

Research Articles

## Integration of Tiktok Learning Games (TLG) as a Learning Innovation to Improve Academic English Proficiency of English Education Students at Medan State University

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**Abstract:** In the digital age, English Education students still face difficulties in developing Academic English Proficiency because classroom learning is still dominated by traditional methods that are less appealing to digital natives. This study aims to explore and evaluate the integration of Tik Tok Learning Games (TLG) as a gamification-based learning medium to improve EAP for students in the English Education Study Program at Medan State University. Using a qualitative approach with a limited Research and Development model, data was collected through open-ended questionnaires and digital observations on Tik Tok, then analyzed using thematic analysis. The results showed that after two weeks of implementing TLG, students experienced improvements in academic vocabulary, pronunciation, contextual understanding, learning motivation, and speaking confidence, with 80% of participants stating that learning felt more enjoyable and less boring. However, a small number of students did not show significant changes due to limited access to technology and inconsistent use. Overall, this study concludes that TLG is an effective and practical digital gamification strategy for improving English proficiency, and can be used as a reference for lecturers in developing social media-based learning innovations in higher education.

**Keywords:** Academic English Proficiency, Digital Natives, Medan State University, Social Media-Based Learning, Tik Tok Learning Games

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### 1. Introduction

In the digital era, Academic English Proficiency has become an essential skill for students of English Education (Suhartono, et al. 2025). This encompasses several aspects, namely reading, writing, listening, and speaking in academic contexts. However, in its implementation, there are still challenges, particularly in developing English proficiency, which often arise due to the use of traditional teaching methods. Traditional teaching methods in the digital age are less relevant and less engaging for digital-native generations, such as students who are more familiar with social media platforms. The utilization of digital platforms such as Tik Tok by taking advantage of its popularity among Generation Z as a short video application offers great potential as an innovative tool to integrate gamification into language learning. Gamification, which involves game elements such as challenges, points, and social interaction, can enhance students' motivation and engagement, thus bridging the gap between formal education and their digital habits. This study explores the integration of Tik Tok Learning Games (TLG) as an innovative learning approach to improve the EAP of English Education

students at Universitas Negeri Medan, focusing on how this platform can be effectively utilized.

Academic English Proficiency (EAP) serves as a foundation that supports students' academic and professional success. Many of them face difficulties in acquiring this skill due to several factors such as lack of intrinsic motivation, limited social interaction in learning, and difficulty adapting to formal academic contexts. At Universitas Negeri Medan, English Education students often rely on conventional methods that make little use of digital technology, resulting in stagnant EAP mastery. This raises the main research problem, namely how to integrate social media such as TikTok as a gamification tool to make language learning more engaging and effective without compromising academic aspects. Therefore, this study aims to identify the challenges faced by students in learning English and to explain the potential of TikTok as a gamified learning medium suited to the needs of the digital generation. This research focuses on four main objectives: first, to identify the difficulties faced by English Education students in acquiring academic English skills; second, to explain how TikTok can be used as a gamified learning medium that meets the needs of the digital generation; third, to develop and design an innovative TikTok-based learning medium (TLG) to improve students' Academic English Proficiency (EAP); and fourth, to evaluate the initial implementation impact of TLG on students' motivation, engagement, and EAP mastery (Nunes, & Darin, 2024).

This study carries both theoretical and practical significance. Theoretically, it contributes to the development of Vygotsky's social constructivism theory in the context of digital gamification, emphasizing learning through social interaction and scaffolding on platforms such as TikTok. Practically, the results can provide innovative guidance for lecturers and students at Universitas Negeri Medan to adopt TLG as an alternative learning method, thereby enhancing motivation and EAP mastery.

This study has a limited scope, focusing on students of the English Education Study Program, Faculty of Languages and Arts, Universitas Negeri Medan, as the main research subjects, with the research conducted within the campus environment. The research method used is a qualitative approach based on Vygotsky's social constructivism, employing a limited Research and Development (R&D) model for the development and initial evaluation of TLG. Data collection techniques include open-ended questionnaires, semi-structured interviews, and digital observations on TikTok, analyzed through thematic analysis focusing on students' perceptions, experiences, and interactions.

In the rapidly evolving digital era, the mastery of *Academic English Proficiency* (EAP) has become an indispensable competence for students in English Education programs. As higher education institutions increasingly integrate global perspectives, students are expected to possess advanced academic communication skills encompassing reading, writing, listening, and speaking within formal and research-based contexts. Yet, the reality shows that many students continue to struggle in achieving proficiency due to outdated pedagogical approaches that fail to align with the learning styles and preferences of the digital-native generation. Traditional classroom practices, which often rely on rote memorization and text-heavy instruction, have proven less effective in fostering deep linguistic understanding or sustained

engagement. Consequently, there is a pressing need for innovative teaching methods that bridge formal academic demands with the interactive, technology-driven environment familiar to modern learners.

Among various digital innovations, *TikTok* a platform originally designed for entertainment has emerged as a powerful educational tool with untapped potential for language learning. Its short-form video format, visual interactivity, and social connectivity provide opportunities to transform conventional English learning into a dynamic and gamified experience. Through features such as challenges, filters, and collaborative content creation, TikTok can support *gamification*, an instructional approach that applies elements of games like competition, point systems, and rewards to enhance learner motivation and participation. In the context of English language learning, these elements can encourage active engagement, creativity, and autonomy while maintaining academic rigor. The platform's alignment with the habits of Generation Z students makes it an accessible and culturally relevant medium for embedding linguistic exercises in a setting they already navigate daily (Douglas, 2023).

Despite this potential, the integration of social media into academic learning has not been widely explored in Indonesia's higher education context, particularly in the development of EAP. At Universitas Negeri Medan, English Education students often experience stagnation in academic language acquisition due to limited exposure to authentic communication, minimal collaborative learning opportunities, and a lack of motivation stemming from monotonous instructional models. This gap underscores the necessity of reimagining digital learning not as supplementary, but as a central pedagogical strategy. The implementation of *TikTok Learning Games* (TLG) aims to address this need by incorporating interactive, gamified tasks into academic language instruction. Through TLG, students can engage in language challenges, pronunciation drills, and vocabulary games in an environment that fosters social interaction and immediate feedback two elements emphasized in Vygotsky's theory of social constructivism (Qiao, 2025).

Theoretically, this study contributes to the enrichment of Vygotsky's *social constructivist* framework within digital learning environments, demonstrating how scaffolding and peer collaboration can occur through technology-mediated interactions. Practically, it offers a blueprint for educators to transform social media from a source of distraction into an instrument of academic empowerment. By examining the design, implementation, and impact of TLG on students' motivation and linguistic competence, this research highlights how gamified learning on platforms like TikTok can create meaningful, student-centered experiences that align with the cognitive and affective dimensions of learning. Ultimately, the integration of TLG reflects a paradigm shift in English language pedagogy one that merges entertainment, interaction, and education to cultivate a generation of learners who are not only proficient in academic English but also digitally literate and globally competitive.

## 2. Literature Review

### Social Constructivism Theory by Vygotsky

Constructivism theory views learning as an active process in which learners build knowledge through experience, interaction, and direct engagement. Vygotsky, as the main

figure of social constructivism, emphasized that cognitive development is not solely shaped by the individual's internal capacity, but also influenced by social and cultural environments as well as communication processes. Knowledge is not passively transferred from teacher to student; rather, it is constructed through activities such as thinking, questioning, discussing, and problem-solving. Constructivism positions teachers not as the central source of information, but as facilitators who provide learning conditions that allow learners to discover, connect, and build new concepts according to their developmental stages.

Within social constructivism theory, the most prominent concept is the *Zone of Proximal Development (ZPD)*. ZPD is the distance between the learner's ability to complete a task independently and their ability to complete it with the help of teachers, parents, or more capable peers. In other words, ZPD represents the learner's potential area of development, where effective learning occurs when students face tasks that slightly exceed their independent capabilities but can still be accomplished through assistance. Vygotsky argued that a good learning process does not merely consider what students can do today, but also what they can achieve tomorrow through guidance. Therefore, social interaction, dialogue, and collaboration become crucial components in optimizing cognitive development to help learners move from actual ability toward potential ability within the ZPD, thus requiring temporary assistance known as *scaffolding*.

This concept is illustrated as structured support provided by teachers or other learning resources to help students understand concepts that are initially difficult. This support is not permanent but is gradually reduced as students begin to perform tasks independently. In the context of modern learning, *scaffolding* is not limited to verbal interaction or face-to-face guidance but can also be manifested through learning media such as interactive videos, infographics, digital quiz platforms, flashcards, and creative visual applications. These media serve as cognitive supports that help students build understanding and guide them toward achieving higher competence.

### **The Concept of Scaffolding in Modern Learning Media**

*Scaffolding* has several key indicators. The first is directing learners' attention, which refers to providing support to help students focus on the essential aspects of learning. For example, teachers use pictures, videos, diagrams, or guiding questions to steer students' thinking and prevent deviation from learning objectives. When students' attention is focused, knowledge absorption becomes more effective. The second indicator is providing step-by-step guidance, meaning that teachers help students solve problems through small and structured stages. This method commonly includes brief explanations, sample solutions, and strategies that students can imitate. As students begin to understand, assistance is gradually reduced until they can perform independently.

The next indicator is providing motivation and constructive feedback, as emotional support is just as important as cognitive support. Learners become more confident and willing to try when teachers offer encouragement during difficulties or mistakes. Another form of *scaffolding* is the use of media as visual aids, such as infographics, posters, videos, educational games, or digital flipbooks. These media enhance learning engagement, reduce boredom, and

bridge abstract concepts into more concrete ones. Media also facilitate differentiated learning, as teachers can tailor the type of support according to each student's ZPD.

The following indicator is encouraging problem-solving and critical thinking, where teachers do not directly provide answers but pose stimulating questions, case studies, or learning challenges. This method trains students' analytical skills, creativity, and intellectual independence. When linked to the ZPD, this indicator shows how *scaffolding* helps learners surpass their current limits through structured problem-solving practice. Research in various journals shows that learning media can enhance students' problem-solving skills, for instance, through the use of augmented reality technology, educational games, and interactive digital media. The final indicator is fostering learning independence. The essence of *scaffolding* is to ensure that students do not depend on the teacher's help but can complete tasks independently once support is withdrawn. When learners have successfully understood concepts, completed tasks, and applied knowledge in new situations without assistance, it indicates that *scaffolding* has effectively developed their ZPD potential.

The role of modern learning media has been proven to facilitate this process, as it can enhance creativity, encourage exploration, and significantly improve learning outcomes. Thus, constructivism, ZPD, and *scaffolding* are interrelated as foundational elements of effective learning that humanize students, value process, and emphasize cognitive development through appropriate support.

The implementation of gamification represents one form of modern learning innovation increasingly adopted in various educational contexts. Gamification is no longer regarded merely as a medium of entertainment but as an interactive learning tool that integrates game elements to stimulate motivation, increase engagement, and strengthen learners' knowledge retention. This approach is also relevant in English language learning, including the mastery of academic skills. The *Gamification Content Model* developed by Karl M. Kapp et al. (2014) explains the components of effective gamification design within formal and digital educational contexts. The model emphasizes that gamification does not simply transfer play activities into the classroom but builds a systematic learning experience through game elements with clear pedagogical functions.

Kapp integrates cognitive psychology, game design, and learning theory to explain how game elements influence students' motivation, engagement level, and academic achievement. Therefore, this model has been widely used to analyze the quality of gamification design in various studies, particularly in technology-based learning contexts. In this model, Kapp highlights seven key indicators: *story*, *challenge*, *curiosity*, *character*, *interactivity*, *feedback*, and *freedom to fail*.

The first indicator is *story*, which refers to the use of narrative or storyline to create a learning context. Story elements make students feel that learning activities are not merely task commands but part of a particular world or scenario. A story builds emotional connection, creates meaning, stimulates imagination, and makes students feel involved in the process. The stronger the story in gamification, the higher the likelihood that learners will persist, complete challenges, and feel that learning has purpose.

The second indicator is *challenge*, referring to obstacles or tasks that learners must complete to advance levels or accomplish specific missions. Challenge is the core of gamification because it drives cognitive effort, problem-solving, and perseverance. Kapp emphasizes that challenges must have proportional difficulty levels neither too easy to be boring nor too difficult to demotivate. Mechanisms such as levels, quests, and puzzles are common forms of this indicator. In learning, challenges encourage students to practice strategies, test understanding, and continuously progress from one stage to the next.

The third indicator is *curiosity*, which is the sense of wonder that drives students to explore material further. Curiosity can arise from unsolved puzzles, hidden information, or surprises within the game. Kapp explains that curiosity is a powerful psychological force to sustain students' attention. When students feel curious, they naturally pursue answers, learn new material, and complete tasks without coercion. Therefore, many gamification designs include mysteries, hints, hidden clues, or plot twists.

The fourth indicator is *character*, referring to the involvement of an avatar or figure representing the player within the gamification system. By having a character or identity in the game, students feel a sense of special role, status, or position in learning. Characters may be avatars, fictional figures, or even the players themselves, assigned specific visual identities or roles. Kapp asserts that this indicator enhances emotional engagement and a sense of ownership in the learning process. When participants have a character, they become more motivated to protect, develop, and improve their learning persona's abilities.

The fifth indicator is *interactivity*, which involves interaction between players and the system, material, or other players. Interactivity is the key distinction between gamification and traditional methods, as students do not merely receive information but also make decisions. Interactive systems such as choice buttons, branching narratives, teamwork, and competition make learning more dynamic. Interactivity fosters active rather than passive experiences students not only read or listen but also make choices and witness the consequences directly.

The next indicator is *feedback*, referring to immediate responses that inform players about the outcomes of their actions. Feedback in gamification typically appears through points, scores, success messages, error notifications, or progress bars. Kapp emphasizes that real-time feedback enhances learners' awareness of their learning progress, strengthens motivation, and helps correct mistakes without inducing fear or shame. When feedback is continuous and clear, students learn faster because they understand what needs improvement and how to achieve their goals.

The final indicator is *freedom to fail*, which provides students with opportunities to make mistakes without severe negative consequences. In gamification, failure is seen as part of learning, not as something shameful. Players can replay levels, try new strategies, or correct errors. Kapp asserts that this is the advantage of gamification over traditional tests students are not punished for failure but given opportunities to grow. This element fosters psychological safety, encourages risk-taking, and strengthens problem-solving abilities.

It can be concluded that all these indicators demonstrate that the *Gamification Content Model* not only makes learning enjoyable but also creates a structured, interactive, and motivating learning environment. When *story*, *challenge*, *curiosity*, *character*, *interactivity*, *feedback*,

and *freedom to fail* are applied harmoniously, gamification becomes an effective pedagogical strategy to foster intrinsic motivation, enhance material retention, and improve learning experiences at various educational levels. Therefore, Kapp's model is widely used as the foundation for research and digital learning design in the modern era.

### 3. Method

This study employs a qualitative approach to collect and analyze data through three primary techniques: open-ended questionnaires, semi-structured interviews, and digital observation on TikTok. The open-ended questionnaire was distributed online via Google Forms to identify students' challenges in learning English for Academic Purposes (EAP), such as difficulties in vocabulary, sentence structure, or motivation, using open-ended questions that allow narrative responses. Semi-structured interviews were conducted face-to-face or online via Zoom, involving 10–15 key students to explain the use of TikTok as a gamification medium and to explore their experiences during the implementation of the TikTok Learning Game (TLG), using a flexible interview guide. Digital observation on TikTok included direct observation of student interactions during learning sessions, such as participation in games, comments, and levels of engagement, with digital behavior recordings such as the number of likes, shares, and interaction duration to measure motivation and mastery of EAP.

The research instruments were designed to support these techniques, including an open-ended questionnaire with 5–7 open-ended questions validated by language education experts, a semi-structured interview guide with 8–10 core and follow-up questions, and a rubric-based digital observation protocol checklist to record indicators such as participation frequency, types of interaction, and behavioral changes. All instruments were tested for validity through a pilot test involving 5 non-subject students.

Data were analyzed using thematic analysis with an inductive approach, including transcription and data organization using NVivo software or manual methods, identification of themes such as EAP challenges, the use of TikTok as gamification, TLG design processes, and its impact on motivation and EAP mastery. The interpretation of themes was linked to Vygotsky's social constructivist theory, and data triangulation was employed to ensure validity. The results of the analysis are presented in descriptive narratives, thematic tables, and direct quotations to support the conclusions.

The model used in this study is a limited Research and Development (R&D) model, which is a simplified variation of the Borg & Gall R&D model adapted for small-scale research. This model involves stages of product development (the TLG learning media) and preliminary evaluation of its impact, without requiring large-scale field testing. The research subjects are students of the English Education Study Program, Faculty of Languages and Arts, Universitas Negeri Medan. The selection of subjects is based on relevance to the research objective, namely students who need to improve their Academic English Proficiency (EAP). The number of subjects was determined using purposive sampling, with criteria including active students who have experience using social media such as TikTok and who experience difficulties in EAP. The initial estimate involved 20–30 students to ensure the diversity of qualitative data.

#### 4. Results and Discussion

This study selected a sample of 14 students from the English Education Study Program by conducting a trial using filters designed by the researcher, which could only be accessed by individuals who had previously completed the learning needs questionnaire using TikTok Learning Games (TLG). After this initial stage, the students were asked to use two types of filters from the TikTok account @eduvate.unimed, namely:

1. Basic Academic Words Filter: students identify the meaning of academic words and translate them into English.
2. Pronunciation Filter: students pronounce academic terms based on given images (for example: *academic research, presentation, discussion*) and earn points if their pronunciation is correct.

After engaging in learning activities using these filters regularly for two weeks, the students were again asked to complete a questionnaire to assess changes in their abilities within the EAP aspect.

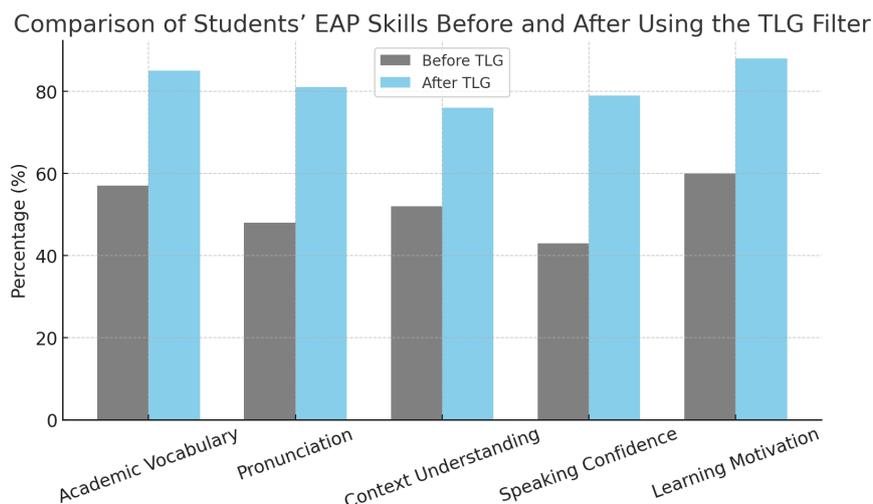
##### Questionnaire Results (After Using the TLG Filter)

From the results of the second questionnaire, the following simulated data were obtained.

**Table 1.** Impact of TikTok Learning Games (TLG) on Students' Academic English Proficiency.

EAP Assessment Aspect	Before Using TLG	After Using TLG	Improvement (%)
Academic Vocabulary	57% understood common academic words	85% recognized and used new academic words correctly	+28%
Pronunciation	48% had fairly clear pronunciation	81% were able to pronounce academic terms more accurately	+33%
Understanding Academic Context	52% understood word meanings within sentence context	76% were able to connect vocabulary with academic context	+24%
Speaking Confidence	43% felt hesitant to use academic English	79% felt more confident speaking in academic discussions	+36%
Learning Motivation	60% had moderate motivation	88% stated that TLG made learning more enjoyable and challenging	+28%

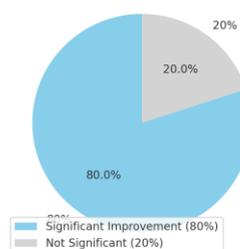
The following graph compares the English for Academic Purposes (EAP) abilities of students before and after using the TikTok Learning Games (TLG) filter on the @eduvate.unimed account. This graph shows a significant improvement in all key aspects, especially in academic vocabulary, pronunciation, and learning motivation.



**Figure 1.** Comparison of Students' EAP Skills Before and After Using the TLG Filter.

### Analysis of Findings

Percentage of Students Based on the Improvement of EAP Skills After Using the TLG Filter



**Figure 2.** Percentage of Students Based on the Improvement of EAP Skills After Using the TLG Filter.

80% of students showed significant improvement in their academic vocabulary and pronunciation skills. They reported that learning through the TLG filter felt like playing an educational game, making the experience less monotonous. The students mentioned that the Basic Academic Words Filter helped them enrich their formal vocabulary with words such as significant, therefore, analyze, evidence, and hypothesis, which frequently appear in academic contexts. Meanwhile, the Pronunciation Filter encouraged them to speak more confidently and correct pronunciation errors through real-time feedback from the system. Students also experienced improvement in academic confidence and active engagement when interacting in English, both in class and on social media.

However, the remaining 20% of students did not show significant changes. The influencing factors include:

1. Limited use of technology – some students rarely used TikTok or were unfamiliar with interactive filter features.
2. Unstable internet connection, which made it difficult to access filters or upload their practice results.
3. Lack of consistency in using the filters regularly, resulting in suboptimal learning effects.

The research findings indicate that English Education students at Universitas Negeri Medan who integrated TikTok Learning Games (TLG) into their learning process demonstrated improved Academic English Proficiency (EAP). As shown by questionnaire data and digital observation, after two weeks of implementation, there was a significant

increase across all aspects: academic vocabulary, pronunciation, contextual understanding, learning motivation, and speaking confidence. The results suggest that social media gamification can serve as an effective learning method for digital-native generations, who tend to prefer interactive and visual approaches.

The 28% increase in academic vocabulary indicates that the basic vocabulary filter was effective in expanding students' lexical repertoire. This aligns with Vygotsky's social constructivism theory, which emphasizes the importance of scaffolding and social interaction in helping learners acquire new knowledge. The filter functioned as a digital scaffold, guiding students to discover the meaning and use of academic words through direct experience rather than rote memorization. Consequently, students were able to associate new vocabulary with relevant academic contexts.

In addition, the 33% improvement in pronunciation achieved through the Pronunciation Filter demonstrates that self-correction was driven by real-time feedback-based learning. According to the feedback indicator in the Gamification Content Model, immediate feedback from the TikTok system provides a learning experience that is both enjoyable and educational (Kapp, 2014). Intrinsic motivation can be strengthened through quick and clear feedback, which also accelerates the internalization of new skills.

The role of gamification in fostering a positive learning environment is also reflected in the 28% increase in learning motivation and the 36% rise in speaking confidence. In the TLG design, the elements of challenge and freedom to fail motivated students to experiment and not fear making mistakes. In Vygotsky's theory, this illustrates the learning process within the Zone of Proximal Development (ZPD), where learners are encouraged to go beyond their actual abilities with the support of digital media. The use of TikTok filters also facilitated non-verbal development, enabling students to communicate independently using academic language.

Furthermore, these findings demonstrate that TikTok, as a learning medium, has the potential not only to serve as an entertainment platform but also to foster collaborative learning. According to social constructivism, the social aspect of learning is reinforced when students interact through comments, video duets, or game challenges. The social component is a vital factor in cognitive development. Students do not only learn from the medium itself but also from their peers who actively participate on the platform.

Although the results show significant improvement overall, about twenty percent of students did not experience noticeable progress. Limited technological access, unstable internet connections, and inconsistency in engaging with gamified activities were the main contributing factors. This indicates that digital infrastructure readiness and students' self-directed learning habits greatly influence the success of TLG integration. To ensure that digital learning processes remain sustainable and inclusive, instructors should provide ongoing guidance and support.

Overall, this study supports the notion that TLG represents an innovative gamification-based learning method that effectively enhances students' EAP in the digital era. It has been proven that cognitive and affective engagement among students increases through the integration of game elements such as storytelling, challenges, feedback, and interaction. In

technology-based language learning, social constructivism theory is highly relevant, as experiential learning, collaboration, and interaction contribute to the development of academic competence.

Therefore, this research provides theoretical benefits by expanding our understanding of the use of digital gamification in language education. It also offers practical implications for lecturers and educational institutions to adopt TikTok Learning Games as a creative learning model suited to the features and needs of Generation Z in higher education.

## 5. Conclusion

To enhance the Academic English Proficiency (EAP) of English Education students at Universitas Negeri Medan, the integration of TikTok Learning Games (TLG) proved to be a successful gamification-based learning innovation. Students demonstrated notable improvement across five core EAP components—academic vocabulary, pronunciation, contextual understanding, learning motivation, and speaking confidence—through the use of two educational filters: the Basic Academic Words Filter and the Pronunciation Filter. Grounded in Vygotsky's social constructivism theory, TLG fosters learning through social interaction, collaboration, and scaffolding within a digital environment. TikTok filters act as a form of modern scaffolding, allowing students to learn through direct experience, instant feedback, and tiered challenges aligned with their Zone of Proximal Development (ZPD). Consequently, learning occurs not only cognitively but also affectively, enhancing students' motivation and self-confidence.

Empirically, two weeks of TLG implementation resulted in significant improvement for 80% of students, who reported that learning through TikTok felt more interactive, engaging, and less monotonous compared to traditional methods. However, 20% of participants showed no substantial progress due to limited technological access, unstable internet connections, and inconsistent engagement. These findings underscore the importance of digital infrastructure, technological literacy, and teacher facilitation in ensuring equitable and effective TLG implementation. Practically, this study offers valuable insight for educators and higher education institutions to develop social media-based gamified learning models. Future research should extend the duration and scale of TLG use, incorporate additional TikTok features such as live sessions and collaborative challenges, and employ more systematic quantitative evaluations. Ultimately, TLG represents a relevant, engaging, and adaptive innovation that unites entertainment and education to support Generation Z students in achieving academic competence in English.

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