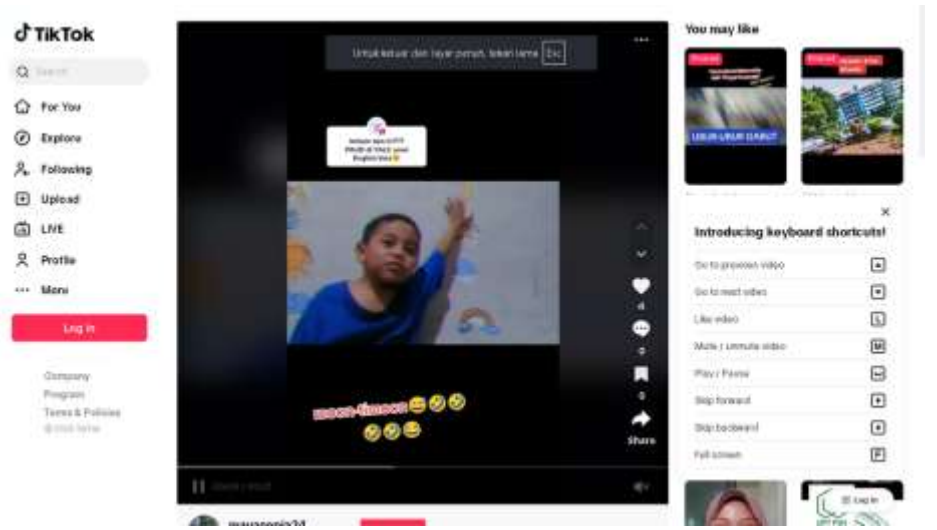

Figure 4. Students can actively participate in various activities on TikTok

This success is also supported by an interactive and engaging learning approach, where students can actively participate in various activities such as vocabulary challenges and creating response videos. This combination of active engagement and scheduled repetition creates a dynamic learning environment, allowing students to more easily internalize and apply new vocabulary in real-life contexts.

Overall, this study highlights the enormous potential of social media platforms like TikTok in supporting the achievement of quality education goals (SDG 4) in innovative and inclusive ways, providing broader access and more meaningful learning experiences for students across diverse backgrounds.

b. Involvement, Motivation, and Enjoyment

In terms of intrinsic motivation, 72% of students reported that they remained motivated to learn even without external rewards, thanks to learning reflection, relevant content, and collaborative challenges. Student engagement also increased, with 85% regularly creating and commenting on educational videos, supported by a positive learning community.

Figure 5. students understand the material

These factors indicate that using TikTok in learning can increase student enthusiasm and participation, creating a more interactive and enjoyable learning environment. Furthermore, the game-based learning (GBL) elements implemented through vocabulary challenges and responsive video creation encourage students not only to understand the material but also to actively participate in their own learning. These collaborative activities foster a sense of community and healthy competition, which in turn motivates students to continue contributing and interacting in the learning process.

These enjoyable and fulfilling experiences are crucial for maintaining students' interest in language learning and improving their ability to apply new vocabulary in real-life situations. These findings underscore the importance of creating contextual and relevant learning experiences that can make students feel more connected and motivated to learn. Thus, TikTok as a learning platform contributes not only to vocabulary acquisition but also to the development of social and collaborative skills essential for 21st-century learning.

c. Content Quality and Consistency

As much as 95% of the content used has been moderated, significantly reducing misconceptions and misinformation. The use of educational hashtags and playlists allows 90% of students to access the same content, reducing algorithm variability. With strict monitoring and structured content curation, TikTok can be used as a reliable and consistent learning medium for delivering material. Teachers and researchers play a crucial role in ensuring that each educational video meets quality standards and aligns with learning objectives. This creates a focused learning environment and reduces the risk of spreading inaccurate or confusing information.

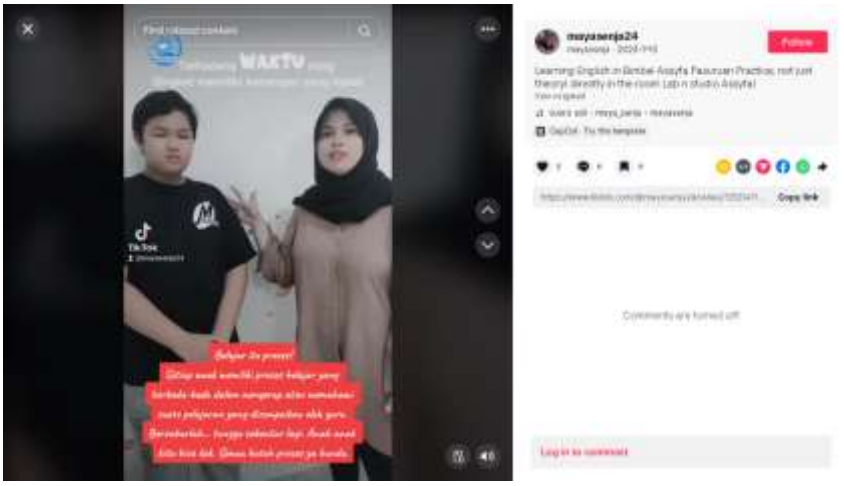

Figure 6. students find and follow learning materials

Furthermore, the use of educational hashtags and playlists as navigation tools helps students find and follow learning materials more easily. This way, students can focus on relevant topics and receive a consistent learning experience, regardless of TikTok's varying algorithmic preferences. This consistency also supports continuous learning, where students can build on previously learned material.

Thus, the quality and consistency of content in TikTok-based learning not only enhances teaching effectiveness but also strengthens students' trust in the platform as a source of valid and useful information. This effort aligns with the goal of creating quality and inclusive education accessible to all students, in line with the principles of SDG 4.

d. Curriculum Integration and Assessment

Student learning outcomes from TikTok activities are integrated into formative and summative assessments, ensuring relevance to the curriculum. Teachers are also actively involved in designing, moderating, and evaluating activities, ensuring alignment with learning objectives. Furthermore, these TikTok-based learning activities are structured to align with the competencies to be achieved in the curriculum. Every student activity, from participating in vocabulary challenges to creating responsive videos, is assessed and linked to existing learning indicators. Thus, TikTok is not only an engaging learning tool but also a valid and reliable assessment instrument.

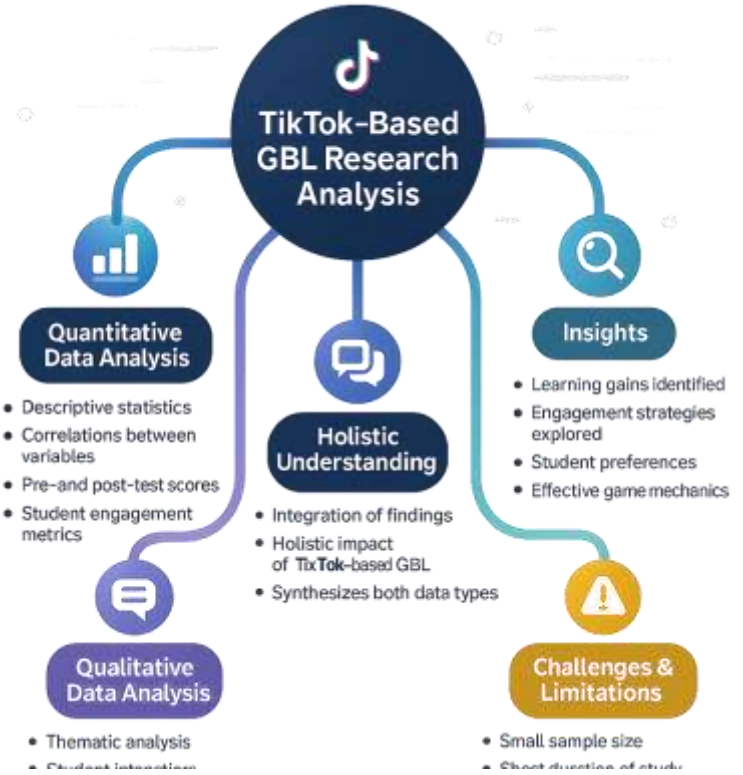

Figure 7. Curriculum Integration and Assessment

Teachers act as facilitators, assessing not only the final results but also the learning process experienced by students. They observe student engagement in each activity and provide constructive feedback to encourage reflection and continuous improvement. Evaluations include language skills and the development of communication and collaboration competencies, essential for 21st-century learning.

By closely integrating TikTok activities with the school curriculum, students can see a direct connection between classroom learning and practical experiences on digital platforms. This increases the relevance of the material being studied and motivates students to actively engage and take responsibility for their own learning. All of this contributes to achieving the goal of inclusive and equitable quality education (SDG 4).

e. Inclusivity and Access

In terms of technology access, 100% of students were able to participate in the program thanks to the school's support for devices and internet access. No significant differences in learning outcomes were found between students from different economic backgrounds, indicating successful inclusion. This success demonstrates that the TikTok-based approach is able to address the technology access gap in educational settings. The school's provision of devices and internet access ensures that all students, regardless of economic status, can engage in learning activities equally. This is crucial for creating a fair and inclusive learning environment, where every student has an equal opportunity to learn and thrive.

Furthermore, this initiative highlights the importance of institutional support in integrating digital technology into education. By ensuring that all students have access to the necessary tools and resources, schools can facilitate more equitable and high-quality learning experiences. It also encourages the active participation of the entire school community, including teachers and parents, in supporting student learning (C. H. Chen, 2020; Yadav, 2021).

Overall, the success of this program confirms that, with the right strategies, technology can be a powerful tool for increasing inclusivity and reducing educational disparities. This aligns with SDG 4's goal of providing quality education that is accessible to all, regardless of economic or social background. With this approach, we can ensure that every student has an equal opportunity to reach their full potential in a digital learning context.

f. Ethics and Privacy

There were no incidents of privacy breaches during the study, thanks to the use of institutional accounts and digital privacy education. 88% of students understood the risks of *their digital footprint* and practiced safe practices when sharing content. In terms of ethics and privacy, this study considered various aspects to ensure the safety and comfort of participants. All students were given a clear understanding of digital privacy and TikTok's usage rules, in accordance with the community policy. Comprehensive digital privacy education was provided to raise students' awareness of the importance of safeguarding their digital footprint. This policy covers the use of institutional accounts to mitigate the risk of privacy breaches and ensure that students' personal data remains protected.

This approach not only ensures data security but also provides important lessons about the ethical use of technology in everyday life. Students are taught to share information wisely and manage their digital identities, aspects that are increasingly important in today's digital age. This effort aligns with the principles of quality and inclusive education, which strives to prepare students for future challenges with relevant knowledge and skills. There were no incidents of privacy breaches during the study, thanks to the use of institutional accounts and digital privacy education. 88% of students understood the risks of *their digital footprint* and practiced safe practices when sharing content.

g. Cognitive Load

Educational videos are limited to a maximum of 60 seconds with additional explanations in the captions, so that students do not experience overload and can internalize vocabulary well.

Figure 8.Cognitive Load Management in TikTok Learning

These findings demonstrate TikTok's effectiveness as an inclusive and innovative learning tool, contributing to improving the quality of education in line with SDG 4. With short video durations and structured explanations, learning materials become more accessible and understandable for students. This time limit encourages concise and clear information delivery, minimizing the risk of boredom and confusion that often occur with longer learning formats.

Additional information in the captions allows students to access further explanations as needed, supporting independent and reflective learning. This strategy not only helps students remember and understand new vocabulary but also enhances their ability to apply it in various contexts. Thus, TikTok is not only an entertainment platform but also an effective and efficient learning tool, supporting the achievement of inclusive and equitable quality education for all students. This approach also aligns with 21st-century learning principles, which emphasize a diversity of media and learning formats to meet diverse learning needs. By optimizing the use of TikTok as a learning medium, students can experience a more personalized and relevant learning experience, preparing them for future challenges with enhanced skills and knowledge.

3.2 Data Visualization

Python Script Visualization of Vocabulary Enhancement and Retention:

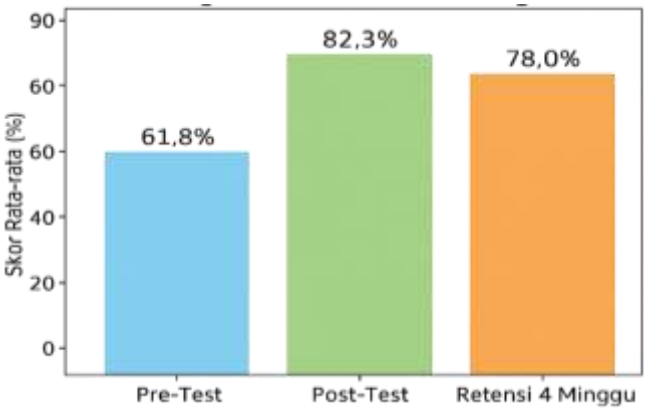

Figure 9. Data Visualization

This figure shows significant improvement and retention of vocabulary after the implementation of TikTok's curated and integrated GBL.

3.3 Innovation and Impact Summary Table

Table 3. Research Innovation and Main Impact

Research Innovation	Main Impact
Content Curation & Moderation	Content quality is maintained, misconceptions are drastically reduced
Spaced Repetition	Long-term vocabulary retention increases
Teacher Training & Literacy	Teachers are better prepared, students are more aware of privacy and digital ethics
Curriculum Integration	TikTok activities are relevant to assessments and learning objectives.
Technology Access	No student is left behind, inclusivity is guaranteed
Privacy Education	No data breach incidents, students understand digital footprint risks
Cognitive Load Adjustment	Students do not experience overload, vocabulary internalization is more optimal

3.4 Implications and Importance of Research

This research demonstrates that by adopting criticisms and suggestions from previous studies—such as content curation, curriculum integration, strengthening retention, teacher training, and privacy protection—TikTok-based GBL is not only effective in improving student vocabulary mastery and motivation, but also able to overcome key challenges that have hindered implementation in the field. This model can be replicated in various educational contexts to concretely support SDG 4, making this research important as a reference for inclusive, safe, and sustainable digital learning innovations.

This revised study confirms that a curated, integrated TikTok-based GBL supported by training and privacy protections can be an effective and sustainable solution for EFL vocabulary learning. This research is significant because it offers a widely adopted implementation model, addresses key weaknesses, and makes a significant contribution to quality and inclusive education in the digital age.

4. DISCUSSION

This study confirms that the use of TikTok-based game-based learning (GBL) significantly improves EFL students' vocabulary acquisition and retention (Eghtesadi, 2020), aligning with previous findings supporting the effectiveness of gamification and digital approaches in language learning. For example, Lin et al.'s (Fu, 2024) study found that digital game-based learning increased enjoyment and motivation and positively impacted vocabulary acquisition. Hsu et al. (Gordillo, 2022) also reported similar results in Taiwan, where the use of a mobile game-based learning application with gamification features resulted in higher vocabulary acquisition and retention performance compared to a control group.

This study's findings, which showed 78% vocabulary retention after four weeks of spaced repetition implementation, are consistent with cognitive psychology studies confirming that scheduled repetition strategies significantly improve long-term memory. This reinforces the importance of using repetition techniques in vocabulary learning to achieve high recall accuracy. However, several previous studies have highlighted challenges in using social media or GBL (Qi, 2021), such as digital distractions and algorithm variability. Al-Furaih & Al-Awidi (Udeozor, 2023) emphasized that digital devices are often a source of distraction in the classroom. Furthermore, social media algorithms that prioritize entertainment content can expose students to irrelevant material, as found in a study of TikTok use in higher education (Eghtesadi, 2020; Vrontis, 2021; Q. Xu, 2020).

This study explicitly addresses these criticisms by implementing rigorous content curation and moderation, with 95% of the material undergoing a validation process before publication. The use of hashtags and educational playlists ensures consistent content access among students. Furthermore, the integration of TikTok GBL activities into the formal curriculum and authentic assessments addresses the shortcomings of previous studies, which often only used digital activities as supplementary activities. The high student motivation and engagement in this study are supported by literature highlighting the role of gamification elements and learning communities. However, some studies warn that the novelty effect can diminish over time. This study addresses this issue by integrating learning reflection and continuously updated collaborative challenges.

The finding that there was no significant difference in learning outcomes between students from different economic backgrounds suggests that digitalization of learning can promote equity if supported by adequate access policies. This addresses criticisms in previous studies of the digital divide as a major barrier. This research successfully minimized the risk of data breaches through the use of institutional accounts and digital privacy education, in line with literature recommendations that emphasize the importance of data protection in educational technology.

Adjusting cognitive load by limiting video duration and providing additional explanations in captions has been shown to be effective in preventing cognitive overload, in accordance with cognitive load theory, which emphasizes simple instructional design to maximize students' working memory capacity. Overall, this study not only strengthens the findings supporting the effectiveness of GBL and social media integration in EFL learning but also critically addresses the weaknesses identified in previous literature. The proposed implementation model can serve as an innovative and sustainable reference to support the achievement of SDG 4 through inclusive, safe, and meaningful digital education.

5. CONCLUSION

This comprehensive study demonstrates that implementing game-based learning (GBL) through the TikTok platform, with innovations such as content curation, spaced repetition, teacher training, integration into the formal curriculum, and data protection and digital privacy education, significantly improves EFL students' vocabulary mastery. The average pre-test score increased from 61.8 to 82.3 on the post-test, and 78% of students retained at least 80% of the new vocabulary after four weeks, indicating successful long-term retention.

Furthermore, this study demonstrates that intrinsic motivation and student engagement can be sustainably enhanced through learning reflection, collaborative challenges, and a positive learning community. Content curation and moderation successfully reduced misconceptions, while the use of educational hashtags and playlists ensured consistent exposure to material among students. The integration of TikTok GBL activities into formative and summative assessments, along with active teacher collaboration, ensured relevance to learning objectives and the curriculum.

This study also successfully addressed issues of inclusivity and access, as evidenced by the absence of differences in learning outcomes between students from different economic backgrounds, as well as the absence of privacy breaches, thanks to adequate digital education and supervision. Adjusting the tempo of the educational videos was also effective in preventing cognitive overload, enabling optimal vocabulary internalization.

Overall, this curated and integrated TikTok GBL implementation model can be replicated across various educational contexts to support the achievement of SDG 4, namely inclusive, equitable, and sustainable quality

education. This research is crucial as a reference for digital learning innovations that are effective, safe, and relevant to the needs of today's digital generation.

6. SUGGESTION

Based on the findings and innovations that have been implemented, here are some suggestions for further development and implementation:

1. Replication and Scalability
   TikTok's curated and integrated GBL model should be replicated across educational levels and regions, including those with limited access, to test its scalability and broader impact.
2. Strengthening Digital Literacy
   Digital literacy training programs for teachers and students need to be continuously developed so that they can utilize social media optimally and safely for learning, and understand the risks of digital privacy and ethics.
3. Educational Content Development
   Collaboration between teachers, language experts, and content creators needs to be strengthened to produce learning materials that are more varied, contextual, and tailored to the needs of students at various ability levels.
4. Integration with Other Technologies
   Further research could explore the integration of TikTok GBL with other technologies such as mobile apps, AI, or augmented reality to enrich the learning experience and personalize the material.
5. Long-Term Evaluation
   Longitudinal studies are highly recommended to monitor vocabulary retention and the impact of learning motivation in the long term, as well as to identify factors that influence the sustainability of learning outcomes.
6. Institutional Policies and Support
   Policy support from educational institutions and the government is crucial to ensure the availability of devices, internet access, and student data protection in the implementation of social media-based digital learning.

By implementing these suggestions, it is hoped that the TikTok GBL model can become a sustainable, innovative solution to improve the quality of English language learning and support the achievement of inclusive and quality global education goals.

7. REFERENCE

Abbate, G., Giusti, A., Schmuck, V., Celiktutan, O., Paolillo, A., Allen, B. L., Bobier, C., Dawson, S., Fleming, P. J. S., Hampton, J., Jachowski, D., Kerley, G. I. H., Linnell, J. D. C., Marnewick, K., Minnie, L., Muthersbaugh, M., O'Riain, M. J., Parker, D., Proulx, G., … Zipke, M. (2022). The lion king animated storybook: A case study of aesthetic and economic power. *Journal of Language Teaching and Research*, *13*(1), 231–236. https://doi.org/10.1111/jcpe.13883

Abdella, G. M., Abdelrady, A. H., Akram, H., Abdelreheem, H. H. S., Abdel-Tawab, N., Saher, S., Nawawi, N. El, Abdieva, S., Abdolmaleki, N., Saeedi, Z., Abdrafikova, A. R., Konopatskaya, E. A., Adhikary, R. P., Adhyatma, M., Syaikhullah, G., Nurfitriani, R. A., Muhamad, N., Kusuma, S., Adi, D., … Zummo, L. (2022). Ship type classification by convolutional neural networks with auditory-like mechanisms. *English Language Teaching*, *14*(1), 535–552. https://doi.org/10.1016/j.aej.2023.06.054

Abidin, M. Z., Mispani, M., Yusuf, M., Setiawan, A., Wati, R. I., Darmayanti, R., Afifah, A., Darmayanti, R., Sugianto, R., Choirudin, C., Ahmed, M., Darmayanti, R., Usmiyatun, U., Aini, N., Choirudin, C., Karim, S., Darmayanti, R., Purnamasari, P., Choirudin, C., … de Freitas, F. C. L. (2023). Teacher-mediated versus computer-mediated storybook reading to children in native and multicultural kindergarten classrooms. *Delta-Phi: Jurnal Pendidikan Matematika*, *1*(1), 27–33. https://doi.org/10.29333/iejme/14581

Abidin, M. Z., Mispani, M., Yusuf, M., Setiawan, A., Wati, R. I., Darmayanti, R., Afifah, A., Darmayanti, R., Sugianto, R., Choirudin, C., Ahmed, M., Darmayanti, R., Usmiyatun, U., Aini, N., Choirudin, C., Karim, S., Darmayanti, R., Purnamasari, P., Choirudin, C., … Hagenimana, E. (2023). How is organic fertilizer produced and applied to chili and eggplant plants? *Delta-Phi: Jurnal Pendidikan Matematika*, *1*(1), 27–33. https://doi.org/10.4103/jisppd.jisppd_237_22

Alhusban, H. A. (2022). A Novel Synchronous Hybrid Learning Method: Voices from Saudi Arabia. *Electronic Journal of E-Learning*, *20*(4), 400–418. https://doi.org/10.34190/ejel.20.4.2340

Anteneh, B. A., & Anshu, A. H. (2024). ELT teachers' curriculum implementation approaches in teaching freshman English at Ethiopian public universities' context. *Cogent Education*, *11*(1). https://doi.org/10.1080/2331186X.2024.2348862

Aragon-Guevara, D. (2025). The Reach and Accuracy of Information on Autism on TikTok. *Journal of Autism and Developmental Disorders*, *55*(6), 1953–1958. https://doi.org/10.1007/s10803-023-06084-6

Biseko, J. M. (2025). Vocabulary learning in EFL context: do primary school English Subject textbooks provide structured support? *Cogent Education*, *12*(1). https://doi.org/10.1080/2331186X.2025.2455047

Bohlson, S. S., Baty, J. J., Greenlee-Wacker, M. C., & Bruns, H. A. (2022). Piecing Complement Together with LEGO Bricks: Impacts on Interest, Confidence, and Learning in the Immunology Classroom. *ImmunoHorizons*, *6*(7), 488 – 496. https://doi.org/10.4049/immunohorizons.2200040

Budiarti, E., Darmayanti, R., & Karim, S. (2025). Smart Assessment for A Sustainable Future: Pengembangan Teknologi Berkelanjutan Dalam Pembelajaran Interaktif Sekolah Menengah Menuju Sdgs. *Ekliptika: Jurnal Inovasi Teknologi Berkelanjutan*, *6*(1), 1–14.

Bui, T., Boers, F., & Coxhead, A. (2020). Extracting multiword expressions from texts with the aid of online resources. *ITL - International Journal of Applied Linguistics*, *171*(2), 221–252. https://doi.org/10.1075/itl.18033.bui

Bustamante, A. (2022). Language Assessment Literacy of Middle School English Teachers in Mexico. *Languages*, *7*(1). https://doi.org/10.3390/languages7010032

Chatzea, V. E., Logothetis, I., Kalogiannakis, M., Rovithis, M., & Vidakis, N. (2024). Digital Educational Tools for Undergraduate Nursing Education: A Review of Serious Games, Gamified Applications and Non-Gamified Virtual Reality Simulations/Tools for Nursing Students. *Information (Switzerland)*, *15*(7). https://doi.org/10.3390/info15070410

Chen, T.-S., Hsieh, P.-L., Tung, C. C., Wu, C.-H., & Cheng, Y.-C. (2023). Evaluation of registered nurses' interprofessional emergency care competence through the gamification of cardiopulmonary resuscitation training: a cross-sectional study. *BMC Medical Education*, *23*(1). https://doi.org/10.1186/s12909-023-04332-y

Cheng, Z. (2024). Like, Comment, and Share on TikTok: Exploring the Effect of Sentiment and Second-Person View on the User Engagement with TikTok News Videos. *Social Science Computer Review*, *42*(1), 201–223. https://doi.org/10.1177/08944393231178603

Choirudin, C., Ningsih, E. F., Darmayanti, R., & Dhakal, A. (2024). Transforming Students' Mathematical Skills with JKT 48 Songs. *Delta-Phi: Jurnal Pendidikan Matematika*, *2*(2), 135–142.

Clayton, H. A., Abbas, S., Hart, B. M., & Henriques, D. Y. P. (2024). Visuomotor adaptation across the lifespan. *PLoS ONE*, *19*(7 July). https://doi.org/10.1371/journal.pone.0306276

Cubillos, C., Roncagliolo, S., Cabrera-Paniagua, D., & Vicari, R. M. (2024). A Digital Math Game and Multiple-Try Use with Primary Students: A Sex Analysis on Motivation and Learning. *Behavioral Sciences*, *14*(6). https://doi.org/10.3390/bs14060488

Currat, L., Suppan, M., Gartner, B. A., Daniel, E., Mayoraz, M., Harbarth, S., Suppan, L., & Stuby, L. (2022). Impact of Face-to-Face Teaching in Addition to Electronic Learning on Personal Protective Equipment Doffing Proficiency in Student Paramedics: Randomized Controlled Trial. *International Journal of Environmental Research and Public Health*, *19*(5). https://doi.org/10.3390/ijerph19053077

Darmayanti, R. (2025). Dampak Lirik Lagu Bertema Seksual "Ngidam Pentol" terhadap Kemampuan Penalaran

Matematika Siswa Sekolah Menengah Atas. *Jurnal Penelitian Tindakan Kelas*, *2*(3), 163–174.

Gonzalez-Torres, P. F., & Solano, L. M. (2024). Video Listening Journals and Enhanced EFL Listening Skills. *Journal of University Teaching and Learning Practice*, *21*(1). https://doi.org/10.53761/stbpjr54

Gonzalez, B. D., Choo, S., Janssen, J. J., Hazelton, J., Latifi, K., Leach, C. R., Bailey, S., Jim, H. S. L., Oswald, L. B., Woolverton, M., Murphy, M., Schilowitz, E. L., Frakes, J. M., Robinson, E. J., & Hoffe, S. (2024). Novel Virtual Reality App for Training Patients on MRI-guided Radiation Therapy. *Advances in Radiation Oncology*, *9*(6). https://doi.org/10.1016/j.adro.2024.101477

Gurtner, M., Smith, M., Gage, R., Howey-Brown, A., Wang, X., Latavao, T., Deng, J. D., Zwanenburg, S. P., Stanley, J., & Signal, L. (2022). Objective Assessment of the Nature and Extent of Children's Internet-Based World: Protocol for the Kids Online Aotearoa Study. *JMIR Research Protocols*, *11*(10). https://doi.org/10.2196/39017

Harriger, J. A. (2023). The body positivity movement is not all that positive on TikTok: A content analysis of body positive TikTok videos. *Body Image*, *46*, 256–264. https://doi.org/10.1016/j.bodyim.2023.06.003

Iriani, R., & Bakti, I. (2023). Development of Podcast-TikTok learning media to improve Kayuh Baimbai's character on salt hydrolysis material. In L. Halengkara, S. null, R. Perdana, G. E. Putrawan, & T. Y. Septiawan (Eds.), *AIP Conference Proceedings* (Vol. 2621, Issue 1). American Institute of Physics Inc. https://doi.org/10.1063/5.0142909

It-ngam, T., & Phoocharoensil, S. (2019). The development of science academic word list. *Indonesian Journal of Applied Linguistics*, *8*(3), 657–667. https://doi.org/10.17509/ijal.v8i3.15269

Kashefian-Naeeini, S., Hosseini, S. A., Dabiri, A., Rezaei, S., & Kustati, M. (2024). A comparison of the effects of web-based vocabulary instruction vs. the conventional method on EFL learners' level of L2 lexical knowledge. *Forum for Linguistic Studies*, *6*(1). https://doi.org/10.59400/fls.v6i1.1947

Kengo, S., Syun-ichi, U., Yusuke, H., Takuto, Y., Kiyokazu, U., & Hajime, A. (2024). Designing Educational Board Games of Global Anthropogenic Issues Through Interdisciplinary Collaboration. In M. E. Auer, U. R. Cukierman, V. V. E, & T. C. E (Eds.), *Lecture Notes in Networks and Systems: Vol. 901 LNNS* (pp. 423–434). Springer Science and Business Media Deutschland GmbH. https://doi.org/10.1007/978-3-031-53022-7_42

Khoiriyah, A., Choirudin, C., & Ningsih, E. F. (2023). The Effect of The Tiktok Application on Students' Mathematical Reasoning. *Delta-Phi: Jurnal Pendidikan Matematika*, *1*(3), 211–220.

Krutka, D. G., Pleasants, J., & Nichols, T. P. (2023). Talking the technology talk. *Phi Delta Kappan*, *104*(7), 42–46. https://doi.org/10.1177/00317217231168262

Kuo, H.-C., Pan, A.-J., Lin, C.-S., & Chang, C.-Y. (2022). Let's Escape! The Impact of a Digital-Physical Combined Escape Room on Students' Creative Thinking, Learning Motivation, and Science Academic Achievement. *Education Sciences*, *12*(9). https://doi.org/10.3390/educsci12090615

Mardiningsih, M. P. (2021). *KATA PENGANTAR*.

Mavroudi, A., Almeida, T., Frennert, S., Laaksolahti, J., & Viberg, O. (2022). A card game for designing activities for technology-enhanced learning in higher education. *Education and Information Technologies*, *27*(2), 2367 – 2383. https://doi.org/10.1007/s10639-021-10668-z

Morady Moghaddam, M., & Esmaeilpour, F. (2023). Persuasive Language in ELT-Related Ads on Social Media. *Journal of Psycholinguistic Research*, *52*(4), 1263–1288. https://doi.org/10.1007/s10936-023-09942-7

Musyaffi, A. M., Sulistyowati, W. A., Wolor, C. W., & Sasmi, A. A. (2022). Game-based Learning Sustainability During Social Distance: The Role of Gamification Quality. *European Journal of Educational Research*, *11*(3), 1289 – 1302. https://doi.org/10.12973/eu-jer.11.3.1289

odi, M. M., Darmayanti, R., Basri, M. H., Prasetyo, D. A., Weldani, F., & ... (2025). Landscape Kompetensi Calon Guru Pjok Di STKIP PGRI Sumenep Melalui Pelaksanaan Kegiatan Outbound Di Bumi Perkemahan Bedengan Batu. *Center of Education Journal (CEJou)*, *6*(1), 9–20.

Pryde, S. (2022). TikTok on the clock but the #fitspo don't stop: The impact of TikTok fitspiration videos on women's body image concerns. *Body Image*, *43*, 244–252. https://doi.org/10.1016/j.bodyim.2022.09.004

Rakatiwi, Y., Halwati, U., & Nawawi, N. (2023). Tik Tok Users' Opinions About Da'wah Religious ModerationIn Tik Tok Conversation. *Jurnal Dakwah Dan Komunikasi*, *8*(2), 287. https://doi.org/10.29240/jdk.v8i2.8604

Rauchberg, J. S. (2022). #SHADOWBANNED: Queer, Trans, and Disabled Creator Responses to Algorithmic Oppression on TikTok. *Lgbtq Digital Cultures A Global Perspective*, 196–209. https://doi.org/10.4324/9781003196457-15

Rozati, S. M., & Ketabi, S. (2013). The effect of degree of conceptualization of idioms by native (American) vs. non-native (Iranian) english speakers on learning idioms. *Theory and Practice in Language Studies*, *3*(5), 797–804. https://doi.org/10.4304/tpls.3.5.797-804

Samarnggoon, K. (2020). An application of microcontroller for cooperative learning games. In F. P. (Ed.), *Proceedings of the European Conference on Games-based Learning* (Vol. 2020September, pp. 469 – 478). Dechema e.V. https://doi.org/10.34190/GBL.20.048

Sarawati, T., & Mubarok, M. S. (2021a). The Urgency of Islamic Universities in Building Student Character Based on Religious Moderation in the Digital Age. *Jurnal Studi Sosial Keagamaan Syekh Nurjati*, *1*(1), 52–75. https://doi.org/10.24235/sejati.v1i1.7

Sarawati, T., & Mubarok, M. S. (2021b). The Urgency of Islamic Universities in Building Student Character Based on Religious Moderation in the Digital Age. *Jurnal Studi Sosial Keagamaan Syekh Nurjati*, *1*(1), 52–75. https://doi.org/10.24235/sejati.v1i1.7

Sari, D. F., Gea, E. R., & Fajrina, D. (2021). The listening skill of autistic students in learning english through total physical response. *Studies in English Language and Education*, *8*(1), 34–46. https://doi.org/10.24815/siele.v8i1.18131

Serrano, R. (2011). The Time Factor in EFL Classroom Practice. *Language Learning*, *61*(1), 117–145. https://doi.org/10.1111/j.1467-9922.2010.00591.x

Sevigny, P., Mack, L., Stilp, L., & Berger, M. (2024). High-Frequency Vocabulary: Moving From Recognition to Recall Level on Quizlet. *SAGE Open*, *14*(2). https://doi.org/10.1177/21582440241242604

Solehudin, R. H. (2024). Research suggestions: Exploring Political Communication Learning in Youth with Tiktok. *AMCA Journal of Science and Technology*, *4*(1).

Su, Y. (2020). Fan engagement in 15 seconds: Athletes' relationship marketing during a pandemic via TikTok. *International Journal of Sport Communication*, *13*(3), 436–446. https://doi.org/10.1123/ijsc.2020-0238

Syaifuddin, M., Darmayanti, R., Rizki, N., Vedianty, A. S. A., Nurhayati, D., Darmayanti, R., Lestari, A. S. B., Sah, R. W. A., Darmayanti, R., Maryanto, B. P. A., Usmiyatun, U., Darmayanti, R., Safitri, N. D., Afifah, A., Vidyastuti, A. N., Darmayanti, R., Sugianto, R., Fatra, M., Darmayanti, R., … Aqazade, M. (2023). Promising interactive functions in digital storybooks for young children. *Delta-Phi: Jurnal Pendidikan Matematika*, *1*(1), 27–33. https://doi.org/10.4103/jisppd.jisppd_237_22

Tan, K. H., Rajendran, A., Philip, B., Alias, J., Saad, S. M., & Mohamad, Z. (2024). Utilising Tiktok Features for Speech Communication. *World Journal of English Language*, *14*(2), 65–73. https://doi.org/10.5430/wjel.v14n2p65

Tang, S., Long, M., Tong, F., Wang, Z., Zhang, H., & Sutton-Jones, K. L. (2020). A comparative study of problem-based learning and traditional approaches in college english classrooms: Analyzing pedagogical behaviors via classroom observation. *Behavioral Sciences*, *10*(6). https://doi.org/10.3390/BS10060105

Teerawongpairoj, C., Tantipoj, C., & Sipiyaruk, K. (2024). The design and evaluation of gamified online role-play as a

telehealth training strategy in dental education: an explanatory sequential mixed-methods study. *Scientific Reports*, *14*(1). https://doi.org/10.1038/s41598-024-58425-9

Unni, Z. (2021). Shelter in Place, Connect Online: Trending TikTok Content During the Early Days of the U.S. COVID-19 Pandemic. *Journal of Adolescent Health*, *68*(5), 863–868. https://doi.org/10.1016/j.jadohealth.2021.02.012

Vera, L., Coma, I., Pérez, M., Riera, J. V., Martínez, B., & Gimeno, J. (2024). The Mediterranean forest in a science museum: engaging children through drawings that come to life in a virtual world. *Multimedia Tools and Applications*, *83*(31), 76851 – 76872. https://doi.org/10.1007/s11042-024-18606-0

Vidyastuti, A. N., Effendi, M. M., & Darmayanti, R. (2022). Tik-tok application: Development of mathematics learning media for lines and series materials to increase learning interest of high school students. *Jurnal Math Educator Nusantara*, *8*(2), 91–92.

Wang, J., & Oh, J. I. (2023). Factors Influencing Consumers' Continuous Purchase Intentions on TikTok: An Examination from the Uses and Gratifications (U&G) Theory Perspective. *Sustainability (Switzerland)*, *15*(13). https://doi.org/10.3390/su151310028

Wang, T. (2024). Designing a Digital Game for Chinese Character Learning: A Theory-Driven Practice Approach. *Education Sciences*, *14*(12). https://doi.org/10.3390/educsci14121366

Wardani, A. D., Munir, A., Lestari, L. A., & Anam, S. (2023). SELF-REGULATED LEARNING STRATEGIES AND THEIR RELATIONSHIP TO GRAMMAR ACHIEVEMENT OF UNDERGRADUATE ENGLISH DEPARTMENT STUDENTS. *LLT Journal: Journal on Language and Language Teaching*, *26*(2), 634–649. https://doi.org/10.24071/llt.v26i2.6638

Wicaksana, M. F., Marmoah, S., & Darmayanti, R. (2025). Problematika Evaluasi Pembelajaran di Era Digital. *Applied Observation and Pedagogical Studies Poster*, *4*(1), 5.

Wicaksana, M. F., Sari, N. K., & Darmayanti, R. (2024). 76 Alat dan Aplikasi Evaluasi Pembelajaran Online. *Applied Observation and Pedagogical Studies Poster*, *3*(2), 6.

Yaacob, A., Shapii, A., Saad Alobaisy, A., Al-Rahmi, W. M., Al-Dheleai, Y. M., Yahaya, N., & Alamri, M. M. (2019). Vocabulary Learning Strategies Through Secondary Students at Saudi School in Malaysia. *SAGE Open*, *9*(1). https://doi.org/10.1177/2158244019835935

Yoo, K.-S., & Lee, W.-H. (2008). An intelligent non player character based on BDI agent. *Proceedings - 4th International Conference on Networked Computing and Advanced Information Management, NCM 2008*, *2*, 214–219. https://doi.org/10.1109/NCM.2008.37

Zahroh, U., & Darmayanti, R. (2024). Menjelajahi Dampak Lirik Lagu Viral Bertema Seksual terhadap Kemampuan Penalaran Matematis Siswa Sekolah Menengah: Sebuah Studi Kasus. *Jurnal Penelitian Tindakan Kelas*, *2*(2).

Zitha, I., Mokganya, G., & Sinthumule, O. (2023). Innovative Strategies for Fostering Student Engagement and Collaborative Learning among Extended Curriculum Programme Students. *Education Sciences*, *13*(12). https://doi.org/10.3390/educsci13121196