

Kahoot Gamification: Fostering Critical Thinking in Arabic Listening Comprehension

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Abstract

In the era of digital transformation, education increasingly demands innovative pedagogical approaches that not only enhance language proficiency but also cultivate students' critical thinking skills. This study explores how Kahoot gamification supports the development of critical thinking in Arabic listening comprehension. The research employed a qualitative approach with a single instrumental case study design to examine the integration of Kahoot-based learning activities and their cognitive outcomes. Data were collected through participant observation, documentation, and interviews involving 39 undergraduate students from the Faculty of Sharia, UIN Maulana Malik Ibrahim Malang, class of 2024. The data were analyzed using the interactive model of Miles and Huberman to identify indicators of critical thinking based on Facione's six dimensions: interpretation, analysis, evaluation, inference, explanation, and self-regulation. The findings revealed that Kahoot gamification was implemented through four learning activities: song playback, simple dialogue, short film, and short story. Each activity stimulated distinct aspects of critical thinking, with song and short film activities generating the most active responses. The study suggests that Kahoot gamification may serve as an effective pedagogical tool to foster engagement and higher-order thinking in Arabic listening instruction, particularly for beginner-level learners.

Abstrak

Di era transformasi digital, pendidikan semakin menuntut penerapan pendekatan pedagogis inovatif yang tidak hanya meningkatkan kemampuan berbahasa, tetapi juga menumbuhkan keterampilan berpikir kritis mahasiswa. Penelitian ini bertujuan untuk mengeksplorasi bagaimana gamifikasi Kahoot dapat mendukung pengembangan berpikir kritis dalam keterampilan menyimak bahasa Arab. Penelitian ini menggunakan pendekatan kualitatif dengan desain studi kasus instrumental tunggal untuk menelaah integrasi aktivitas pembelajaran berbasis Kahoot dan hasil kognitif yang dihasilkan. Data dikumpulkan melalui observasi partisipatif, dokumentasi, dan wawancara terhadap 39 mahasiswa Fakultas Syariah UIN Maulana Malik Ibrahim Malang angkatan 2024. Analisis data menggunakan model interaktif Miles dan Huberman untuk mengidentifikasi indikator berpikir kritis berdasarkan enam dimensi Facione, yaitu interpretasi, analisis, evaluasi, inferensi, penjelasan, dan pengaturan diri. Hasil penelitian menunjukkan bahwa gamifikasi Kahoot diimplementasikan melalui empat kegiatan pembelajaran: pemutaran lagu, dialog sederhana, film pendek, dan cerita pendek. Setiap kegiatan memunculkan aspek berpikir kritis yang berbeda, dengan kegiatan lagu dan film pendek menghasilkan respons paling aktif. Studi ini menyimpulkan bahwa gamifikasi Kahoot berpotensi menjadi strategi pedagogis yang efektif dalam meningkatkan keterlibatan dan berpikir tingkat tinggi dalam pembelajaran menyimak bahasa Arab, khususnya bagi mahasiswa tingkat pemula.

المخلص

في عصر التحول الرقمي، تزداد الحاجة في ميدان التعليم إلى تبني مناهج تربوية مبتكرة لا تقتصر على تنمية الكفاءة اللغوية فحسب، بل تسعى أيضا إلى تعزيز مهارات التفكير النقدي لدى الطلاب. تهدف هذه الدراسة إلى استكشاف كيفية مساهمة أسلوب "كاهوت" القائم على مبدأ التلعيب في تنمية مهارات التفكير النقدي ضمن مهارة الاستماع باللغة العربية. استخدمت الدراسة المنهج النوعي بتصميم دراسة حالة أدوات مفردة، لتحليل دمج أنشطة التعلم القائمة على "كاهوت" ونتائجها المعرفية. تم جمع البيانات من خلال الملاحظة التشاركية، والتوثيق، والمقابلات مع ٣٩ طالبا جامعيًا من كلية الشريعة بجامعة مولانا مالك

إبراهيم الإسلامية الحكومية مالانج، دفعة عام ٢٠٢٤. تم تحليل البيانات وفق نموذج مايلز وهوبرمان التفاعلي لتحديد مؤشرات التفكير النقدي استنادا إلى الأبعاد الستة لفاسيوني، وهي: التفسير، التحليل، التقييم، الاستدلال، الشرح، والتنظيم الذاتي. أظهرت النتائج أن تطبيق التلعيب عبر "كاهوت" تضمن أربع أنشطة تعليمية هي: تشغيل الأغاني، الحوار البسيط، الفيلم القصير، والقصة القصيرة، وكل نشاط منها حفز جانبا مختلفا من مهارات التفكير النقدي، حيث برزت الأغاني والأفلام القصيرة بأكثر نسبة من الاستجابات النشطة. وتخلص الدراسة إلى أن التلعيب باستخدام "كاهوت" يمكن أن يشكل أداة تربوية فعالة لتعزيز التفاعل وتنمية مهارات التفكير العليا في تعليم مهارة الاستماع باللغة العربية، خصوصا لدى المتعلمين المبتدئين.

Keywords: Arabic language learning; Arabic listening comprehension; critical thinking; digital pedagogy; Kahoot gamification

Introduction

Advances in digital technology have significantly transformed the education sector, leading to the emergence of e-learning and gamification as key pedagogical tools.¹ Gamification, a form of applying game design elements to non-game contexts, is increasingly being adopted in education due to its ability to increase student motivation, engagement, and learning outcomes.² The use of gamification in learning continues to experience significant development, leveraging AI and personalized learning experiences to enhance student attention and engagement. According to the Global e-Learning

¹ Amina Khaldi, Rokia Bouzidi, and Fahima Nader, "Gamification of E-Learning in Higher Education: A Systemic Literature Review," *Smart Learning Environments* 10, no. 10 (2023), <https://doi.org/10.1186/s40561-023-00227-z>.

² Lu Huang et al., "Enabling and Inhibiting Factors of the Continuous Use of Mobile Short Video APP: Satisfaction and Fatigue as Mediating Variables Respectively," *Psychology Research and Behavior Management* 16 (2023): 3001–17, <https://doi.org/10.2147/PRBM.S411337>.

Market Overview, the forecast for technological growth in the education sector is expected to reach 8.56% from 2024 to 2029.³ Consequently, any learning process that requires student involvement and attention requires innovation in learning media, such as gamification, especially in the context of Arabic language learning.

Innovative learning emphasizes various integrations in technological developments, such as gamification, which can create more interactive and enjoyable learning activities in a more conducive learning environment.⁴ Specifically, the application of gamification as a game-based media emphasizes more active student participation, direct feedback, and adaptive learning experiences.⁵ One gamification platform that can be integrated into learning is Kahoot, as it is a platform capable of addressing student challenges by creating a more engaging and interactive learning environment. This platform enables lecturers to create customized quizzes that test students' understanding, incorporating gamification elements such as real-time feedback, competitive leaderboards, and reward-based motivation.⁶ Kahoot can significantly enhance students' ability to analyze and evaluate information, thereby

³ Precedence Research, "E-Learning Services Market Size and Forecast 2025 to 2034," *Precedence Research*, 2025, <https://www.precedenceresearch.com/e-learning-services-market>.

⁴ Huang et al., "Enabling and Inhibiting Factors of the Continuous Use of Mobile Short Video APP: Satisfaction and Fatigue as Mediating Variables Respectively."

⁵ Petrusly et al., "The Effect of Gamification Using Kahoot on Students' Critical Thinking Abilities: The Role of Mediating Learning Engagement and Motivation," *Educational Administration: Theory and Practice* 30, no. 5 (2024), <https://doi.org/10.53555/kuey.v30i5.1524>.

⁶ Agustín Aibar-Almazán et al., "Gamification in The Classroom: Kahoot! As a Tool for University Teaching Innovation," *Frontiers in Educational Psychology* 15 (2024), <https://doi.org/10.3389/fpsyg.2024.1370084>.

improving their critical thinking skills.⁷ Furthermore, this ability can be utilized to create a dynamic environment, encouraging students to process information quickly and facilitating informed decision-making, which are essential components of critical thinking skills.⁸

Critical thinking in the learning process includes cognitive processes that involve logically constructing arguments to reach sound conclusions. According to Fachione, the framework of thinking during the learning process allows students to play an active role by engaging their cognitive skills through six main aspects: interpretation, analysis, evaluation, inference, explanation, and self-regulation.⁹ This exploration of critical thinking in the second language learning process has pedagogical implications that contribute to the development of critical thinking in the context of Arabic as a second language and enhance scientific understanding by revealing student participation through explicit and exploratory reasoning.¹⁰ Therefore, the process of students receiving this learning involves stimulating their critical thinking skills—especially in the field of language, where a deep understanding of structure and meaning is essential.

⁷ Afra Siti Annisa Ponna et al., “Kemampuan Berpikir Kritis Melalui Metode Predict-Observe-Explain Berbantuan Aplikasi Kahoot,” *Jurnal Perspektif* 6, no. 1 (2022): 41–51, <https://doi.org/10.15575/jp.v6i1.166>.

⁸ Shurui Bai, Khe Foon Hew, and Biyun Huang, “Does Gamification Improve Student Learning Outcome? Evidence from a Meta-Analysis and Synthesis of Qualitative Data in Educational Contexts,” *Educational Research Review* 30 (2020): 100322, <https://doi.org/10.1016/j.edurev.2020.100322>.

⁹ Peter A. Facione, “Critical Thinking: What It Is and Why It Counts,” *Insight Assessment*, 2015, <https://www.law.uh.edu/blakely/advocacy-survey/CriticalThinkingSkills.pdf>.

¹⁰ Weijun Liang and Dennis Fung, “Fostering Critical Thinking in English-as-a-Second-Language Classrooms: Challenges and Opportunities,” *Thinking Skills and Creativity* 39 (2021): 100769, <https://doi.org/10.1016/j.tsc.2020.100769>.

The development of innovative learning media in Arabic language learning through gamification has implicitly created a learning environment that actively engages students, encouraging the development of critical thinking skills by incorporating interactive, immersive, and reflection-based learning experiences that promote cognitive development.¹¹ For students beginning to learn Arabic, gamification can help overcome challenges often faced by students in the critical thinking process, such as limited exposure to spoken language and cognitive and psychological barriers, including anxiety and lack of self-confidence.¹² The integration of technology in this interactive learning media makes gamification able to increase motivation, strengthen spoken language processing, and help students develop a deeper understanding of the phonetic and syntactic structures of Arabic.¹³ Thus, gamification not only serves as a learning medium for students but also as an effective means to develop critical thinking skills in language mastery, especially in Arabic.

The use of gamification in Arabic language learning has generally demonstrated its effectiveness in increasing student engagement and motivation, which also implicitly emphasizes the development of critical thinking skills through metacognition and analytical processes.¹⁴ Several studies on

¹¹ Jing Du et al., "Enhancing Online Learning Through Multi-Agent Debates for CS University Students," *Applied Sciences* 15, no. 11 (2025): 5877, <https://doi.org/10.3390/app15115877>.

¹² Lisa-Maria Putz, Florian Hofbauer, and Horst Treiblmaier, "Can Gamification Help to Improve Education? Findings from a Longitudinal Study," *Computers in Human Behavior* 110 (2020): 106392, <https://doi.org/10.1016/j.chb.2020.106392>.

¹³ Siti Rohani Jasni, Suahila Zailani, and Hakim Zainal, "Pendekatan Gamifikasi Dalam Pembelajaran Bahasa Arab," *JFatwa: Journal of Fatwa Management and Research* 13, no. 1 (2018), <https://doi.org/10.33102/jfatwa.vol13no1.165>.

¹⁴ Xieling Chen et al., "Metacognition Research in Education: Topic Modeling and Bibliometrics," *Educational Technology Research and*

the use of gamification in Arabic language learning and critical thinking provide an argumentative basis that can be grouped into three main categories: (a) gamification is proven to encourage retention of understanding and learning motivation by showing the existence of intrinsic motivation and language achievement through involvement and mastery of language;¹⁵ (b) the involvement of gamification in this learning creates decisions based on critical thinking and independent reflection of students to be able to build knowledge and develop their critical thinking by encouraging real knowledge and skills in solving problems;¹⁶ (c) the use of gamification can support second language learning according to the needs of students and educators in bridging the gap between learning and educational practice in a more fun, interesting, and motivating way.¹⁷ Overall, previous research further highlights the importance of incorporating gamification and critical thinking in second language learning. This study, which builds

Development 73, no. 3 (2025): 1399–1427, <https://doi.org/10.1007/s11423-025-10451-8>.

¹⁵ Abdullah Alamer and Fakieh Alrabai, "The Causal Relationship between Learner Motivation and Language Achievement: New Dynamic Perspective," *Applied Linguistics* 44, no. 1 (2023): 148–68, <https://doi.org/10.1093/applin/amac035>.

¹⁶ Tariq G. Al-Mutairi, "Inspecting The Role of Learning Platforms, Gamification, and Diverse Teaching Approaches in Improving Vocabulary Acquisition, Critical Thinking, and Student Engagement in Education," *Journal of Research Studies in English Language Teaching and Learning* 2, no. 5 (2024): 283–95, <https://doi.org/10.62583/rselt.v2i5.59>; Claudia Viviana Angelelli et al., "Developing Critical Thinking Skills Through Gamification," *Thinking Skills and Creativity* 49 (2023): 101354, <https://doi.org/10.1016/j.tsc.2023.101354>.

¹⁷ Hojjat Dehghanzadeh et al., "Using Gamification to Support Learning English as a Second Language: A Systematic Review," *Computer Assisted Language Learning* 34, no. 7 (2021): 934–57, <https://doi.org/10.1080/09588221.2019.1648298>; Pawarit Pingmuang and Prakob Koraneekij, "Mobile-Assisted Language Learning Using Task-Based Approach and Gamification for Enhancing Writing Skills in EFL Students," *EJEL: The Electronic Journal of e-Learning* 20, no. 5 (2022): 623–38, <https://doi.org/10.34190/ejel.20.5.2339>.

on earlier research, focuses on the use of Kahoot gamification for Arabic listening skills, identifying the emergence of students' critical thinking during their learning process. The identification of critical thinking takes into account Facione's six cognitive skills,¹⁸ and indicators of Arabic listening skills.

This study offers innovations that contribute to both pedagogical and research endeavors. The pedagogical contribution of this study lies in the realm of Arabic language learning, where gamification is integrated through the Kahoot platform to develop students' high-level critical thinking skills in Arabic listening activities. Meanwhile, the research contribution refers to the practical application of Facione's critical thinking framework in the context of Arabic language learning with gamification-based digital pedagogical practices. However, this study also acknowledges the limitations of gamification, such as the potential for shallow engagement when students prioritize scores or speed of answering over understanding the meaning, as well as the risk of excessive competition that can also hinder critical reflection and collaboration. Considering these aspects, this study aims to demonstrate how gamification can be optimized not only as a competitive tool but also as a reflective medium that fosters metacognitive awareness in Arabic listening.¹⁹ The focus of this study is to reveal the emergence of students' critical thinking processes during the use of Kahoot in Arabic listening skills.

In line with the theoretical framework, this study employed a qualitative single instrumental case study to explore how Kahoot gamification fosters critical thinking

¹⁸ Facione, "Critical Thinking: What It Is and Why It Counts."

¹⁹ Sultan A. Almelhes, "Gamification for Teaching The Arabic Language to Non-Native Speakers: A Systematic Literature Review," *Frontiers in Education* 9 (2024), <https://doi.org/10.3389/feduc.2024.1371955>.

during Arabic listening activities.²⁰ The instrumental nature of this case refers to its role in representing broader pedagogical innovations in Arabic language learning through gamified platforms. The participants consisted of 39 undergraduate students from the Faculty of Sharia, UIN Maulana Malik Ibrahim Malang, class of 2024, who were enrolled in a special Arabic language development course. They were selected using purposive sampling, considering their regular participation in Kahoot-based listening sessions and beginner-to-intermediate proficiency levels in Arabic.

Data were collected over three observation cycles (each lasting approximately 90 minutes), supported by field notes, screenshots of Kahoot activities, student reflective journals, and documentation of learning outcomes. The process aimed to identify the emergence of students' critical thinking indicators throughout the listening activities. The data were analyzed using the interactive model of Miles and Huberman,²¹ consisting of three stages: (1) data reduction: coding students' responses and reflections based on Facione's six indicators of critical thinking (interpretation, analysis, evaluation, inference, explanation, and self-regulation); (2) data display: organizing coded excerpts into matrices linking critical thinking indicators to four Kahoot-based learning activities; and (3) conclusion drawing and verification: revisiting the emerging patterns through iterative comparison and theoretical alignment. The credibility of the findings was ensured through data triangulation (observation, documentation, and reflection) and peer debriefing among

²⁰ Robert K. Yin, *Studi Kasus: Desain & Metode* (Jakarta: PT Raja Grafindo Persada, 2012).

²¹ Matthew B. Miles, A. Michael Huberman, and Johnny Saldana, *Qualitative Data Analysis: A Methods Sourcebook*, 3rd ed. (California: SAGE Publications, Inc, 2014).

researchers to enhance the consistency and trustworthiness of interpretations.

Results

Learning Activities in Kahoot Gamification

The use of Kahoot gamification for Arabic language students has been developed and implemented to enhance listening skills, fostering the development of critical thinking in students. The use of Kahoot as a gamification medium fosters various aspects of critical thinking during the learning process, including interpretation (breaking down information and understanding its relationships), analysis (explaining the meaning of information), evaluation (assessing the credibility and relevance of sources), inference (drawing conclusions based on evidence), explanation (conveying understanding clearly), and self-regulation (reflecting and adjusting the thinking process). This shows that the application of each gamification element in the learning process must be tailored to the objectives and characteristics of the designed activity. Based on this, the listening skills learning activities developed with Kahoot gamification are divided into four activities, including: playing songs, simple dialogue, short film, and short story.

Playing Songs

The use of Arabic songs in this Kahoot gamification activity not only increased student motivation but also stimulated critical thinking processes, strengthening academic competencies and supporting the development of students' cognitive and social skills during the listening activity.²²

²² Meng Chen, Mohammad Mohammadi, and Siros Izadpanah, "Language Learning Through Music on the Academic Achievement, Creative Thinking, and Self-Esteem of the English as a Foreign Language (EFL) Learners," *Acta Psychologica* 247 (2024): 104318, <https://doi.org/10.1016/j.actpsy.2024.104318>.

Through song lyrics that convey connotative meanings and implicit messages, students were encouraged to interpret, evaluate, and draw conclusions about the cultural context and the implied meanings. Educational songs about the Arabic alphabet and the seasons were used in the Kahoot-based listening activity. Analysis showed that students improved vocabulary retention and demonstrated inference skills by identifying implied meanings in the lyrics and descriptions of the seasons. For example, in response to the song "شجرة الفصول," several students correctly inferred the symbolic meaning of seasonal changes. They connected them to emotional states, as reflected in their quiz responses and verbal explanations. One student noted, "الشتاء هادئ لكنه يجعلني أشعر بالوحدة"—demonstrating linguistic understanding and personal interpretation. These activities also encouraged self-regulation, as students revised their initial answers after discussion and feedback with peers, demonstrating reflective thinking aligned with Facione's framework.

Figure 1
Playing Songs Activity



During the learning process, the lecturer first introduces new vocabulary by pronouncing each word. Next, students are asked to observe the words the lecturer has pronounced and repeat them accurately three times. After the repetition process, students are requested to understand the meaning of

each word. The lecturer also demonstrates this through a series of sentences, and is also assisted by language and body language to emphasize easier understanding. Through this process, students can develop their improvisational skills by arranging vocabulary into coherent sentences. Furthermore, there is an emphasis on knowledge by writing vocabulary to improve fluency in pronouncing sentences in Arabic.

"Learning using songs makes the atmosphere more enjoyable, but also challenging. I have to understand the song to be able to answer the questions. It feels like testing my thinking, not just memorizing." (M2-12, 2024)

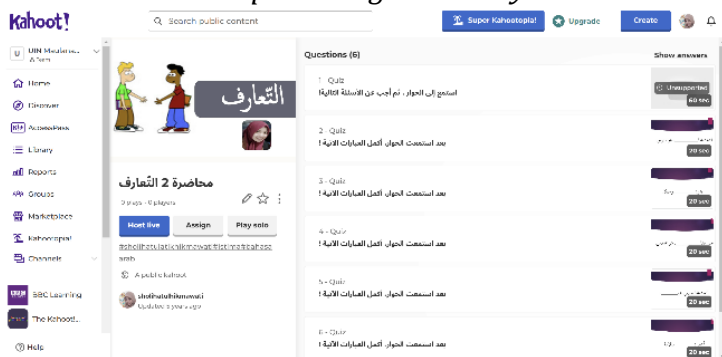
In the student reflection session, the previous statement demonstrated their ability to assess and understand the accuracy of meaning and adjust their interpretation based on the context of the song's sound and intonation. Furthermore, observations also showed that approximately 75% of students were able to correctly identify the implied meaning of song lyrics after playing three to five rounds of the song-based Kahoot game. As many as 25% of students also demonstrated evaluative abilities, such as distinguishing between literal and symbolic meanings in the Arabic context. This data further supports the argument that integrating songs into Kahoot gamification has the potential to foster higher-level critical thinking skills, particularly in the areas of analysis and inference. Thus, songs function not only as an entertainment medium but also as an authentic source that triggers reflection and linguistic awareness in students, supporting the finding that gamification can be a meaningful pedagogical strategy in learning Arabic listening skills.

Simple Dialogue

Dialogue includes a short conversation used as an initial stimulus to practice contextual listening skills. A simple

dialogue activity emphasizes students' learning to understand the meaning of words and phrases, identify the main idea of the dialogue, and evaluate the relevance and accuracy of the information received. Evaluation in this simple dialogue activity is carried out through role-playing, where participants practice the dialogue in a real conversation. At the end of the session, students are encouraged to reflect on the results of their role-playing by discussing the challenges they faced, including new vocabulary learned and strategies that can be used to improve their listening skills. This also confirms that simple dialogue-based learning, especially in everyday life, emphasizes dialogic pedagogy that has the potential to develop students' critical thinking skills and exploratory abilities.²³ The simple dialogue display in Kahoot can be seen in Figure 2.

Figure 2
Simple Dialogue Activity



The simple dialogues included in Kahoot also feature practice questions that involve matching statements with answers (matching), choosing the best interpretation of previously listened-to dialogues (polling), and determining the truth of implicit meanings contained in the dialogue (true

²³ Alexandra Laird-Gentle et al., "Systematic Quantitative Literature Review of The Dialogic Pedagogy Literature," *The Australian Journal of Language and Literacy* 46 (2023): 29–51, <https://doi.org/10.1007/s44020-022-00029-9>.

or false). The lecturer facilitates the discussion by asking each student to understand the text based on the short conversation recordings they have listened to. Next, students are asked to create new sentences orally using the same sentence patterns as the brief conversation recordings they have listened to previously. In addition, students also identify the pronunciation spoken to match the simple dialogue sentences, after which each individual is required to say the new sentences aloud and confidently.

This simple dialogue activity, based on Ka-hoot gamification, demonstrated students' evaluative skills, starting with imitating and continuing dialogue fragments, and then assessing the logical consistency between responses from each previous context. In this process, students not only determined whether the answer was correct or incorrect but also evaluated whether the response aligned with the original speaker's intended communication. As many as 68% of students were able to assess the suitability of the meaning and structure of the dialogue logically, which also indicates the students' active involvement in the critical thinking process.

"I realize that my answer sounds convincing, but it doesn't fit the context of the conversation. I need to improve it to be more appropriate." (M5-07, 2024)

"The interpretation of the meaning I conveyed was still unclear, so my pronunciation and intonation still sounded flat." (M2-05, 2024)

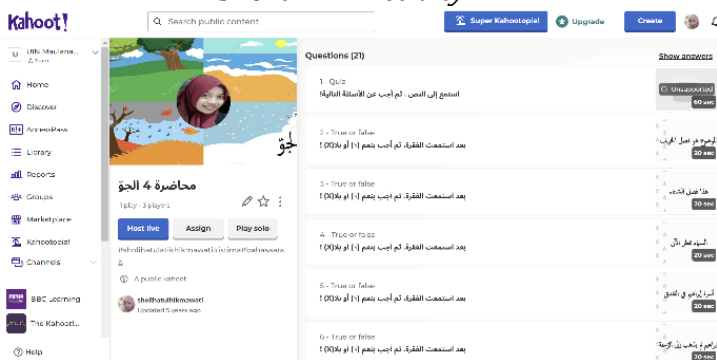
Statements from student reflections indicate the process of evaluation and metacognitive awareness in language use. Furthermore, this simple dialogue activity also featured logical evaluation and phonological reflection, which can be an effective vehicle for integrating cognitive and metacognitive aspects in developing critical thinking skills in Arabic listening skills. This refers to students' ability to interpret and understand the dialogue while ensuring the accuracy of the

meaning conveyed. This activity also explicitly fostered self-regulation skills in reviewing errors and improving their language performance, as demonstrated by approximately 42% of students' ability to revise their pronunciation spontaneously after the group evaluation session.

Short Film

This activity is designed to hone students' ability to understand the overall context of communication through authentic audiovisual media. The use of this short film without subtitles was strategically chosen because it allows for the simultaneous presentation of linguistic and paralinguistic input, such as intonation, facial expressions, and body language, which are crucial in building pragmatic competence and contextual understanding. In addition, the short film also provides a learning experience that supports the development of receptive skills in foreign language learning through the interpretation of natural and meaningful interactions.²⁴ The appearance of the short film that has been developed in Kahoot gamification is as seen in Figure 3.

Figure 3
Short Film Activity



²⁴ Saad Aljebreen and Aseel Alzamil, "The Impact of Using Short Films on Learning Idioms in EFL Classes," *World Journal of English Language* 12, no. 7 (2022): 250-64, <https://doi.org/10.5430/wjel.v12n7p250>.

The short films featured in this Kahoot gamification program include simple, easy-to-understand content for students beginning to learn Arabic. Additionally, there are practice questions related to the short films, including multiple-choice questions, open-ended questions, and puzzles. These activities help students interpret the story, evaluate the quality and impact of the film's message, and develop awareness of biases or personal emotions that can influence their understanding. Students not only improve their listening skills but also learn to think critically.

"Previously, when I watched a film, I only listened to the words, but now I also have to pay attention to expressions and tone of voice. I've become more careful in assessing meaning." (M01-02, 2024)

"Initially, I thought the characters were just displaying weaknesses, but after discussing them, I realized there were other meanings and messages behind everything that happened." (M02-08, 2024)

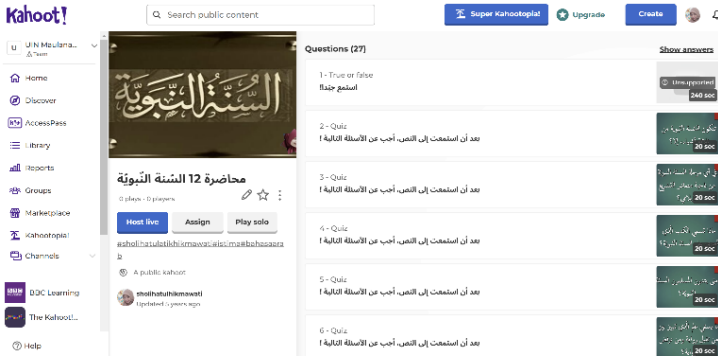
In the reflection session, students emphasized their analytical engagement with nonverbal messages and evaluative reasoning in the Arabic context. Each student participated in an activity, which was then discussed to identify the moral values displayed by the characters in the film. Seventy-eight percent of students accurately summarized the plot and character roles, while some noted emotional inconsistencies, such as a character smiling while conveying a sad message. This demonstrated increased awareness of contextual nuances and self-regulation in adjusting initial interpretations. Group discussions further reinforced these insights, as students compared summaries and revised their understanding based on feedback from peers and instructors.

Short Story

This short story learning activity is the final activity designed to develop listening skills by considering the ability

to interpret information acquisition personally and reflectively. The presentation of short stories in Kahoot is in the form of audio, which emphasizes activities that help students understand the meaning of the story through intonation, narrative flow, and vocal expressions, without the aid of text. In language learning, short stories in Kahoot refer to the involvement of the narrative interpretation process, which influences the learning environment and encourages personal emotions and reflections that can improve listening skills.²⁵ The display of short stories in Kahoot is as shown in Figure 4.

Figure 4
Short Story Activity



This short story activity using Kahoot is presented with various themes relevant to students' daily lives. Furthermore, to emphasize students' listening skills, quizzes are also used as a form of comprehension practice. The results of each student's quiz completion are then discussed to explore the storyline and the message conveyed in the short story. Each student is asked to express their arguments and opinions regarding the storyline, understand the meaning of each new vocabulary word that appears in the story, identify the

²⁵ Nikki Zhi Li Lim, Azrifah Zakaria, and Vahid Aryadoust, "A Systematic Review of Digital Storytelling in Language Learning in Adolescents and Adults," *Education and Information Technologies* 27 (2022): 6125–55, <https://doi.org/10.1007/s10639-021-10861-0>.

important aspects that form the core of the narrative, and compare different interpretations among them. This activity trains students' interpretation, evaluation, and explanation skills, where they must understand the plot, characters, and message of the story before retelling it logically and systematically. Furthermore, self-reflection is also an important part of this session, where students recognize the influence of bias and personal background in interpreting the story they hear.

"I understand the character's decision because he is portrayed as gentle and empathetic." (M3-05; 2024)

"Initially, I judged the character wrong, but after my friend explained it from an Arab cultural perspective, I came to understand the reasons behind his actions." (M4-11; 2024)

The listening activity of this Arabic short story demonstrated narrative responses from students that not only elicited cognitive evaluations but also revealed variations in critical thinking styles, ranging from rational to emotional approaches. This was further supported by observations that showed 60% of students' analytical responses focused on logical reasoning and the story's smooth structure. Meanwhile, the other 40% responded narratively, emphasizing emotion, character, and moral messages. The findings also confirm the existence of reflective interaction through Kahoot gamification, which has fostered self-evaluation and self-regulation, as outlined in Facione's framework. Students are not only able to interpret meaning but also re-evaluate their own thinking positions through cross-cultural dialogue and diverse perspectives.

Critical Thinking on the Use of Kahoot Gamification for Arabic Listening Skills

The four learning activities used in the Kahoot gamification for listening skills confirmed the emergence of critical thinking skills in each student. This emergence has explicitly helped students improve their Arabic listening skills simultaneously. Furthermore, it encompasses important aspects that must be considered in developing listening skills in a foreign or second language, including vocabulary, grammar, culture, genre, speech acts, and phonology.²⁶ Similarly, in critical thinking skills, there are six important aspects in its identification based on Facione: interpretation, analysis, evaluation, inference, explanation, and self-regulation.²⁷ These two components (critical thinking skills and listening skills) were identified simultaneously based on their emergence during the Arabic language learning process using the Kahoot gamification that had been previously developed for beginner students. This identification shows the interaction between critical thinking and listening skills as reflected in four types of learning activities through Kahoot gamification: song playback, simple dialogue, short film, and short story. The detailed interpretation of each activity is presented in Tables 1–4.

Table 1
Critical Thinking and Listening Indicators in Song Activity

Activity	Aspect	Critical Thinking Indicators	Listening Skills Indicators	Freq.	Interpretation of Aspect Variations
Songs	Analysis	Analyze language structure, diction, and style.	Identify sentence elements and key words in lyrics.	39%	The analysis aspect is more dominant because listening to songs requires identifying

²⁶ Jim Scrivener, *Learning Teaching*, 2nd ed. (Oxford: Macmillan Education LTD, 2005).

²⁷ Facione, "Critical Thinking: What It Is and Why It Counts."

				structure and meaning.
Inference	Interpreting implied meaning.	Deducing connotative meaning from lyrics.	36%	Inference often occurs because students must capture hidden meaning.
Self-Regulation	Managing self-regulation in understanding lyrics.	Controlling emotional reactions to the song's message.	25%	Occurs less often because self-reflection isn't always practiced within the context of the music.

As shown in Table 1, the song activity stimulated analytical and inferential thinking through students' engagement with rhythm, diction, and implied meaning in the lyrics. However, self-regulation appeared less frequently, indicating that reflective awareness was not yet fully internalized during the musical learning context. The following table illustrates the pattern observed in simple dialogue activities.

Table 2
Critical Thinking and Listening Indicators in Simple Dialog

Activity	Aspect	Critical Thinking Indicators	Listening Skills Indicators	Freq.	Interpretation of Aspect Variations
Simple Dialog	Interpretation	Understanding the meaning of spoken words, phrases, and sentences.	Relating information to prior knowledge.	24%	This aspect arises most frequently because dialogue requires a direct understanding of the context of meaning.
	Analysis	Analyze the structure, tone, and implications of meaning in conversations.	Identify main ideas and implied meanings.	15%	Analysis is quite important, as students need to understand everyday communication patterns.
	Evaluation	Consider relevance, logic, and bias.	Examine information for detail and relevance to avoid ambiguity.	23%	Quite powerful, as each student is directly involved in exchanging ideas and information.

Inference	Inferring meaning based on the context of the conversation.	Connecting information to conclude.	15%	This appears quite well, as the dialogue contains contextual meaning.
Explanation	Explains information accurately and systematically.	Understands meaning or information through the intonation and rhythm of speech.	12%	Tends to be low, as explicit explanations are rarely requested in short conversations.
Self-Regulation	Recognizing accuracy and potential bias.	Directing key thoughts and ideas in response to context.	21%	Quite powerful, as it serves as a form of self-control and emotional processing.

Table 2 highlights that simple dialogues mainly facilitated interpretation and evaluation skills, especially through interactive information exchange. Nevertheless, inferential and explanatory aspects were less apparent due to the short and situational nature of the conversations. The next table presents results from the short film activity, which combines auditory and visual processing.

*Table 3
Critical Thinking and Listening Indicators in Short Film*

Activity	Aspect	Critical Thinking Indicators	Listening Skills Indicators	Freq.	Interpretation of Aspect Variations
Short Film	Interpretation	Capturing stories, symbols, and visual expressions.	Understanding the plot and main message of a film.	42%	High because visual and verbal interpretation are essential.
	Evaluation	Assessing the quality, relevance, and impact of films.	Understanding information and messages through sound, ideas, and meaning.	36%	Moderately emerging, related to reflective ability regarding moral values.

Explanation	Explaining the plot, message, and themes of a film.	Conveying the main idea to colleagues.	11%	Lower level because the main focus is interpretation, not explanation.
Self-Regulation	Recognizing personal biases toward films.	Managing understanding reflectively.	11%	Still rarely explicitly expressed.

Table 3 demonstrates that short film activities elicited the strongest responses in interpretation and evaluation dimensions. Students actively related visual narratives and moral content to critical reflection. The next table shows how short story activities further developed comprehension and evaluative judgment through textual interpretation.

Table 4
Critical Thinking and Listening Indicators in Short Story

Activity	Aspect	Critical Thinking Indicators	Listening Skills Indicators	Freq.	Interpretation of Aspect Variations
Short Story	Interpretation	Understanding plot, characters, and style.	Interpreting information to construct a coherent understanding.	20%	Moderate, as understanding a story requires in-depth interpretation.
	Evaluation	Assess its effectiveness and moral value.	Consider the accuracy and relevance of meaning.	32%	Dominant, because receiving information is not just passive.
	Explanation	Explains the content of the story with supporting evidence.	Communicates understanding of the meaning.	20%	Moderate, because the main focus is on understanding.
	Self-Regulation	Validating bias in interpretation.	Recognizing the optimization of reflective understanding.	28%	It is good because it encourages us to accept information objectively.

Table 4 indicates that short story activities emphasized evaluative and reflective understanding, allowing students to assess meaning accuracy and moral implications. Overall, Tables 1–4 collectively reveal that song and short film activities generated the highest levels of student engagement and cognitive processing, while simple dialogues and short stories supported deeper but less frequent reflective thinking. This variation underscores that each type of activity uniquely contributes to integrating critical thinking and listening in Arabic language learning through Kahoot gamification.

Tables 1–4 collectively illustrate the development of critical thinking and listening skills in Arabic language learning through Kahoot gamification. Among the four activities, song and short film sessions generated the highest levels of student engagement and cognitive responses, particularly in analytical and evaluative dimensions. In contrast, simple dialogues and short stories elicited fewer responses but supported deeper interpretive and reflective thinking. These variations confirm that no single activity encompasses all indicators of critical and listening skills; rather, each contributes distinctively to different dimensions of learning. This pattern suggests that instructional design in Arabic listening classes should integrate varied types of gamified activities to balance engagement, analysis, and reflection in developing students' higher-order thinking skills.

Discussion

Critical thinking is a vital skill that can be fostered through various Arabic language learning activities, as demonstrated in this study. This study revealed that playing songs and short films is a powerful tool for developing students' critical thinking through Kahoot gamification. The impact of critical thinking involved in playing songs and short films refers to engagement and motivation, cognitive development, collaborative learning, feedback and reflection, and practical

application.²⁸ In practice, the application of these songs and short film activities can encourage students to analyze and evaluate content by increasing engagement, promoting cognitive development, facilitating collaborative learning, providing feedback, and promoting practical application. These elements collectively have contributed to the development of critical thinking skills.

The minimal impact of simple dialogues and short stories on critical thinking is because Kahoot focuses more on speed in selecting answers and the competitive aspect that allows for overriding analysis, thus placing more emphasis on memory or intuition. Specifically, while Kahoot can improve attention and creativity, its effectiveness in enhancing critical thinking depends heavily on session length and the complexity of the integrated tasks, with shorter, simpler activities potentially offering limited cognitive benefits.²⁹ Nevertheless, Kahoot gamification has been shown to foster a competitive and enjoyable learning environment, which can encourage problem-solving and curiosity, both of which impact critical thinking in certain contexts.

The use of Kahoot gamification in Arabic listening skills learning enables critical thinking during the learning process. Critical thinking that occurs during the Arabic listening skills learning process can be expressed and classified based on its role and aspects in cognitive skills, as outlined in Facione's theory, which serves as a foundational pillar for assessing and developing critical thinking processes. Each essential element of thinking represents a unique dimension that is interrelated

²⁸ Rika Riwayatningsih et al., "Empowering Higher-Order Thinking Skills in Writing through Gamification and Multimodal Learning within PBL," *Forum for Linguistic Studies* 7, no. 2 (2025): 385–98, <https://doi.org/10.30564/fls.v7i2.8119>.

²⁹ Aibar-Almazán et al., "Gamification in The Classroom: Kahoot! As a Tool for University Teaching Innovation."

and crucial for navigating complex information.³⁰ As demonstrated during the learning process, interpretation involves understanding and expressing the meaning or significance of various experiences, phenomena, judgments, conventions, beliefs, procedures, and criteria in each learning activity.³¹ In contrast, analysis reveals the ability to identify inferential relationships in each word, phrase, and sentence in real time, whether in the form of questions, statements, concepts, descriptions, or other forms of representation.³² Evaluation includes the ability to assess the credibility and logical strength of inferential relationships in the learning process as a form of representation.³³

The next dimension is inference, which involves the process of identifying each element of the learning activity to draw logical conclusions, form assumptions and hypotheses, consider relevant information, and conclude all consequences.³⁴ Similarly, the explanation aspect of this language learning focuses on presenting the results of students' reasoning in the form of convincing and easy-to-

³⁰ Trixie James et al., "Reflective Minds, Brighter Futures: Empowering Critical Reflection with a Guided Instructional Model," *Journal of University Teaching and Learning Practice* 20, no. 6 (2023), <https://doi.org/10.53761/1.20.6.9>.

³¹ Dessy Laila Kamsinah, Abdullah, and Suryajaya, "Analysis of Critical Thinking Skills in Junior High School Students," *Journal of Advances in Educational and Philosophy* 4, no. 6 (2020): 234–37, <https://doi.org/10.36348/jaep.2020.v04i06.002>.

³² Lucy D'Agostino McGowan, Roger D. Peng, and Stephanie C. Hicks, "Design Principles for Data Analysis," *Journal of Computational and Graphical Statistics* 32, no. 2 (2023): 754–61, <https://doi.org/10.1080/10618600.2022.2104290>.

³³ Sarwanto, Laksmi Evasufi Widi Fajari, and Chumdari, "Critical Thinking Skills and Their Impacts on Elementary School Students," *Malaysian Journal of Learning and Instruction* 18, no. 2 (2021): 161–87, <https://doi.org/10.32890/mjli2021.18.2.6>.

³⁴ Mario Veen, "Creative Leaps in Theory: The Might of Abduction," *Advances in Health Sciences Education* 26 (2021): 1173–83, <https://doi.org/10.1007/s10459-021-10057-8>.

understand arguments and ideas.³⁵ Meanwhile, in the self-regulation aspect, students have the potential to interact between self-regulation, self-efficacy, and improving language skills in an independent learning environment.³⁶ Overall, learning activities utilizing Kahoot gamification emphasize the existence of a critical thinking process that refers to various important dimensions in learning, namely: a) considering information and examining the relationships between the necessary parts; b) understanding and explaining the meaning of each piece of information obtained; c) assessing the credibility and relevance of information based on its source; d) drawing logical conclusions based on evidence and reasoning; e) conveying understanding and reasoning clearly and concisely; and f) reflect on the thinking process and make adjustments.

This study found that Kahoot gamification in Arabic listening lessons appeared to elicit multiple dimensions of critical thinking as defined by Facione. Rather than engaging students in merely surface-level comprehension, the activities encouraged deeper cognitive engagement. For example, interpretation was evident when students reconstructed the storyline of an audio-based short story, relying on tone and narrative flow to infer meaning. Evaluation emerged during a film-based task, where students assessed the credibility of character actions and identified inconsistencies between spoken dialogue and visual cues. Inference was demonstrated

³⁵ Michael Timothy Bennett, "On the Computation of Meaning, Language Models and Incomprehensible Horrors," in *Artificial General Intelligence*, ed. Patrick Hammer, Marjan Alirezaie, and Claes Strannegård, vol. 13921, Lecture Notes in Computer Science (Cham: Springer, 2023), 32–41, https://doi.org/10.1007/978-3-031-33469-6_4.

³⁶ Tomoko Yabukoshi, "Self-Regulation and Self-Efficacy for the Improvement of Listening Proficiency Outside the Classroom," *The Language Learning Journal* 49, no. 1 (2021): 27–40, <https://doi.org/10.1080/09571736.2018.1472626>.

through a singing activity, where students inferred implied meanings and cultural references. Explanation and self-regulation were observed during group discussions, where students articulated their reasoning and revised initial interpretations based on peer feedback. These findings suggest that when Kahoot activities are intentionally designed with cognitive targets in mind, they can foster critical thinking in Arabic listening beyond memorization or passive reception.

The use of Kahoot gamification as a medium for learning listening skills can support foundational learning that is the basis of critical thinking skills by involving beginner students to become more confident, open-minded, and develop. This finding is also in line with the argument from previous research that the 21st century demands continuous individual development to become more competent in using skills, which makes it possible to support each student in becoming a quality thinker in the target language,³⁷ especially the Arabic language. As such, the learning activities included in this Kahoot Arabic listening skills refer to the improvement of critical thinking skills, which also considers the role of essential aspects of thinking according to Facione. These aspects are then reduced to a unit of indicators that are correlated and adapted to all listening activities for beginner students, so that the implementation process also considers individual abilities and increases interest in learning new things.

The critical thinking that occurs during the learning of Arabic listening skills through gamification has created an environment that encourages students to avoid the fear of

³⁷ Hatice Kübra Bağ and Esim Gürsoy, "The Effect of Critical Thinking Embedded English Course Design to The Improvement of Critical Thinking Skills of Secondary School Learners," *Thinking Skills and Creativity* 41 (2021): 100910, <https://doi.org/10.1016/j.tsc.2021.100910>.

making mistakes. The popularity of gamification has enabled the fostering of productive and creative students by enhancing knowledge acquisition and developing problem-solving skills.³⁸ Trend leads to innovative technologies that increasingly demonstrate a preference for gamification in Arabic language learning, by providing user-friendly learning and simplifying content. Furthermore, integration also expands the scope of gamification's application from the affective domain to cognitive-based learning strategies, emphasizing students' depth of understanding and metacognitive engagement. Also confirms that students with high metacognitive abilities demonstrate better critical thinking performance in solving challenges encountered during the learning process.³⁹ Thus, learning that emphasizes critical thinking skills provides rapid feedback through experiences and reflections tailored to the specific needs of beginning students.

Conclusion

This study explored how Kahoot gamification can facilitate the development of critical thinking in Arabic listening instruction. Through four learning activities—song playback, simple dialogue, short film, and short story—the study identified the emergence of six critical thinking dimensions proposed by Facione: interpretation, analysis, evaluation, inference, explanation, and self-regulation. These

³⁸ Vanitha Thurairasu, "Gamification-Based Learning as The Future of Language Learning: An Overview," *EJ-Social: European Journal of Humanities and Social Sciences* 2, no. 6 (2022): 62–69, <https://doi.org/10.24018/ejsocial.2022.2.6.353>; Azzah Saniyyah et al., "Comic Media on Arabic Language Learning Speaking Skills: The Analysis of Students' Creative Thinking," *Eralingua: Jurnal Pendidikan Bahasa Asing Dan Sastra* 8, no. 2 (2024): 408–24, <https://doi.org/10.26858/eralingua.v8i2.64940>.

³⁹ Carlo Magno, "The Role of Metacognitive Skills in Developing Critical Thinking," *Metacognition and Learning* 5 (2010): 137–56, <https://doi.org/10.1007/s11409-010-9054-4>.

dimensions appeared naturally as students engaged actively in listening, reflection, and collaboration, indicating a pedagogical shift from passive comprehension to active cognitive participation. The findings thus highlight the potential of gamified learning to foster analytical reasoning and metacognitive awareness in beginner-level Arabic learners.

Pedagogically, the study implies that Kahoot can serve as an effective scaffold for integrating critical thinking into Arabic language learning through interactive, reflective, and feedback-oriented activities. However, the research was limited to a single institutional context, focusing only on the listening skill without pre–post testing, long-term observation, or comparison with other gamification platforms. Future research should therefore adopt mixed or longitudinal designs to measure the sustained impact of gamification on students' critical and metacognitive development, extend the investigation to other language skills, and compare multiple digital platforms to provide a more comprehensive understanding of how game-based learning supports higher-order thinking in Arabic language education.

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