



Arabic Scrambled Card Games for Vocabulary Mastery: An Experimental Study at The New College, Chennai

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Abstract

This study investigates the effectiveness of a modified card game, "Arabic Scrambled," on improving Arabic vocabulary (*mufradat*) mastery among undergraduate (UG) and postgraduate (PG) students in the Department of Arabic at The New College, Chennai. Arabic, classical language rich in literary nuance, is essential for Islamic studies but often presents learning challenges due to conventional teaching methods. Vocabulary acquisition is a critical yet often tedious component. This research employs a quantitative, one-group pretest-posttest design with 30 male students (15 UG, 15 PG) as respondents. The intervention used the "Arabic Scrambled" game, which requires players to assemble scrambled Arabic letters into words corresponding to images. Results from paired sample t-tests indicated a statistically significant improvement in post-test scores ($p < 0.001$), with a mean score increase from 37.63 to 69.75. The findings suggest that innovative, game-based learning tools like Arabic Scrambled can significantly enhance vocabulary retention, spelling accuracy, and comprehension, making Arabic language acquisition more engaging and effective in higher education settings.

Keywords: Arabic vocabulary (*Mufradat*), game-based learning, educational innovation, arabic scrambled card game, language acquisition

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Introduction

Arabic is one of the oldest and most widely spoken languages in the world, which has great urgency both in terms of religion, culture, and literature (Alayba, 2025). As the language of the Quran and Islamic texts, mastery of this language is the main key to understanding religious teachings comprehensively. The depth of semantics and the richness of grammar it possesses make Arabic a

vital communication instrument as well as challenging to master (Kossek et al., 2023), especially for students of Islamic sciences (Asmilia et al., 2025). The complexity of this structure requires special attention in the learning process so that the essence of the meaning contained in it can be understood accurately. In the hierarchy of language learning (Shaya et al., 2025), vocabulary mastery (mufradat) acts as a fundamental pillar that determines the level of language proficiency of a student (Turan et al., 2022). Mastery of mufradat is not just memorizing words, but a comprehensive competency that includes pronunciation accuracy, understanding of deep meaning (Zamiri & Esmaeili, 2024), knowledge of word derivation (tasrif), appropriate use in the context of sentences (Tamaño, 2025), to accuracy in writing or spelling (Firdaus et al., 2025). Without a strong vocabulary foundation, students will experience major obstacles in developing the four main language skills, namely listening, speaking, reading, and writing (Fadillah et al., 2023).

Although the role of vocabulary is very crucial, reality in the field shows that the process of learning the curriculum often faces major obstacles. The traditional, monotonous, and teacher-centered pedagogical approach still dominates the classroom, leading to boredom and disengagement in students (Zubair, 2026). This challenge is exacerbated in the contemporary era (Andrade & Alden-Rivers, 2019), where the current generation of learners grows up and is very familiar with the dominance of digital media and dynamic interactive content (Yu et al., 2024). As a result, conventional memorization methods are judged to be less relevant and fail to maintain student focus retention in the long term (Chardonens, 2025). Addressing the gap, the integration of innovative learning media is absolutely necessary to transform the classroom atmosphere into a more lively one (Marselina et al., 2024). Adaptive media work effectively to focus on abstract material, keep students' attention focused, and accommodate a variety of learning styles—whether visual (El Galad et al., 2024), auditory, or kinesthetic (L et al., 2025). Among various media options, card games appear as one of the tactical solutions. Card-based media is not only practical, reusable, and cost-effective, but also very flexible to be applied in various sizes of learning groups (Müller & Mildemberger, 2021).

The use of card games as an educational media has proven to be efficient in improving the academic performance of students in Indonesia (Yuli Sulistyowati Puji Rahayu et al., 2025). A number of previous studies show that the adoption of games such as Sekata, flash cards, and index card match is significantly successful in boosting students' vocabulary mastery at school. Specifically, Sekata—which comes from the Indonesian philosophy of "Se" (one) and "Kata" (word)—is a popular word formation card game and was originally designed to enrich Indonesian vocabulary through the method of arranging letter cards into a whole word. Seeing the great potential of Sekata's game mechanics in stimulating linguistic creativity, this research attempts to make a new adaptation adapted to Arabic linguistic characteristics. As an innovative step, this study introduced a cutting-edge media adaptation called the Arabic Scrambled card game. Through the reconstruction of this random letter-based game, it is hoped that students can learn to construct the Arabic curriculum in an active, fun, and collaborative way. Thus, this research aims to test the effectiveness of the Arabic Scrambled card game as an alternative solution in improving the mastery of Arabic vocabulary in the modern era.

Methodology

Research Design and Variables

This study employed a quantitative approach with a quasi-experimental design, specifically a one-group pretest-posttest design ($O1 \times O2$). This design was chosen to objectively measure the effect of the Arabic Scrambled card game intervention on students' vocabulary mastery (Creswell, 2014). In this study, the independent variable (X) tested was the implementation of the Arabic Scrambled card game, while the dependent variable (Y) measured was the students' level of Arabic vocabulary mastery.

Research Participants

The respondents in this study were 30 male students from the Department of Arabic, The New College, Chennai. The sample consisted of 15 undergraduate (UG) students and 15 postgraduate (PG) students. The sample was determined using a purposive sampling technique, with the selection criteria based on the students' active involvement in core Arabic language courses at the relevant institution.

Data Collection Instruments and Procedures

Data collection in this study was conducted using an objective test instrument consisting of 40 multiple-choice questions, each weighted at 2.5 points, administered during the pre-test and post-test. The research procedure was divided into three main stages. The first stage was the pre-test (O1), which aimed to measure students' baseline vocabulary skills before receiving the treatment. The second stage was the intervention (X), which involved implementing the Arabic Scrambled card game in several structured learning sessions. The third stage concluded with the post-test (O2) after the intervention was completed to measure the improvement in student learning outcomes.

Data Analysis Techniques

The data obtained were then statistically processed using IBM SPSS Statistics 26 software. The data analysis process included descriptive statistics to summarize student scores, as well as instrument validity and reliability tests using Pearson Product Moment correlation and Cronbach's Alpha. Furthermore, normality tests were conducted using the Kolmogorov-Smirnov/Lilliefors method to ensure normal distribution of the data. As a determining inferential analysis, the Paired Sample t-test was used to test the significance of the differences that occurred between students' pre-test and post-test scores.

Results

Implementation and Results of Descriptive Analysis

The implementation of the intervention using the Arabic Scrambled card game in the classroom received a very high response and engagement from students. In the initial phase (pre-test), some students faced significant challenges, particularly in recognizing images representing certain vocabulary words. However, after the card game-based intervention, drastic changes were observed. Students demonstrated significant improvements in their ability to recall and accurately spell Arabic terms associated with the accompanying images.

Table 1. Frequency distribution of post-test scores

Interval Shoes	Frequency (f)	Percentage (%)
45 – 54	3	15
55 – 64	2	10
65 – 74	7	35
75 – 84	6	30
85 – 95	2	10
Total	20	100

Based on the table above, student post-test scores were concentrated in the 65–84 range, representing 65% of all respondents. This distribution indicates a significant shift in academic performance, with students initially ranked low during the pre-test, moving to medium-high performance levels after the intervention.

Effectiveness Testing (Inferential Analysis)

Before testing the hypotheses, instrument prerequisite testing and data analysis were

conducted. The instrument reliability test showed a Cronbach's Alpha value of 0.952, indicating a very high level of reliability (high reliability). Furthermore, a normality test indicated that the data were normally distributed ($p > 0.05$), confirming the validity of the parametric statistical analysis using the Paired Sample t-test.

Based on the results of a paired sample t-test analysis using IBM SPSS Statistics 26, the following data were obtained: Average Pre-test Score: 37.63; Average Post-test Score: 69.75; Mean Difference: -32.125; t-value: -13.695; Significance Value (p-value): 0.000 ($p < 0.001$). A highly significant probability value ($p < 0.001$) empirically confirms that there is a very real and significant difference between students' pre-test and post-test scores. The negative t-value (-13.695) indicates a positive change, meaning that students' post-test scores were significantly higher than their pre-test scores. Furthermore, the correlation test between pre-test and post-test scores yielded a coefficient of 0.669 ($p = 0.001$), indicating a strong positive relationship between the two variables.

Discussion

The empirical findings in this study strongly support the proposed hypothesis, namely that the use of the Arabic Scrambled card game is effective in improving students' Arabic vocabulary mastery. The highly significant increase in the average score (from 37.63 to 69.75) aligns with constructivism and game-based learning theory. This theory states that active, interactive, and contextual practice can improve memory retention and deepen understanding in students' brains (Dubinsky & Hamid, 2024). The success of the Arabic Scrambled card game lies in its ability to simultaneously integrate three key indicators of vocabulary mastery in a single activity: Spelling: Through the mechanic of rearranging scrambled letters into valid words; Meaning: Through visual association between word cards and accompanying images; Pronunciation: Through direct verbalization or pronunciation of words that students have successfully formed. This multi-sensory approach (visual, kinesthetic, and auditory) is a key factor behind the improvement in student learning outcomes. This method successfully overcomes the limitations of conventional rote memorization, which has been criticized for being monotonous and quickly lost from students' memories. While these findings are consistent with the effectiveness of educational games in previous studies (Yaseen et al., 2025), this study contributes novelty by expanding the implementation of this media to the context of higher education (universities) in India with a specific focus on Arabic language learning.

The empirical findings in this study provide strong evidence to support the hypothesis that the use of the Arabic Scrambled card game effectively improves students' Arabic vocabulary mastery (Tsehay et al., 2024). The highly significant increase in average scores from the pre-test to the post-test demonstrates that this intervention is not merely a recreational activity but also a functional pedagogical tool (Bou Saad et al., 2025). This successful achievement aligns closely with the principles of constructivism theory and game-based learning (Krath et al., 2021). This theory asserts that cognitive processes operate optimally when students are actively engaged, interactive, and engaged in a fun, practical context, which in turn strengthens their long-term memory retention and conceptual understanding (Ginting et al., 2024). The primary advantage of the Arabic Scrambled card game lies in its ability to simultaneously integrate three essential indicators of vocabulary mastery within a single, integrated activity (Tacoronte-Sosa & Peña-Hita, 2025). First, spelling is stimulated through game mechanics that require students to rearrange jumbled letter cards into valid word structures (Khansa Nabila et al., 2025). Second, the meaning aspect is reinforced through visual association techniques, where students must connect the word order with the guiding images provided on the cards (Novianty et al., 2025). Third, pronunciation is practiced through verbalization or direct pronunciation of the successfully formed words (Nathir Ghafar et al., 2025). The integration of these three aspects ensures that students not only memorize words textually (Dr. H.L.M. Mohideen, 2025), but also understand them structurally and contextually (Nufus et al., 2022).

A multi-sensory approach that combines visual elements (seeing images and letters)

(Nyenhuis & Gellers, 2023), kinesthetic (manipulating and arranging cards), and auditory (pronouncing words) is suspected to be a key factor behind this massive improvement in learning outcomes (Rizal et al., 2023). In cognitive psychology, engaging multiple senses during learning has been shown to accelerate the formation of new synaptic pathways in the brain, thus facilitating the process of recalling learned information (Rohanda et al., 2025). This interactive approach successfully breaks through the limitations of conventional rote memorization methods that have dominated traditional Arabic language classes (Rochmat et al., 2025). Conventional methods are often criticized for their tendency to be monotonous, leading to boredom (Hadianti et al., 2023), and quickly forgetting memorized vocabulary due to the lack of emotional or visual engagement in the learning process (Khoirunnisa & Ahsanuddin, 2024). More broadly, the findings of this study are consistent with and reinforce previous research on the effectiveness of card games in language education (Haniff et al., 2026). The difference is that while previous research has largely focused on primary and secondary education or focused on learning local languages/Bahasa Indonesia, this study provides an important novelty (Fakhruddin et al., 2021). This research expands the scope of card game implementation to the context of higher education (universities) in India, with a specific focus on learning Arabic as a foreign language (Hidayat et al., 2025). These results demonstrate that even advanced students need interactive media stimulation to address the linguistic complexities of Arabic, while also opening up opportunities for the development of similar media in non-Arabic institutions globally (Fadoli & Rifki, 2023).

Conclusion

This study demonstrates that the Arabic Scrambled card game is an effective and innovative tool for significantly improving Arabic vocabulary mastery among university students, addressing the long-standing challenge of traditional, often monotonous rote-learning methods in higher education. The quantitative analysis revealed a substantial and statistically significant increase in post-test scores, with students achieving an average improvement of 32.12 points (85.37%). By shifting the educational dynamic, the game successfully transformed the learning process from a passive task into an active, challenging, and highly enjoyable experience. These findings imply that integrating game-based media into foreign language curriculum is a powerful strategy for fostering student engagement and driving better learning outcomes. Consequently, it is strongly recommended that language instructors, particularly within Arabic and other foreign language departments, incorporate such interactive tools into their daily teaching practices. However, this study is not without its limitations, as it primarily focused on short-term vocabulary acquisition within a specific proficiency group, leaving the long-term durability of these memory gains unmeasured. To build upon these insights, future research should explore the game's long-term retention effects through delayed testing, evaluate its adaptability across different proficiency levels and diverse languages, and investigate the potential of digitizing the game for broader e-learning applications.

Conflicts of Interest

The author declares no conflict of interest.

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Author contribution

K. M. A. Ahamed Zubair: Conceptualization, Formal analysis, Literature review and

synthesis, Policy document analysis, Framework development, Writing—original draft, Writing – review and editing.

Declaration of generative AI in scientific writing

During the preparation of this work, the author(s) used Google translate in order to improve the language, readability, and grammatical structure of the manuscript. After using this tool/service, the author(s) reviewed and edited the content as necessary and took full responsibility for the content of the publication.

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