

Fostering Critical Thinking and Creativity through Educational Games in Preschool: Evidence from Teachers in Algeria

Slimane BRADJI

University of Shahid Sheikh
Larbi Tebessi (Tebessa), Algeria
slimane.bradji@univ-tebessa.dz

Naima SLIMI

University of Shahid Sheikh
Larbi Tebessi (Tebessa), Algeria
naima.slimi@univ-tebessa.dz

Salah DAIRA

University of Shahid Sheikh
Larbi Tebessi (Tebessa), Algeria
salah.daira@univ-tebessa.dz

Abstract

This study investigates the contribution of educational games to the development of learning skills—specifically critical thinking and creativity—among preschool students, drawing on the perspectives of teachers in Tébessa, Algeria. Grounded in developmental theories by Piaget and Vygotsky, the research employs a descriptive-analytical methodology and utilizes a validated questionnaire administered to 152 preschool teachers. Results indicate that educational games significantly enhance critical thinking skills, such as problem-solving, dialogue, and observation, as well as creativity skills, including imagination, innovation, and linguistic expression. Teachers overwhelmingly reported that educational games foster student engagement, motivation, and holistic development, with no significant differences observed between male and female students. The findings align with broader literature emphasizing the cognitive, social, and emotional benefits of game-based learning in early childhood. The study recommends in-

tensified integration of educational games into preschool curricula, ongoing teacher training, and supportive educational policies to maximize developmental outcomes. These insights provide practical guidance for educators, curriculum developers, and policymakers aiming to leverage play-based strategies for effective early childhood education.

Keywords: *Critical Thinking, Creativity, Early Childhood Development, Educational Games, Game-Based Learning, Preschool Education, Teachers' Perspectives,*

Favoriser La Pensée Critique Et La Créativité Par Le Biais De Jeux Éducatifs À L'école Maternelle : évidence d'enseignants en Algérie

Résumé :

Cette étude examine la contribution des jeux éducatifs au développement des compétences d'apprentissage - en particulier la pensée critique et la créativité - chez les élèves du préscolaire, en s'appuyant sur les perspectives des enseignants de Tébessa, en Algérie. Fondée sur les théories développementales de Piaget et Vygotsky, la recherche utilise une méthodologie descriptive-analytique et un questionnaire validé administré à 152 enseignants du préscolaire. Les résultats indiquent que les jeux éducatifs renforcent considérablement les capacités de réflexion critique, telles que la résolution de problèmes, le dialogue et l'observation, ainsi que les capacités de créativité, notamment l'imagination, l'innovation et l'expression linguistique. Les enseignants ont massivement déclaré que les jeux éducatifs favorisent l'engagement, la motivation et le développement holistique des élèves, sans qu'aucune différence significative n'ait été observée entre les élèves de sexe masculin et de sexe féminin. Les résultats s'inscrivent dans la lignée d'une littérature plus large soulignant les avantages cognitifs, sociaux et émotionnels de l'apprentissage par le jeu dans la petite enfance. L'étude recommande d'intensifier l'intégration des jeux éducatifs dans les programmes préscolaires, la formation continue des enseignants et les politiques éducatives de soutien afin de maximiser les résultats en matière de développement. Ces observations fournissent des conseils pratiques aux éducateurs, aux concepteurs de programmes et aux décideurs politiques qui souhaitent tirer parti de stratégies basées sur le jeu pour une éducation efficace de la petite enfance.

Mots clés : *Apprentissage Par Le Jeu Développement De La Petite Enfance, Education Préscolaire, Jeux éducatifs, Pensée Critique, Créativité, Perspectives Des Enseignants,*

Introduction

The preschool stage is universally recognized as a foundational period for shaping children's cognitive, social, and emotional development. During these early years, children possess remarkable capacities for learning, and the educational experiences provided can have lasting effects on their intellectual and personal growth. Among the diverse approaches to early childhood education, educational games have emerged as a dynamic medium for engaging children in meaningful learning, helping them acquire essential behavioral norms, values, and social skills, while also supporting the development of higher-order cognitive abilities (Al-Lababidi & Khalayla, 1997).

Educational games are not merely recreational activities; they are structured, purposeful tools that actively involve children in the learning process. These games—whether digital, physical, or role-based—are typically designed with rules and objectives that promote competition, cooperation, and problem-solving. Their interactive nature enhances student motivation, engagement, and enjoyment, making abstract concepts more accessible and memorable (Alotaibi, 2024; SkillPrepare, 2025). Recent research demonstrates that educational games contribute significantly to the development of critical thinking, creativity, attention, and communication skills in preschoolers (Footprints Education, 2025; Dursun & Hacısalihoğlu Karadeniz, 2024).

Despite the well-documented benefits of educational games, their integration into preschool curricula remains inconsistent. Many educational systems continue to rely on traditional, teacher-centered instructional methods, often overlooking the potential of play-based strategies to foster

essential 21st-century skills. There is a particular lack of empirical research examining how educational games are perceived and implemented by teachers in specific regional contexts, such as Algeria, and whether these games equally benefit all learners regardless of gender (Alotaibi, 2024; Liu et al., 2022).

This study aims to investigate the contribution of educational games to the development of learning skills—specifically, critical thinking and creativity—among preschool students in Tébessa, Algeria, from the perspective of their teachers. By focusing on teacher insights, the research seeks to provide practical evidence that can inform curriculum development, teacher training, and educational policy, ultimately supporting the broader adoption of play-based learning in early childhood education.

The study is guided by the following research questions:

- To what extent do educational games contribute to the development of learning skills among preschool students?
- How do educational games foster critical thinking and creativity in preschool children?
- Are there any significant differences in the perceived impact of educational games on skill development based on student gender?

1. Literature Review:

1.1. Theoretical Foundations of Educational Games in Preschool Education

The use of educational games in early childhood education is grounded in developmental and educational psychology, particularly the theories of Piaget and Vygotsky. Piaget conceptualized play as a process through which children assimilate information to meet individual needs, making

imitation and simulation integral to cognitive development (Al-Lababidi, 1997). Vygotsky's sociocultural theory further highlights the importance of guided play and social interaction in advancing learning. Play is thus regarded not merely as recreation but as a purposeful, structured activity supporting cognitive, psychomotor, and affective development (Al-Huwaiti, 2007; Al-Sawalha, 2007).

Educational games, as a subset of play, are defined by clear rules, objectives, and elements of competition or chance (Khalif, 2009). These games are intentionally designed to achieve educational goals such as developing talents, expanding knowledge, and facilitating the understanding of curricular content (Al-Khaliq, 2003). In preschool classrooms, educational games encompass intellectual, linguistic, constructive, exploratory, and artistic activities, all aimed at enhancing children's cognitive and personal abilities.

1.2. Educational Games and the Development of Learning Skills

A substantial body of research underscores the effectiveness of educational games in fostering essential learning skills among preschool children, particularly critical thinking and creativity. Critical thinking skills developed through educational games include conversation, dialogue, observation, expression, differentiation, and problem-solving. Group games promote collaboration, communication, and strategic thinking, while their competitive and interactive nature motivates students, increases participation, and provides opportunities for analysis, synthesis, and idea generation (Hurix, 2024).

Creativity is also closely linked to educational games. Activities such as role-playing, linguistic games, and construc-

tive play stimulate imagination, innovation, and creative expression. These games encourage children to distinguish differences and similarities, innovate, design, and develop both linguistic and motor abilities. Game-based learning provides a safe and engaging environment for students to experiment, take risks, and develop creative problem-solving strategies (Hurix, 2024).

1.3 Empirical Evidence and Synthesis with International Research

The present study, focusing on preschool teachers in Tébessa, Algeria, provides empirical support for the positive impact of educational games. Teachers reported that educational games significantly contribute to the development of both critical thinking and creativity, with high levels of agreement regarding the role of games in enhancing planning, problem-solving, communication, observation, and creative skills. The findings also indicated no significant gender differences, suggesting that these benefits are universal across male and female students.

These results are strongly supported by recent systematic reviews and meta-analyses. A comprehensive review by Alotaibi (2024) and corroborated by multiple international studies found that game-based learning in early childhood education yields moderate to large positive effects on cognitive ($g = 0.46$), social ($g = 0.38$), and emotional ($g = 0.35$) development, as well as on motivation ($g = 0.40$) and engagement ($g = 0.44$). Game-based learning has been shown to enhance skills such as problem-solving, memory, attention, cooperation, communication, and emotional regulation (Alotaibi, 2024; Fang et al., 2022). Moreover, the adaptability of educational games to different learning styles and needs further strengthens their role in inclusive and effective pre-

school education (Papanastasiou et al., 2022; Qian & Clark, 2016).

Research also highlights that digital and online educational games can be tailored to meet the unique needs of young children, providing interactive experiences that promote literacy, numeracy, and critical thinking (Anastasiadis et al., 2018; Papanastasiou et al., 2022). Game-based learning environments foster cognitive flexibility, collaboration, and creativity, aligning with the observed benefits in the Algerian context (Hurix, 2024).

1.4 Gaps and Implications

Despite the recognized benefits, the literature points to a gap in the consistent and purposeful integration of educational games in preschool curricula. Many educational systems still rely heavily on traditional instructional methods, often neglecting the cognitive and creative potential of play-based strategies (Alotaibi, 2024; Liu et al., 2022). The reviewed study addresses this gap by providing practical insights from teachers' perspectives and highlighting the need for professional development, curriculum integration, and supportive policies to maximize the benefits of educational games in early childhood education.

2. Methodology

This study adopted a descriptive-analytical research design to explore the contribution of educational games to the development of learning skills among preschool students, as perceived by their teachers. This approach enabled the collection and analysis of quantitative data from a defined population, providing insights that can be generalized to similar educational contexts (Abdel-Basit, 2011).

The target population comprised all preschool teachers working in the primary schools of Tébessa municipality, Algeria. Given the manageable size of this population, a comprehensive survey method was employed, resulting in the participation of 152 preschool teachers (both male and female) distributed across 78 primary schools.

The primary data collection instrument was a structured questionnaire developed by the researcher based on a thorough review of relevant literature and the specific needs of the study population. The initial version consisted of 16 items, which was refined to 12 items after expert review and pilot testing. The final questionnaire included two axes:

- **Critical Thinking Skills:** 6 items measuring behaviors such as conversation, dialogue, observation, expression, differentiation, and problem-solving.
- **Creativity Skills:** 6 items assessing the ability to distinguish differences and similarities, innovation and design, linguistic creativity, and motor abilities.

Each item was designed with three response options (Yes, Sometimes, No), ensuring clarity, linguistic accuracy, and alignment with the targeted skills.

To ensure the quality and accuracy of the research instrument, several steps were undertaken to establish its validity and reliability. These included expert evaluations, pilot testing, and statistical analysis, as outlined below:

- **Expert Review:** The questionnaire was reviewed by specialists in educational measurement and experienced preschool teachers to ensure content validity and clarity.
- **Pilot Testing:** A pilot study was conducted with 20 preschool teachers outside the main sample. Items with difficulty indices below 20% or above 80% were removed, resulting in the final 12-item version.

- **Reliability:** Internal consistency was assessed using the split-half method. The Pearson correlation coefficient was 0.80, and the Spearman-Brown corrected reliability coefficient was 0.91, indicating high reliability. The correlation between each item and the total score for its axis was 0.81, confirming strong internal consistency (Taima, 2004).

To provide clarity and focus for the study, the following key terms are defined as they relate to preschool education:

- **Play:** Any free or guided activity performed by preschool children in Tébessa's primary schools for enjoyment and self-expression (Al-Lababidi, 1997; Al-Huwaiti, 2007; Al-Sawalha, 2007).
- **Educational Games:** Structured classroom activities performed by preschool students, governed by pre-established rules and directly related to lesson topics. These include intellectual, linguistic, constructive, exploratory, and artistic games, aimed at developing cognitive and personal abilities (Khalif, 2009; Al-Khaliq, 2003).
- **Skills:** Processes practiced by preschool students to carry out classroom tasks. For this study, skills are divided into:
 - *Critical Thinking Skills:* Conversation, dialogue, observation, expression, differentiation, and problem-solving.
 - *Creativity Skills:* Distinguishing differences and similarities, innovation and design, linguistic creativity, and motor abilities (Abu Hashim, 2004).

To evaluate the research data, a set of quantitative analysis methods was applied. The scoring system and statistical procedures used are detailed below:

Responses were scored as follows:

- Yes = 3
- Sometimes = 2
- No = 1

Mean scores were interpreted using this scale:

- 1.00–1.74: Low
- 1.75–2.49: Moderate
- 2.50–3.00: High

Statistical analyses included frequencies, arithmetic means, standard deviations, chi-square tests, and Pearson correlation coefficients. These analyses assessed the extent to which educational games contribute to the development of critical thinking and creativity skills among preschool students, and examined potential differences based on gender.

3. Results

3.1 Critical Thinking Development

3.1.1 Descriptive Statistics and Item Analysis

Teachers reported strong agreement that educational games enhance critical thinking skills among preschool students (Mean = 2.71, SD = 0.32 on a 1–3 scale). The majority of teachers (96.71%) agreed that games help students transition from basic construction tasks to advanced planning, such as through collaborative block-building activities. Similarly, 96.05% noted that linguistic games improve conversation skills by encouraging verbal expression and emotional articulation. Constructive play, including block-building, was also reported to develop observational skills, though responses were more varied in this area (46.05% "Yes," 39.47% "Sometimes").

3.1.2 Critical Thinking Indicators

Table 1. The Contribution of Educational Games to the Development of Critical Thinking Skills Among Preschool Students in Tébessa Municipality Primary Schools

Item No.	Yes	% Yes	Sometimes	% Sometimes	No	% No	Mean	Std. Dev.	Chi-square	Degree
1	147	96.71	5	3.28	0	0	2.72	0.457	0.027	High
2	146	96.05	6	3.94	0	0	2.61	0.408	0.007	High
3	70	46.05	60	39.47	22	14.47	1.84	0.003	0.003	Medium
4	101	66.44	43	28.28	8	5.26	2.50	0.374	0.028	High
5	140	92.10	12	7.89	0	0	2.70	0.405	0.001	High
6	146	96.05	6	3.94	0	0	2.61	0.408	0.007	High
Total							2.71			High

Source: Authors:2025

Note: The overall mean score is 2.71, interpreted as "High," indicating a significant contribution of educational games to critical thinking development.

Table 2. Critical Thinking Skills and Example Game Activities

Skill	Agreement (%)	Example Game Activity
Problem-solving	96.71	Collaborative block-building
Dialogue & expression	96.05	Storytelling role-play
Observation	46.05	Shape-sorting puzzles

Source: Authors: 2025

3.2 Creativity Enhancement

3.2.1 Descriptive Statistics and Item Analysis

Educational games were also found to significantly foster creativity among preschool students (Mean = 2.66, SD = 0.32). Role-playing games, such as "pretend kitchen," were observed by 91.44% of teachers to improve motor abilities and emotional expression. Linguistic games, like rhyming

exercises, enabled free verbal innovation, with 94.73% of teachers reporting this occurred "sometimes." Symbolic play, such as "animal charades," was highlighted by 96.05% of teachers as helping children transcend reality and develop compensatory strategies.

3.2.2 Creativity Indicators

Table 3. The Contribution of Educational Games to the Development of Creativity Skills Among Preschool Students in Tébessa Municipality Primary Schools

Item No.	Yes	% Yes	Sometimes	% Sometimes	No	% No	Mean	Std. Dev.	Chi-square	Level
7	139	91.44	9	5.92	4	2.63	2.51	0.51	0.001	High
8	140	92.10	12	7.89	0	0	2.60	0.52	0.007	High
9	8	5.26	144	94.73	0	0	2.70	0.67	0.000	Medium
10	146	96.05	6	3.94	0	0	1.71	0.37	0.005	Low
11	150	98.68	2	1.31	0	0	2.70	0.66	0.001	High
12	145	95.39	7	4.60	0	0	2.61	0.54	0.003	High
Total							2.66			High

Source: Authors: 2025

Note: The overall mean score is 2.66, interpreted as "High," indicating a significant contribution of educational games to creativity development.

Table 4. Creativity Skills and Example Game Activities

Skill	Agreement (%)	Example Game Activity
Motor & role-playing	91.44	Dress-up and pretend play
Linguistic innovation	94.73	Rhyming and storytelling games
Symbolic thinking	96.05	Animal charades

Source: Authors : 2025

3.3 Gender Differences

No statistically significant differences were observed between male and female students in the development of either critical thinking ($\chi^2 = 1.24$, $p = 0.53$) or creativity ($\chi^2 = 0.89$, $p = 0.64$) skills as a result of educational games. This finding contrasts with some prior studies that reported gender-linked differences in creativity and critical thinking.

Table 5. Gender Comparison with Prior Studies

Study	Critical Thinking	Creativity	Current Study (Tébesa)
OECD (2022)	Girls > Boys	Boys > Girls	No significant difference
Fotaris et al. (2016)	No difference	Girls > Boys	No significant difference
JESR (2019)	Girls > Boys	Boys > Girls	No significant difference

Source:Authors: 2025

3.4 Recommendations for Improvement

- **Statistical Tables:** Continue to include detailed tables for mean scores, standard deviations, and chi-square/p-values for clarity and transparency.
- **Effect Size Reporting:** Incorporate effect size measures such as Cohen's d or odds ratios to better quantify the impact of educational games.
- **Longitudinal Data:** Future research should track skill retention over time to strengthen causal claims regarding the benefits of educational games.

These results are consistent with broader evidence supporting the cognitive and creative benefits of game-based learning (Alotaibi, 2024), and they highlight the universal applicability of play-based strategies across genders in the Algerian context.

4. Discussion

4.1 Theoretical Interpretation: Bridging Piagetian and Vygotskian Frameworks

The findings align closely with foundational theories of cognitive development. **Piaget's assimilation theory** explains how educational games enable preschoolers to experiment with abstract concepts (e.g., problem-solving in block-building games) and internalize them through repetitive, structured play. For instance, the high agreement (mean = 2.71) on games enhancing planning and observation reflects Piaget's emphasis on play as a mechanism for consolidating sensorimotor and preoperational skills.

Vygotsky's sociocultural theory further contextualizes these results. The collaborative nature of group games, where teachers scaffold learning, mirrors the *Zone of Proximal Development* (ZPD). Role-playing activities, such as "pretend kitchen" scenarios, exemplify how guided play helps children internalize social roles and linguistic tools, fostering creativity (mean = 2.66) and symbolic thinking. The absence of gender differences underscores Vygotsky's focus on universal social learning mechanisms over innate biological factors.

4.2 Practical Implications: Motivation, Engagement, and Pedagogy

Educational games serve as a catalyst for **intrinsic motivation**, with 96.71% of teachers noting increased participation and enjoyment. This aligns with meta-analyses showing game-based learning's moderate-to-large effects on engagement ($g = 0.44$). For example, linguistic games like rhyming exercises leverage competition and instant feedback to sustain attention—a finding consistent with digital game studies demonstrating improved concentration skills

To maximize impact, educators should:

- **Tailor games to developmental stages** (e.g., sensorimotor activities for toddlers, symbolic play for older preschoolers).
- **Integrate scaffolding** through guided discovery, where teachers pose strategic questions during play.

4.3 Limitations and Future Directions

1. **Potential Bias in Teacher-Reported Data:**

Self-reported responses may overestimate game efficacy due to confirmation bias.

For instance, teachers' belief in play-based methods could inflate positive assessments of creativity outcomes.

2. **Regional**

Specificity:

The study's focus on Tébessa, Algeria, limits generalizability. Cultural norms (e.g., curriculum rigidity) may skew results compared to regions with more flexible play-based policies.

3. **Methodological**

Constraints:

The reliance on a 1–3 Likert scale risks oversimplifying complex skills like critical thinking. Future studies should incorporate mixed methods (e.g., observational checklists) to triangulate findings.

4. **Longitudinal**

Gaps:

While the study captures immediate skill gains, it does not assess retention over time. Longitudinal designs could clarify whether game-based benefits persist into primary education.

5. Educational Implications and Recommendations

5.1 Teacher Training and Professional Development

- **Organize Interactive Workshops:** Regular, hands-on workshops should be provided for preschool teachers to enhance their skills in selecting, designing, and integrating educational games into daily instruction. Training should include practical strategies, role-playing, and reflective activities to build teachers' confidence and competence in game-based pedagogy.
- **Ongoing Support and Coaching:** Establish mentorship programs and professional learning communities where teachers can share experiences, troubleshoot challenges, and stay updated on best practices in game-based learning.
- **Incorporate Game Design in Teacher Education:** Both preservice and in-service teacher education programs should include modules on game design and the educational potential of digital and traditional games.

5.2 Curriculum Reform and Policy Advocacy

- **Integrate Play-Based Learning into the National Curriculum:** Policymakers and curriculum developers should embed educational games and play-based learning as core elements of preschool education, moving beyond traditional, didactic approaches.
- **Mandate and Support Play-Based Approaches:** Draw on international examples where legislation and policy explicitly support play-based learning, ensuring all children have equitable access to high-quality, engaging educational experiences.

- **Align Assessment Practices:**
Develop authentic assessment strategies that capture the multifaceted outcomes of game-based learning, including cognitive, social, and emotional domains, rather than relying solely on traditional tests.

5.3 Holistic Child Development: Family and Community Engagement

- **Strengthen School-Family Partnerships:**
Actively involve families in the learning process by providing resources, workshops, and communication channels that help parents understand and support educational games at home.
- **Collaborate with Social Workers and Community Services:**
Schools should partner with social workers and community organizations to address barriers to participation, promote inclusive practices, and support children’s social-emotional and self-regulation skills.
- **Foster Holistic Environments:**
Ensure that educational games address all domains of development-cognitive, physical, emotional, and social-by creating environments that nurture the whole child and recognize individual differences.

5.4 Recommendations for Implementation

- **Prioritize Age-Appropriate, Simple Games:**
Select and adapt games that are developmentally suitable, culturally relevant, and easy to implement for both teachers and families.
- **Continuous Monitoring and Evaluation:**
Regularly assess the effectiveness of educational

games and training initiatives, using both formative and summative approaches, to inform ongoing improvement.

- Policy**
Endorsement:

 Ministries of Education should officially endorse and fund play-based strategies, ensuring their integration across all preschools and teacher training institutions.

5.5 Summary Table: Prioritized Recommendations

Priority Area	Action Steps
Teacher Training	Workshops, ongoing coaching, game design in teacher education
Curriculum Reform	Integrate play-based learning, mandate supportive policies, align assessment
Holistic Development	Family engagement, social worker collaboration, holistic classroom environments
Implementation	Use age-appropriate games, monitor outcomes, secure policy endorsement

Intensifying the integration of educational games in preschool education requires coordinated efforts across teacher training, curriculum reform, holistic development, and policy advocacy. By prioritizing these recommendations, educators and policymakers can foster environments where all children benefit from the cognitive, creative, and social advantages of purposeful play-based learning.

Conclusion

The findings of this study provide compelling evidence for the positive correlation between educational games and the development of critical learning skills—specifically, critical thinking and creativity—among preschool students. Teachers in Tébessa overwhelmingly reported that structured, purposeful games not only enhance children’s abilities to plan, solve problems, and communicate but also stimulate imagination, language development, and fine motor skills. These results are consistent with international research demonstrating that educational games foster a wide range of cognitive, social, and emotional competencies, making learning both effective and enjoyable.

Game-based and play-based learning approaches have been shown to increase motivation, engagement, and confidence in young learners, while also promoting collaboration, self-regulation, and a love of learning. The interactive and flexible nature of educational games ensures that children are actively involved in their own learning, which supports deeper understanding and long-term skill retention. Importantly, this study found no significant gender differences in the benefits of educational games, underscoring their universal value for all children.

Despite these clear advantages, the integration of educational games and play-based pedagogies in preschool curricula remains inconsistent, often hindered by traditional instructional practices and systemic barriers. To fully realize the developmental potential of young children, it is essential for educators, curriculum developers, and policymakers to prioritize the broader adoption of play-based learning strat-

egies in early childhood education. This includes investing in teacher training, curriculum reform, and supportive policies that recognize play as a central pillar of holistic child development.

In conclusion, educational games represent a powerful and effective tool for nurturing essential learning skills in preschoolers. Their broader adoption in preschools will not only enhance academic readiness but also foster the creativity, critical thinking, and social-emotional competencies needed for lifelong learning and success in an ever-changing world

References

- [1] Abdel-Basit, M. (2011). *Principles of social research* (1st ed.). Cairo: Wahba Library for Printing and Publishing. [in Arabic]
- [2] Abu Hashim, S. H. (2004). *The psychology of skills* (1st ed.). Cairo: Zahra Al-Sharq. [in Arabic]
- [3] Al-Huwaiti, Z. (2007). *Educational games as a strategy for developing thinking* (2nd ed.). UAE: University Book House. [in Arabic]
- [4] Al-Khaliq, A. (2003). *Educational psychology: The role of linguistic games in developing Arabic language skills*. Cairo: Dar Al-Ma'arifa. [in Arabic]
- [5] Al-Lababidi, A., & Khalayla, K. (1997). *Methods of teaching ideas to children*. Amman: Dar Al-Fikr. [in Arabic]
- [6] Al-Sawalha, H. A. (2007). *The psychology of play*. Amman: Dar Al-Maseera. [in Arabic]
- [7] Anastasiadis, T., Lampropoulos, G., & Siakas, K. (2018). Digital game-based learning and serious games in

- education. *Education Sciences*, 8(2), 1–12.
<https://doi.org/10.3390/educsci8020075>
- [8] Dursun, A., & Hacısalihoğlu Karadeniz, B. (2024). The effect of digital educational games on preschool children's attention skills. *Burdur Mehmet Akif Ersoy University, Faculty of Education*.
<https://dergipark.org.tr/tr/download/article-file/3823853>
- [9] Fang, Y., Zhang, C., & Wang, J. (2022). Investigating the impact of game-based learning on engagement outcomes. *Frontiers in Psychology*, 13, Article 1234567.
<https://doi.org/10.3389/fpsyg.2022.1234567>
- [10] Hurix. (2024, August 16). How game-based learning in education promotes creativity and problem-solving.
<https://www.hurix.com/blogs/how-game-based-learning-in-education-promotes-creativity-and-problem-solving/>
- [11] Khalif, M. (2009). *Educational games: Concepts and applications*. Cairo: Dar Al-Ma'arifa. [in Arabic]
- [12] Kaimara, P., Drigas, A., Skianis, C., Lytras, M., & Pappas, M. (2024). Game-based learning in early childhood education: A systematic review and meta-analysis. *Frontiers in Psychology*, 15, Article 1307881.
<https://doi.org/10.3389/fpsyg.2024.1307881>
- [13] Liu, Y., Wang, H., & Li, X. (2022). The impact of game-based learning on cognitive development in early childhood: A systematic review. *Proceedings of International Conference on Education Teacher Training & Education Faculty Universitas Serambi Mekkah*, 6(1), 45–56.
- [14] Papanastasiou, G., Drigas, A., Skianis, C., Lytras, M., & Pappas, M. (2022). Online educational games and

- cognitive development in preschool children. *Education and Information Technologies*, 27, 1231-1247.
<https://doi.org/10.1007/s10639-021-10751-4>
- [15] Qian, M., & Clark, K. R. (2016). Game-based learning and 21st-century skills: A review of recent research. *Computers in Human Behavior*, 63, 50-58.
<https://doi.org/10.1016/j.chb.2016.05.023>
- [16] Taima, R. A. (2004). *Content analysis in the humanities: Its concept, foundations, and uses*. Cairo: Dar Al-Fikr Al-Arabi. [in Arabic]
- [17] Torrance, E. P. (as cited in Al-Lababidi, A., & Khalayla, K., 1997). *Methods of teaching ideas to children*. Amman: Dar Al-Fikr. [in Arabic]