

Designing Interactive Digital Media for Arabic Reading Learning: Development and Validation of *Ayo Qira*

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ABSTRACT

The limited availability of interactive digital learning media and students' difficulties in comprehending Arabic reading texts remain significant challenges in developing Arabic reading skills (*mahārah qirā'ah*) in Islamic secondary education. This study aimed to design and validate *Ayo Qira* (*Ayo Qirā'ah Asyik*), a Genially-based interactive learning medium developed to support independent and engaging Arabic reading instruction. The study employed a Research and Development (R&D) approach using the Hannafin and Peck model, encompassing needs assessment, design, development, and implementation stages. Data were collected through student needs analysis questionnaires involving 50 eleventh-grade students, semi-structured interviews with Arabic language teachers, and expert validation instruments. The validation results indicated a mean score of 4.71 out of 5, categorizing the media as highly feasible for instructional use. The developed media integrates reading materials, vocabulary enrichment, comprehension activities, and game-based formative assessments within a flexible digital learning environment. The findings demonstrate that *Ayo Qira* provides an innovative learning resource that supports students' engagement with Arabic texts while facilitating autonomous learning. This study contributes to the growing body of research on technology-enhanced Arabic language learning by offering a validated digital media model that can be adapted for reading instruction in similar educational contexts.

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Introduction

The rapid development of educational has significantly influenced language learning, including Arabic language instruction (Alam et al., 2025). In the context of Arabic learning, digital technologies play an essential role in addressing students difficulties, particularly in reading skills, wich require not only linguistic understanding but also the ability to interpret

complex text structures. However, Arabic language learning still faces several challenges, such as limited availability of interactive learning media and low student engagement in the learning process.

Previous studies have demonstrated that digital learning media contribute significantly to language learning outcomes by enhancing students motivation, vocabulary acquisition, and learning autonomy (Zou et al., 2023). Interactive applications and game-based platform provide engaging and multimodal learning environments that support students in understanding language structures and retaining vocabulary more effectively. These findings indicate that digital media function not only as instructional tools but also as facilitators of active and meaningful language learning (Kholis et al., 2022; Roiku et al., 2024; Safoni Idris et al., 2024).

Reading skills are among the basic competencies students must master in learning Arabic. Reading involves not only understanding the text but also analyzing, interpreting, and relating the information to a broader context (Albab, 2024). In addition, reading comprehension is widely recognized as a fundamental skill in Arabic language learning, as it enables students to understand texts effectively and supports the development of other language competencies (Khuluq & Imamah, 2024).

The finding strengthens the position of reading skills as the foundation of Arabic language competence, as most of the students' difficulties arise in vocabulary comprehension, sentence structure, and recognition of basic linguistic patterns. The research emphasizes that mastery of linguistic elements, such as morphology, syntax, and thematic vocabulary, is essential for students to fully and accurately understand texts. Therefore, improving reading skills requires not only intensive reading practice but also learning strategies that gradually and systematically develop competencies (Nasihin, 2020). This condition requires a systematic, in-depth learning process because small mistakes in pronunciation, word meaning, and sentence structure can lead to a significant shift in meaning (Fujita, 2021). Thus, learning media are needed that can facilitate optimal improvement in Arabic reading, as well as help students understand Arabic teks more accurately and efficiently.

Several studies have developed interactive learning media for Arabic reading skills (Fitriani, 2023; Ishak & Asrori, 2025; Khuluq et al., 2025; Qudsiyatul et al., 2024). however, they demonstrate varying strengths and limitations. While these studies consistently report improvements in students engagement, motivation, and reading comprehension trough the use of interactive and digital media, they also reveal several common challengs. These include limited implementation scope, as most studies are conducted in a single educational setting, dependence on internet connectivity and technological devices, and variations in students digital literacy levels. In addition, most existing studies tend to focus on classroom-based

instruction and do not emphasize the development of learning media that can support independent learning.

The five studies position learning media as facilitators of the learning process, playing an essential role in enhancing students interest and motivation in learning (Afifa & Astuti, 2024). Therefore, this present study aims to address these gaps by developing a digital based learning media that is more flexible, interactive, and adaptable to students learning needs, particularly in supporting independent Arabic reading learning.

This research presents a novelty compared to previous research by developing Ayo Qira Media (Ayo Qira'ah Asyik), which is designed not only as an interactive media but also as a means of independent learning accessible without direct teacher assistance. Ayo Qira media offers flexibility of use both inside and outside the classroom, while providing a series of integrated learning activities, ranging from perception and vocabulary recognition to reading texts, grammar, and evaluation, packaged in a multimodal format on the Genially platform. Thus, this research aims to develop and validate Ayo Qira Media as a Genially-based Arabic reading learning media that can be used independently, interactively, and in a structured manner to improve students' reading skills.

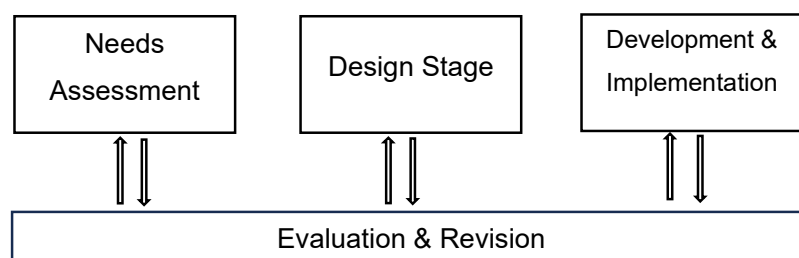
Theoretically, this study contributes to the integration of Multimedia Learning Theory and self-Directed Learning in the context of Arabic language instruction. The use of interactive and multimodal features in Ayo Qira media supports meaningful learning through the integration of visual and verbal information, as suggested in multimedia learning principles (Berre et al., 2025; Mayer, 2002). Furthermore, the materials independently, control their learning pace, and engage in self-regulated learning activities, which are key characteristics of self-Directed Learning (Knowles, 1975).

Method

Research Design

This media development research uses a research-and-development approach, drawing on the Hannafin and Peck model. This model consists of three main processes. The first stage of this model is the needs assessment stage, the second stage is the design stage and the third is development and implementation. In this model, all stages involve an evaluation and revision process (Tegeh et al., 2014).

Figure 1. Hannafin and Peck Model



Needs Assessment

The needs assessment shows that students still have difficulty in understanding Arabic reading texts, mainly due to their complex sentence structure. In addition, students feel that learning has not been supported by engaging, interactive media, leading to a lack of motivation in learning activities. The next difficulty stems from their lack of prior experience with Arabic, so they are not familiar with Arabic vocabulary, sentence patterns, and text forms.

From the teacher's perspective, learning Arabic reading skills is often hampered by diverse student backgrounds, a lack of support in the learning environment, and low student motivation. The teacher assessed that students needed learning media that were more helpful, easy to use, and able to gradually facilitate understanding of the text's structure.

Design Stage

The design stage is carried out based on the results of the analysis of the needs of students and teachers, which are then used to determine the core components that must be available in the Ayo Qira media. At this stage, the researcher begins to design the content structure and appearance of the media, including preparing learning materials, perception, vocabulary recognition, reading texts, grammar exercises, and evaluation. The visuals in the media are designed using cartoon illustrations according to the teacher's preference, to be more communicative and engaging for students.

In addition, the evaluation will include multiple-choice, true/false, and matching to measure the ability to understand vocabulary, identify explicit and implicit information, deduce

main ideas, and connect ideas in the text. The researcher also designed the evaluation game as an interactive activity that provides students with direct feedback.

All of these components are then compiled into the Genially platform, which was chosen for its ability to deliver interactive navigation, responsive displays, and easy access across various devices (Viviana et al., 2024). With this design, Ayo Qira media is expected to be able to answer the needs of students and teachers and support learning to read Arabic independently, interestingly, and systematically.

Development and Implementation

At this stage of development, the researcher began to formulate the appearance, flow, and structure of the Ayo Qira learning media developed on the Genially platform, ensuring easy access across various devices. This design ensures media can be used flexibly, both independently by students and during the learning process with teachers.

The media's home page features a main cover with an attractive visual design. On the home page, there is a table of contents menu equipped with interactive features, each button on the table of contents, such as user guides, learning objectives, materials, and developer profiles, will automatically redirect users to the intended page, so that navigation is faster and more efficient.

The content structure in the chapter list section is systematically designed. Each learning chapter is composed of several main submenus, namely perception, vocabulary material, vocabulary evaluation, reading text, grammar explanation, and final assessment. This sequence is arranged so that students can follow the learning process in stages, from the introduction of basic vocabulary to understanding the text's content, and culminating in reinforcement through relevant evaluative exercises.

Each page in the Ayo Qira media features "continue" and "return" navigation buttons to make it easier to move between chapters and submenus. In the perception and evaluation section, this media also offers interactive games that are engaging and easy to use. Each game includes short instructions for use and links and QR codes so students can access the activity on their devices without any obstacles.

Ayo Qira media is designed to be responsive so that layout, text size, and visual elements can automatically adjust to the user's device. A selection of colors, icons, and cartoon-style illustrations is added to appeal to students' interests while maintaining an educational feel that matches the character of Arabic learning.

After the Ayo Qira media has been fully developed based on a design prepared in accordance with the questionnaire needs of students and teachers, the next step is to implement the product through a feasibility test conducted by experts. The researcher conducted a product feasibility test involving media experts, material experts, and linguists to

evaluate the quality and suitability of Ayo Qira learning media. Assessments by media experts include software, communication, audio, and visual aspects. Experts validate the feasibility of the visual display and interface design to ensure they meet educational and usability standards (Estrada et al., 2022). Meanwhile, the material and language experts cover presentation, content, and language qualifications. This aspect assesses the appropriateness and clarity of the language used in the material. This aspect includes evaluating linguistic elements to ensure the language is appropriate for the target audience and enhances understanding.

Data Collection Technique

The subjects in this study are grade XI students of Madrasah Aliyah (MA) in Semarang City. The data collection techniques in this study include observation, interviews, questionnaire distribution, and expert validation questionnaires. All data obtained were analyzed using a qualitative approach to provide a comprehensive picture of the process and results of learning media development.

Data Analysis Technique

The data analysis technique in this study is descriptive. The expert validation results are processed using a Likert scale of 1-5; the scores of each validator are calculated and averaged for each assessment aspect to determine the feasibility of the developed media. Furthermore, the average score is determined for eligibility based on a specification table arranged based on the highest score, lowest score, number of categories, and interval as follows (Widoyoko, 2012):

$$\begin{aligned}\text{Jarak interval} &= \frac{\text{skor tertinggi} - \text{skor terendah}}{\text{Jumlah kategori}} \\ &= \frac{5-1}{5} \\ &= 0,8\end{aligned}$$

Based on the calculation results, a classification interval of 0.8 was obtained, which is presented in the following table.

Table 1. Eligibility assessment criteria

Score	Category
4,21 – 5,00	Highly feasible
3,41 – 4,20	Proper
2,61 – 3,40	Quite feasible
1,81 – 2,60	Less worthy
1,00 – 1,80	Not eligible

The average score of each aspect is then compared to the category interval on the conversion table to determine the media feasibility level. The results of the conversion serve as a reference in determining the overall feasibility of the learning media.

Then, to ensure the validity of the data, this study employed source triangulation and technical triangulation. Source triangulation was conducted by comparing data on the needs of MA students in Semarang City with information from several Arabic language teachers at different schools. Meanwhile, technical triangulation is applied through the combination of student and teacher needs questionnaires, interviews, and learning observations. The application of these two types of triangulation helps to enhance the accuracy and credibility of the data, thereby making research findings related to the development of Ayo Qira media more reliable and reflective of actual learning conditions (Meydan & Akkaş, 2024).

This study also adhered to ethical research standards. All participants were informed about the purposed of the study, and their participation was voluntary. Informed consent was obtained prior to data collection, and the confidentiality of participants data was maintained through the research process.

Result and Discussion

Needs Assessment Result

The needs analysis stage is carried out to identify real problems students experience with Arabic reading skills and to determine the urgency of developing relevant learning media. Data collection was conducted by distributing needs questionnaires to 50 MA (Madrasah Aliyah) students in Semarang City. The analysis showed that 54.3% of students had difficulty understanding Arabic reading texts. These difficulties are mainly related to linguistic specifications, especially the structure of Arabic sentences, which respondents considered complex (43.5%). These results suggest that students' reading skills have not developed optimally, especially in structural comprehension and text analysis. As a result, students will experience obstacles in identifying meaning, determining the main idea, finding specific information, and understanding references, indicating weak processing of the text's meaning structures (Dambayana, 2021).

The next significant factor is the lack of engaging, interactive learning media, as reported by 65.2% of students. This condition is generally caused by the use of conventional media, limited to printed text, which is not enough to stimulate students' attention and motivation to learn. In addition, the variety of media used by teachers remains minimal. It has not integrated visual, audio, and interactive elements that support learning Arabic in a more fun and meaningful way. This condition leads to low student involvement during learning activities; many are passive, and two-way interaction in the classroom becomes limited

(Kurniawan et al., 2025). In fact, interactive learning media play a significant role in increasing student involvement, academic achievement, and motivation in education. The use of interactive learning media, such as interactive videos, multimedia, and other interactive applications, can improve students' understanding of learning outcomes. Another factor that affects students' reading difficulties is a lack of experience in learning Arabic. Some students have never received formal Arabic instruction before entering the MA (Madrasah Aliyah) level, which makes them unfamiliar with Arabic letters, sound systems, and basic patterns. The lack of initial experience also slows students' recognition of new text structures, grammar, and vocabulary, hindering their adaptation to Arabic texts (Mulianto, 2023).

Meanwhile, the analysis of teachers' needs indicates that several primary factors contribute to students' difficulties in understanding Arabic reading. First, students' diverse backgrounds lead to differences in basic abilities to understand Arabic structure and vocabulary. Second, the limited support environment, both at home and outside of school, means students do not have adequate opportunities to practice Arabic texts consistently. Third, low learning motivation also affects the suboptimal process of understanding texts, as some students have not shown interest or initiative to improve their reading skills independently. However, teachers generally consider students' reading ability sufficient, but further efforts are needed to help them understand the meaning and structure of reading more precisely and sustainably.

Product Design

At this stage of development, platform selection has become essential. Generally it was chosen as the main forum for media development because it has the advantage of presenting learning content in an interactive, hyperlinked, visual, and easily accessible manner. *Genially* also provides an attractive, responsive, and usable interface on a variety of devices without installation, making it easy for students to learn both in the classroom and independently outside the classroom. And, of course, the platform is very effective in increasing students' motivation to learn (Halawa et al., 2025). Ayo Qira also uses interactive game platforms for evaluation activities, such as Educaplay, Quizwhizzer, Gimkit, and Wayground. In general, the use of interactive gaming platforms has been shown to increase students' intrinsic motivation to learn (Yu et al., 2021).

All components of the design, including vocabulary materials, grammar, audio reading texts, and evaluation exercises, were systematically arranged according to the learning order. Each page includes instructions for use, navigation buttons, and links and QR codes to make it easier to access and use in the e-learning system. The development of the media is carried out in stages, with validation results and expert input considered, so that the final product

becomes more feasible, effective, and enjoyable to use for learning Arabic reading skills. Based on the design, the following is the appearance of the Ayo qira media that has been developed:

Figure 2
Home Page



Figure 3
Table of Content



Figure 4
Use Guide



Figure 5
Learning Objectives



Figure 6
List of Chapters



Figure 7
Menu Per Chapters



Figure 8
Preseption



Figure 9
Image Vocabulary



Figure 10
Vocabulary Evaluation



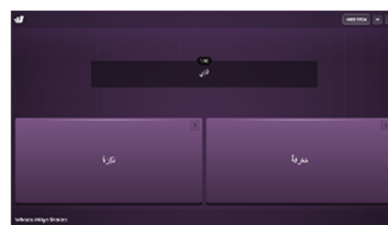
Figure 12
Grammar Figure



Figure 11
Reading Figure



Figure 13
Final Evaluation



The appearance of Ayo Qira media is designed with attention to visual aesthetics, material readability, and ease of navigation for teachers and students. Each component on the page is structured to support the integration of learning materials and the technology used.

Product Validity

At this stage, the researcher conducts a Product Feasibility Test with the Media Specialist and the Material Expert to assess the quality and suitability of Ayo Qira learning media. The aspects evaluated in the media feasibility test include software engineering, communication, audio, and visual elements (Ntoa, 2025). Then, the factors assessed in the material and language feasibility test include the feasibility aspects of content, presentation, and language (Arif et al., 2021). This test is carried out through filling out the questionnaire with the following assessment scale:

Table 2. Assesment Scale

Classification	Category
5	Very High
4	High
3	High Enough
2	Less High
1	Low

Media tests are conducted to assess the display's feasibility and the product's technical quality, ensuring it can be used effectively in learning. The media experts involved in this feasibility test include lecturers teaching the French Language Education course at the Faculty of Language and Arts, State University of Semarang, as well as teachers teaching Arabic language subjects in class XI MA Semarang City.

Table 3. Results of Media Expert Validation Test (Research Data)

Aspects	Average Score
Aspects of Software Engineering	4,50
Communication Aspects	4,80
Audio Aspects	4,66
Visual Aspects	4,50
Overall Total Score	4.61(Very Worthy)

The results of the validation test of media experts showed that the software engineering aspect obtained an average score of 4.50 with the feasible category, including indicators of compatibility, maintainability, reliability, reusability, documentation, usability, and effectiveness and efficiency of use. The communication aspect received a score of 4.80 with a very high category, including communicative, creative, simple, unity, and navigation interactivity indicators. The audio aspect also received a score of 4.80 in the very high category, including narrative clarity, navigation consistency, and sound effect quality. Meanwhile, the visual aspect received a score of 4.66 with a high category, including layout, typography, color selection, images, and navigation accuracy of each layer. Overall, the results of the media validation test obtained an average score of 4.50 with the category of suitable for use.

Furthermore, the material and language tests are carried out by experts who have competence in the field of Arabic. The material and language experts in this study consist of lecturers of Arabic Language Education at Semarang State University who are graduates of universities in the Middle East, as well as teachers of Arabic subject class XI MA Semarang City. The following are the results of the assessment of material and language experts.

Table 4. Results of Validation Test for Subject Matter and Language Experts (Research Data)

Aspects	Average Score
Eligibility Aspects of Content	4,75
Aspects of Presentation Eligibility	4,91
Language Eligibility Aspects	4,77
Overall Total Score	4.81 (Very Worthy)

The results of the material expert validation test showed that the feasibility aspect of the content received an average score of 4.75, including the completeness and breadth of the

material, the accuracy of concepts, terms, and images, and the suitability of the material for student development and daily life. The feasibility aspect of the presentation received a score of 4.91, including systematic consistency, conceptual coherence, student involvement, and integration among learning activities. Meanwhile, the language feasibility aspect obtained a score of 4.77, including the accuracy of structure and grammar, sentence effectiveness, vocabulary, and the ability to motivate and encourage students' critical thinking. Overall, the validation test results from material and language experts yielded a total score of 4.81, placing it in a very feasible category.

Table 5. Overall Results of Expert Validation Test (Research Data)

Expert Validation Test Result Score	Average Score
Media expert validation test	4,61
Validation test of subject matter and language experts	4,81
Overall Total Score	4.71 (Very Worthy)

Based on the overall results of the validation test from media, material, and language experts, the interactive learning media based on the Ayo Qira website (Ayo Qirā'ah Asyik) for learning Arabic reading skills developed, obtained an expert validation score of 4.71 with a category of very feasible to be used as a supporting media for learning Arabic reading skills, especially for grade XI MA students in Semarang City. These results show that, in terms of content, presentation, and language, the media have met the eligibility criteria and can proceed to the trial stage to determine their effectiveness in improving the Arabic reading skills of grade XI MA students.

The finding of this study indicate that the development of Ayo Qira media effectively supports students in improving their Arabic reading skills, particularly in understanding vocabulary and sentence structure. The integration of interactive features, structured content, and multimodal elements appears to enhance students engagement and facilitate better comprehension of Arabic texts.

These findings are in line with Multimedia Learning Theory, which suggests that learning becomes more effective when information is presented through both visual and verbal representations (Mayer, 2002). The use of images, texts, and interactive components in Ayo Qira media helps students process information more efficiently and reduces cognitive load. As a result, students are able to better understand and retain Arabic reading materials, particularly in terms of vocabulary and grammatical structures.

In addition, the design of Ayo Qira media supports the principles of self-Directed Learning (Knowles, 1975). The media allows students to access learning materials independently, control their own learning pace, and engaged in interactive activities without

constant teacher guidance. This flexibility encourages learner autonomy and promotes active language learning in digital environments.

However, despite its advantages, the implementation of Ayo Qira media may still face several challenges. The effectiveness of this media is influenced by students digital literacy and access to technological devices. Students with limited technological skill may require additional support when using the media. Furthermore, the implementation of this study is still limited in scope, which may affect the generalizability of the findings.

This study contributes theoretically by reinforcing the integration of Multimedia Learning Theory and Self-Directed Learning in the context of Arabic language instruction. It highlights that the combination of interactive multimedia features and independent learning design can create a more effective and flexible learning environment. Thus, this study not only supports existing theories but also extends their application in the development of digital learning media for Arabic reading skills.

Conclusion

This study developed and validated *Ayo Qira (Ayo Qirā'ah Asyik)*, a Genially-based interactive learning media designed to support Arabic reading instruction for eleventh-grade students in Islamic senior high schools. The needs assessment revealed that students experienced substantial difficulties in comprehending Arabic reading texts, particularly due to complex sentence structures, limited vocabulary knowledge, low learning motivation, and the lack of engaging instructional media. In response to these challenges, Ayo Qira was designed to integrate vocabulary learning, reading comprehension activities, grammar support, and game-based assessments within an interactive and accessible digital environment. The expert validation results demonstrated a high level of feasibility, with an overall score of 4.71, indicating that the media meets the required standards in terms of content quality, presentation, language appropriateness, technical functionality, and visual design.

The findings suggest that the integration of multimedia elements and interactive learning features can provide meaningful support for Arabic reading development by facilitating vocabulary acquisition, text comprehension, and learner engagement. These results reinforce the relevance of Multimedia Learning Theory and Self-Directed Learning Theory, highlighting the potential of digital learning environments to promote autonomous and flexible language learning. From a practical perspective, Ayo Qira offers an alternative instructional resource that can assist teachers in addressing diverse learner needs while encouraging students to engage more actively with Arabic texts.

Despite these contributions, this study was limited to the development and expert validation stages and did not include large-scale effectiveness testing. Future research should

therefore examine the impact of Ayo Qira on students' reading achievement, motivation, and autonomous learning behaviors through experimental or quasi-experimental designs involving broader educational contexts. Such investigations would provide stronger empirical evidence regarding the effectiveness and scalability of interactive digital media in Arabic language education.

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