



INNOVATIVE: Journal Of Social Science Research

Volume 5 Nomor 1 Tahun 2025 Page 5708-5728

E-ISSN 2807-4238 and P-ISSN 2807-4246

Website: <https://j-innovative.org/index.php/Innovative>

## Student's Perspective on the use Gamification in Improving English Vocabulary

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### Abstract

The integration of technology in language learning has revolutionized traditional teaching methods, particularly in vocabulary acquisition. This study investigates students' perspectives on using gamification, specifically Kahoot!, in improving English vocabulary among tenth-grade students at SMA Negeri 3 Pematangsiantar. The research addresses the gap between conventional vocabulary teaching methods and the need for engaging, technology-enhanced learning experiences. Through a qualitative approach involving 35 participants over a one-week intensive observation period, this study employed interviews, questionnaires, and classroom observations to gather data. The findings reveal that 85% of students demonstrated increased motivation and engagement when learning vocabulary through Kahoot!, with 78% reporting improved retention of new words. Students particularly appreciated the competitive elements and immediate feedback features of the platform. The study concludes that gamification through Kahoot! positively influences students' vocabulary learning experience, suggesting its potential as an effective supplementary tool in English language education. However, considerations regarding technical infrastructure and careful implementation planning are necessary for optimal results.

*Keywords: Gamification, English Vocabulary Learning, Kahoot!, Student Engagement, Technology-Enhanced Learning, Secondary Education*

## Abstrak

Integrasi teknologi dalam pembelajaran bahasa telah merevolusi metode pengajaran tradisional, khususnya dalam perolehan kosakata. Studi ini menyelidiki perspektif siswa tentang penggunaan gamifikasi, khususnya Kahoot!, dalam meningkatkan kosakata bahasa Inggris di antara siswa kelas sepuluh di SMA Negeri 3 Pematangsiantar. Penelitian ini membahas kesenjangan antara metode pengajaran kosakata konvensional dan kebutuhan akan pengalaman belajar yang menarik dan ditingkatkan dengan teknologi. Melalui pendekatan kualitatif yang melibatkan 35 peserta selama periode observasi intensif selama satu minggu, penelitian ini menggunakan wawancara, kuesioner, dan observasi kelas untuk mengumpulkan data. Temuan tersebut mengungkapkan bahwa 85% siswa menunjukkan peningkatan motivasi dan keterlibatan saat mempelajari kosakata melalui Kahoot!, dengan 78% melaporkan peningkatan retensi kata-kata baru. Siswa terutama menghargai elemen kompetitif dan fitur umpan balik langsung dari platform tersebut. Studi ini menyimpulkan bahwa gamifikasi melalui Kahoot! secara positif memengaruhi pengalaman belajar kosakata siswa, yang menunjukkan potensinya sebagai alat pelengkap yang efektif dalam pendidikan bahasa Inggris. Namun, pertimbangan mengenai infrastruktur teknis dan perencanaan implementasi yang cermat diperlukan untuk hasil yang optimal.

Kata Kunci: *Gamifikasi, Pembelajaran Kosakata Bahasa Inggris, Kahoot!, Keterlibatan Siswa, Pembelajaran Berbasis Teknologi, Pendidikan Menengah*

## INTRODUCTION

The landscape of education has undergone significant transformations over the past decades, marked by the shift from traditional chalk-and-talk methods to more dynamic and interactive approaches. This evolution reflects the changing needs of learners and the increasing influence of technology in everyday life. As we stand at the crossroads of educational innovation, it becomes crucial to examine how these changes affect language learning, particularly in the context of English vocabulary acquisition.

Historically, vocabulary instruction in Indonesian schools has predominantly relied on conventional methods such as memorization, textbook exercises, and teacher-centered approaches. These traditional methods, while foundational, often failed to address the diverse learning needs of modern students and frequently resulted in limited engagement and retention. Students would typically encounter new vocabulary through reading passages or word lists, followed by mechanical exercises that emphasized rote learning rather than meaningful interaction with the language.

The late 20th century witnessed the emergence of various teaching methodologies aimed at making language learning more effective and engaging. The Grammar-Translation

Method, which dominated language teaching for centuries, gradually gave way to more communicative approaches. The Audio-Lingual Method, followed by the Communicative Language Teaching approach, brought significant changes to how vocabulary was taught in classrooms. However, these methods, while progressive for their time, still struggled to fully capture students' attention and maintain their motivation in the long term.

The digital revolution of the 21st century has introduced unprecedented opportunities for educational innovation. The proliferation of smartphones, tablets, and computers, coupled with increased internet accessibility, has created new possibilities for language learning. This technological advancement has coincided with growing research into how students learn most effectively, particularly considering the characteristics of Generation Z learners, who are digital natives and respond well to interactive, technology-based learning experiences.

Recent studies have highlighted the importance of engagement in successful language learning. Researchers like Johnson et al. (2020) and Ahmad (2021) have demonstrated that students learn more effectively when they are actively involved in the learning process and find the learning experience enjoyable. This understanding has led to the exploration of various innovative teaching methods, among which gamification has emerged as a particularly promising approach.

Gamification, the application of game-design elements in non-game contexts, represents a significant departure from traditional teaching methods. It incorporates elements such as competition, rewards, and immediate feedback to create an engaging learning environment. In the context of vocabulary learning, gamification offers several potential advantages: it can increase motivation, reduce anxiety, and create opportunities for repeated exposure to target vocabulary in meaningful contexts.

Among the various gamification platforms available, Kahoot! has gained significant attention in educational settings. This digital learning platform combines elements of gaming with educational content, allowing teachers to create interactive quizzes and learning activities that students can access through their mobile devices. The platform's success in various educational contexts has prompted interest in its potential for vocabulary instruction.

However, despite the growing popularity of gamification tools like Kahoot!, there remains a significant gap in our understanding of their effectiveness, particularly from the perspective of Indonesian secondary school students. While several studies have examined the use of gamification in language learning in various contexts, few have focused

specifically on its application in improving English vocabulary among Indonesian high school students.

The current educational landscape in Indonesia presents both opportunities and challenges for implementing technology-enhanced learning methods. While there is increasing recognition of the need to incorporate modern teaching approaches, questions remain about how best to implement these methods within existing educational frameworks. This situation is particularly relevant in cities like Pematangsiantar, where schools are working to balance traditional educational values with modern pedagogical innovations.

This research addresses this gap by examining students' perspectives on the use of Kahoot! for vocabulary learning at SMA Negeri 3 Pematangsiantar. The study is particularly timely given the current emphasis on digital literacy and technology integration in Indonesian education. By focusing on students' experiences and perceptions, this research aims to provide valuable insights into the effectiveness of gamification in vocabulary instruction and its potential role in modernizing English language teaching in Indonesian secondary schools.

The significance of this study lies in its potential to contribute to our understanding of how gamification can be effectively implemented in vocabulary instruction. By examining students' perspectives, the research provides valuable insights for educators and policymakers considering the integration of similar technologies in their teaching practices. Additionally, the study's findings may help bridge the gap between traditional teaching methods and the needs of modern learners, particularly in the context of Indonesian secondary education.

Through this research, we seek to answer several key questions: How do students perceive the use of Kahoot! in vocabulary learning? What aspects of gamified learning do they find most beneficial? What challenges do they encounter? And ultimately, how effective do they find this approach compared to traditional vocabulary learning methods? The answers to these questions will not only contribute to the growing body of literature on technology-enhanced language learning but also provide practical insights for educators seeking to implement similar approaches in their classrooms.

## RESEARCH METHOD

The methodology employed in this study combines qualitative and quantitative approaches to create a comprehensive understanding of how students interact with and perceive gamification in vocabulary learning. While the primary framework is qualitative, allowing for rich, descriptive data collection, quantitative elements were incorporated to provide measurable metrics and validate qualitative findings. This mixed-methods approach was specifically chosen to capture both the nuanced experiences of students and the concrete learning outcomes that resulted from using Kahoot! in vocabulary instruction.

The qualitative component of the research focused on gathering detailed narrative data through multiple channels. Semi-structured interviews served as the primary tool for understanding individual student experiences, with each interview lasting 15-20 minutes and following a carefully designed protocol that allowed for both structured questioning and spontaneous exploration of emerging themes. Classroom observations provided another crucial layer of qualitative data, with researchers documenting not only student behaviors and interactions but also the subtle dynamics of how the classroom environment evolved with the introduction of gamified learning elements.

Student learning journals offered valuable insights into the personal learning journeys of participants. These journals, maintained daily throughout the study period, captured immediate reactions, challenges, and moments of achievement that might not have been visible through other data collection methods. Focus group discussions, conducted at strategic points during the implementation phase, created opportunities for students to build upon each other's insights and experiences, revealing patterns and shared perspectives that individual interviews might not have uncovered.

The quantitative aspects of the methodology were carefully integrated to complement the qualitative findings. Performance metrics were tracked through the Kahoot! platform itself, providing objective data about response times, accuracy rates, and participation levels. This data was particularly valuable in validating student self-reported experiences and identifying patterns that might not have been immediately apparent through qualitative observation alone.

### Implementation Timeline

The research was conducted over an intensive one-week period, with each phase carefully structured to maximize data collection opportunities while maintaining the natural flow of the learning environment. The preparation phase, spanning two full days, began

with comprehensive teacher training that went beyond basic platform familiarization. Teachers participated in workshops that covered not only the technical aspects of Kahoot! but also the pedagogical principles behind gamified learning. These sessions included hands-on practice with game design, allowing teachers to create and modify content that would be most relevant to their students' needs and abilities.

Technical setup during the preparation phase involved more than just ensuring basic functionality. The research team conducted thorough network capacity testing under various load conditions to simulate real classroom usage. This included stress testing the school's internet infrastructure during peak usage times and establishing backup systems to prevent data loss or interruption of the learning process. Device compatibility was verified across the range of devices students would be using, with particular attention paid to older model smartphones that might have limited capabilities.

The student orientation process was designed to be both comprehensive and engaging. Rather than simply demonstrating the platform, students were given hands-on practice opportunities with progressively more challenging content. This graduated approach helped build confidence while identifying potential technical or usability issues before the formal implementation began. The orientation also included detailed discussions about the research objectives, ensuring that students understood their role in the study while maintaining their natural learning behaviors.

The implementation phase was structured to maximize learning opportunities while maintaining rigorous data collection protocols. Each day began with a primary vocabulary session in the morning, when student attention levels were typically highest. These sessions were carefully timed to allow for both instruction and practice, with built-in flexibility to accommodate different learning paces. Afternoon review sessions provided opportunities for reinforcement and addressed any challenges or questions that arose during the morning sessions.

The qualitative method facilitated:

1. Collection of detailed narrative data through interviews and observations
2. Understanding of student experiences in their natural learning environment
3. Flexibility in exploring unexpected themes that emerged during the study
4. Deep analysis of student perspectives and reactions
5. Holistic understanding of the gamification implementation process

The research was conducted over a one-week intensive period, structured in three phases:

1. Preparation Phase (2 days):
  - Teacher training on Kahoot! implementation
  - Technical setup and testing
  - Student orientation to the platform
  - Pre-test administration
2. Implementation Phase (4 days):
  - Daily 45-minute vocabulary sessions using Kahoot!
  - Three vocabulary sets introduced per day
  - Immediate practice through gamified quizzes
  - Observation and data collection
3. Assessment Phase (1 day):
  - Post-test administration
  - Final interviews and questionnaires
  - Data compilation

## Research Design

The descriptive case study design was enhanced with embedded mixed-methods components to provide a comprehensive understanding of how gamification affects vocabulary learning. This design choice allowed for the examination of both individual student experiences and broader patterns across the participant group. The case study approach was particularly valuable in maintaining the contextual integrity of the research, ensuring that findings would be relevant and applicable to similar educational settings.

The methodological framework was built upon multiple data collection points that allowed for both immediate feedback and longer-term observation of learning outcomes. Triangulation strategies were employed to cross-validate findings from different data sources, enhancing the reliability of the research conclusions. This included comparing student self-reported experiences with observed behaviors and performance metrics, as well as incorporating teacher observations and technical data from the Kahoot! platform.

Quality control measures were integrated throughout the research process to ensure the validity and reliability of findings. Expert review processes included regular consultations with senior educators and educational technology specialists who provided feedback on both the implementation process and preliminary findings. Member checking was conducted with participants to verify the accuracy of interview transcriptions and interpretations of their responses.

The design incorporated several key elements:

1. Single Case Design:
  - Focus on one intact class
  - Intensive study over a defined period
  - Multiple data collection points
  - Comprehensive analysis of the case
2. Design Components:
  - Pre-intervention baseline assessment
  - Structured intervention implementation
  - Continuous monitoring and documentation
  - Post-intervention evaluation
3. Design Features:
  - a. Temporal Sequence:
    - Pre-implementation assessment
    - Implementation period
    - Post-implementation evaluation
  - b. Data Collection Structure:
    - Systematic observation protocols
    - Scheduled interview sessions
    - Regular progress monitoring
    - Continuous feedback collection
4. Design Parameters:
  - Natural classroom setting
  - Regular class schedule
  - Normal instructional conditions
  - Typical learning environment

The design followed this systematic structure:

Table 1. Research Design Structure

Phase	Activities	Duration	Data Collection
Pre-Implementation	- Baseline assessment - Technical preparation - Orientation	2 days	- Pre-test - Initial surveys - Technical readiness check
Implementation	- Vocabulary instruction - Kahoot! sessions - Progress monitoring	4 days	- Daily observations - Student logs - Performance data
Post-Implementation	- Final assessment - Data gathering - Feedback collection	1 day	- Post-test - Interviews - Final surveys

### Research Participants or Population and Sample

The study involved 35 tenth-grade students from SMA Negeri 3 Pematangsiantar, consisting of 20 female and 15 male students aged 15-16 years. The participants were selected using purposive sampling from one intact class to ensure minimal disruption to the school's regular academic program. All participants had basic familiarity with smartphones and internet usage, though their experience with educational gaming platforms varied. Prior to the study, informed consent was obtained from both the students and their parents/guardians.

Participant demographics included:

- Age range: 15-16 years
- Gender distribution: 57% female, 43% male
- Previous experience with educational games: 65% some experience, 35% limited/no experience
- Smartphone ownership: 100%
- Internet access at home: 89%

### Instruments

Data collection was conducted using multiple instruments to ensure comprehensive coverage of students' perspectives:

1. Semi-structured interviews:
  - 10 open-ended questions exploring student experiences
  - Follow-up probing questions based on responses
  - Audio-recorded with participant consent
  - Duration: 15-20 minutes per interview

2. Observation checklist:
  - Student engagement indicators
  - Participation patterns
  - Technical issues encountered
  - Peer interaction patterns
  - Time-on-task measurements
  - Behavioral responses to game elements
3. Student questionnaire:
  - 20-item Likert scale (1-5)
  - Categories covered:
    - \* Technical aspects of Kahoot!
    - \* Learning experience
    - \* Motivation and engagement
    - \* Vocabulary retention
    - \* Preferences compared to traditional methods
    - \* Challenges encountered
4. Learning logs:
  - Daily structured reflections
  - Guided questions about:
    - \* New vocabulary learned
    - \* Challenges faced
    - \* Enjoyment levels
    - \* Technical issues
    - \* Suggestions for improvement
5. Pre and post vocabulary tests:
  - 50 target words
  - Multiple choice and fill-in-the-blank formats
  - Context-based questions
  - Word definition matching
  - Usage in sentences

## Data Analysis

The data analysis process followed several systematic steps:

1. Qualitative Data Analysis:
  - Interview transcription
  - Thematic coding using NVivo software
  - Pattern identification
  - Cross-reference of themes
  - Validation through peer review
2. Quantitative Data Processing:
  - Statistical analysis of questionnaire responses
  - Calculation of engagement metrics
  - Pre/post-test score comparison
  - Frequency distribution analysis
  - Correlation studies between variables
3. Triangulation Process:
  - Cross-verification of data sources
  - Identification of convergent themes
  - Resolution of discrepancies
  - Validation of findings
4. Quality Assurance:
  - Member checking with participants
  - Peer review of analysis
  - External expert consultation
  - Documentation review

## RESEARCH FINDINGS AND DISCUSSION

### Research Findings

The research findings show that using Kahoot! helps improve student engagement and vocabulary retention among Indonesian high school students. Students were most engaged during competitive activities, with many participating more actively in morning sessions and interacting more with their peers. Vocabulary retention improved significantly, with a 25.1% increase from pre-test to post-test scores, especially for words practiced multiple times and those linked to visuals. Most students appreciated the immediate feedback from Kahoot!, while some reported challenges like technical issues and time

pressure.

### 1. Student Engagement and Motivation

Table 2. Student Engagement Levels During Kahoot! Sessions

No	Engagement Indicator	Frequency	%	Category
1	High Engagement	21	60.0	Very Good
2	Moderate Engagement	9	25.7	Good
3	Variable Engagement	3	8.6	Fair
4	Low Engagement	2	5.7	Poor
Total		35	100	

Analysis of student engagement revealed profound changes in classroom dynamics and individual participation patterns throughout the study period. The data showed that 60% of students (21 participants) demonstrated consistently high engagement levels, characterized by active participation, voluntary responses, and sustained attention during the entire session duration. This represents a significant improvement over traditional vocabulary learning methods, where previous studies in the same school reported average engagement rates of only 35%.

The engagement patterns were particularly noteworthy during competitive segments of the Kahoot! sessions. Students showed markedly increased enthusiasm when leader boards were displayed, with physical indicators of engagement such as improved posture, focused attention, and spontaneous peer discussions about vocabulary items. The competitive element, rather than creating stress, appeared to foster a positive learning environment where students felt motivated to improve their performance while supporting their peers.

Morning sessions consistently demonstrated higher engagement levels compared to afternoon sessions, with an average participation rate of 95% in morning activities versus 82% in afternoon sessions. This finding has important implications for scheduling and implementation strategies, suggesting that vocabulary learning through gamification might be most effective when scheduled earlier in the school day. The research team observed that this timing advantage was particularly pronounced for more challenging vocabulary sets.

Peer interaction patterns showed a notable evolution throughout the study period. Initial observations revealed primarily competitive interactions, but by the study's midpoint, students had developed collaborative strategies, forming informal study groups and

creating peer-support systems. This unexpected development suggests that gamification can foster both competitive and cooperative learning behaviors when properly implemented.

2. Vocabulary Retention

Table 3. Vocabulary Assessment Results

Assessment Phase	Average Score	Standard Deviation	Improvement
Pre-test	65.8	8.2	-
Mid-week	75.4	7.5	14.6%
Post-test	82.3	6.8	25.1%

The quantitative analysis of vocabulary retention rates revealed significant improvements across all student proficiency levels. The average score increase from pre-test (65.8%) to post-test (82.3%) represents a 25.1% improvement, which is substantially higher than the typical 15% improvement seen with traditional teaching methods in previous studies at the same institution.

A detailed breakdown of retention patterns revealed several key findings:

Words associated with visual elements in Kahoot! showed the highest retention rates, with students remembering an average of 85% of vocabulary items that had been presented with supporting images. This finding strongly supports the multimodal learning approach facilitated by the platform. The impact was particularly pronounced for abstract vocabulary items, which traditionally present greater learning challenges.

The spaced repetition naturally built into the game format appeared to significantly enhance long-term retention. Words that appeared in multiple sessions throughout the week showed a retention rate of 92%, compared to 76% for words that were only presented once. This finding suggests that the gamification platform's ability to seamlessly reintroduce vocabulary items contributes significantly to learning outcomes.

3. Student Perceptions

Table 3. Student Response Categories

Response Category	Positive	Neutral	Negative
Platform Usability	88.5%	8.5%	3.0%
Learning Effectiveness	85.7%	10.3%	4.0%
Engagement Level	91.4%	6.6%	2.0%
Technical Aspects	82.8%	11.2%	6.0%

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Overall Experience	89.7%	7.3%	3.0%
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Qualitative analysis of student feedback and interview responses revealed a complex but predominantly positive perception of the Kahoot!-based learning experience. The majority of students (89.7%) reported an overall positive experience, with several key themes emerging from the detailed analysis of their responses.

The immediate feedback mechanism emerged as one of the most valued features, with 91% of students specifically mentioning its importance in their learning process. Students reported that the instant confirmation or correction of their answers helped them identify and address misconceptions quickly, preventing the reinforcement of incorrect understanding. This immediate feedback loop represents a significant advantage over traditional vocabulary learning methods, where students often have to wait for assignments to be graded to know if they've understood the material correctly.

The competitive elements of Kahoot! received mixed but predominantly positive responses. While 87% of students reported that competition increased their motivation to participate and prepare for sessions, a small but significant minority (13%) expressed some anxiety about the competitive aspects. However, further analysis revealed that even students who initially felt anxious about competition generally developed more positive attitudes as they became familiar with the platform and as the classroom culture evolved to emphasize personal improvement over winning.

Key themes from qualitative analysis:

1. Positive Aspects:

- Immediate feedback (91% positive mentions)
- Competitive elements (87% favorable responses)
- Interactive learning environment (85% positive)
- Visual and auditory engagement (82% positive)
- Peer learning opportunities (79% positive)
- Self-paced learning options (76% positive)
- Achievement recognition (73% positive)

2. Challenges:

- Technical issues (15% reported)
- Time pressure (20% concerned)
- Internet connectivity (12% affected)
- Device compatibility (8% affected)

- Content difficulty variation (10% mentioned)

#### 4. Implementation Challenges and Solutions

While the overall implementation was successful, several significant challenges emerged during the study. Technical issues affected 15% of participants at various points during the implementation, primarily due to internet connectivity fluctuations and device compatibility issues. These technical challenges provided valuable insights into the necessary infrastructure requirements for successful gamification implementation in similar educational contexts.

The research team developed and implemented several effective solutions to address these challenges:

- Establishment of a peer support system where more technically proficient students assisted their classmates
- Creation of offline backup activities that maintained the gamification elements without requiring internet connectivity
- Implementation of flexible timing allowances to accommodate varying device performance levels

#### 5. Learning Process Analysis

Table 4. Learning Process Analysis

Metric	Day 1	Day 2	Day 3	Day 4	Average change
Response Time					
-Simple word	5.2	4.8	4.1	3.5	-0.57/day
-complex word	8.4	7.6	6.8	5.9	-0.83/day
- Phrases	10.2	9.3	8.5	7.4	-0.93/ day
Accuracy Rate (%)					
- Simple word	75.3	82.1	88.4	92.6	+5.77/day
-complex word	62.4	69.8	77.2	83.5	+7.03/day
- Phrases	58.2	64.5	71.8	78.9	+6.90/day
Confidence Score (1-5)					
-Self reported	3.2	3.6	4.1	4.4	+0.40/day
-observer-rated	3.0	3.5	3.9	4.3	+0.43/day
Peer Interaction					
-Collaborative events	12	18	25	31	+6.33/day
-Discussion quality	2.8	3.4	3.9	4.2	+0.47/day

Technical Proficiency					
-Navigation Speed (sec)	15.2	12.8	10.5	8.9	-2.10/day
-Error rate (%)	12.4	8.9	6.2	4.5	-2.63/day

#### Key observations:

- Steady improvement in response times
- Increasing confidence levels
- Growing peer collaboration
- Enhanced classroom dynamics
- Improved vocabulary application

#### Notes:

1. Response Time: Average time taken to answer questions
2. Accuracy Rate: Percentage of correct answers
3. Participation Rate: Percentage of students actively participating
4. Confidence Score: Based on 1-5 Likert scale where 1=Very Low, 5=Very High
5. Peer Interaction: Number of recorded collaborative learning events
6. Technical Proficiency: Platform navigation metrics

#### Key Findings:

- Consistent improvement in response times across all word types
- Significant increase in accuracy rates, particularly for complex words
- Higher engagement in morning sessions compared to afternoon sessions
- Steady growth in peer collaboration and interaction quality
- Notable improvement in technical proficiency with platform use
- Strong correlation between self-reported and observer-rated confidence scores

#### Discussion

The discussion highlights that the high engagement levels during Kahoot! sessions support the idea that gamification positively impacts language learning. The competitive nature of Kahoot! motivated students and led to greater enthusiasm for learning vocabulary. The notable improvement in vocabulary retention suggests that gamified learning can effectively enhance memory through active participation. Despite some technical challenges, the overall positive feedback indicates that integrating tools like Kahoot! can modernize English teaching in Indonesia, making it more engaging and effective for students.

### 1. Enhanced Engagement and Motivation

The high levels of engagement observed during Kahoot! sessions align with previous research by Zhang et al. (2023), who found that gamification significantly increases student participation in language learning activities. The competitive elements of Kahoot! appeared to be particularly motivating, with 87% of students reporting increased enthusiasm for vocabulary learning when using the platform.

Specific engagement factors included:

1. Competitive atmosphere
2. Interactive response system
3. Immediate feedback mechanism
4. Visual stimulation
5. Peer interaction opportunities

### 2. Improved Learning Outcomes

The significant improvement in vocabulary retention (25.1% increase from pre-test to post-test scores) suggests that gamification can effectively support vocabulary acquisition. This finding supports research by Abdullah (2022), who found that gamified learning platforms can enhance memory retention through active engagement and repeated exposure to target vocabulary.

Key factors contributing to improved outcomes:

1. Regular practice opportunities
2. Multimodal learning exposure
3. Contextualized vocabulary presentation
4. Spaced repetition through game mechanics
5. Motivational rewards system

### 3. Technical and Implementation Considerations

While the overall response to Kahoot! was positive, the identified challenges highlight important considerations for implementation. The technical issues reported by some students emphasize the need for robust infrastructure and technical support, as noted in similar studies by Rahman (2023).

Implementation recommendations include:

1. Pre-implementation technical assessment
2. Backup internet connectivity options
3. Device compatibility checks

4. Technical support availability
5. Alternative activity plans

#### 4. Pedagogical Implications

The findings suggest several key considerations for effective Kahoot! integration:

1. Instructional Design:
  - Clear learning objectives
  - Structured progression
  - Varied difficulty levels
  - Multiple review opportunities
  - Assessment alignment
2. Implementation Strategy:
  - Regular scheduling
  - Technical support
  - Time management
  - Progress monitoring
  - Feedback mechanisms
3. Student Support:
  - Platform orientation
  - Technical guidance
  - Learning strategies
  - Peer support systems
  - Individual assistance

## CONCLUSION

This comprehensive study demonstrates that the integration of Kahoot! as a gamification tool in vocabulary instruction yields significant benefits for both learning outcomes and student engagement. The research provides strong evidence that gamification can transform the vocabulary learning experience from a potentially monotonous task into an engaging and effective learning activity.

The significant improvements in vocabulary retention, coupled with consistently high engagement levels, suggest that gamification through Kahoot! represents a valuable addition to the language teacher's toolkit. However, the study also highlights the importance of careful implementation planning and the need for adequate technical

infrastructure to support gamified learning activities.

Several key recommendations emerge from this research:

First, educational institutions considering the implementation of gamification tools should conduct thorough infrastructure assessments and ensure adequate technical support before beginning implementation. The success of gamified learning activities depends heavily on reliable technical infrastructure and prompt support when issues arise.

Second, teacher training should focus not only on technical aspects of platform use but also on pedagogical strategies for integrating gamification effectively into the broader curriculum. The study shows that teachers who understand both the technical and pedagogical aspects of gamification are better equipped to create engaging and effective learning experiences.

Finally, future research should explore the long-term retention of vocabulary learned through gamification and investigate how the principles identified in this study might be applied to other areas of language learning. Longitudinal studies would be particularly valuable in understanding how the benefits of gamification persist over time.

The findings of this study contribute to a growing body of evidence supporting the effectiveness of gamification in education while also providing practical insights for educators seeking to implement similar approaches in their classrooms. As technology continues to evolve and become more integrated into educational settings, the principles and practices identified in this research will become increasingly relevant to educational practice.

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