



FOSTERING STUDENTS' ARABIC LEARNING MOTIVATION: THE SYNERGY OF QUANTUM TEACHING AND MONOPOLY-BASED MEDIA

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ABSTRACT

Student motivation remains a major challenge in Arabic language learning, particularly in classrooms where conventional instructional approaches provide limited opportunities for active engagement. Although Quantum Teaching and game-based learning have independently demonstrated positive effects on student learning, empirical studies examining their integration in Arabic language education remain limited. This study aims to investigate the effectiveness of integrating the Quantum Teaching model with Monopoly Game Smart, an educational game designed to promote interactive and meaningful learning experiences, in enhancing students' motivation to learn Arabic. A quantitative quasi-experimental design employing a pre-test–post-test control group was used. The participants were eighth-grade students at MTs Darul Hikam Banjaran assigned to experimental and control groups. Data were collected through a learning motivation questionnaire and supported by classroom observations and interviews. Quantitative data were analyzed using N-Gain and an independent-samples t-test. The findings revealed that the experimental group achieved significantly greater improvement in learning motivation than the control group ($p < 0.05$), with a moderate gain, compared to the low gain observed in the control group. Classroom observations also indicated higher levels of participation and engagement among students receiving the intervention. These findings suggest that integrating Quantum Teaching with Monopoly Game Smart provides an effective instructional strategy for fostering motivation and active participation in Arabic language learning. The study contributes empirical evidence supporting the use of game-based innovations within the Quantum Teaching framework to enhance student engagement in Arabic language education.



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INTRODUCTION

Arabic language learning plays an important role in developing students' linguistic competence, particularly in understanding and using the language both actively and passively (Carvalho et al., 2024). Nevertheless, many students continue to experience difficulties in achieving the expected learning outcomes due to low learning motivation (Miao & Wang, 2023). Learning motivation has been identified as a crucial factor that influences students' engagement, persistence, and academic achievement in learning Arabic as a foreign language (Alshammari et al., 2024). Consequently, students with insufficient motivation often encounter challenges in mastering the four language skills: listening, speaking, reading, and writing. These skills are essential components of Arabic language education because they enable learners to communicate effectively and comprehend linguistic structures in meaningful contexts (Ardiansyah et al., 2023). Research in language education further confirms that autonomy-supportive learning environments significantly contribute to sustaining learners' motivation and engagement in foreign language acquisition (Shelton-Strong, 2022).

The issue of low learning motivation was also identified at MTs Darul Hikam Banjaran, particularly among eighth-grade students. Based on classroom observations and interviews with the Arabic language teacher, many students demonstrated limited enthusiasm for Arabic lessons. This condition was reflected in their low participation in classroom activities, minimal involvement in discussions, and reluctance to ask or answer questions during the learning process. Such conditions indicate that conventional instructional approaches may not sufficiently stimulate students' interest and engagement in learning Arabic. Therefore, innovative and student-centered learning strategies are required to create a more engaging and meaningful learning environment (Nurhidayah & Wahyudi, 2026). Contemporary educational studies emphasize that meaningful classroom interaction and emotionally supportive instruction are essential for promoting students' intrinsic motivation and active participation in language-learning contexts (Mynard & Shelton-Strong, 2022).

One potential strategy to address this issue is the implementation of the Quantum Teaching model integrated with Monopoly Game Smart media. Quantum Teaching is a learning model designed to create enjoyable, interactive, and meaningful learning experiences by integrating various instructional approaches and classroom interactions (Aka, 2025; Subhan et al., 2025). The model emphasizes the importance of establishing positive relationships between teachers and students, fostering an emotionally supportive learning environment, and connecting learning materials to students' prior experiences (Paputungan & Abd Rahman, 2023). These principles are believed to enhance students' engagement and foster a stronger sense of involvement in the learning process. In student-centered pedagogy, emotionally engaging, contextually relevant learning experiences are highly effective in fostering autonomous motivation and improving classroom (Harris & Faizin, 2026).

In addition, Monopoly Game Smart serves as an educational game-based learning medium that incorporates elements of competition, collaboration, and entertainment into classroom activities (Plass et al., 2020). Game-based media have increasingly gained attention in contemporary educational research because they can reduce students' boredom, stimulate active participation, and promote intrinsic learning motivation (Saepurrohman et al., 2024; Mutholib et al., 2023). Through learning while playing, students are expected to become more enthusiastic and actively engaged in Arabic language learning activities. Studies on digital and

educational game-based learning indicate that game quality, feedback systems, and collaborative interaction significantly influence students' autonomous motivation and learning effectiveness (Liu et al., 2021; Yanwari et al., 2021). The integration of Quantum Teaching with Monopoly Game Smart is therefore expected to create a more interactive, communicative, and student-oriented learning environment that supports improved student motivation in learning Arabic.

Previous studies have consistently shown that innovative instructional models and game-based learning media positively influence students' motivation in Arabic language learning. Pradini et al. concluded that Quantum Teaching enhances students' motivation, engagement, and learning outcomes through an active and learner-centered environment (Pradini et al., 2023). Similarly, Munawarah et al. found that Quantum Learning is more effective than conventional instruction in improving learning motivation and Arabic vocabulary mastery (Munawarah et al., 2020), while Rahmawati et al. reported that Quantum Teaching increases students' interest, participation, and classroom learning effectiveness (Rahmawati et al., 2021). Regarding instructional media, Nazilah et al. demonstrated that gamified Monopoly-based media significantly improved Arabic grammar learning and student participation (Nazilah et al., 2025). In contrast, Nasikha et al. found that Game-Based Learning enhanced students' motivation, participation, and enthusiasm through interactive learning activities (Nasikha et al., 2025). Chalik further emphasized that Quantum Teaching creates a communicative, creative, and meaningful learning environment that strengthens students' motivation and engagement (Chalik, 2022). Although these studies confirm the effectiveness of Quantum Teaching and game-based learning in Arabic language instruction, none have integrated Quantum Teaching with Monopoly game-based learning media to examine its effect on students' motivation. Therefore, the present study, *The Effect of Quantum Teaching Model Integrated with Monopoly Game-Based Learning Media on Students' Motivation in Arabic Language Learning*, addresses this gap by combining both approaches within a single instructional design.

Despite the growing body of research on Quantum Teaching and educational game-based media, studies specifically integrating Quantum Teaching with Monopoly Game Smart in the context of Arabic language learning remain limited. Most previous studies have focused either on the instructional model or the learning media separately, rather than examining their combined implementation in Arabic language classrooms. Therefore, this study offers a novel contribution by integrating the Quantum Teaching model with Monopoly Game Smart media to address the problem of low learning motivation among students in Arabic language learning contexts.

Nevertheless, this study has several limitations. First, the research was conducted at a single educational institution with a relatively small sample size, which may limit the generalizability of the findings. Second, the study focused primarily on students' learning motivation and did not comprehensively examine broader learning outcomes such as language proficiency or academic achievement. Therefore, further studies involving larger samples and diverse educational contexts are recommended to provide more comprehensive insights into the effectiveness of this instructional approach.

METHOD

This study employed a quantitative approach because the collected data were numerical and were analyzed statistically. A quantitative approach is appropriate for examining causal relationships and for measuring the effectiveness of instructional interventions through objective, systematic procedures (Creswell & Guetterman, 2024). The study specifically aimed to investigate the effect of the Quantum Teaching model integrated with *Monopoly Game Smart* media on students' motivation in Arabic language learning.

The research design used in this study was a quasi-experimental, non-equivalent control group design. This design was selected because the experimental and control groups were not randomly assigned due to existing classroom arrangements within the school context (Daniel & Harland, 2017). Quasi-experimental research is widely used in educational settings where randomization is difficult to implement but where researchers still seek to examine the causal effect of a treatment on specific variables. The design involved two groups: an experimental group that received the Quantum Teaching intervention integrated with *Monopoly Game Smart* media, and a control group that received conventional instruction. Both groups were administered a pre-test and a post-test to measure changes in students' learning motivation before and after the treatment. The research design can be illustrated as follows:

Table 1. Research Design

Group	Pre-Test	Treatment	Post-Test
Experimental Class	O ₁	X	O ₂
Control Class	O ₃	–	O ₄

Where:

O₁ and O₃ = pre-test scores of learning motivation

O₂ and O₄ = post-test scores of learning motivation

X = treatment using Quantum Teaching integrated with *Monopoly Game Smart* media

The participants of this study were eighth-grade students at MTs Darul Hikam Banjaran during the 2024/2025 academic year. Two intact classes were involved in the study: one served as the experimental group and the other as the control group. Participants were selected using purposive sampling because the classes had relatively similar academic characteristics and learning conditions. The research objective was to examine students' motivation for Arabic language learning, measured before and after the implementation of the instructional treatment.

The study was conducted during the second semester of the 2024/2025 academic year, from January 30 to February 20, 2025. The research procedures consisted of several stages. First, the researcher obtained permission from the school administration to conduct the study. Second, preliminary observations and semi-structured interviews with the Arabic language teacher were conducted to identify students' motivational conditions and the instructional strategies commonly applied in the classroom. Third, a pre-test in the form of a learning motivation questionnaire was administered to both the experimental and control groups. Subsequently, the experimental group received instruction using the Quantum Teaching model integrated with *Monopoly Game Smart* media, while the control group received conventional teaching methods. The treatment was conducted in two instructional sessions.

Finally, a post-test questionnaire was distributed to both groups to evaluate changes in students' learning motivation following the intervention.

Data were collected through classroom observations, semi-structured interviews, and a learning motivation questionnaire. Observations examined students' participation and classroom interactions, while interviews with the Arabic language teacher explored students' motivational challenges, classroom conditions, and perceptions of the instructional strategy. The primary quantitative instrument was a closed-ended questionnaire developed based on Hamzah B. Uno's learning motivation framework, encompassing six dimensions: learning persistence, resilience in facing difficulties, attention and interest, intrinsic and extrinsic motivation, achievement orientation, and learning needs. Responses were measured using a 4-point Likert scale and administered before and after the intervention.

Prior to data collection, the questionnaire was validated through expert judgment and construct validity testing using Pearson's Product-Moment correlation, while reliability was assessed using Cronbach's alpha ($\alpha > 0.70$). Quantitative data were analyzed using descriptive and inferential statistics in SPSS version 26. After confirming normality (Shapiro–Wilk) and homogeneity (Levene's test), an independent-samples t-test was conducted to compare post-test scores between the experimental and control groups at a significance level of 0.05. Ethical principles were observed by ensuring voluntary participation, informed consent, and the confidentiality of all participants.

RESULT AND DISCUSSION

Result

Students' Motivation in Arabic Language Learning Before the Implementation of the Quantum Teaching Model Based on Monopoly Game Smart Media

The study was implemented in February 2025 at MTs Darul Hikam Banjaran. It involved two classes: Class VIII B as the experimental class and Class VIII C as the control class, each comprising 35 students. The experimental class received treatment using the Quantum Teaching model based on the *Monopoly Game Smart* media, while the control class underwent learning through conventional methods. Before the learning process began, the researcher administered a learning motivation questionnaire as a pre-response on February 3, 2025. The questionnaire consisted of 20 statements, rated on a 1–4 Likert scale. After the treatment, the researcher administered the same questionnaire again as a post-response on February 20, 2025, to measure changes in students' learning motivation.

The learning motivation data were analyzed descriptively to identify the distribution of students across motivation categories before and after the treatment, in both the experimental and control classes. The score categories were divided into five levels: very high (69–80), high (57–68), moderate (45–56), low (33–44), and very low (20–32).

The pre-response questionnaire results indicated that the majority of students in the experimental class were in the low and moderate categories. A total of 54% of students were categorized as low, 37% as moderate, and 9% as very low. No students were classified in the high or very high categories. Similarly, in the control class, most students were in the low (66%) and very low (23%) categories, while only 11% were in the moderate category. No students in either class demonstrated high or very high motivation levels. The detailed classification data based on the pre-response questionnaire are presented in the following tables.

Table 2. Initial Learning Motivation Distribution in the Experimental Class and Control Class

Category	Score Range	Frequency		Percentage	
		Experimental Class	Control Class	Experimental Class	Control Class
Very High	69–80	–	–	–	–
High	57–68	–	–	–	–
Moderate	45–56	13	4	37%	11%
Low	33–44	19	23	54%	66%
Very Low	20–32	3	8	9%	23%
Total		35	35	100%	100%

Table 2 illustrates the initial learning motivation distribution (pre-test) between the experimental and control classes, each comprising 35 students. The data indicate that both classes began the study with relatively equivalent and low motivation levels, as no students from either group scored within the "High" or "Very High" categories. In the experimental class, the majority of students fell into the "Low" category (54% or 19 students), followed by "Moderate" (37% or 13 students) and "Very Low" (9% or 3 students). Similarly, the control class was also predominantly occupied by students in the "Low" category (66% or 23 students), with 23% (8 students) in the "Very Low" category and only 11% (4 students) reaching the "Moderate" level. Overall, this initial profile confirms that the baseline learning motivation of students in both classes was homogeneous and generally low, establishing a clear starting point for the intervention.

Table 2. Results of the Normality Test

Variable	Kolmogorov-Smirnov Sig.	Shapiro-Wilk Sig.
PreResponse Experimental	0.200	0.226
PreResponse Control	0.200	0.978

Table 2 presents the results of the normality test for the pre-response data of both the experimental and control classes using the Kolmogorov-Smirnov and Shapiro-Wilk methods. Based on the Kolmogorov-Smirnov test, both classes obtained an identical significance value (Sig.) of 0.200, while the Shapiro-Wilk test yielded a significance value of 0.226 for the experimental class and 0.978 for the control class. Since all significance values from both statistical methods are greater than the standard alpha level of 0.05 ($p > 0.05$), it can be concluded that the pre-response data for both the experimental and control classes are normally distributed, thereby successfully fulfilling the prerequisite assumption for subsequent parametric statistical analysis.

Table 3. Results of the Homogeneity Test

Basis	Levene Statistic	Sig.
Based on Mean	1.397	0.884
Based on Median	1.386	0.243
Based on Median with Adjusted df	1.386	0.244
Based on the Trimmed Mean	1.396	0.242

Table 3 presents the results of the homogeneity of variance test for the initial data using Levene's Test across four statistical bases: Mean, Median, Median with Adjusted df, and Trimmed Mean. The analysis shows that the significance values (Sig.) are 0.884 based on the Mean, 0.243 based on the Median, 0.244 based on the Median with Adjusted df, and 0.242 based on the Trimmed Mean. Since all of these significance values are strictly greater than the standard alpha level of 0.05 ($p > 0.05$), it can be concluded that the variances between the experimental and control classes are homogeneous, thereby successfully satisfying the prerequisite assumption for subsequent parametric statistical analysis.

Students' Motivation in Arabic Language Learning After the Implementation of the Quantum Teaching Model Based on Monopoly Game Smart Media

The implementation of the Quantum Teaching model integrated with Monopoly Game Smart media resulted in a significant improvement in students' motivation toward Arabic language learning. Students became more enthusiastic, actively participated in classroom discussions, and demonstrated greater confidence in completing learning tasks. The integration of Quantum Teaching with game-based learning created an interactive and student-centered learning environment that encouraged collaboration, active engagement, and meaningful learning experiences. These findings are consistent with previous studies showing that the Quantum Teaching model effectively enhances students' learning motivation by promoting active participation and creating an enjoyable classroom atmosphere.



Figure 1. Display of the Monopoly Game Smart Media

Furthermore, the use of Monopoly Game Smart media provided students with opportunities to learn through competition, collaboration, and problem-solving activities, making Arabic language learning more engaging and less monotonous. Students showed greater interest in participating throughout the learning process and demonstrated stronger motivation to achieve learning objectives. These findings support previous research indicating that game-based learning can significantly improve students' motivation, classroom engagement, and active participation by transforming conventional instruction into enjoyable and meaningful learning experiences.

After the treatment, the post-response results in the experimental class demonstrated a highly significant improvement. A total of 57% of students were categorized as high, and 43% as very high. No students remained in the moderate, low, or very low categories. In contrast, the control class post-response results showed that 66% of students were in the moderate category, 26% remained in the low category, and only 9% reached the high category. This indicates that the improvement in learning motivation occurred comprehensively in the experimental class but not in the control class.

Table 4. Final Learning Motivation Distribution in the Experimental Class and Control Class

Category	Score Range	Frequency		Percentage	
		Experimental Class	Control Class	Experimental Class	Control Class
Very High	69–80	15	–	43%	–
High	57–68	20	4	57%	9%
Moderate	45–56	–	23	–	66%
Low	33–44	–	9	–	26%
Very Low	20–32	–	–	–	–
Total		35	35	100%	100%

Table 4 illustrates the final learning motivation distribution between the experimental and control classes, each comprising 35 students. A significant contrast is observed between the two groups, as the experimental class is entirely concentrated in the higher echelons, with 43% (15 students) achieving "Very High" motivation and 57% (20 students) reaching "High" motivation. Conversely, the control class predominantly features "Moderate" motivation at 66% (23 students) and "Low" motivation at 26% (9 students), with only a minor 9% (4 students) managing to reach the "High" category. Overall, this data clearly indicates that the experimental class exhibits a substantially superior level of final learning motivation compared to the control class. This finding suggests that implementing the Quantum Teaching model based on Monopoly Game Smart media had a greater positive impact on students' learning motivation than conventional learning methods.

Table 5. Results of the Normality Test

Variable	Kolmogorov-Smirnov Sig.	Shapiro-Wilk Sig.
PostResponse Experimental	0.200	0.242
PostResponse Control	0.200	0.654

Table 5 presents the results of the normality test for the post-response data of both the experimental and control classes using the Kolmogorov-Smirnov and Shapiro-Wilk methods. Based on the Kolmogorov-Smirnov test, both classes obtained an identical significance value (Sig.) of 0.200, while the Shapiro-Wilk test yielded a significance value of 0.242 for the experimental class and 0.654 for the control class. Because all significance values from both methods are greater than the standard alpha level of 0.05 ($p > 0.05$), it can be concluded that the post-response data for both the experimental and control classes are normally distributed, thereby meeting the prerequisites for further parametric statistical analysis.

Table 6. Results of the Homogeneity Test

Basis	Levene Statistic	Sig.
Based on Mean	3.727	0.277
Based on Median	1.787	0.186
Based on Median with Adjusted df	1.787	0.188
Based on the Trimmed Mean	2.929	0.092

Table 6 presents the results of the homogeneity of variance test using Levene's Test calculated across four different statistical bases: Mean, Median, Median with Adjusted df, and Trimmed Mean. Based on the analysis, the significance values (Sig.) are 0.277 based on the Mean, 0.186 based on the Median, 0.188 based on the Median with Adjusted df, and 0.092 based on the Trimmed Mean. Since all of these significance values are greater than the standard alpha level of 0.05 ($p > 0.05$), it can be concluded that the variances of the data across the groups are homogeneous, thereby successfully meeting the necessary prerequisite assumption for further parametric statistical analysis.

Improvement of Students' Motivation in Arabic Language Learning After the Implementation of the Quantum Teaching Model Based on Monopoly Game Smart Media

The requirements for parametric statistical testing were fulfilled because the data were normally distributed and homogeneous. Therefore, the next step was to conduct an independent-samples t-test on post-response data on students' learning motivation in Arabic language learning. The purpose was to determine whether there was a difference in the mean scores between two independent samples.

Table 7. Independent Sample T-Test Results

Variable	Sig. (2-tailed)	Mean Difference
Post Response	0.000	19.05714

Based on the SPSS independent sample t-test results above, the Sig. (2-tailed) value was $0.000 < 0.05$. This means that the hypothesis was accepted (H_a accepted and H_0 rejected). Thus, it can be concluded that there was a difference in students' learning motivation outcomes between the implementation of the Quantum Teaching model using Monopoly Game Smart media in the experimental class and the conventional method used in the control class.

Table 8. Independent Sample T-Test (Group Statistics)

Class	N	Mean	Std. Deviation	Std. Error Mean
Experimental	35	67.3143	5.19486	0.87809
Control	35	48.2571	6.26072	1.05826

Based on the table above, the average post-response score in the experimental class was 67.31, while the control class achieved an average score of 48.25. In addition to the category distribution explained above, the mean questionnaire scores also demonstrated improvement. In the experimental class, the average pre-response score of 42.43 increased to 67.31 in the post-response. Meanwhile, in the control class, the increase was only from

39.69 to 48.25. These data indicate a significant difference between the two groups after treatment.

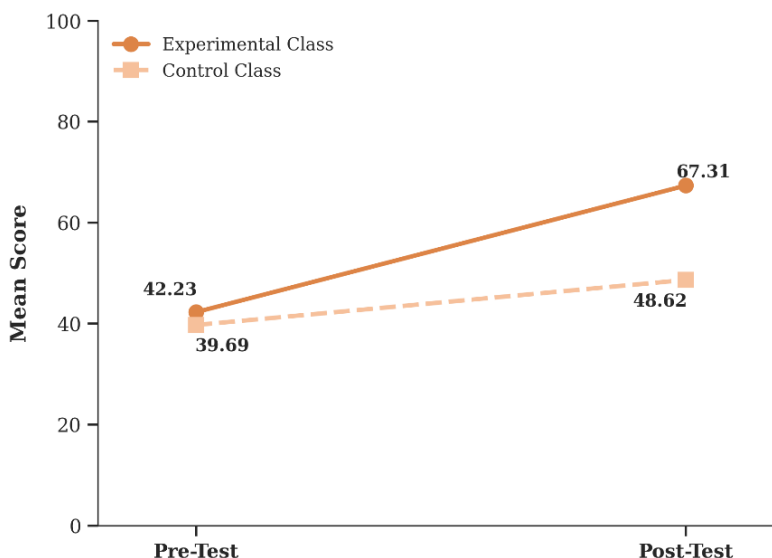


Figure 2. Line Chart of Learning Motivation Levels

Figure 2 displays a line chart comparing the improvement in mean learning motivation scores between the experimental and control classes from pre-test to post-test. At the initial pre-test stage, both classes started with relatively similar motivation levels, with the experimental class scoring a mean of 42.23 and the control class scoring 39.69. However, following the intervention, the experimental class demonstrated a highly significant increase, reaching a mean score of 67.31 at the post-test stage. In contrast, the control class showed only a minor increase, ending with a final score of 48.62, clearly indicating that the treatment applied to the experimental class was substantially more effective in boosting students' learning motivation than the method used in the control class.

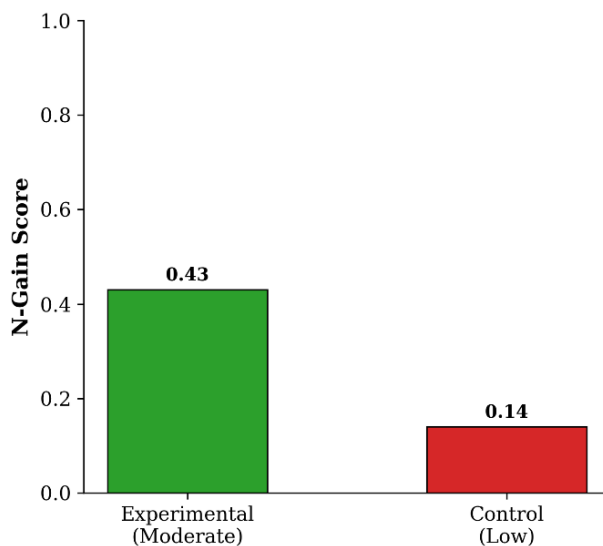


Figure 3. Diagram N-Gain Test Results

Figure 3 illustrates a bar chart representing the N-Gain test results to compare the effectiveness of learning motivation improvements between the experimental and control classes. Based on the diagram, the experimental class achieved an average N-Gain score of 0.43, which falls into the "Moderate" category. Conversely, the control class only obtained

an average N-Gain score of 0.14, placing it in the "Low" category. The sharp contrast between the green bar (experimental) and the red bar (control) clearly demonstrates that the innovative learning intervention applied to the experimental class was substantially more effective in enhancing students' learning motivation compared to the conventional methods used in the control class.

This superior progress in the experimental class was driven by the integration of the Quantum Teaching model with the Smart Monopoly game and the TANDUR approach, which successfully fostered a fun, interactive, and competitive Arabic language learning atmosphere. Supported by observations and interviews, this innovative, game-based method significantly boosted student enthusiasm, active participation, and confidence, making the learning process far more engaging and less monotonous compared to the traditional methods relied upon in the control class.

Discussion

The findings demonstrate that the integration of the Quantum Teaching model with Monopoly Game Smart media produced a substantial increase in students' motivation to learn Arabic compared with conventional instruction. This result suggests that learning motivation is not merely an individual psychological disposition but a pedagogically constructed outcome that emerges through meaningful interactions between learners, instructional design, and classroom experiences (Ryan & Deci, 2020). The significant difference between the experimental and control groups indicates that motivational development in foreign language learning is highly responsive to learning environments that provide active participation, contextual experiences, and enjoyable challenges (Shen et al., 2024). Recent studies have similarly shown that gamified learning environments positively influence learners' motivation by transforming passive learning into interactive, collaborative, and goal-oriented experiences (Saleem et al., 2022; Zainuddin et al., 2020).

The absence of significant differences between the two groups at the pre-test stage strengthens the causal interpretation of the findings. Since both groups initially exhibited similarly low motivational levels, the observed post-intervention differences can be attributed primarily to the instructional treatment rather than pre-existing learner characteristics (Papi & Hiver, 2020). The finding challenges deterministic perspectives that view language-learning motivation as a relatively stable learner attribute. Instead, the findings align with recent research suggesting that language-learning motivation is dynamic, context-sensitive, and continuously reconstructed through learners' classroom experiences and interactions (Hennebry-Leung & Lamb, 2024; Qi & Hu, 2026). Furthermore, the substantial increase in motivation observed in the experimental group indicates that pedagogical innovation can positively reshape learners' perceptions of subjects that are often considered difficult, such as Arabic. Similar evidence has shown that gamified and learner-centered language instruction significantly enhances learners' motivation, engagement, and willingness to participate actively in language learning activities (Shen et al., 2024; Zhou, 2024).

A particularly important finding is that the motivational gains observed in the experimental class were not merely quantitative but qualitative in nature. Students did not simply report greater willingness to participate; they demonstrated stronger engagement, persistence, and enthusiasm throughout the learning process. This suggests that Monopoly Game Smart functioned beyond a reward mechanism and instead created a meaningful

learning ecosystem that promoted curiosity, challenge, and achievement. According to recent gamification research, motivational improvement occurs when game elements satisfy learners' psychological needs for competence, autonomy, and relatedness rather than merely providing external rewards (Baah et al., 2023; David & Weinstein, 2023). Moreover, game-based instructional environments have been shown to strengthen intrinsic motivation by providing appropriate levels of challenge, immediate feedback, and opportunities for achievement, thereby enhancing students' persistence and enjoyment in language learning (Li et al., 2023).

From a language-learning perspective, the findings reveal that game-based instructional media can reduce the psychological barriers commonly associated with foreign language acquisition. Arabic learning is often perceived as challenging because of its complex grammatical structures, unfamiliar vocabulary, and unique writing system, which may contribute to learners' anxiety and reduced confidence (Alshammari et al., 2024; Calafato, 2023). By embedding instructional activities within collaborative and enjoyable game-based experiences, Monopoly Game Smart appears to have lowered these affective barriers and encouraged students to participate more actively in the learning process. Similar findings have shown that gamification enhances learners' motivation and engagement by making language learning more interactive and less intimidating (Tsai, 2024). Moreover, recent empirical evidence indicates that gamified learning environments improve language learning outcomes indirectly through increased motivation and sustained learner engagement rather than through game elements alone (Shen et al., 2024). Therefore, the motivational gains observed in this study may be explained by reduced affective resistance, greater learner confidence, and increased willingness to participate in Arabic language learning activities.

The N-Gain results provide further insight into the magnitude of the intervention effect. Although the experimental group achieved a moderate gain score (0.43), the control group exhibited only a low gain (0.14). This pattern suggests that the intervention generated meaningful motivational growth while simultaneously indicating that motivation remains a complex construct influenced by multiple factors beyond instructional treatment alone. This finding aligns with recent systematic reviews showing that gamification generally produces moderate yet consistent improvements in motivation, particularly when game elements are integrated with pedagogical objectives rather than implemented as isolated features (Luo, 2023). Thus, the effectiveness observed in this study should be understood as evidence of pedagogically integrated gamification rather than the simple addition of game mechanics into classroom activities.

Another noteworthy contribution of this study lies in the synergistic relationship between Quantum Teaching and Monopoly Game Smart. The effectiveness of the intervention appears to stem not from either component independently but from their pedagogical integration. The TANDUR framework (*Tumbuhkan, Alami, Namai, Demonstrasikan, Ulangi, dan Rayakan*) provided a structured sequence of motivational experiences, while the Monopoly Game Smart supplied interactive and emotionally engaging learning opportunities. This synergy created a learning environment that simultaneously addressed cognitive, affective, and social dimensions of motivation. Recent research has emphasized that successful gamification depends less on the presence of game elements and more on how those elements are aligned with instructional goals and learning processes (Kaya & Ercag, 2023; Shen et al., 2024).

The qualitative observations further support this interpretation. Students in the experimental group demonstrated higher levels of collaboration, active participation, and sustained attention than those in the control group. These behaviors indicate a shift from externally regulated participation toward more self-determined engagement. Such a transition is particularly important in foreign language learning because sustained motivation is strongly associated with long-term language achievement. Consequently, the present findings suggest that the instructional design employed in this study successfully facilitated not only immediate classroom engagement but also deeper motivational processes that support continued language learning.

The findings contribute to emerging evidence that motivation in foreign language education is most effectively enhanced through instructional approaches that integrate pedagogical structure, emotional engagement, and learner-centered interaction. The study extends current gamification literature by demonstrating that game-based media become substantially more effective when embedded within a coherent instructional framework such as Quantum Teaching. Therefore, the primary implication is that motivational improvement in Arabic language learning should be viewed as the outcome of a comprehensive instructional ecosystem rather than the product of isolated teaching techniques or media innovations.

CONCLUSION

Based on the findings of this study, it can be concluded that integrating the Quantum Teaching model with Monopoly Game Smart media significantly enhances students' motivation in Arabic language learning. Compared with conventional instruction, this integrated approach created a more interactive, enjoyable, and student-centered learning environment that encouraged greater participation, collaboration, and enthusiasm throughout the learning process. Quantitative findings, supported by classroom observations and interview data, consistently demonstrated that students exposed to the intervention exhibited higher levels of learning motivation than those in the control group.

This study contributes to Arabic language pedagogy by providing empirical evidence that combining an innovative instructional model with educational game-based media can effectively strengthen students' learning motivation. Furthermore, it extends previous research by integrating Quantum Teaching with Monopoly Game Smart within a single instructional framework, offering a practical alternative for teachers seeking to create more engaging Arabic learning experiences.

Despite these promising findings, this study was limited by its relatively small sample and single-school setting, which may restrict the generalizability of the results. Future studies are therefore encouraged to involve larger and more diverse samples, examine the long-term effects of this instructional approach, and investigate its impact on other learning outcomes, such as Arabic language proficiency, academic achievement, critical thinking, and student engagement.

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AUTHOR CONTRIBUTIONS STATEMENT

[DW] conceived and designed the study, coordinated the research process, and managed the overall preparation and submission of the manuscript. [O] contributed to data verification, analysis, and critical revision of the manuscript to ensure its academic rigor. [SSS] contributed to data collection, literature review, and initial drafting of the manuscript. All authors have read and approved the final version of the manuscript.

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