PROCEEDINGS
International Conference on Education
Faculty of Tarbiyah | UIN Syekh Wasil Kediri
E-ISSN: 3025-6828

Volume 3, 2025

Development of Android-Based Interactive Learning Media to Improve Student Learning Outcomes in Arabic Subjects for Grade VIII at MTsN 6 Kediri

Shinta Felisa Yulianti[1], Yuyun Zunairah[2], Khoiru Nidak[3]
[123]Universitas Islam Negeri (UIN) Syekh Wasil Kediri, Indonesia
e-mail: shintafelisa555@email.com[1], Zunairohyz@iainkediri.ac.id[2], khoirunnidak@iainkediri.ac.id[3]

Abstract:
This research was based on the low learning outcomes of students in Arabic class. One of the main reasons is the reliance on traditional and less engaging teaching methods, as well as the absence of interactive learning media. Therefore, the purpose of this study is to develop an Android-based interactive learning media and to examine its suitability, usability, and effectiveness in improving students' learning. The research was conducted with eighth-grade students at MTsN 6 Kediri using the Research and Development (R&D) method with the ADDIE model, which consists of five steps: Analysis, Design, Development, Implementation, and Evaluation. The instruments used included observation, questionnaires, interviews, and tests, with a sample of 34 students from class VIII D. Data were analyzed using both qualitative and quantitative approaches. The results showed three main findings. First, the developed product is an Arabic learning application called *ARABIKU*, which provides materials, audio, videos, interactive quizzes, and practice exercises. Second, expert validation confirmed its feasibility: the material expert scored it 96.8% (very suitable), the first media expert 77.7% (suitable), and the second media expert 93.6% (very suitable). Practicality tests also indicated positive results, with 97% from the teacher (very practical) and 83% from students (very practical). Third, the effectiveness test demonstrated an improvement in learning outcomes, as the average score increased from 67.5 to 80. In conclusion, this Android-based interactive learning media is feasible, practical, and effective in improving Arabic learning for eighth-grade students at MTsN 6 Kediri

Keywords: Interactive Learning Media; Android Application; Arabic Learning; Learning Outcomes

Article History:
Received : 28 July 2025
Revised : 14 September 2025
Accepted : 30 October 2025

Introduction

Education plays a strategic role in improving the quality of human resources and serves as an indicator of national progress. Along with the rapid development of science and technology, education has undergone transformation in various fields, including language learning. Arabic language learning in Indonesia is closely related to Islamic teachings; however, in recent years, its role has expanded beyond religious aspects to become a medium of communication and scientific development, making it increasingly broad and relevant.

In the Indonesian context, Arabic language learning, which was once concentrated in Islamic boarding schools (*pesantren*), has now expanded into formal schools and language courses. Moreover, Arabic educational content has also been widely disseminated through social media platforms. The primary goal of Arabic language learning is to develop communicative competence in four skills: listening, speaking, reading, and writing. Nevertheless, as Arabic is a foreign language, the learning process still encounters several challenges, such as low student interest, limited learning media, and the dominance of conventional teaching methods that often lack engagement.

A similar condition is found among grade VIII students at MTsN 6 Kediri. Observations and teacher interviews revealed that learning activities are still dominated by lectures, with student worksheets (*LKS*) serving as the only source of material. The lack of variety in learning strategies and media has resulted in boredom, low motivation, and poor learning outcomes. These issues are compounded by the fact that most students come from public schools with limited prior exposure to Arabic, despite the school having adequate facilities to support technology-based learning.

In this regard, innovation in learning media becomes essential. Interactive learning media is one promising alternative, as it allows students to directly engage with content, receive immediate feedback, and learn through multimedia elements such as texts, audio, videos, animations, and quizzes. An Android-based application, in particular, offers flexibility since it can be accessed anytime and anywhere, while also enhancing motivation, comprehension, and student engagement.

Previous studies have demonstrated the effectiveness of Android-based interactive learning media in improving learning outcomes. For instance, research in science subjects at junior high schools reported an increase in average scores from 65.46 (pretest) to 79.53 (posttest). Similarly, research in economics subjects at senior high schools indicated an improvement with an N-gain score of 0.69, categorized as medium. However, studies on the use of Android-based interactive media in Arabic language learning, particularly at the junior secondary (MTs) level, remain limited. This gap highlights the need to develop and evaluate Android-based interactive learning media for Arabic.

Therefore, this study aims to develop an Android-based interactive learning media to improve the Arabic language learning outcomes of grade VIII students at MTsN 6 Kediri. The media is expected to be applicable both inside and outside the classroom, provide flexible learning opportunities, and serve as an innovative solution to address low motivation and poor learning outcomes in Arabic learning.

Methods

This research employed a Research and Development (R&D) design aimed at developing and testing the effectiveness of an Android-based interactive learning media for Arabic language learning. The development model used was ADDIE (Analysis, Design, Development, Implementation, Evaluation), which offers a systematic and

simple framework and allows evaluation and revision at each stage, ensuring the product's validity and reliability.

The research procedure followed ADDIE steps sequentially. In the analysis stage, needs were identified through observation, teacher interviews, and analysis of students' characteristics. The design stage involved planning the media in the form of an Android application integrated with grade VIII Arabic learning materials. The development stage was carried out using PowerPoint, iSpring Suite, Canva, and Website 2 APK Builder to produce an application accessible on Android devices. The implementation stage tested the media in Arabic learning at MTsN 6 Kediri, while the evaluation stage collected data from expert validation, user responses, and student learning outcomes.

The research subjects consisted of two groups: (1) development subjects, including one material expert and two media experts from IAIN Kediri, and (2) trial subjects, namely 34 eighth-grade students at MTsN 6 Kediri. The data types were both qualitative and quantitative. Qualitative data were obtained from observations, interviews, and open-ended questionnaire responses from experts, teachers, and students. Quantitative data came from Likert-scale questionnaires (expert validation and user responses) as well as pretest and posttest results.

The data collection instruments included observation sheets, interview guidelines, expert and user validation questionnaires, and learning achievement tests. Expert validation and teacher responses used a five-point Likert scale, while student responses used a four-point scale. The data analysis techniques combined descriptive qualitative and quantitative methods. Qualitative data from interviews, observations, and comments were analyzed descriptively. Quantitative data were analyzed using descriptive statistics to determine the product's feasibility, practicality, and effectiveness. Product feasibility was assessed from expert validation results, practicality from teacher and student responses, and effectiveness from pretest–posttest scores.

Further analysis involved normality tests (Shapiro-Wilk for <50 samples), paired t-tests to examine significant differences between pretest and posttest scores, and N-Gain tests to measure learning improvement levels. The interpretation criteria referred to Riduwan and Akdon (2015), with categories for feasibility, practicality, and effectiveness ranging from very low to very high. Through this structured methodology, the research sought to develop an Android-based interactive learning media that is feasible, practical, and effective in improving Arabic language learning outcomes at the junior secondary level.

Results and Discussion

This section presents the results of the research and development of Android-based interactive learning media for Arabic subjects in Grade VIII at MTsN 6 Kediri. The discussion is organized into three main parts:

1. The process of developing the media using the ADDIE model.
2. The feasibility and practicality results obtained from expert and user evaluations.
3. The effectiveness of the media in improving student learning outcomes, supported by statistical analysis.

1. The Development Process of Android-Based Interactive Learning Media in Arabic Subject for Grade VIII at MTsN 6 Kediri

The development of this Android-based interactive learning media uses the ADDIE model, which consists of five stages: analysis, design, development, implementation, and

evaluation. This model was chosen because it is widely used in instructional design, provides structured guidance, and ensures that the final product is not only theoretically valid but also practical and effective when used by learners.

1.1 Analysis Stage.

At the analysis stage, researchers identified the problems and needs of students in Arabic learning. Data collection was conducted through observations, student needs questionnaires, and interviews with Arabic subject teachers. The findings showed that Arabic learning at MTsN 6 Kediri was still dominated by the lecture method, with the student worksheet (LKS) as the only learning source. This condition had several consequences:

- Students quickly felt bored.
- Motivation was low.
- Learning outcomes remained below expectations.
- Many students lacked a strong Arabic foundation, especially because most of them came from public schools with limited Arabic exposure.

The analysis confirmed the role of media in education as explained by Sudrajat (cited by Imam Asrori and Moh. Ahsanuddin, 2016), which emphasizes that learning media serve to overcome limitations and stimulate student interest in learning.

1.2 Design Stage

In the design stage, researchers prepared materials for Grade VIII Arabic, second semester, following the existing curriculum. The design process also involved planning the visual and audio elements, creating a storyboard and flowchart, and preparing evaluation instruments to assess feasibility, practicality, and effectiveness.

The design followed Hartono Kasmadi's criteria for media selection (cited by Imam Asrori and Moh. Ahsanuddin), including:

- Suitability of the content with learning objectives.
- Compatibility with learner characteristics.
- Efficiency in terms of time and resources.

Thus, the design process ensured that the media would not only contain correct and relevant materials but also be engaging and accessible to the students.

1.3 Development Stage.

At this stage, the design was transformed into a final product that students could access via Android devices. The media was developed using a combination of:

- Microsoft PowerPoint for slides and content structure.
- iSpring Suite for converting PowerPoint into interactive multimedia with quizzes, audio, and video.
- Website 2 APK Builder to package the product into an Android application.

The product was then validated by experts, including material experts and media experts, to assess its accuracy, content validity, and presentation quality. Suggestions from the experts were incorporated to improve the final version.

The validation results showed an average score of 88.8%**,** classified as "very feasible." This confirmed Munadi's argument that multimedia combining text, graphics, audio, and video can significantly enhance the effectiveness of learning.

1.4 Implementation Stage

The implementation stage applied the One Group Pretest–Posttest Design. Thirty-four Grade VIII students at MTsN 6 Kediri were involved as research subjects. Steps taken:

1. Pretest: Students were given a pretest to measure their initial knowledge and skills before using the Android-based media.

2. Learning Process: Students learned Arabic using the Android application, which contained vocabulary, dialogues, listening practices, grammar, speaking, reading, writing, and interactive quizzes.
3. Posttest: At the end, students were given a posttest to measure their improvement after the intervention.

1.5 Evaluation Stage

Evaluation was divided into two types:

- Formative Evaluation: Conducted during development to improve the quality of the product before classroom trials. This included expert validation (media and material experts).
- Summative Evaluation: Conducted after classroom implementation to determine the feasibility, practicality, and effectiveness of the media. This included user responses (teachers and students) and statistical analysis of pretest and posttest results.

The evaluation process ensured that the media not only met academic standards but also provided a meaningful impact on student learning outcomes.

2. Feasibility and Practicality Test Results of Android-Based Interactive Learning Media in Arabic Subject for Grade VIII at MTsN 6 Kediri

The feasibility level of the learning media product was determined based on validation questionnaires filled out by experts, namely material experts and media experts. Validation by the material expert aimed to assess the accuracy and suitability of the content in the developed product, especially on the theme *"Visiting a Patient"*. In this case, the researcher involved Mr. Ahmad Sholehuddin, M.Pd.I., a lecturer in the Arabic Language Education Program at IAIN Kediri, as the material expert validator. Based on the results, the validation score reached an average of 96.8%, which falls into the *"very feasible"* category.

Meanwhile, validation by media experts focused on the visual display, interface design, and technical feasibility of the learning media. Two media expert validators were involved:

- Mr. Syamsul Ma'arif, M.Pd., a lecturer in Arabic Learning Media at IAIN Kediri (Validator I).
- Mr. Eko Budi Hartanto, M.Pd.I., also a lecturer at IAIN Kediri (Validator II).

The results showed that Validator I gave a score of 77.2% (*feasible*) and Validator II gave a score of 93.6% (*very feasible*).

Overall, the total score from the three validators was 280 out of a maximum 315, with an average feasibility percentage of **88.8%**, which is categorized as *"very feasible"*. The assessment included several aspects such as curriculum relevance, material presentation, visual quality, navigation ease, audio and video quality, and the integration of multimedia elements in the learning media. The following is the recap of expert validation results:

Table 1. Recapitulation of Expert Validation Results

Validator	Max Score	Total Score	Percentage	Category
Media Expert I	110	85	77.2%	Feasible
Media Expert II	110	103	93.6%	Very Feasible
Material Expert	95	92	96.8%	Very Feasible
Total	**315**	**280**	**88.8%**	**Very Feasible**

The practicality level of the media was determined based on questionnaires filled out by teachers and students. This questionnaire aimed to measure their responses toward the developed Android-based learning media, especially regarding ease of use, attractiveness, usefulness, and practicality in supporting the learning process.

From the teacher's questionnaire, the average score was 97%, categorized as *"very practical"*. This means the media was considered very helpful and made teaching easier, as well as effective for achieving learning objectives. From the students' questionnaire, the average score was 83%, also categorized as *"very practical"*. This shows that students found the media easy to use, attractive, and supportive of their learning activities.

Table 2. Recapitulation of User Response Results

Respondent	Max Score	Total Score	Percentage	Category
Teacher	100	97	97%	Very Practical
Students	40	33	83%	Very Practical
Total	**140**	**130**	**92%**	**Very Practical**

3. Effectiveness of Android-Based Interactive Learning Media in Improving Student Learning Outcomes in Arabic Subject for Grade VIII at MTsN 6 Kediri

Effective learning media are those that help students achieve their learning goals, one of which is improving learning outcomes. To measure the effectiveness of the Android-based interactive learning media in improving students' learning outcomes in Arabic subject for grade VIII at MTsN 6 Kediri, a pretest and posttest were conducted with 34 students. The results were then analyzed using several statistical tests as follows:

3.1 Descriptive Data

Descriptive analysis was conducted to provide an overview of the pretest and posttest scores before further analysis.

Table 3. Descriptive Statistics of Pretest and Posttest

Descriptives Statistic

	N	Missing	Mean	Median	SD	Range	Minimum	Maximum
pre-test	34	0	67.5	70.0	8.90	35	50	85
post-test	34	0	80.9	80.0	12.40	45	55	100

The results show an increase in the average score from pretest to posttest, as well as improvements in minimum, maximum, and median values. This indicates a clear difference in learning outcomes before and after using the Android-based interactive learning media.

3.2 Normality Test

A normality test was conducted to determine whether the pretest and posttest data were normally distributed. The Shapiro-Wilk method was used in SPSS version 26, since the sample size was less than 50 (34 students).

Table 4. Normality Test Results

Tests of Normality

	class	Kolmogorov Smirnov			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Learning outcomes	PRE-TEST	0,199	34	0,002	0,943	34	0,074
	POST-TEST	0,148	34	0,057	0,947	34	0,099

The results show significance values greater than 0.05, meaning both pretest and posttest data were normally distributed. Therefore, further analysis using the paired sample t-test was appropriate.

3.3 Paired Sample t-Test

This test was conducted to determine the difference in student learning outcomes before and after using the media.

Table 5. Paired Sample t-Test Results

Paired Samples Test

Paired Differences									
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	PRE-TEST - POST-TEST	-13,38235	12,04289	2,06534	-17,58432	-9,18039	-6,479	33	0,000

The p-value (0.000 < 0.05) indicates a significant difference between pretest and posttest scores. Thus, the media is proven effective in improving students' learning outcomes.

3.4 N-Gain Test

The N-Gain test was used to measure the level of effectiveness in improving student learning outcomes. The formula used:

$$\text{N Gain} = \frac{Posttest - Pretest}{Skor\ Maksimal - Pretest}$$

Table 6. N-Gain Test Results

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
NGain	34	-0,20	1,00	0,4097	0,35497
Valid N (listwise)	34				

The average N-Gain score was 0.4097, which falls into the *medium category* (0.3 ≤ g < 0.7) according to Hake (1999). This shows that the Android-based interactive learning media had a positive impact on improving learning outcomes. Although a few students had negative N-Gain scores, the majority showed significant improvement.

The effectiveness can also be explained through Bloom's theory, which includes cognitive, affective, and psychomotor domains:

- Cognitive: reflected in the increase in students' test scores.

- Affective: seen in students' increased interest and motivation in learning.
- Psychomotor: shown in students' ability to operate the application and use the audio-video features for listening and speaking in Arabic.

Based on the overall findings, the Android-based interactive learning media for Arabic in MTsN 6 Kediri is:

- Very feasible (expert validation = 88.8%).
- Very practical (teacher = 97%, students = 83%).
- Effective (pretest = 67.5 → posttest = 80.9; $p < 0.05$; N-Gain = 0.41).

This product successfully improved student performance not only in terms of knowledge but also motivation and practical skills. The study provides evidence that integrating Android-based media into Arabic learning can be an innovative solution to long-standing challenges such as low motivation, limited media, and monotonous teaching methods.

Thus, this research contributes both theoretically (confirming multimedia learning principles and motivation theories) and practically (providing a tested product for schools).

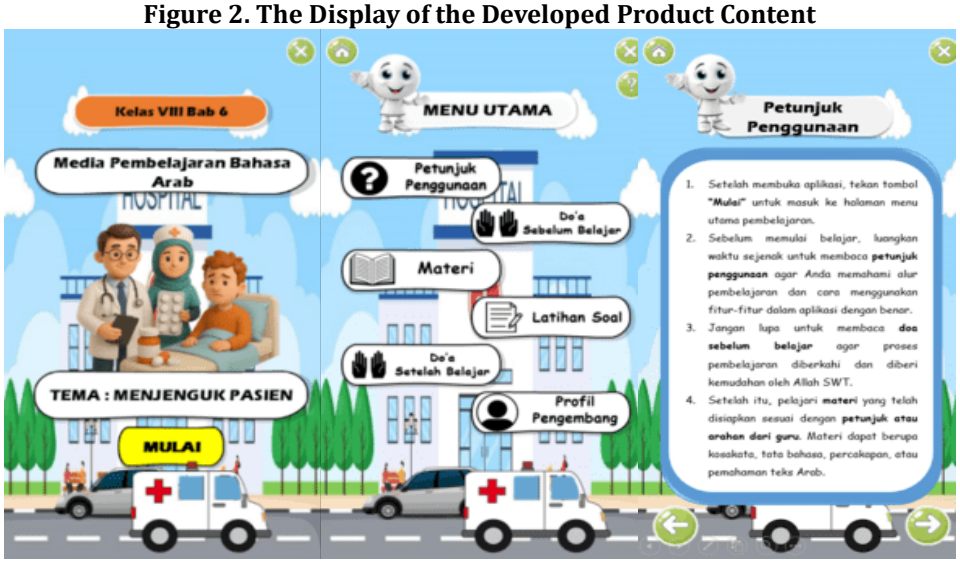
Here are the specifications and display of the Android-based learning media containing the material from Chapter 6 with the theme *"Visiting a Patient"*, which has been successfully developed as the final product:

Table 7. Specifications of the Developed Learning Media

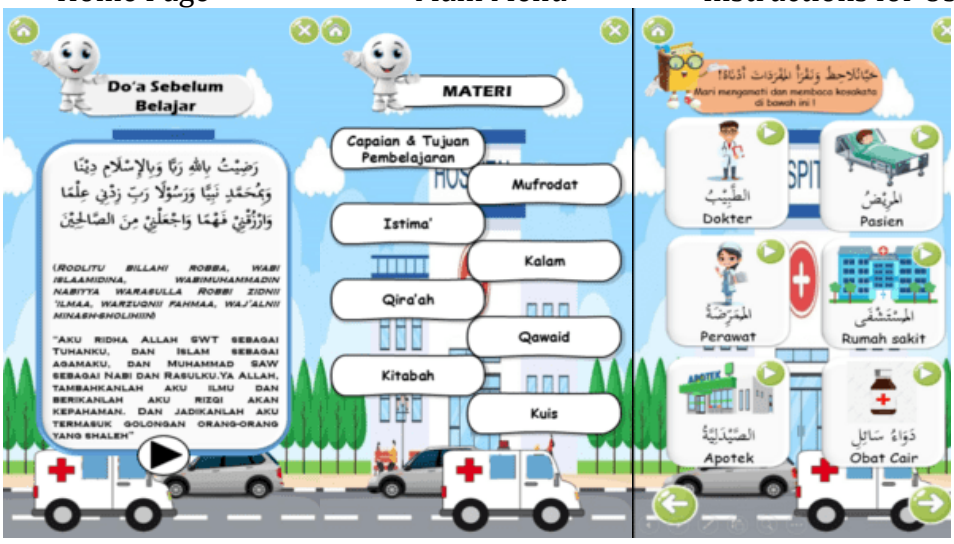
No	Specification	Description
1.	Product Name	**ARABIKU (Arabic Learning Media)**
2.	Product Format	APK
3.	Operating System	Android & Web
4.	Purpose	To help students learn Arabic interactively, flexibly, and enjoyably.
5.	File Size	38 MB
6.	Number of Slides	47 Slides
7.	Theme	Visiting a Patient
8.	Content	Four basic Arabic language skills adapted to the Arabic curriculum, equipped with audio, images, dialogues, videos, and interactive quizzes.
9.	Target Users	MTs/Junior High School students (adjustable)
10.	Authoring Tools	Microsoft PowerPoint, Canva, iSpring Suite 11, and Website 2 APK Builder
11.	Product Link	https://arabikumediapembelajaranbahasaarab.netlify.app/

Figure 1. Product Logo Display

Figure 2. The Display of the Developed Product Content



Home Page Main Menu Instructions for Use

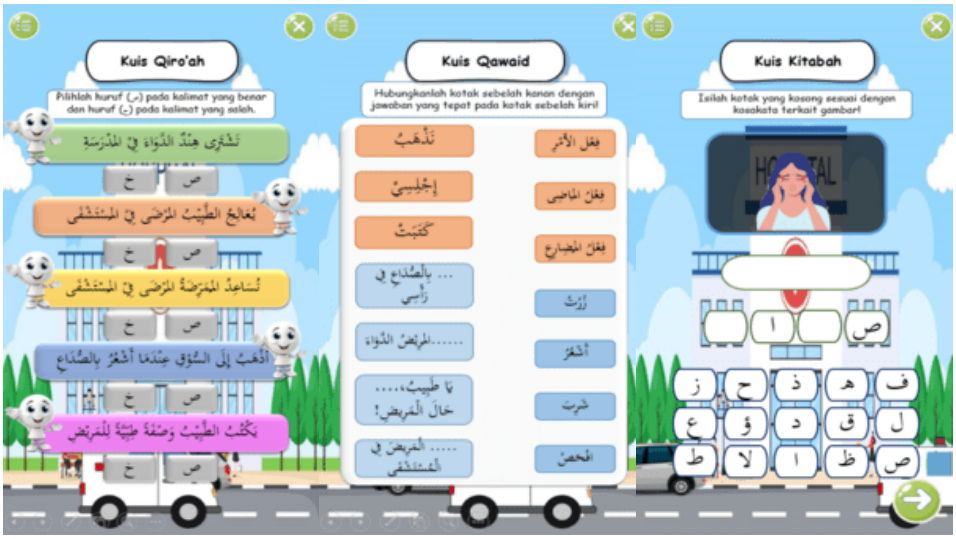


Prayer Before Studying Materials Menu Vocabulary Materials

Listening Materials Speaking Materials Reading Materials

Grammar Materials Writing Materials Quiz Menu

Vocabulary Quiz Listening Quiz Speaking Quiz



Reading Quiz Grammar Quiz Writing Quiz

Practice Exercises Prayer After Studying Developer Profile

Conclusion

This study concludes that the development of Android-based interactive learning media for Arabic learning in Grade VIII at MTsN 6 Kediri has proven to be feasible, practical, and effective. The media was designed using the ADDIE model, covering analysis, design, development, implementation, and evaluation. The initial analysis revealed that Arabic learning was still dominated by lectures and worksheets, leading to student boredom and low motivation. To address this, the researcher created interactive media aligned with the curriculum and enriched with visual and audio elements, developed into an Android application.

Validation results showed high feasibility. The material expert gave a score of 96.8% (very feasible), while media experts gave 77.2% (feasible) and 93.6% (very feasible). The average score of 88.8% indicates that the media is categorized as "very feasible." Practicality testing, based on teacher and student questionnaires, also produced very positive results. Teachers rated the practicality at 97% and students at 83%, both falling into the "very practical" category. This demonstrates that the media is considered easy to use, attractive, and beneficial for the learning process.

Effectiveness testing through a pretest-posttest design confirmed that the media significantly improved students' Arabic learning outcomes. The Paired Sample t-Test showed a significance value of 0.000 ($p < 0.05$), indicating a meaningful improvement after using the media. Furthermore, the N-Gain score of 0.4097 was categorized as medium, showing measurable progress in students' learning achievements.

In conclusion, the Android-based interactive learning media developed in this study has been proven to be highly feasible, practical, and effective. It not only makes Arabic learning more engaging and interactive but also contributes positively to improving students' learning outcomes. Therefore, this media can be considered an innovative and reliable tool for enhancing Arabic learning in schools.

References

Book

Asrori, I., & Ahsanuddin, M. (2016). *Media pembelajaran bahasa Arab: Dari kartu sederhana sampai web penjelajah dunia*. Malang: CV. Bintang Sejahtera.

Bloom, B. S. (1956). *Taxonomy of educational objectives*. New York: Longmans.

Maksum, A. (2012). *Metodologi penelitian dalam olahraga*. Surabaya: Unesa University Press.

Riduwan, & Akdon. (2015). *Rumus dan data dalam aplikasi statistika*. Bandung: Alfabeta.

Sugiyono. (2017). *Metode penelitian pendidikan: Pendekatan kuantitatif, kualitatif, dan R&D*. Bandung: Alfabeta.

Sutopo. (2019). *Pengembangan media pembelajaran digital berbasis Android*. Yogyakarta: Deepublish.

Nikmah, N. (2024). *Pengembangan E-Flipbook kosakata bahasa Arab kelas X MAN 4 Bantul* (Skripsi). Yogyakarta: Universitas Islam Negeri Sunan Kalijaga Yogyakarta.

Journal

Hidayat, F., & Nizar, M. (2021). Model ADDIE (Analysis, Design, Development, Implementation and Evaluation) dalam pembelajaran pendidikan agama Islam. *Jurnal Inovasi Pendidikan Agama Islam (JIPAI), 1*(1), 28–38. https://doi.org/10.15575/jipai.v1i1.11042

Kurniawati, D., & Arief, M. (2023). Pengembangan Media Pembelajaran Interaktif Berbasis Android untuk Meningkatkan Hasil Belajar Ekonomi di SMA. *Edunomic: Jurnal Ilmiah Pendidikan Ekonomi*, 11(2), 125–137. https://doi.org/10.33603/zdg0qe22

Ibrahim, N., & Ishartiwi, I. (2017). Pengembangan media pembelajaran mobile learning berbasis Android mata pelajaran IPA untuk siswa SMP. *Jurnal Refleksi Edukatika*.

Jihan, N., & Harun, A. (2023). Pengembangan media pembelajaran bahasa Arab berbasis web WordPress untuk siswa kelas IX. *Journal of Education Research*.

Rusdewanti, P. P., & Gafur, A. (2014). Pengembangan media pembelajaran interaktif seni musik untuk siswa SMP. *Jurnal Inovasi Teknologi Pendidikan*.

Non-publication

Observation. (2025, Pebruary 11). Observation of the teaching and learning activities

Interview. (2025, Pebruary 11). Interview with the Arabic subject teacher