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Bridging Traditional Arabic Pedagogy and AI-Supported Learning through Snakes and Ladders Game-Based Instruction

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Abstract

This study explores the use of snakes and ladders game-based instruction in Arabic uslub learning at LSBA Ula within the broader perspective of AI-supported pedagogy. The study emerged from the challenges of contextual Arabic language learning, particularly students' difficulties in understanding the communicative functions and contextual usage of Arabic expressions through conventional teacher-centered instruction. Using a qualitative case study approach, data were collected through classroom observation, semi-structured interviews, and learning documentation involving students and teachers participating in Arabic uslub instruction. The findings reveal that the traditional snakes and ladders game created collaborative and contextual learning interactions through peer discussion, meaning negotiation, reflective feedback, and experiential learning activities. The study also found that the pedagogical mechanisms emerging during gameplay, including real-time feedback, error identification, and adaptive instructional support, align with the principles of AI-supported learning without transforming the traditional game into a digital AI-based system. This study concludes that traditional game-based instruction remains pedagogically relevant for Arabic language learning in the AI era because it supports collaborative, reflective, and human-centered learning experiences. The study contributes to the development of low-tech yet AI-compatible Arabic pedagogy, particularly in non-formal educational contexts.

Keywords: *Arabic Language Learning; Game-Based Instruction; Arabic Uslub; Traditional Board Games; AI-Supported Pedagogy; Collaborative Learning; Human-Centered Learning*

Abstrak

Penelitian ini mengeksplorasi penggunaan permainan ular tangga berbasis game-based instruction dalam pembelajaran uslub bahasa Arab di LSBA Ula dalam perspektif AI-supported pedagogy. Penelitian ini berangkat dari permasalahan pembelajaran bahasa Arab kontekstual, khususnya kesulitan peserta didik dalam memahami fungsi komunikatif dan penggunaan kontekstual ungkapan bahasa Arab melalui pembelajaran konvensional yang berpusat pada guru. Penelitian menggunakan pendekatan studi kasus kualitatif dengan teknik pengumpulan data berupa observasi kelas, wawancara semi-terstruktur, dan dokumentasi pembelajaran yang melibatkan siswa dan guru pembelajaran uslub bahasa Arab. Hasil penelitian menunjukkan bahwa permainan ular tangga tradisional mampu menciptakan interaksi pembelajaran yang kolaboratif dan kontekstual melalui diskusi kelompok, negosiasi makna, umpan balik reflektif, dan pengalaman belajar langsung. Penelitian ini juga menemukan bahwa mekanisme pedagogis yang muncul selama permainan, seperti umpan balik langsung, identifikasi kesalahan, dan adaptive instructional support, memiliki kesesuaian dengan prinsip-prinsip AI-supported learning tanpa mengubah permainan tradisional menjadi sistem digital berbasis AI. Penelitian ini menyimpulkan bahwa pembelajaran berbasis permainan tradisional tetap memiliki relevansi pedagogis yang kuat dalam pembelajaran bahasa Arab pada era AI karena mampu mendukung pembelajaran yang kolaboratif, reflektif, dan human-centered. Penelitian ini berkontribusi pada pengembangan pedagogi bahasa Arab yang low-tech namun tetap kompatibel dengan perspektif AI-supported learning, khususnya dalam konteks pendidikan nonformal.

Kata Kunci: *Pembelajaran Bahasa Arab; Game-Based Instruction; Uslub Bahasa Arab; Permainan Tradisional; AI-Supported Pedagogy; Collaborative Learning; Human-Centered Learning*

Introduction

The development of language education in the modern era has demonstrated a significant shift toward more interactive, collaborative, and adaptive learning environments.[1] The integration of game-based

[1] Putri, Tarisha, and Sahkholid Nasution. "Gamified Digital Tools in Arabic Language Instruction: The Case of Froggy Jumps in an Indonesian Secondary Islamic School." *Alibbaa': Jurnal Pendidikan Bahasa Arab* 6, no. 2 (August 2025): 412–27. https://doi.org/10.19105/ajpba.v6i2.21379.

learning, participatory approaches, and AI-supported learning has transformed educational paradigms from teacher-centered instruction toward learner-centered experiences.[2] Within language learning contexts, such approaches are considered capable of enhancing learner engagement, strengthening instructional feedback, and supporting reflective as well as contextualized concept reinforcement.[3] Nevertheless, the advancement of AI-supported learning does not necessarily require the implementation of highly complex digital systems, as human interaction, social collaboration, and direct learning experiences remain essential components of language acquisition processes.[4]

In Arabic language learning, instructional challenges are not limited to vocabulary mastery and grammatical competence but also involve the ability to understand contextual meaning, stylistic expression, and the communicative functions of linguistic structures.[5] One of the aspects that frequently presents difficulties in the learning process is uslub, referring to variations in Arabic stylistic expression used according to particular communicative contexts. In many educational institutions, Arabic language instruction continues to be dominated by approaches centered on nahwu and sharaf, while the practical application of uslub in authentic communicative situations often receives insufficient attention. As a consequence, learners tend to memorize linguistic forms successfully but encounter difficulties when required to interpret functional meanings, implicit expressions, and contextual language use in real communication settings.

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[2] Belda-Medina, Jose, and Vendula Kokošková. "ChatGPT for Language Learning: Assessing Teacher Candidates' Skills and Perceptions Using the Technology Acceptance Model (TAM)." *Innovation in Language Learning and Teaching*, December 11, 2024, 1–16. https://doi.org/10.1080/17501229.2024.2435900.

[3] Khasawneh, Mohamad Ahmad Saleem. "Language Skills and Their Relationship to Learning Difficulties in English Language from the Teachers' Point of View." The Journal of Quality in Education 12, no. 19 (May 2022): 104–13. https://doi.org/10.37870/joqie.v12i19.308.

[4] Li, Shaofeng, Phil Hiver, and Mostafa Papi. "Individual Differences in Second Language Acquisition." In *The Routledge Handbook of Second Language Acquisition and Individual Differences*, 3–34. New York: Routledge, 2022. https://doi.org/10.4324/9781003270546-2.

[5] Holandyah, Muhamad, Dian Erlina, Lenny Marzulina, and Fitria Rembulan Ramadhani. "Grammar Instruction in Communicative Language Teaching Classrooms: Student Teachers' Perceptions." *Edukasi: Jurnal Pendidikan Dan Pengajaran*, June 30, 2021, 66–77. https://doi.org/10.19109/ejpp.v8i1.8510.

These issues are also evident within non-formal Arabic learning environments such as LSBA Ula. Based on preliminary observations, uslub instruction remains predominantly theoretical and teacher-centered, resulting in limited contextual interaction among learners in relation to actual language use. This condition causes learners to become relatively passive and reduces opportunities for experiential learning that could facilitate their understanding of uslub in practical communicative contexts. In fact, mastery of uslub cannot be achieved merely through memorization but instead requires active participation, contextual practice, social interaction, and direct experience in using Arabic expressions appropriately within specific communication settings.

In recent years, game-based learning approaches have increasingly been implemented in language education because they are considered capable of creating more active and engaging learning environments.[6] Traditional games possess considerable potential to enhance learning engagement through social interaction, group discussion, collaboration, and reflective learning experiences. Games also enable learners to connect linguistic concepts with direct practical application. Within the context of Arabic language learning, the use of games can assist learners in understanding language functions more contextually through communicative activities, sentence construction, and collaborative language problem-solving.[7] Therefore, the use of traditional games such as snakes and ladders demonstrates potential as an instructional medium capable of integrating cognitive, social, and affective dimensions within uslub learning.

On the other hand, the development of AI-supported learning has introduced new perspectives for strengthening language learning processes.[8] In educational contexts, AI should not necessarily be perceived as a replacement for human instructional interaction; rather, it

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[6] عبد الحكيم عبد الرحمن حسين. "Muhaffazât Al-Al'âb al-Raqmiyyah (Gamification) Fî Ta'lîmi al-Lughah al-'Arabiyyah: Dirâsatu al-Abhâts al-Mansyûrah Fî Tathbîqi Muhaffazâti al-Al'âb al-'Arabiyyah Fî Indûnîsiyâ." *Alibbaa': Jurnal Pendidikan Bahasa Arab* 5, no. 1 (July 2024): 1–29.

[7] Huseinović, Lamija. "The Effects of Gamification On Student Motivation And Achievement In Learning English As A Foreign Language In Higher Education." *MAP Education and Humanities* 4, no. 1 (July 2023): 10–36. https://doi.org/10.53880/2744-2373.2023.4.10.

[8] Vo, Thi Kim Anh, and Huong Nguyen. "Generative Artificial Intelligence and ChatGPT in Language Learning: EFL Students' Perceptions of Technology Acceptance." *Journal of University Teaching and Learning Practice* 21, no. 06 (April 2024). https://doi.org/10.53761/fr1rkj58.

can function as a pedagogical support system that facilitates feedback processes, reflective learning, learner difficulty identification, and adaptive instructional reinforcement. Within language learning, AI-supported approaches may assist teachers in identifying learner error patterns, monitoring language development, and strengthening contextualized assessment processes.[9] This perspective suggests that traditional instructional media can still be developed within modern pedagogical frameworks without eliminating the social interaction and human-centered learning that constitute the core of language education.

Eltahir's study demonstrated that game-based learning significantly improved student motivation, engagement, and academic performance in Arabic grammar learning through digital learning environments.[10] Meanwhile, Vlachopoulos and Agoritsa emphasized that games and simulations positively influence collaborative learning, problem-solving skills, and student engagement within modern educational settings.[11] Similar findings were reported by Chi-Cheng Chang, whose study revealed that digital game-based learning enhances contextual learning experiences while simultaneously reducing learners' cognitive load during instructional processes.[12] Within Arabic language learning contexts, Anwar Ahmad further demonstrated that board games strengthen Arabic vocabulary acquisition through more interactive and collaborative learning experiences.[13]

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[9] Nasaruddin, Nasaruddin. "Using ChatGPT in Teaching Arabic as a Foreign Language." *Arabiyatuna: Jurnal Bahasa Arab* 8, no. 1 (May 2024): 1. https://doi.org/10.29240/jba.v8i1.9413.

[10] Eltahir, Mohd. Elmagzoub, Najeh Rajeh Alsalhi, Sami Al-Qatawneh, Hatem Ahmad AlQudah, and Mazan Jaradat. "The Impact of Game-Based Learning (GBL) on Students' Motivation, Engagement and Academic Performance on an Arabic Language Grammar Course in Higher Education." *Education and Information Technologies* 26, no. 3 (May 2021): 3251–78. https://doi.org/10.1007/s10639-020-10396-w.

[11] Vlachopoulos, Dimitrios, and Agoritsa Makri. "The Effect of Games and Simulations on Higher Education: A Systematic Literature Review." *International Journal of Educational Technology in Higher Education* 14, no. 1 (December 2017): 22. https://doi.org/10.1186/s41239-017-0062-1.

[12] Chang, Chi-Cheng, Clyde A. Warden, Chaoyun Liang, and Guan-You Lin. "Effects of Digital Game-Based Learning on Achievement, Flow and Overall Cognitive Load." *Australasian Journal of Educational Technology* 34, no. 4 (September 2018). https://doi.org/10.14742/ajet.2961.

[13] Ahmad, Muhammad Anwar, Muhammad Nur Farhan Zamziba, Hishomudin Ahmad, and Ku Mohd Syarbaini Ku Yaacob. "Enhancing Prophetic Arabic Vocabulary for Understanding Al-Arba'in Al-Nawawiyah through Board Game: A Systematic

On the other hand, the development of AI-supported learning has begun to provide new perspectives for strengthening game-based pedagogy. Hare's study published in a British journal demonstrated that AI-assisted educational games are capable of enhancing adaptive learning experiences through more responsive feedback and instructional evaluation mechanisms.[14] Nevertheless, most previous studies have primarily focused on digital learning environments, vocabulary acquisition, or general language learning contexts, whereas research concerning Arabic uslub learning through traditional games in non-formal educational settings remains relatively limited. Furthermore, only a limited number of studies have attempted to bridge traditional board-game pedagogy with AI-supported learning perspectives as a means of strengthening pedagogical reflection, adaptive instructional support, and collaborative contextual learning in Arabic language instruction. Therefore, the present study seeks to address this gap through the use of snakes and ladders as a human-centered and collaborative instructional medium for uslub learning that remains relevant to the development of modern AI-supported pedagogical approaches. In this regard, a significant research gap still exists concerning how traditional games can be developed as Arabic language learning media that preserve human-centered interaction while simultaneously aligning with the evolution of AI-supported educational pedagogy.

Based on these issues, this study aims to explore the use of snakes and ladders as an instructional medium for teaching Arabic uslub in LSBA Ula classrooms. The study also seeks to analyze how collaborative interaction, contextual learning, and reflective learning experiences emerging during gameplay support learners' understanding of various forms of uslub. In addition, this research introduces the perspective of AI-supported learning as a pedagogical framework for strengthening instructional feedback and pedagogical reflection within traditional game-based Arabic language learning. Accordingly, this study is expected to contribute both theoretically and practically to the development of Arabic language instruction that is collaborative,

Literature Review." *International Journal of Language Education and Applied Linguistics* 15, no. 1 (April 2025): 16–25. https://doi.org/10.15282/ijleal.v15i1.11228.

[14] Hare, Ryan, Sarah Ferguson, and Ying Tang. "Enhancing Student Experience and Learning with Iterative Design in an Intelligent Educational Game." *British Journal of Educational Technology* 56, no. 2 (March 2025): 551–68. https://doi.org/10.1111/bjet.13526.

contextual, human-centered, and relevant to the educational transformations occurring in the era of AI-supported learning.

Method

This study employed a qualitative approach with a case study design to explore the use of snakes and ladders as an instructional medium for teaching Arabic uslub in LSBA Ula classrooms. This approach was selected because the research focused on gaining an in-depth understanding of learning processes, learner interactions, contextual learning experiences, and the pedagogical dynamics emerging during the implementation of the game-based medium. In addition, the qualitative approach enabled the researchers to analyze how traditional game-based learning could foster learner engagement, collaborative interaction, and more reflective understanding of uslub within non-formal Arabic language learning contexts. The study was conducted at LSBA Ula, a non-formal Arabic language institution that implemented uslub instruction through snakes and ladders using a game-based instructional approach.

The research participants consisted of LSBA Ula students and the teacher responsible for uslub instruction who were directly involved in the implementation of the game-based learning medium. Data were collected through classroom observations, in-depth interviews, and learning-process documentation. Observations were conducted to examine learners' activities during gameplay, including interaction patterns, learning engagement, group discussions, and learners' abilities to understand and apply various forms of uslub. Semi-structured interviews were conducted with the teacher and several students to obtain information regarding learning experiences, perceptions toward the use of the game-based medium, and instructional challenges emerging during implementation. Meanwhile, documentation was utilized to complement the data through records of learning activities, student assignments, and forms of uslub exercises used throughout the gameplay sessions.

The data were analyzed using thematic analysis techniques through several stages, including data reduction, coding processes,

theme categorization, and meaning interpretation.[15] The researchers identified major themes related to learning engagement, collaborative interaction, contextual uslub learning, reflective learning experiences, and pedagogical feedback during the implementation of the snakes and ladders game. To ensure data validity, the study employed source and method triangulation by comparing findings obtained from observations, interviews, and learning documentation. In addition, the interpreted findings were reconfirmed with the instructional teacher to ensure consistency between the analytical interpretations and the actual classroom conditions. From the perspective of AI-supported learning, this analytical process was also intended to identify interaction patterns, forms of instructional feedback, and the potential for adaptive instructional support emerging throughout the implementation of traditional games in Arabic uslub learning contexts.

Results and Discussion

The findings of this study demonstrate that the use of snakes and ladders in Arabic *uslub* learning at LSBA Ula produced significant changes in students' learning interaction patterns. During classroom observations, students were not only engaged in answering questions embedded within the game but also actively discussed the functions and contextual meanings of various Arabic expressions appearing in each game square. In one gameplay session, a group received the challenge of constructing a dialogue using the expression لاَ شُكْرَ عَلَى وَاجِبٍ. After rolling the dice and landing on a particular square, the group was instructed to create a simple dialogue appropriate to the contextual meaning of the expression. During the discussion process, some students initially attempted to use the expression merely as a formal response, while another group explained that the expression was more appropriately used as a polite reply to expressions of gratitude in everyday conversation. This situation generated spontaneous intergroup discussions concerning the contextual use of expressions in authentic communication. Classroom observations indicated that such interactions encouraged students to compare answers more actively, defend their arguments, and evaluate language appropriateness based on communicative context.

[15] Merriam, Sharan B. *Qualitative Research: A Guide to Design and Implementation*. Jossey-Bass, 2009.

Patterns of collaborative interaction were also observed when students were asked to identify the functions of several expressions categorized within *uslub* instruction at LSBA Ula, such as أَنَا مُرْتَاحٌ هُنَا, فِي الْوَاقِعِ, and أَقْتَرِحُ عَلَيْكَ. At the initial stage of gameplay, several students still experienced difficulties distinguishing the functions of these expressions. For instance, some students used the expression فِي الْوَاقِعِ within emotionally oriented conversations, whereas another group explained that the expression was more appropriately employed to reinforce or emphasize factual statements in communication. A similar situation occurred with the expression أَقْتَرِحُ عَلَيْكَ, where some students initially used it as an ordinary statement before group discussions gradually led them to understand that the expression functions as a form of suggestion or recommendation directed toward an interlocutor. One participant stated during the interview, "It is now easier to distinguish language styles after learning through games. أَقْتَرِحُ عَلَيْكَ is used to give suggestions, whereas فِي الْوَاقِعِ is used to explain situations or facts." This statement indicates that students gradually began to understand the communicative functions of expressions based on contextual usage rather than merely memorizing sentence forms.

The observation results further revealed that the snakes and ladders game fostered collaborative cognitive engagement throughout the instructional process. When students encountered challenges requiring them to determine particular *uslub* categories or construct dialogues based on specific expressions, they tended to gather in small groups to compare interpretations and discuss the contextual use of language. In several situations, students who understood the material more quickly spontaneously assisted peers who still struggled to differentiate the usage of certain expressions. Classroom documentation demonstrated the emergence of reciprocal learning patterns, in which students providing explanations actually strengthened their own understanding because they were required to justify the use of expressions to their peers. Even students who were typically passive in conventional instructional settings began expressing opinions and offering arguments regarding the answers proposed by other groups. The teacher also observed that the game-based environment encouraged students to experiment more confidently with language use without fear of making formal mistakes.

In addition to enhancing social interaction, the snakes and ladders game also created a reflective and experiential learning environment within Arabic *uslub* instruction. Interview findings indicated that students found the material easier to understand when learning through games compared to conventional lecture-based instruction. One participant stated, "I can memorize expressions more easily because they are repeatedly used during the game and directly practiced with classmates." Another student explained that the challenges and penalties incorporated into the game encouraged them to pay closer attention to the contextual use of expressions in order to avoid repeating the same mistakes. In several sessions, students were instructed to construct dialogues using the expression أَنَا مُرْتَاحٌ هُنَا to express feelings or to employ فِي الْوَاقِعِ in strengthening statements within conversations. Documentation of student assignments demonstrated that after several gameplay sessions, students gradually became more capable of using these expressions appropriately in both conversational exercises and simple sentence-writing tasks. These findings indicate that the learning process occurred not only at a theoretical level but also through direct practice, contextual repetition, and reflection upon language use throughout the gameplay process.

From the teacher's perspective, the snakes and ladders game also facilitated more concrete and real-time instructional assessment processes. Teachers were able to identify student error patterns through learners' responses, group discussions, and the ways students used particular expressions within conversations. One of the most frequently observed difficulties involved students' inability to distinguish the contextual functions of several expressions studied within the *uslub* categories at LSBA Ula, particularly expressions used to convey facts, feelings, and suggestions. The teacher explained that such errors became more visible through gameplay than during conventional lecture-based instruction. In several situations, the teacher temporarily paused the game to discuss common mistakes in expression usage committed by nearly all groups before continuing the activity. The teacher further stated that the game-based medium enabled more flexible monitoring of students' progress because instructional interaction occurred directly and openly. One teacher commented, "Through this game, I can clearly identify who truly understands the use of *uslub* and who still requires

assistance." These findings demonstrate that the snakes and ladders game functioned not merely as an entertainment medium but also as a diagnostic assessment tool that enabled teachers to provide direct, contextualized, and adaptive instructional feedback.

Overall, the findings indicate that the snakes and ladders game implemented through a game-based instructional approach was capable of creating a more collaborative, contextual, and human-centered environment for Arabic *uslub* learning at LSBA Ula. The use of expressions such as أَنَا مُرْتَاحٌ هُنَا, فِي الْوَاقِعِ, أَقْتَرِحُ عَلَيْكَ and لاَ شُكْرَ عَلَى وَاجِبٍ within gameplay challenges helped students understand language functions through direct communicative experiences, group discussions, and practical language use within authentic contexts. In addition to increasing learning engagement, the game also established a reflective learning environment that enabled students to learn through social interaction, experimentation with language use, and immediate correction throughout the instructional process. These findings suggest that traditional game-based pedagogy continues to possess strong relevance in contemporary Arabic language learning, particularly when supported by reflective learning approaches and adaptive pedagogical reinforcement.

Discussion

The findings of this study demonstrate that the snakes and ladders game implemented through a game-based instructional approach was capable of creating a more participatory, collaborative, and contextualized environment for Arabic uslub learning compared to conventional instruction, which had previously been dominated by teacher-centered explanations. These findings indicate that traditional games continue to possess strong pedagogical relevance in Arabic language learning because they facilitate direct social interaction throughout the instructional process.[16] Within language learning contexts, such interaction is highly significant because language acquisition involves not only mastery of linguistic structures but also the ability to understand meaning, communicative functions, and language

[16] Madondo, Fortunate, and Joseph Tsikira. "Traditional Children's Games: Their Relevance on Skills Development among Rural Zimbabwean Children Age 3–8 Years." *Journal of Research in Childhood Education* 36, no. 3 (May 2022): 406–20. https://doi.org/10.1080/02568543.2021.1982084.

use in authentic situations.[17] When students discussed the use of expressions such as لاَ شُكْرَ عَلَى وَاجِبٍ, أَقْتَرِحُ عَلَيْكَ, or فِي الْوَاقِعِ, the learning process extended beyond mere memorization of language forms and instead involved meaning negotiation and the construction of contextual understanding through social interaction. These findings are consistent with previous studies emphasizing that game-based learning enhances student engagement, collaborative learning, and contextual interaction in language instruction.[18]

In addition to increasing learner engagement, the snakes and ladders game also demonstrated how collaborative interaction could support students in understanding uslub more applicatively. In conventional instruction, students tended to perceive uslub as theoretical material to be memorized, whereas through gameplay they gradually began to understand language functions based on contextual communicative use. When students discussed the differences between the expressions أَقْتَرِحُ عَلَيْكَ and فِي الْوَاقِعِ, they were in fact constructing contextual language acquisition through reflective learning and communicative interaction processes. In such situations, students did not merely receive information from the teacher but actively compared, corrected, and interpreted language usage collaboratively with their peers. This process demonstrates that Arabic language learning becomes more effective when students are provided opportunities to use language directly within interactive and human-centered learning environments.[19] Consequently, traditional games function not merely as entertainment media but also as experiential learning tools that enable students to understand the communicative functions of Arabic more deeply.

The findings of this study further reveal that the instructional patterns emerging during gameplay were closely associated with the

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[17] Paradis, Johanne, Adriana Soto-Corominas, Xi Chen, and Alexandra Gottardo. "How Language Environment, Age, and Cognitive Capacity Support the Bilingual Development of Syrian Refugee Children Recently Arrived in Canada." *Applied Psycholinguistics* 41, no. 6 (November 2020): 1255–81. https://doi.org/10.1017/S014271642000017X.

[18] Thurairasu, Vanitha. "Gamification-Based Learning as The Future of Language Learning: An Overview." *European Journal of Humanities and Social Sciences* 2, no. 6 (November 2022): 62–69. https://doi.org/10.24018/ejsocial.2022.2.6.353.

[19] Andrian, Riko, and Widiya Yul. "Arabic Teaching Efficacy Model (ATEM): A Language Teaching Model Design." *International Journal of Arabic-English Studies* 23, no. 2 (June 2023): 269–384. https://doi.org/10.33806/ijaes.v23i2.468.

principles of AI-supported learning, despite the fact that the instructional medium remained traditional and non-digital. In this study, AI was not positioned as a technology intended to replace human instructional processes; rather, it was conceptualized as a pedagogical perspective capable of strengthening reflection, evaluation, and adaptive instructional support in Arabic language learning. When teachers identified students' error patterns in using particular expressions, provided direct feedback during gameplay, and adjusted explanations according to learners' difficulties, pedagogical mechanisms aligned with the principles of adaptive feedback and reflective reinforcement in AI-supported learning effectively emerged.[20] In other words, the snakes and ladders game in this study demonstrates that traditional pedagogy can continue to develop adaptively without depending entirely on complex AI-based digital systems. These findings further reinforce the argument that AI in education should function as a form of pedagogical augmentation that supports human interaction rather than replacing it.[21]

From a broader perspective, this study indicates that innovation in Arabic language learning within the AI era does not necessarily need to rely on sophisticated digital technologies. In many non-formal educational institutions and resource-limited educational contexts, infrastructural limitations frequently become obstacles to the implementation of high-technology learning systems.[22] Nevertheless, the findings of this study demonstrate that collaborative, reflective, and contextualized learning can still be effectively developed through simple traditional game media. The use of snakes and ladders in uslub learning illustrates that low-tech educational innovation continues to possess strong relevance for the development of modern Arabic language instruction, particularly when supported by adaptive and human-centered pedagogical approaches. In this regard, AI-supported learning

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[20] Wayne Holmes, Maya Bialik, and Maya Bialik. *Artificial Intelligence in Education: Promises and Implications for Teaching and Learning*. Boston: Center for Curriculum Redesign, 2019.

[21] Ni, Aohua, and Alan Cheung. "Understanding Secondary Students' Continuance Intention to Adopt AI-Powered Intelligent Tutoring System for English Learning." *Education and Information Technologies* 28, no. 3 (March 2023): 3191–216. https://doi.org/10.1007/s10639-022-11305-z.

[22] Annafiri, Ahmad Zaki, Andi Suseno, Ilmah Fitrotul Azizah, Ahmad Mizaj el Kafoor, and Firda Saphira Azzahro. "Cultural Analysis of the Arabic Language Textbooks of Muhammadiyah Elementary School." *Alibbaa': Jurnal Pendidikan Bahasa Arab* 5, no. 1 (January 2024): 98–119. https://doi.org/10.19105/ajpba.v5i1.10989.

should not be understood merely as the dominance of digital technology within classrooms, but rather as a pedagogical approach that assists teachers in constructing learning environments that are more reflective, contextualized, and responsive to learners' needs.[23]

Furthermore, this study contributes significantly to the development of game-based Arabic language learning within non-formal educational contexts. Most previous studies have primarily focused on digital game-based learning or concentrated on vocabulary and grammar acquisition. In contrast, the present study demonstrates that traditional games can also be utilized to support uslub learning, which requires deeper understanding of communicative and contextual language functions. The findings indicate that the use of expressions such as أَنَا مُرْتَاحٌ هُنَا, فِي الْوَاقِعِ, أَقْتَرِحُ عَلَيْكَ, and لاَ شُكْرَ عَلَى وَاجِبٍ within gameplay activities assisted students in constructing language understanding through direct experience, group discussion, and simple communicative practice. Accordingly, this study not only reinforces the relevance of game-based learning in Arabic language education but also offers a new perspective on how traditional pedagogy can be integrated with AI-supported learning through human-centered, collaborative, and reflective instructional approaches.

[23] Farid, Edi Kurniawan, and Aisyatur Rodhiyah. "The Strategy of Teaching Arabic Composition in The Arabic Language Development Center at Pondok Pesantren Darul Lughah Wal Karomah Kraksaan Probolinggo Indonesia | Istirotijiyah Ta'lim al-Insya' Fiy Markaz Tabahhur al-Lughah al-'Arabiyah Bi Ma'had Darul L." *Mantiqu Tayr: Journal of Arabic Language* 2, no. 2 (July 2022): 132–45. https://doi.org/10.25217/mantiqutayr.v2i2.2370.

Conclusion

This study demonstrates that snakes and ladders implemented through a game-based instructional approach was capable of supporting Arabic uslub learning in a more collaborative, contextualized, and human-centered manner within the LSBA Ula environment. The findings address the first and second research questions by showing that the use of traditional games not only assisted students in understanding Arabic expressions such as أَنَا مُرْتَاحٌ هُنَا, فِي الْوَاقِعِ, أَقْتَرِحُ عَلَيْكَ, and لاَ شُكْرَ عَلَى وَاجِبٍ, but also enabled them to comprehend the communicative functions and contextual usage of these expressions through group discussions, peer learning, reflective interaction, and direct conversational practice during gameplay. The learning processes emerging throughout gameplay further demonstrated that students became more actively engaged in comparing answers, correcting errors, and constructing language understanding through social negotiation of meaning rather than merely relying on theoretical lecture-based instruction. These findings confirm that traditional games continue to possess strong pedagogical relevance in modern Arabic language learning because they create experiential learning environments capable of simultaneously supporting learners' cognitive, social, and emotional engagement.

This study also addresses the third research question by demonstrating that the perspective of AI-supported learning can be positioned as a form of pedagogical augmentation within traditional game-based Arabic language learning without necessarily transforming the instructional medium into a fully AI-driven digital system. The mechanisms of direct feedback, identification of learner error patterns, and adaptive instructional support provided by teachers during gameplay reflected principles consistent with reflective feedback and adaptive reinforcement within AI-supported pedagogy. Nevertheless, this study still possesses several limitations, as it was conducted within a non-formal educational context involving a limited number of participants and did not directly implement AI systems within the instructional process itself. Therefore, future research is recommended to expand participant coverage, employ mixed-methods approaches, and explore the potential integration of AI-assisted feedback systems or adaptive learning support within traditional game-based Arabic language learning in order to strengthen instructional evaluation, reflective learning processes, and learners' contextual understanding.

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