

Perceptions of Duolingo-Assisted Learning in Enhancing Arabic Vocabulary Acquisition among Arabic Language Education Students

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Abstract

This study aims to describe the perceptions of students of the Arabic Language Education Department at UIN Datokarama Palu, Class of 2022, regarding the use of the Duolingo application in improving their Arabic vocabulary mastery. The research is based on the need for engaging and flexible learning media that can support continuous vocabulary acquisition, considering that conventional learning methods are often perceived as lacking variety and authentic contextual exposure to the Arabic language. This study employs a descriptive qualitative approach involving seven purposively selected students based on their active use of Duolingo. Data were collected through interviews, observations, and documentation, and analyzed using the Miles and Huberman model, which includes data reduction, data display, and conclusion drawing. The findings indicate that most students hold positive perceptions of Duolingo, particularly due to its interactive features such as reading, listening, writing, and speaking exercises, which help enrich vocabulary gradually. Gamification elements, including points, levels, and daily streaks, also contribute to increased motivation and consistency in independent learning. However, several challenges are also identified, including limited vocabulary relevant to academic needs, dependence on a stable internet connection, and a tendency among some learners to pursue streaks without fully understanding the material. Overall, Duolingo is viewed as a sufficiently effective supplementary tool for enhancing Arabic vocabulary mastery, although its use becomes more optimal when combined with contextual materials and supported by lecturer guidance in formal learning environments.

Keywords: Duolingo, Arabic Vocabulary, Student Perception

Abstrak

Penelitian ini bertujuan untuk mendeskripsikan persepsi mahasiswa PBA UIN Datokarama Palu Angkatan 2022 terhadap penggunaan aplikasi Duolingo dalam meningkatkan penguasaan kosakata bahasa Arab. Latar belakang penelitian ini berangkat dari kebutuhan mahasiswa akan media pembelajaran yang menarik, fleksibel, dan mampu mendukung pemerolehan kosakata secara berkelanjutan, mengingat metode pembelajaran konvensional sering dianggap kurang bervariasi dan

kurang memberikan paparan konteks autentik bahasa Arab. Penelitian ini menggunakan pendekatan deskriptif kualitatif dengan subjek tujuh mahasiswa yang dipilih secara purposif berdasarkan keterlibatan aktif mereka dalam penggunaan Duolingo. Data dikumpulkan melalui wawancara, observasi, dan dokumentasi, kemudian dianalisis menggunakan model Miles dan Huberman yang meliputi reduksi data, penyajian data, dan penarikan kesimpulan. Hasil penelitian menunjukkan bahwa mayoritas mahasiswa memiliki persepsi positif terhadap Duolingo karena fitur interaktifnya seperti latihan membaca, mendengar, menulis, dan berbicara dinilai mampu memperkaya kosakata secara bertahap. Elemen gamifikasi seperti poin, level, dan streak harian turut meningkatkan motivasi dan konsistensi belajar mandiri. Meskipun demikian, mahasiswa juga menghadapi beberapa kendala, termasuk keterbatasan kosakata yang relevan dengan kebutuhan akademik, ketergantungan pada koneksi internet, serta kecenderungan sebagian mahasiswa mengejar streak tanpa memahami materi secara mendalam. Secara keseluruhan, Duolingo dipandang sebagai media pendukung yang cukup efektif dalam meningkatkan penguasaan kosakata bahasa Arab, namun penggunaannya lebih optimal apabila dipadukan dengan materi yang kontekstual serta didukung arahan dosen dalam pembelajaran formal.

Kata Kunci: *Duolingo, Kosakata Bahasa Arab, Persepsi Mahasiswa*

Introduction

Vocabulary acquisition is a fundamental component of Arabic language learning, as learners' ability to comprehend texts, construct grammatically appropriate sentences, and develop overall communicative competence is largely determined by the breadth and depth of their lexical knowledge. Despite its central role, vocabulary learning remains a persistent challenge for many university students. Common constraints include limited instructional time, insufficient methodological diversity, and minimal exposure to authentic Arabic language use. As a result, vocabulary acquisition is frequently perceived as demanding and less engaging, particularly among beginner-level learners. These challenges highlight the need for innovative and learner-centered instructional approaches that can support vocabulary development more effectively in contemporary Arabic language education.

On the other hand, advancements in digital technology have introduced a wide range of alternative instructional media that can support language learning processes. One such medium is Duolingo, an artificial intelligence-based language learning platform that integrates interactive exercises and gamification elements to enhance learners' motivation. Duolingo offers reading, listening, writing, and speaking activities designed to strengthen vocabulary acquisition progressively through repetition and adaptive difficulty levels. Although numerous studies have indicated that gamified digital learning media can enhance learning motivation and retention, further investigation is still required to understand how such platforms are perceived by learners and how effectively they support

vocabulary development in specific language-learning contexts, particularly in Arabic language education.¹

However, the effectiveness of such applications in Arabic language learning within higher education contexts remains underexplored. Moreover, not all features and instructional materials provided by these learning platforms are fully aligned with the academic needs of university students, particularly those enrolled in courses that require the ability to read and produce formal Arabic texts.

Based on this background, the present study aims to describe the perceptions of 2022 cohort students in the Arabic Language Education Program at UIN Datokarama Palu regarding the use of the Duolingo application in enhancing Arabic vocabulary acquisition. The findings of this study are expected to contribute to the development of more adaptive, innovative, and learner-relevant instructional strategies in Arabic language education.

Definition of Perception

According to Malayu, perception is a process involving the entry of messages or information into the human brain, through which individuals continuously interact with their environment. This interaction occurs through the sensory organs, enabling individuals to produce responses in the form of understanding, evaluation, or particular attitudes. Meanwhile, Stephen P. Robbins defines perception as the process by which individuals organize and interpret their sensory impressions in order to give meaning to their environment.²

In the context of this study, perception refers to the views, evaluations, and responses of 2022 cohort students in the Arabic Language Education Program at UIN Datokarama Palu toward the use of the Duolingo application in enhancing Arabic vocabulary acquisition. Students' perceptions are particularly important, as they reflect learners' actual experiences in utilizing Duolingo as a learning medium. Through these perceptions, it is possible to identify the extent to which Duolingo is perceived as useful, engaging, user friendly, and effective in supporting the development of Arabic vocabulary knowledge.

Duolingo

Duolingo is an artificial intelligence based language learning application developed by Luis von Ahn and Severin Hacker. The application is designed to facilitate foreign language learning through a gamification-based approach, in which learning activities are structured as interactive game-like tasks. This approach aims to enhance user engagement and learning motivation, particularly among beginner learners and independent language learners. By employing adaptive learning principles, Duolingo is able to adjust the level of

¹ Wafa' Rizqiyya Adira, *Efektivitas Media Duolingo sebagai Aplikasi UIN Sunan Kalijaga*, (2023): 106.

² Malayu S.P Hasibuan, *Manajemen: Dasar, Pengertian, dan Masalah*, Jakarta: Bumi Aksara, 2017.

task difficulty based on users' performance, thereby creating a more personalized and sustained learning experience.

In line with this perspective, Covey argues that Duolingo was developed to create an engaging, enjoyable, and cognitively undemanding learning experience. The use of visual elements, immediate feedback, and a reward-based system constitutes a defining feature of the application in fostering active interaction between users and learning content. Accordingly, Duolingo functions not only as a medium for delivering language materials but also as a tool that promotes the development of consistent learning habits. These characteristics have contributed to Duolingo's widespread adoption and popularity in language learning contexts, both formal and informal.

According to Pratama and Putri, Duolingo provides a range of language learning features designed to develop integrated language skills, including reading, listening, writing, and speaking exercises. These features are organized into systematic learning units and levels, in which the level of difficulty is adjusted to users' proficiency. This approach enables learners to acquire language skills progressively, starting from basic vocabulary and advancing toward more complex sentence structures. In addition, the presence of challenge based tasks and automated evaluation systems allows users to immediately identify errors and refine their understanding of the learning materials.

Furthermore, Duolingo implements a reward system in the form of points, badges, and daily streaks that function as motivational triggers for learning. This system encourages users to engage in consistent daily practice, ensuring that language learning becomes a sustained rather than incidental activity. In the context of Arabic language learning, such consistency is particularly important, as vocabulary acquisition requires repeated exposure and intensive practice. The application's ease of access and free of-charge nature have also contributed to its widespread use in both formal and informal learning settings, including higher education. Moreover, the availability of multiple language options, including Arabic, further strengthens Duolingo's position as an alternative learning medium that is relevant to the needs of language learners in the digital era.

Duolingo also supports the implementation of self-directed learning, which is a key characteristic of contemporary education. The flexibility of time and place offered by the application allows users to access learning materials according to their individual needs and availability. In higher education contexts, particularly among students of Arabic Language Education programs, this learning model is considered highly relevant as it encourages learners to take greater responsibility for their own learning processes. Technology-facilitated self-directed learning provides students with opportunities to revisit materials, regulate their learning pace, and continuously strengthen their vocabulary knowledge. In line with this, Fitriani notes that the use of Duolingo within a blended learning framework can enhance students' learning interest and engagement in language learning activities. The

integration of face to face instruction and digital applications enables the creation of more varied and less monotonous learning experiences. In Arabic language learning, such an approach is particularly important given the complexity of the language system, which encompasses phonological, morphological, and semantic aspects. Through listening (*maharah al-istimā'*) and reading (*maharah al-qirā'ah*) features, Duolingo assists learners in gradually expanding their vocabulary through repeated and contextualized exposure.

Furthermore, vocabulary acquired through the use of Duolingo is not only beneficial for oral communication but can also be applied in academic contexts, ranging from simple text production to the development of *al-kitābah* (writing) skills. Nevertheless, vocabulary acquisition through this application still requires reinforcement through other academic learning resources in order to meet the demands of Arabic language instruction in higher education. Accordingly, Duolingo can be positioned as a supplementary learning medium that assists students in building a foundational vocabulary base before progressing to more complex and formal stages of Arabic language learning.

Another advantage of Duolingo lies in its visually appealing interface and the variety of instructional methods it employs. The application combines text based exercises, audio input, and quiz style interactions designed to sustain users' attention throughout the learning process. The visual and interactive presentation of learning materials helps reduce learning fatigue, particularly for language learners who require repeated practice over extended periods. Moreover, the provision of immediate feedback for each exercise enables users to promptly identify errors and engage in self correction, thereby supporting autonomous and reflective learning.

In the context of Arabic language learning, such methodological variation allows for a more comprehensive development of language skills. Duolingo not only trains receptive skills, such as *maharah al-istimā'* (listening) and *maharah al-qirā'ah* (reading), but also productive skills, including *maharah al-kitābah* (writing) and *maharah al-kalām* (speaking). The integration of these four language skills supports the process of vocabulary internalization, as students are not merely exposed to word forms but are also encouraged to practice their use across varied contexts. This indicates that Duolingo has the potential to assist Arabic language learners in developing linguistic competence in a gradual and balanced manner.

Overall, Duolingo can be regarded as a relevant and promising alternative learning medium for supporting the development of language skills, particularly in enhancing Arabic vocabulary acquisition. Through its educational game-based approach, the application is able to create a flexible, engaging, and easily accessible learning experience for diverse groups of learners. The integration of artificial intelligence technology, gamification systems, and varied language practice activities positions Duolingo as an adaptive learning medium that responds effectively to learners' needs in the digital era.

Nevertheless, the use of Duolingo in higher education contexts should be positioned in a proportional manner. The application is more appropriately employed as a supplementary learning medium that complements formal instruction, rather than as the sole primary source of learning. In Arabic language learning at the tertiary level, particularly within Arabic Language Education programs, the integration of Duolingo needs to be aligned with academic instructional materials, lecturer guidance, and more contextualized and in depth language practice. When appropriately positioned, Duolingo can contribute to building students' foundational vocabulary while simultaneously fostering self-directed learning motivation, thereby supporting more comprehensive Arabic language learning outcomes.

Arabic Vocabulary Mastery

Vocabulary refers to the collection of words that constitute a language and serves as a fundamental component underlying the four language skills. Within the context of the current curriculum, vocabulary plays a crucial role, as learners are required to “respond to meaning” and “express meaning” in various communicative situations. Without adequate vocabulary mastery, learners are unable to meet these curricular demands effectively. Therefore, language instructors need to devote particular attention to the development of learners' vocabulary knowledge.

In order for vocabulary knowledge to be used accurately and functionally in language activities, learners must achieve an adequate level of vocabulary mastery. Mastery refers to an individual's ability in a particular domain, demonstrated through the appropriate application of knowledge across various activities. An individual can be considered to have mastered a given competence when they possess a sound understanding of it and are able to implement it effectively in concrete actions. In this sense, mastery entails both knowledge and skill in performing specific activities. A sufficient repertoire of Arabic vocabulary enables learners to communicate and write effectively in the language. Accordingly, speaking and writing skills must be supported by rich, productive, and up to date vocabulary knowledge.

In the context of the *al-Khitābah* course, vocabulary mastery plays a decisive role in determining the quality of students' written output. Writing proficiency in Arabic requires sensitivity to appropriate lexical selection, the effective use of suitable synonyms, and an understanding of semantic nuances across different contexts. Therefore, the systematic and sustained development of vocabulary knowledge constitutes a crucial element in supporting students' academic success in completing writing-related tasks within the *al-Khitābah* course.

Method

This study employs a qualitative descriptive approach to explore students' perceptions of the use of the Duolingo application in enhancing Arabic vocabulary mastery. This approach was selected because it allows the researcher to gain an in-depth understanding of students' experiences, perspectives, and interpretations through verbal data collected from the field.

The research participants consisted of seven students from the Arabic Language Education Program, 2022 cohort, at UIN Datokarama Palu. The participants were selected using purposive sampling based on their active engagement with the Duolingo application. This sampling technique was employed to ensure that the selected informants were relevant and aligned with the objectives of the study. Data were collected through three techniques: semi-structured interviews, observation, and documentation. Interviews were conducted to explore students' perceptions and learning experiences, while observation was used to examine patterns of application use directly. Documentation included records of learning activities and evidence of students' engagement with the application.

Data analysis followed the model proposed by Miles and Huberman, which consists of three stages: data reduction, data display, and conclusion drawing. This process was conducted iteratively to ensure the accuracy and consistency of the research findings. Data validity was strengthened through source and method triangulation, thereby enhancing the credibility of the analytical results.

Result and Discussion

1. Students' Perceptions of Duolingo as a Tool for Arabic Vocabulary Development

The findings indicate that students of the Arabic Language Education Program (PBA), 2022 cohort, at UIN Datokarama Palu hold generally positive perceptions toward the use of Duolingo as a supplementary medium for Arabic vocabulary learning. These positive perceptions are reflected in students' views that Duolingo provides a more engaging learning experience compared to conventional, one-directional instructional method. Most participants reported that the interactive features offered by the application such as listening, reading, writing, and speaking exercises helped them expand their vocabulary gradually and contextually. The integration of these four language skills enabled students not only to recognize lexical forms but also to understand their use within simple sentence contexts.

In addition, the gamification system implemented in Duolingo such as the accumulation of experience points, daily streaks, and level progression was perceived as contributing to increased students' motivation for self-directed learning beyond formal

classroom hours. Students reported feeling encouraged to engage in consistent learning due to the presence of daily targets and immediate feedback provided by the application. This condition indicates that affective aspects of language learning, particularly learning motivation and engagement, are effectively supported through a game-based approach. These findings are consistent with gamification theory in education, which posits that the integration of game elements can enhance learner engagement, sustain learning interest, and strengthen the retention of learning materials.

Based on the interview results, students also reported that Duolingo provides a relatively enjoyable and flexible learning experience. This flexibility allows students to access learning materials anytime and anywhere according to their available time, thereby extending the learning process beyond the confines of the classroom. In the context of Arabic vocabulary learning, Duolingo was perceived as an effective supplementary medium for acquiring basic vocabulary, particularly for students who are still at the early stages of developing their linguistic competence. These findings reinforce the view that the use of artificial intelligence-based learning technologies, such as Duolingo, can offer adaptive and learner-oriented learning experiences, especially in supporting self-directed language learning.

Although the majority of students demonstrated positive perceptions of the use of Duolingo, the findings also reveal that these perceptions are neither absolute nor unconditional. Several students expressed critical views regarding the limitations of the vocabulary provided by the application, particularly in relation to the academic demands of specific courses. In the context of Arabic language learning within the Arabic Language Education Program, courses such as *al-Khitābah* require mastery of advanced, academic, and formal vocabulary, whereas the lexical content available in Duolingo predominantly focuses on general and everyday language use. This mismatch leads Duolingo to be perceived as less optimal when employed as a primary medium for supporting the acquisition of academic-level Arabic vocabulary.

Beyond limitations related to vocabulary level, several students also reported that not all lexical items in Duolingo are accompanied by clear Indonesian equivalents. This condition requires students to consult additional reference sources, such as dictionaries or course materials, in order to achieve a deeper understanding of word meanings. On the one hand, this process may foster learner autonomy; on the other hand, it may also lead to confusion, particularly among students who are still at the early stages of Arabic language learning. These findings suggest that the use of technology-based learning applications still necessitates pedagogical guidance and integration with other learning resources to ensure optimal vocabulary comprehension.

Furthermore, several students indicated that the gamification system embedded in Duolingo, although effective in enhancing motivation, also has the potential to shift

learners' focus. Students tended to pursue daily targets, streaks, or level achievements without fully engaging with the vocabulary content being learned. As a result, the learning process may become mechanical and oriented toward symbolic achievement rather than substantive understanding. This finding suggests that extrinsic motivation generated through gamification needs to be balanced with intrinsic learning awareness in order to achieve more optimal outcomes in vocabulary learning.

Based on these findings, it can be concluded that although Duolingo makes a positive contribution to supporting Arabic vocabulary acquisition, particularly at the basic level, its use as a sole learning resource is not yet sufficient to meet the academic learning needs of students in the Arabic Language Education Program. Duolingo is more appropriately positioned as a supplementary learning tool that complements formal classroom instruction, rather than as a substitute for systematically designed academic learning materials. This indicates that the effectiveness of technology-based learning applications is highly dependent on how they are integrated into a broader instructional framework.

In the context of Arabic language learning in higher education, especially in courses that require productive and academic language skills such as *al-Khitābah*, the use of Duolingo needs to be combined with other learning resources, including textbooks, academic Arabic texts, and direct lecturer guidance. Such integration enables students not only to expand their vocabulary quantitatively but also to develop a deeper understanding of semantic, stylistic, and contextual aspects of vocabulary use. Accordingly, Duolingo can function as an initial platform for fostering learning habits and building foundational vocabulary, which can then be further developed through structured and academically oriented instruction.

Furthermore, the findings of this study underscore the critical role of lecturers in guiding the use of learning technologies so that they are not merely oriented toward achieving application-based targets but genuinely support the intended learning outcomes of the course. The use of Duolingo, when accompanied by clear pedagogical guidance, has the potential to enhance the effectiveness of Arabic vocabulary learning in a more comprehensive manner. Therefore, AI-based learning applications such as Duolingo should be understood as integral components of an integrated instructional strategy that positions technology as a supportive tool rather than the primary goal of learning.

2. Limiting Factors in Students' Use of Duolingo for Arabic Vocabulary Development

The study also reveals several factors that hinder students from utilizing Duolingo optimally. These constraints can be classified into two main categories, namely internal barriers and external barriers.

1) Internal Constraints in Students' Use of Duolingo for Arabic Vocabulary Learning

a. Fluctuating Learning Motivation

Several students experienced a decline in learning motivation when confronted with a heavy academic workload. As a result, they tended to use Duolingo primarily to maintain their daily streaks without paying sufficient attention to the substantive content of the learning materials. This condition negatively affected the internalization of newly acquired vocabulary, as learning activities became more goal-oriented toward symbolic achievement rather than meaningful lexical understanding.

b. Insufficient Exposure to an Arabic Language Environment

Students reported that Arabic is rarely used outside academic contexts. This limited use results in insufficient language practice, which in turn prevents vocabulary learned through Duolingo from being fully internalized. A less supportive language environment reduces learners' exposure to and reinforcement of newly acquired vocabulary, thereby constraining the effectiveness of vocabulary learning. Faktor External

c. Constraints Related to the Scope of Duolingo's Learning Content

One of the major constraints reported by students was the limited availability of vocabulary relevant to academic needs, particularly for writing related tasks. Many *al-Khitābah* terms and formal academic expressions are not sufficiently covered in Duolingo. As a result, students are required to consult additional learning resources to compensate for these lexical gaps.

d. Ketergantungan pada jaringan internet

Duolingo requires a stable internet connection for its features to function optimally. Students who experience limited or unstable internet access encounter difficulties in completing learning tasks consistently, which in turn constrains sustained engagement with the application.

As reported by one of the participants (Gias):

"I find Duolingo quite helpful in enriching my Arabic vocabulary; however, there are still several challenges in its use. One of the main issues I face is related to internet connectivity. When the signal is weak, learning exercises are often interrupted, which makes

the learning process less smooth. In addition, some of the materials provided in Duolingo are, in my view, still too basic compared to the requirements of the *al-Khitābah* course.”³

From this explanation, it can be understood that technical constraints, particularly limited internet connectivity, as well as the mismatch between the level of instructional content and academic requirements, constitute significant challenges experienced by students. These factors affect the smoothness of the learning process, indicating that although the application is perceived as effective, technical support and supplementary academic materials are still required to optimize learning outcomes.

e. Insufficient Integration of Duolingo with Course Instruction

The application does not directly follow the Arabic Language Education (PBA) curriculum, resulting in learning materials that are sometimes misaligned with the topics covered in classroom instruction. Students indicated that clearer lecturer guidance and stronger integration between institutional course materials and Duolingo would substantially enhance the effectiveness of the application’s use.

Conclusion and Suggestion

Based on the findings regarding the perceptions of 2022 cohort students in the Arabic Language Education Program at UIN Datokarama Palu toward the use of Duolingo in enhancing Arabic vocabulary mastery, several conclusions can be drawn. First, students generally hold positive perceptions of Duolingo. The application is perceived as helpful in enriching vocabulary through various interactive features, including listening, reading, writing, and speaking exercises. The gamification system such as experience points, levels, and daily streaks offers a more enjoyable and flexible learning experience and motivates students to engage in self-directed learning beyond formal classroom instruction.

Second, despite these positive perceptions, some students also expressed critical views. Several challenges were identified, including the limited availability of vocabulary relevant to academic needs, dependence on stable internet connectivity, and decreased learning consistency in the absence of lecturer supervision or guidance. These findings indicate that students’ perceptions of Duolingo are not uniformly positive but vary according to individual learning experiences and contexts.

Overall, Duolingo is regarded as a fairly effective supplementary medium for Arabic vocabulary learning. However, its use still requires additional learning resources, stronger integration with academic course materials, and ongoing lecturer guidance to ensure alignment with the demands of higher education level Arabic language learning.

Based on the research findings, several recommendations can be proposed as follows:

³ Gias, Mahasiswa PBA Angkatan 2022 “wawancara” 30 Juli 2025

1. Implications and Recommendations for Students

Students are encouraged to utilize Duolingo consistently as a supplementary learning medium for enhancing Arabic vocabulary acquisition. Regular use of the application's features can help increase learning motivation and support the independent reinforcement of vocabulary knowledge.

2. Recommendations for Instructors and Educational Institutions

The findings of this study may serve as a consideration for lecturers in designing more innovative and pedagogically relevant instructional strategies. Duolingo or similar applications can be incorporated as supplementary learning media in course delivery, thereby fostering a more effective combination of conventional classroom instruction and digital learning approaches.

3. Recommendations for Language Learning Application Developers

Students' perceptions can serve as valuable input for improving application quality, particularly in terms of providing vocabulary content that is more closely aligned with the academic needs of Arabic language learning in higher education. In this way, the application can become more adaptive and pedagogically beneficial for university students.

References

- A. Fitriani, "Pemanfaatan Aplikasi Duolingo dalam Pembelajaran Bahasa Arab." *Jurnal Al-Lughoh* 10 No. 2, (2022): 123-130.
- Abubakar, Rifa'i. *Pengantar Metodologi Penelitian*. Yogyakarta, 2021.
- Adira, Wafa' Rizqiyya, *Efektivitas Media Duolingo sebagai Aplikasi UIN Sunan Kalijaga*, 2023.
- Amir, Nur Istiqlal, Bachtiar Syamsuddin, Nurming Saleh, "Penguasaan Kosakata Bahasa Arab Siswa Sekolah Menengah Atas di Kabupaten Takalar", *Journal of Art, Humanity, & Social Studies* 4, No. 1, (2024): 277-283.
- Andini, Sari Tri, "Faktor-Faktor yang Mempengaruhi Lemahnya Kemampuan Peserta Didik dalam Memahami Bahasa Arab." IAIN Parepare, 2020.
- Anjani, Diajeng, Tiara & Abd Rahman. "Efektivitas Penggunaan Aplikasi Duolingo sebagai Media Pembelajaran Berbasis Game Edukasi" *Journal on Teacher Education* 5 No. 3, (2024): 280-287.
- Arisnaini, "Pentingnya Penguasaan Bahasa Arab dalam Pembelajaran Pendidikan Islam," *Serambi Tarbawi: Jurnal Studi Pemikiran, Riset dan Pengembangan Pendidikan Islam* 12, no. 2 (2024): 15-34.

- Djiwandono, Patrisius Istiarto. *Penelitian Kualitatif itu Mengasyikkan*. Yogyakarta, 2023.
- Fadli, Muhammad Rijal. "Memahami Desain Metode Penelitian Kualitatif." *Humanika*, 21 No. 1, (2021): 33-54.
- Malayu S.P Hasibuan, *Manajemen: Dasar, Pengertian, dan Masalah*, Jakarta: Bumi Aksara, 2017.
- R. D Pratama, & Putri, L. A. "Efektivitas Duolingo Sebagai Media Pembelajaran Bahasa Asing." *Jurnal Teknologi Pendidikan* 21 No. 1, (2021): 50-60.