
THE EFFECTIVENESS OF MAKE A MATCH IN TEACHING ARABIC VOCABULARY TO MADRASAH STUDENTS

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Abstract

This research responds to the dominance of conventional methods that fail to spark student interest and the weak empirical evidence in similar studies. With the Make a Match model, the research aims to demonstrate enjoyable and meaningful vocabulary learning. Using a quasi-experimental Non-equivalent Control Group Design, the study involved 56 tenth-grade students from Madrasah Aliyah Al-Amiriyyah Banyuwangi, divided into an experimental and a control group. The vocabulary test instrument is valid and reliable (Cronbach's Alpha = 0.82). The analysis used the Mann-Whitney U test because the data were not normally distributed. The research results are significant. Although the initial abilities were equivalent ($U = 443.50$; $p = 0.384$), the Make a Match group improved by 43.93 points, higher than the control group, which only improved by 37.14 points. The difference in gain scores was significant ($U = 522.50$; $p = 0.026$). Observations indicate that students actively discuss, help one another, and enthusiastically participate in the game. This model transforms a passive classroom into a dynamic and collaborative one. Make a Match has proven to be an effective pedagogical strategy for improving vocabulary mastery and motivation to learn. This research provides strong causal evidence and encourages teacher innovation. Adaptive Arabic language learning for Generation Z can be realized, starting in the classroom.

Keywords

Active learning; Arabic vocabulary; Make a Match.



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INTRODUCTION

Low mastery of Arabic vocabulary in Madrasah Aliyah is a critical issue that threatens the Islamic literacy of the younger generation. Vocabulary is the primary foundation for accessing and understanding the treasures of Arabic-language Islamic literature, such as the Quran and Hadith. This aligns with the finding that Arabic language proficiency significantly influences understanding of the meaning of Quranic verses (Bashir et al., 2023; Kamran et al., 2024; Nasrullah & Jamroh, 2025). Without sufficient mastery, students not only fail in language learning but are also hindered in deeply understanding religious teachings (Benediktsson & Tavares, 2025). The reality on the ground shows that teaching methods still rely on rote memorization and are one-way, which is not in line with the characteristics of Generation Z students who are visual, interactive, and accustomed to digital dynamics (Lewis et al., 2024; Park & Kim, 2022). Abdullah et al. (2024) emphasize that access to classical religious texts depends on mastery of the vocabulary. Malhotra et al. (2023) and Deel (2024) identified that traditional teacher-centered methods do not meet the learning needs of Generation Z. Felesia & Irvani (2025) and Ahmed et al. (2024) found that monotonous methods decrease motivation and learning outcomes, a problem that was also identified in the context of Arabic language learning at Madrasah Aliyah Al-Amiriyyah (Basith & Masruroh, 2023). Therefore, innovating teaching methods that can bridge this gap and strengthen Arabic-Islamic literacy is an urgent necessity.

The importance of mastering vocabulary at Madrasah Aliyah Al-Amiriyyah in Blokagung, Banyuwangi, cannot be overlooked. As an Islamic educational institution under the auspices of the Darussalam Islamic Boarding School in Blokagung, this madrasah aims to produce a generation that excels in religious studies and Arabic. Based on initial observations and curriculum documentation, Arabic language instruction at MA Al-Amiriyyah is taught in an integrated manner to support students' understanding of Islamic sources of teaching (A. Mustofa & Hasan, 2023). However, the reality on the ground reveals serious challenges. Interviews with the Arabic teacher for 10th grade revealed that the majority of students struggle to understand reading passages and practice questions, due to their limited vocabulary. These findings are supported by previous research conducted at the same location, which showed that vocabulary proficiency among students at MA Al-Amiriyyah reached the "high" category at only 55%, meaning that nearly half of the students (45%) still fall below the expected proficiency level (Azizah, 2022).

This situation calls for an innovative solution, and the “Make a Match” learning model was chosen as an alternative to the conventional methods used to date. This selection is not based on mere assumptions, but on two strong foundations. First, based on interviews with teachers, the lecture-and-memorization methods used so far make students passive and quickly bored—a major challenge in teaching Generation Z, who are accustomed to digital dynamics. This finding aligns with recent research at MA Al-Amiriyyah, which found that students often feel overwhelmed by the high intensity of daily Arabic language learning at the boarding school, thereby necessitating a method capable of revitalizing the classroom learning environment (Kholiq & Insaniyah, 2024). Second, a review of the literature on studies conducted within the MA Al-Amiriyyah school itself indicates that the Make a Match model has been empirically shown to have a significant positive impact on students’ vocabulary mastery across grade levels (Maryam, 2021). The successful implementation within the same Islamic boarding school setting provides confidence that this model is adaptable and can be replicated with different subjects and materials. Thus, the selection of the Make a Match model is a strategic decision grounded in the contextual needs of the students at MA Al-Amiriyyah and empirical evidence from the research site itself, and it is hoped that it will bridge the gap between curriculum requirements and the reality of classroom learning.

Make a Match is an active learning model that encourages students to find card pairs and their answers. This model is among the interactive learning techniques explored in previous research, such as the Chain Reaction technique for vocabulary mastery (Aloizou et al., 2025; Himmah & Jannah, 2022; Lin et al., 2023). Make a Match was developed by Curran (1994) and is widely used to improve students’ understanding of learning materials (Cook et al., 2024; Fathanah, 2022). Previous studies have explored the Make a Match model, but the majority have serious methodological limitations, leaving room for more rigorous research. The literature indicates that active and cooperative learning approaches, such as Make a Match, have a positive impact on vocabulary learning motivation and outcomes (Fonseca et al., 2023; Mafarja et al., 2023). Various empirical studies have confirmed increased student engagement and mastery. Several studies have shown that implementing the Make a Match model, combined with word or picture card media, has a positive impact on Arabic vocabulary mastery. This finding is supported by Insaniyah & Rifqiyah (2021), who specifically tested the effectiveness of this method, as well as other recent studies (Choiriatul, 2024; Rahmadani, 2025). However, a critical review revealed that many of these studies were descriptive or used weak experimental designs, such as lacking a valid control group, making

the causal claims questionable. (Hellín et al., 2023; Murtiningsih & Haryadi, 2025; M. Z. Mustofa & Arsita, 2023) reported increased engagement and learning outcomes. On the other hand, Bierer et al. (2025) and Sa (2025) criticized that many previous studies used pre-experimental designs without adequate controls. Çimen (2024) and Fischer et al. (2025) highlight the prevalence of statistical analyzes that disregard basic assumption tests. Consequently, while the potential of Make a Match has been identified, convincing quantitative evidence with high internal validity remains scarce, creating a significant research gap.

This research offers novelty by applying a rigorous, comprehensive experimental methodological framework to test the effectiveness of Make a Match. The main novelty lies not in the context or learning model, but in the methodological rigor specifically designed to address the weaknesses of previous studies. This study systematically ensured group equality, selected appropriate statistical analyses for the data's nature, and isolated the intervention's effect through purer measurements. To ensure initial equivalence, this study applied the recommended principles from (Rojas et al., 2022; Wesson et al., 2022). In the analysis, the study followed the guidelines (Fiandini et al., 2024; Tai et al., 2022) by applying a non-parametric test (Mann-Whitney U) after confirming the data were non-normal. Gain score analysis is used to measure net improvement, as recommended in recent experimental studies. Thus, the main contribution of this research is to provide more reliable and accountable empirical evidence regarding the causal relationship of the Make a Match model. Based on theoretical foundations and methodological gaps, this research is designed to answer the question: "Is there a significant difference in Arabic vocabulary mastery between students taught using the Make a Match model and students taught using the conventional model in Class X of Madrasah Aliyah Al-Amiriyyah?"

The specific aim of this study is to analyze the significant differences in Arabic vocabulary mastery between students taught using the Make a Match model and those taught using the conventional model. Starting from social facts and methodological gaps, this research is designed to answer fundamental questions about the effectiveness of a pedagogical innovation. The focus is on generating a measurable direct comparison between innovative and traditional learning approaches in a controlled context. This study operationalizes "vocabulary mastery" based on an objective test instrument that has been validated and proven reliable, referring to the model developed by (Alamer et al., 2025; Raharjanti et al., 2022). The quasi-experimental design used follows the standards outlined by (Ballance, 2024; Krishnan, 2025) for field contexts that do not allow for perfect

randomization. Therefore, the ultimate goal is to produce clear, statistically supported conclusions on the superiority of the Make a Match model for Arabic vocabulary learning in the context of Madrasah Aliyah.

The hypothesis being tested is that students who learn using the Make a Match model will demonstrate significantly higher Arabic vocabulary mastery than those who learn using conventional methods. Two main foundations support this argument. First, the theoretical foundation: Make a Match activates the principles of social constructivism and meaningful practice, which are believed to deepen cognitive processing and enhance vocabulary memory retention. In the context of Arabic language learning, Make a Match allows students to process vocabulary through three cognitive stages: receiving input (viewing the cards), processing (finding the pairs), and producing output (explaining the pairs) (Rabie-Ahmed & Mohamed, 2022). Second, the contextual foundation: this model is designed to meet the characteristics of Generation Z by presenting learning in the form of social activities that resemble games, which is strongly believed to increase intrinsic motivation and active engagement. (Li et al., 2023; Zheng et al., 2023) linked cooperative activities, like Make a Match, to the construction of social knowledge. (Hasbi et al., 2025; Serfaty & Serrano, 2024) emphasized that meaningful practice is at the core of second language acquisition. (Byusa et al., 2022; Leitão et al., 2022) provided strong evidence that game elements significantly enhance learning motivation compared to conventional methods. Thus, this study proposes the hypothesis that integrating pleasure, social interaction, and meaningful practice in Make a Match will result in superior vocabulary learning outcomes, a proposition ready for empirical testing.

METHOD

This research uses a quantitative, quasi-experimental design, specifically the Non-Equivalent Control Group Design (Kohan et al., 2024; Krishnan, 2025). This design falls under the between-subjects design, in which each participant is assigned to only one group, either the experimental or the control group (Kawashima et al., 2024). The selection of this design was based on field conditions that did not allow for full randomization of subjects. Therefore, the group assignment was conducted using purposive sampling to achieve equivalence in academic characteristics between the research groups (Ali et al., 2023; Junus et al., 2023). Through this design, the study allows researchers to examine the effect of the Make a Match learning model on students' Arabic vocabulary mastery

by comparing the learning outcomes between the experimental group that received the treatment and the control group that followed conventional learning.

This research was conducted at Madrasah Aliyah Al-Amiriyyah, located at PP Darussalam st, Karangdoro Village, Tegalsari District, Banyuwangi Regency, East Java. This madrasah is an accredited private Islamic educational institution with heterogeneous students. The location was chosen based on the identification of a problem: low Arabic vocabulary mastery among tenth-grade students. The population in this study is all students in class X of Madrasah Aliyah Al-Amiriyyah. The research sample comprised two classes, each with 28 students, for a total of 56 research subjects. The assignment of classes to the experimental and control groups was conducted using purposive sampling, with consideration of equivalence in academic characteristics. Inclusion criteria for research participants include: (1) a minimum attendance rate of 80% throughout the learning process, (2) willingness to participate in the entire series of research tests, and (3) no learning disabilities based on classroom teacher reports. The research participants were aged 15–16, with the majority being female.

The data in this study consisted of primary and secondary data. Primary data consisted of pretest and posttest scores on Arabic vocabulary mastery, obtained directly from 10th-grade students via written tests. The primary data source is all students sampled in the study, namely 28 students in the experimental group and 28 in the control group. Secondary data includes a list of student names, previous Arabic subject report card scores, and other supporting documents obtained from subject teachers and administrative staff at Madrasah Aliyah Al-Amiriyyah. Secondary data are used to ensure equivalence in academic characteristics between groups before treatment.

Primary data in this study were collected using research instruments developed based on dependent variables. The independent variable (X) in this study is the Make a Match learning model, while the dependent variable (Y) is students' mastery of Arabic vocabulary. Alamer et al (2025) stated that students' mastery of Arabic vocabulary was measured using an objective multiple-choice test based on indicators of the ability to understand Arabic vocabulary and its equivalents in Indonesian. The test instrument consisted of 10 items that had undergone validity testing.

Based on theoretical studies and conceptual frameworks, the hypotheses proposed in this study are: H_0 (Null hypothesis): There is no significant difference in Arabic vocabulary mastery between students taught using the Make a Match model and students taught using the conventional

model in class X at Madrasah Aliyah Al-Amiriyyah. H_1 (Alternative hypothesis): There is a significant difference in Arabic vocabulary mastery between students taught using the Make a Match model and students taught using the conventional model in class X of Madrasah Aliyah Al-Amiriyyah. The hypothesis is tested at a significance level of $\alpha = 0.05$.

To test this hypothesis, the research procedure was carried out in several stages. First, a pretest was administered to the experimental and control groups to determine the students' initial proficiency in Arabic vocabulary. Second, the learning treatment was implemented, in which the experimental group received 45 minutes of learning using the Make a Match model. In detail, the implementation of Make a Match followed a structured syntax: (1) Preparation of 30 pairs of cards containing thematic vocabulary (الرياضة) and their translations, (2) Division of students into 7 groups, (3) Card matching game while discussing, and (4) Joint reflection. The time allocation for each meeting consisted of preparation (5 minutes), games (25 minutes), and reflection (15 minutes). Meanwhile, the control group followed conventional learning for the same duration. This duration was chosen based on considerations of the optimal time to maintain student focus while still allowing for the effective completion of all stages of the game. The selection of thematic vocabulary (الرياضة) was made due to its relevance to students' daily lives. Third, a post-test was given to both groups after the entire series of treatments was completed to measure changes in students' vocabulary mastery.

The research data were analyzed using SPSS software at the 0.05 significance level. Data analysis was conducted in stages. The first stage was descriptive statistical analysis, which included calculating the mean, standard deviation, minimum, and maximum values. The second stage involved a test of data normality using the Kolmogorov–Smirnov and Shapiro–Wilk tests. The normality test indicated that the data were not normally distributed ($p < 0.05$), so hypothesis testing continued using nonparametric statistics. The Mann–Whitney U test was used to compare Arabic vocabulary mastery between the experimental and control groups. In contrast, the Wilcoxon Signed Rank Test was used to analyze changes in students' vocabulary mastery in each group before and after treatment.

FINDINGS AND DISCUSSION

Findings

This section presents the research findings on the influence of the Make a Match learning model on Arabic vocabulary mastery among tenth-grade students at Madrasah Aliyah Al-Amiriyyah, and discusses their meaning, implications, and limitations. Before data collection, the test instrument was first tested for validity and reliability. The reliability test results showed that the instrument used has a high level of internal consistency with a Cronbach's alpha value of 0.82. This indicates that the data obtained is suitable for further analysis. Next, before the intervention was administered, students' initial vocabulary mastery was assessed using a pretest to ensure equivalence between the experimental and control groups. The results of descriptive statistics show that the average pretest score for the experimental group is 45,71 and for the control group is 42,86, which are relatively comparable. This indicates that both groups have an equal initial ability level.

Table 1. Descriptive Statistics of Pretest and Posttest Scores

Variable	Group	N	Mean	SD
Pretest	Control	28	42,86	10,84
	Experimen	28	45,71	12,89
Posttest	Control	28	80,00	10,54
	Experimen	28	89,64	8,38

After the intervention, both groups experienced an increase in the average posttest scores. The experimental group showed greater improvement than the control group. The gain score analysis shows that the experimental group experienced an average increase of 43.93 points (from 45.71 to 89.64), 6.79 points higher than the control group, which increased by 37.14 points (from 42.86 to 80.00). The posttest standard deviation for the experimental group (8.38) was lower than that of the control group (10.54), indicating greater uniformity in achievement after the intervention.

The results of the statistical test indicate that there is no significant difference between the two groups in the pretest ($U = 443.50$; $p = 0.384$), confirming the equivalence of initial abilities. After the intervention, the Wilcoxon Signed Rank Test showed a significant improvement in both groups: the control group ($Z = 4.668$; $p = 0.000$) and the experimental group ($Z = 4.678$; $p = 0.000$). The comparison of gain scores between the two groups showed a statistically significant difference ($U = 522.50$; $p = 0.026$). The results of the hypothesis test are summarized in Table 2.

Table 2. Hypothesis Test Results

No	Statistical Test	Data	Group	Statistical Test	p-value
1	Mann-Whitney U	Pretest	Kontrol vs Eksperimen	U = 443,50	0,384
2	Wilcoxon Signed Rank	Pretest-Posttest	Kontrol	Z = 4,668	0,000
3	Wilcoxon Signed Rank	Pretest-Posttest	Eksperimen	Z = 4,678	0,000
4	Man-Whitney U	Gain	Kontrol vs Eksperimen	U = 522,50	0,026

Note: Significance level $\alpha = 0.05$.

Based on Table 2, the following interpretation can be made. First, in the pretest data, the p-value of 0.384 (> 0.05) indicates that there was no significant difference between the control and experimental groups before the treatment. This confirms that both groups had equivalent initial abilities, so that any changes after the intervention could be more accurately attributed to the learning model applied. Second, the results of the Wilcoxon Signed Rank test in each group showed a p-value of 0.000 ($p < 0.05$). These findings indicate that both conventional learning (control group) and the Make a Match model (experimental group) led to significant improvements in students' Arabic vocabulary mastery. Third, a comparison of the gain scores between the two groups using the Mann-Whitney U test yielded a p-value of 0.026 ($p < 0.05$). These results indicate a significant difference in Arabic vocabulary mastery improvement between students taught using the Make a Match model and those taught using the conventional model. In other words, the Make a Match model has been statistically proven to be more effective than the conventional model in improving Arabic vocabulary mastery among class X students at Madrasah Aliyah Al-Amiriyyah Banyuwangi.

Discussion

The research findings indicate that the Make a Match learning model has a significant positive impact on the Arabic vocabulary mastery of 10th-grade students at Madrasah Aliyah Al-Amiriyyah Banyuwangi. This is evidenced by the significant difference in gain scores between the experimental and control groups ($U = 522.50$; $p = 0.026$). Although both groups experienced significant internal improvements (Wilcoxon test), the magnitude of the improvement in the experimental group (43.93 points) was higher than in the control group (37.14 points). Additionally, the smaller posttest standard deviation in the experimental group indicates that the Make a Match model not only encourages score improvement but also helps level students' abilities.

Scientifically, this model works by engaging students through vocabulary card matching activities, encouraging active interaction that increases learning motivation, and helping students understand the meaning of vocabulary and determine their equivalents in Arabic (Tian et al., 2025). In addition, learning outcomes are also influenced by other factors, namely: the suitability of learning materials, the level of student engagement, and the role of teachers in facilitating the learning process. These findings are in line with previous studies that emphasize that game-based or cooperative learning models improve foreign language vocabulary mastery (Tang, 2023). However, this study confirms that this positive influence applies specifically to Arabic language learning in Madrasah Aliyah. The Madrasah Aliyah context has its own characteristics, in which motivation to learn Arabic is often tied to religion. Make a Match successfully utilizes and channels some of this religious motivation into active engagement in learning games, thereby making a new contribution to the literature on Arabic language education.

The advantages of Make a Match can also be explained through the principle of cooperative learning, which creates positive interdependence. In this method, the group's success depends on each member's contribution, thereby naturally encouraging peer tutoring, where students who understand more quickly help their friends who do not yet understand. This collaborative interaction not only improves cognitive learning outcomes but also develops students' social and communication skills. The suitability of the learning material to the game mechanism is a major supporting factor, where the vocabulary is concrete and easy to visualize on cards, in line with the characteristics of Generation Z, who tend to prefer interactive and dynamic activities. The teacher's role as a flexible facilitator is also important in keeping the game's dynamics focused on learning objectives. On the other hand, several inhibiting factors were also identified. Student participation varied, with some naturally quieter students tending to be less dominant in the game. However, the small-group structure in Make a Match still allowed them to contribute.

Several limitations should be noted in interpreting the results: (1) Samples were taken purposively, so generalizations should be made with caution. (2) The relatively short duration of the intervention meant that long-term effects could not be fully observed. (3) Student participation varied, so the consistency of the intervention's implementation differed slightly between individuals. However, given the equality of initial abilities and statistical analysis results, the post-intervention differences were largely influenced by the application of the Make a Match model. The results of this study show real potential for Arabic language teachers. The Make a Match model can

be adopted as an alternative strategy to improve students' vocabulary mastery significantly. This model not only helps students understand the meaning of Arabic vocabulary and determine its equivalents in Indonesian, but also encourages learning motivation through active, collaborative, and enjoyable activities. For optimal implementation, teachers need to pay attention to several things: (1) preparation of attractive and clear media (cards), (2) brief and concise explanation of the rules of the game, (3) grouping of heterogeneous students to encourage collaboration, and (4) allocation of time for post-game reflection to consolidate learning. More broadly, these findings support a paradigm shift in Arabic language learning in madrasahs from a teacher-centered, textual approach to a student-centered, contextual approach, grounded in the principles of active learning. Make a Match is proof that Arabic language learning can remain academically rigorous while being pedagogically enjoyable.

CONCLUSION

Based on data analysis, the Make a Match learning model is significantly more effective at improving Arabic vocabulary mastery among tenth-grade students than conventional methods. The activity of actively and collaboratively matching cards not only helps students understand the meaning of vocabulary and its equivalents but also enhances their learning motivation. These findings affirm that interactive methods like Make a Match can be integrated with other strategies, such as small-group discussions or creative assignments, to create a holistic learning experience that combines the cognitive, affective, and psychomotor aspects of students in a single series of activities. This research not only confirms the positive influence of Make a Match but also demonstrates that this enjoyable, interactive, and structured approach can bridge the serious demands of learning with the characteristics of Generation Z learning. Its success underscores the importance of structured pedagogical innovation in building comprehensive language competence. Therefore, Arabic language teachers are advised to integrate this model as a periodic strategy variation by designing engaging card media and incorporating reflection sessions. For future researchers, it is recommended to expand the sample size, extend the study duration, and explore additional variables, such as long-term vocabulary retention and its impact on speaking and writing skills, to improve students' vocabulary mastery more comprehensively and sustainably.

REFERENCES

- Abdullah, S., Mufid, M., Ju'subaidi, J., & Purwanto, P. (2024). Religious Confusion and Emptiness: Evaluating the Impact of Online Islamic Learning Among Indonesian Muslim Adolescents. *HTS Teologiese Studies/Theological Studies*, 80(1).
- Ahmed, B., Yaru, H., Rafiq, M., & Im, C. (2024). Escaping the Boredom Trap: Enhancing Usability with 3D Games in Monotonous Subjects. *IEEE Access*.
- Alamer, A., Al Khateeb, A., & Alshabeb, A. (2025). The Creation and Validation of the Arabic Vocabulary Levels Test (Arabic-VLT). *Language Assessment Quarterly*, 22(2), 117–137.
- Ali, N., Ullah, A., Khan, A. M., Khan, Y., Ali, S., Khan, A., Bakhtawar, Khan, A., Din, M. U., & Ullah, R. (2023). Academic Performance of Children in Relation to Gender, Parenting Styles, and Socioeconomic Status: What Attributes are Important. *Plos One*, 18(11), e0286823.
- Aloizou, V., Linardatou, S., Boloudakis, M., & Retalis, S. (2025). Integrating a Movement - Based Learning Platform as Core Curriculum Tool in Kindergarten Classrooms. *British Journal of Educational Technology*, 56(1), 339–365.
- Azizah, R. N. N. (2022). *Penerapan Metode Creat Sentence dalam Meningkatkan Hafalan Mufradat pada Siswa Kelas XI MIA 2 Madrasah Aliyah Al-Amiriyyah Blokagung Tahun 2021/2022*. Institut Agama Islam Darussalam Blokagung Banyuwangi.
- Ballance, O. J. (2024). Sampling and Randomisation in Experimental and Quasi-Experimental Call Studies: Issues and Recommendations for Design, Reporting, Review, and Interpretation. *Recall*, 36(1), 58–71.
- Bashir, M. H., Azmi, A. M., Nawaz, H., Zaghouni, W., Diab, M., Al-Fuqaha, A., & Qadir, J. (2023). Arabic Natural Language Processing for Qur'anic Research: A Systematic Review. *Artificial Intelligence Review*, 56(7), 6801–6854.
- Basith, A., & Masruroh, A. (2023). Meningkatkan Minat Belajar Bahasa Arab dengan Metode Ice Breaking di Madrasah Aliyah Al-Amiriyyah Banyuwangi. *Tadris Al-Arabiyat: Jurnal Kajian Ilmu Pendidikan Bahasa Arab*, 3(2), 214–227.
- Benediktsson, A. I., & Tavares, V. (2025). Family-School Cooperation in Multicultural Schools: A Missing Piece in Teacher Education in Norway. *Pedagogy, Culture & Society*, 33(4), 1261–1276.
- Bierer, S. B., Beck Dallaghan, G., Borges, N. J., Brondfield, S., Fung, C. C., Huggett, K. N., Teal, C. R., Thammasitboon, S., & Colbert, C. Y. (2025). Moving Beyond Simplistic Research Design in Health Professions Education: What a One-Group Pretest-Posttest Design Will Not Prove. *Mededportal: The Journal of Teaching and Learning Resources*, 21, 11527. https://doi.org/10.15766/mep_2374-8265.11527
- Byusa, E., Kampire, E., & Mwesigye, A. R. (2022). Game-Based Learning Approach on Students' Motivation and Understanding of Chemistry Concepts: A Systematic Review of Literature. *Heliyon*, 8(5).
- Choiriatul, L. (2024). *Pengaruh Model Pembelajaran Kooperatif Tipe Make a Match Berbantuan Media Kartu Bergambar terhadap Penguasaan Mufradat Bahasa Arab Peserta Didik Kelas IV SDS Islam Al-Furqon Tulang Bawang Barat*. Uin Raden Intan Lampung.
- Çimen, M. (2024). *A Research on the Importance of Testing the Normality Assumption in Microbiological Data*. 08(03), 161–166. <https://doi.org/10.35860/iarej.1532064>
- Cook, L., Coffey, A., Brown Wilson, C., Boland, P., Stark, P., Graham, M., McMahan, J., Tuohy, D., Barry, H. E., & Murphy, J. (2024). Co-Design and Mixed Methods Evaluation of an Interdisciplinary Digital Resource for Undergraduate Health Profession Students to Improve the Prevention, Recognition, and Management of Delirium in Ireland: A Study

- Protocol. *BMC Medical Education*, 24(1), 475.
- Deel, M. S. (2024). *A Phenomenological Study of the Influence of Student-Centered Learners on Traditional Teacher-Centered Faculty in Medical Education*.
- Fathanah, F. (2022). Penerapan Metode "Make a Match" untuk Meningkatkan Minat Belajar dalam Kemampuan Menulis (Kitabah) Mata Kuliah Qowaidul Imla PBA UNHASY Jombang. *Jurnal Mahasantri*, 3(1), 567–585.
- Felesia, F., & Irvani, A. I. (2025). Towards Humanistic and Adaptive Language Learning: The Role of Children's Songs in the Digital Era. *Journal of Educational Innovation and Technology*, 1(1), 48–54.
- Fiandini, M., Nandiyanto, A. B. D., Al Husaeni, D. F., Al Husaeni, D. N., & Mushiban, M. (2024). How to Calculate Statistics for Significant Difference Test Using SPSS: Understanding Students Comprehension on the Concept of Steam Engines as Power Plant. *Indonesian Journal of Science and Technology*, 9(1), 45–108.
- Fischer, R., Karl, J. A., Luczak-Roesch, M., & Hartle, L. (2025). Why We Need to Rethink Measurement Invariance: The Role of Measurement Invariance for Cross-Cultural Research. *Cross-Cultural Research*, 59(2), 147–179.
- Fonseca, I., Caviedes, M., Chantré, J., & Bernate, J. (2023). Gamification and Game-Based Learning as Cooperative Learning Tools: A Systematic Review. *International Journal of Emerging Technologies in Learning (IJET)*, 18(21), 4–23.
- Hasbi, A. F., Kasmilah, N., Farkhan, M., & Ummah, V. N. (2025). Rekontekstualisasi Peran Tata Bahasa dalam Akuisisi Bahasa Kedua: Telaah Kritis Teori Monitor Krashen. *Muhibbul Arabiyah: Jurnal Pendidikan Bahasa Arab*, 143–158.
- Hellín, C. J., Calles-Esteban, F., Valledor, A., Gómez, J., Otón-Tortosa, S., & Tayebi, A. (2023). Enhancing Student Motivation and Engagement Through a Gamified Learning Environment. *Sustainability*, 15(19), 14119.
- Himmah, R. H., & Jannah, W. K. (2022). Pengaruh Media Sambung Huruf terhadap Peningkatan Hafalan Mufrodat Bahasa Arab Bahasa Arab Peserta Kursusan Al-'Alam Asrama Darul Lughoh Al-'Arabiyyah Pondok Pesantren Darussalam Putri Utara Blokagung Banyuwangi Tahun Pelajaran 2020/2021. *Tadris Al-Arabiyyat: Jurnal Kajian Ilmu Pendidikan Bahasa Arab*, 2(1), 92–103.
- Insaniyah, A. L., & Rifqiyah, M. (2021). Faaliyatu Toriqotu Make a Macth Fii Ta'liimi al-Mufradat. *Tadris Al-Arabiyyat: Jurnal Kajian Ilmu Pendidikan Bahasa Arab*, 1(02), 233–251.
- Junus, A., Hsu, Y., Wong, C., & Yip, P. S. F. (2023). Is Internet Gaming Disorder Associated with Suicidal Behaviors Among the Younger Generation? Multiple Logistic Regressions on a Large-Scale Purposive Sampling Survey. *Journal of Psychiatric Research*, 161, 2–9.
- Kamran, A. B., Butt, N. A., & Basharat, A. (2024). Semantic Enrichment of Hadith Corpus-Knowledge Graph Generation from Islamic Text. *Semantic Web Journal*. Under Review.
- Kawashima, C., Chen, C., Hagiwara, K., Mizumoto, T., Watarai, M., Koga, T., Higuchi, F., Fujii, Y., Okabe, E., & Nakagawa, S. (2024). Evaluating the Impact of a Short Bout of Stair-Climbing on Creative Thinking in a Between-Subjects Pretest Posttest Comparison Study. *Scientific Reports*, 14(1), 176.
- Kholiq, I. N., & Insaniyah, A. L. (2024). Implementasi KMA 183 dalam Kurikulum Bahasa Arab di Madrasah Aliyah Al Amiriyyah Berbasis Pesantren Blokagung Banyuwangi. 4(2), 238–254.
- Kohan, N., Navabi, N., Motlagh, M. K., & Ahmadinia, F. (2024). Designing and Evaluating ECG Interpretation Software for Undergraduate Nursing Students in Iran: A Non-Equivalent Control Group Pretest-Posttest Design. *BMC Nursing*, 23(1), 827.
- Krishnan, P. (2025). A Review of the Non-Equivalent Control Group Post-Test-Only Design. *Nurse*

Researcher, 33(2).

- Leitão, R., Maguire, M., Turner, S., & Guimarães, L. (2022). A Systematic Evaluation of Game Elements Effects on Students' Motivation. *Education and Information Technologies*, 27(1), 1081–1103.
- Lewis, K. O., Popov, V., & Fatima, S. S. (2024). From Static Web to Metaverse: Reinventing Medical Education in the Post-Pandemic Era. *Annals of Medicine*, 56(1), 2305694.
- Li, R., Lund, A., & Nordsteien, A. (2023). The Link Between Flipped and Active Learning: A Scoping Review. *Teaching in Higher Education*, 28(8), 1993–2027.
- Lin, G. S. S., Tan, W.-W., Tan, H.-J., Khoo, C.-W., & Afrashtehfar, K. I. (2023). Innovative Pedagogical Strategies in Health Professions Education: Active Learning in Dental Materials Science. *International Journal of Environmental Research and Public Health*, 20(3), 2041.
- Mafarja, N., Mohamad, M. M., Zulnaidi, H., & Fadzil, H. M. (2023). Using of Reciprocal Teaching to Enhance Academic Achievement: A Systematic Literature Review. *Heliyon*, 9(7).
- Malhotra, R., Massoudi, M., & Jindal, R. (2023). Shifting from Traditional Engineering Education Towards Competency-Based Approach: The Most Recommended Approach-Review. *Education and Information Technologies*, 28(7), 9081–9111.
- Maryam, R. (2021). *Penerapan Metode Make a Match dalam Penguasaan Mufrodat pada Siswi Kelas XI Program SAINS 3 Madrasah Aliyah Al-Amiriyah Tahun Ajaran 2020/2021*. Institut Agama Islam Darussalam Blokagung Banyuwangi.
- Murtiningsih, S. R., & Haryadi, D. (2025). Chapter VII Game-based Learning: Teaching Vocabulary Using Make-a-Match. *Leap-Frogging in (Language) Education*, 114.
- Mustofa, A., & Hasan, M. A. K. (2023). Peran Bahasa Arab dalam Pendidikan Islam di Ma'had Aly Ar-Rasyid Wonogiri: Tinjauan terhadap Pembelajaran Bahasa Arab sebagai Media Akses Ilmu Agama. *Tatsqifiy: Jurnal Pendidikan Bahasa Arab*, 4(2), 88–94.
- Mustofa, M. Z., & Arsita, E. (2023). *Meningkatkan Penguasaan Mufrodat Bahasa Arab melalui Pembelajaran Kooperatif Tipe Make a match Improving Students ' Mastery of Arabic Vocabulary Through Make-a-Match Type Cooperative Learning*. 6(2), 157–173. <https://doi.org/10.26555/insyirah.v6i2.8258>
- Nasrullah, M. A., & Jamroh, N. M. B. (2025). Peran Pembelajaran Nahwu dan Sharf dalam Memahami Struktur Gramatikal Ayat-ayat Musykilat dalam Al-Qur'an. *Tadris Al-Arabiyyat: Jurnal Kajian Ilmu Pendidikan Bahasa Arab*, 5(2), 216–231.
- Park, S.-M., & Kim, Y.-G. (2022). A Metaverse: Taxonomy, Components, Applications, and Open Challenges. *IEEE Access*, 10, 4209–4251.
- Rabie-Ahmed, A., & Mohamed, A. (2022). Collaborative and Individual Vocabulary Learning in the Arabic Classroom: The Role of Engagement and Task Demands. *Foreign Language Annals*, 55(4), 1006–1024.
- Raharjanti, N. W., Wiguna, T., Purwadianto, A., Soemantri, D., Indriatmi, W., Poerwandari, E. K., Mahajudin, M. S., Nugrahadi, N. R., Roekman, A. E., & Saroso, O. J. D. A. (2022). Translation, Validity and Reliability of Decision Style Scale in Forensic Psychiatric Setting in Indonesia. *Heliyon*, 8(7).
- Rahmadani, P. (2025). *Pengembangan Media Pembelajaran Question Card (Kartu Pertanyaan) pada Materi Kenampakan Alam Kelas V Madrasah Ibtidaiyah Bagian Putra Datok Sulaiman Palopo*. IAIN Palopo.
- Rojas, J. C., Fahrenbach, J., Makhni, S., Cook, S. C., Williams, J. S., Umscheid, C. A., & Chin, M. H. (2022). Framework for Integrating Equity into Machine Learning Models: A Case Study. *Chest*, 161(6), 1621–1627.
- Sa, A. (2025). *Make a Match in Arabic Vocabulary Learning at Muhammadiyah School : Pelajari Kosakata*

Arab di Sekolah Muhammadiyah. 7(1), 1–9. <https://doi.org/10.21070/jims.v7i1.1642>

- Serfaty, J., & Serrano, R. (2024). Practice Makes Perfect, But How Much is Necessary? The Role of Relearning in Second Language Grammar Acquisition. *Language Learning*, 74(1), 218–248.
- Tai, K. Y., Dhaliwal, J., & Balasubramaniam, V. (2022). Leveraging Mann–Whitney U Test on Large-Scale Genetic Variation Data for Analysing Malaria Genetic Markers. *Malaria Journal*, 21(1), 79.
- Tang, J. T. (2023). Comparative Study of Game-Based Learning on Preschoolers' English Vocabulary Acquisition in Taiwan. *Interactive Learning Environments*, 31(4), 1958–1973.
- Tian, F., Yan, D., & Umar, I. N. (2025). Bridging Language and Discipline: The Impact of Digital Game-Based Learning on Technical Vocabulary Acquisition and Motivation. *Journal of Educational Computing Research*, 07356331251414550.
- Wesson, P., Hswen, Y., Valdes, G., Stojanovski, K., & Handley, M. A. (2022). Risks and Opportunities to Ensure Equity in the Application of Big Data Research in Public Health. *Annual Review of Public Health*, 43(1), 59–78.
- Zheng, L., Niu, J., Long, M., & Fan, Y. (2023). An Automatic Knowledge Graph Construction Approach to Promoting Collaborative Knowledge Building, Group Performance, Social Interaction and Socially Shared Regulation in CSCL. *British Journal of Educational Technology*, 54(3), 686–711. <https://doi.org/10.1111/bjet.13283>