

The Development Of “Domino Hijaiyah” Audio Flashcards To Improve Hijaiyah Reading Skills

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ABSTRACT

This study was motivated by the limited availability of interactive learning media that can help students aged 6–7 years old recognize and read Hijaiyah letters in an interesting and enjoyable way. Therefore, this study aims to develop interactive learning media in the form of audio flashcards called “Domino Hijaiyah” as a supporting tool to improve Hijaiyah letter reading skills. This study uses a quantitative approach with the Design and Development (D&D) method, which adapts the Planning, Production, and Evaluation (PPE) model, consisting of the planning, production, and evaluation stages. In the evaluation stage, the research subjects were determined purposively and involved two experts as media feasibility assessors, namely one subject matter expert and one media expert. The instruments used included expert validation sheets based on a 1–5 Likert scale and documentation, while the data were analyzed quantitatively through validity score calculations. The validation results showed that the material aspect scored 100% in the excellent category, while the media aspect scored 97.2% in the excellent category after revisions were made based on experts feedback. These findings indicate that the “Domino Hijaiyah” audio flashcards are highly suitable for use as interactive learning media to support the ability to recognize and read Hijaiyah letters. This study also shows that the developed media has the potential to be an innovative alternative for teachers and is recommended for further testing through field trials to measure its effectiveness directly in the classroom.

Keywords: *Arabic Literacy, Hijaiyah Dominoes, Hijaiyah Reading Skills, Interactive Audio Flashcards, Learning Media*

1. INTRODUCTION

Learning the Hijaiyah letters is a fundamental aspect of Islamic religious education, as these letters form the structure of the Qur'an. The ability to recognize, spell, and pronounce the Hijaiyah letters is not only a gateway for children to understand the Qur'an, but also part of the process of spiritual formation from an early age. Learning the Hijaiyah letters requires methods and media that are appropriate for children's development, namely through media that are interesting, interactive, and also in line with children's developmental characteristics. This is in line with Muinnah (2019), who states that learning media has an important role in attracting students' interest in learning and helping teachers deliver material more effectively.

However, learning the Hijaiyah letters in formal and non-formal educational institutions still faces a number of challenges. The methods used often rely on conventional media such as blackboards, lectures, and repetitive writing exercises.

Although these methods can help students, this type of learning is often less appealing to young children due to the lack of interactive and visual elements that can stimulate motivation to learn. Nisa & Darmawan (2025) emphasize that limitations in the use or variety of learning media can lead to a lack of motivation and enthusiasm among students during the learning process, which ultimately results in low engagement and poor learning outcomes among students.

The findings indicate that early childhood requires a learning approach that is more suited to their developmental characteristics, especially in terms of interactive and engaging media. A mismatch between learning media and children's needs can lead to boredom and a decline in learning motivation. This is in line with the opinion of Wahyuningsih & Setianingsih (2025), who stated that low interest in learning often arises when teaching materials are not presented through media that are appropriate for the child's developmental stage. Thus, there is a need for Hijaiyah learning media that can provide a fun learning experience and suit the learning styles of students, especially first-grade elementary school students aged 6–7 years.

Children aged 6–7 years have distinctive developmental characteristics; they are physically active, highly curious, and prefer game-based learning and social interaction. Therefore, learning media that are too abstract or do not involve activities are less effective for this age group. According to Dale (1946), children find it easier to understand concepts when they learn through concrete and multisensory experiences. This is reinforced by Maksuroh & Agustin (2025), who emphasize that visual media such as Hijaiyah letter cards designed with bright colors and attractive illustrations can help early childhood children recognize and remember the shapes of Hijaiyah letters more easily.

Previous studies have also shown that creative media can help students learn the Hijaiyah letters more effectively. Noterisa et al. (2024) also stated that the use of flashcard learning media can increase motivation and is considered effective in learning the Hijaiyah letters. Similarly, Purnamasari & Setiawan (2023) found that images can gradually strengthen children's understanding of Hijaiyah letters. Research by Khairiyah & Pasaribu (2024) also found that the use of flour media can increase student enthusiasm through direct learning experiences. Through direct interaction with flour, students are more focused and interested in recognizing letters. In addition, the use of puzzles as educational games has been proven to sharpen students' thinking and perseverance (Purnamasari & Setiawan, 2023). Various uses of media have been proven to provide better responses compared to conventional methods.

Other interactive media-based research has also been extensively developed, particularly in the field of learning the Hijaiyah letters. Lidianti et al. (2022) developed augmented reality-based learning media that allows students to scan images of letters to see three-dimensional visualizations of the Hijaiyah letters. Husniah et al. (2024)

showed that the application of interactive learning in the classroom can increase student participation and learning outcomes by up to 90%. These two studies confirm that interactive approaches, whether through technology or classroom methods, have a significant impact on the effectiveness of learning the Hijaiyah letters. The results of these studies show that good learning media can stimulate faster child development. However, innovations that combine visual, audio, social interaction, and educational game elements simultaneously are still rare.

Media with audio-based game formats like this have not been widely developed. In an effort to fill this gap, Hijaiyah Domino Cards were designed as a learning medium that combines educational games with audio support. This medium takes the form of physical domino cards with colorful and attractive Hijaiyah letters, equipped with markers or QR codes that contain audio pronunciations of the letters. The game mechanism follows the concept of dominoes, where students match cards until they run out to win the game. With this approach, students not only learn to recognize the shapes of letters, but also hear the correct pronunciation and interact actively through play.

Based on various findings and needs analyses that have been described, this study aims to answer several main issues related to the development of Hijaiyah letter learning media for first-grade elementary school students. The first issue relates to how the planning process for the Hijaiyah Domino Cards media is designed to suit the developmental characteristics of 6-7-year-old students and the needs of learning Hijaiyah letters. The second issue relates to how the production process of the media is carried out to produce a product that is ready for testing, both in terms of visual design, game mechanics, and audio feature integration. Furthermore, this study also attempts to answer how the evaluation results from subject matter experts and media experts regarding the suitability of the Hijaiyah Domino Card media that has been developed.

In line with the above problem formulation, this study aims to systematically describe the planning process of the Hijaiyah Domino Card media as interactive learning media designed according to the needs of first-grade elementary school students. It also aims to develop the Hijaiyah Domino Card media product in accordance with the developmental characteristics of students, both in terms of visual aspects, game functions, and audio integration. It also aims to assess the level of media feasibility through validation results from subject matter experts and media experts as a basis for determining the quality and feasibility of the product before further field trials are conducted.

2. METHODOLOGY

2.1. Research Design

The approach used in this study is a quantitative approach. According to Sugiyono (2013), a quantitative approach is an approach based on a positivist paradigm applied to a specific population or sample, using specific instruments in data collection, and performing statistical analysis of the data obtained for the purpose of testing hypotheses. The research methods used in this study are the Design & Development (D&D) method and the PPE (Planning, Production, Evaluation) development model and procedures developed by Richey and Klein. The D&D method is a systematic study of the design, development, and evaluation (PPE) process with the aim of establishing an empirical basis for producing learning or non-learning products and instruments, along with new or improved models to guide the development process (Richey & Klein, 2007). The Design & Development method achieves its various objectives through two main categories of research projects, namely the category of research that focuses on product and tool development, and the category of research that focuses on model development. In this study, the category used is product and tool research.

2.2. Participants of the Study

In the Evaluation stage of the PPE model used by researchers in this study, the product underwent a validation process involving subject matter experts and media experts to validate the developed product. This was done to measure the validity of the product before it was declared fit for use. There were two experts in this study, consisting of one subject matter expert and one media expert.

2.3. Instruments

The instrument used for expert judgement by subject matter experts and media experts is a questionnaire using a Likert scale of 1 to 5. Each questionnaire consists of four indicators adapted from the Learning Object Review Instrument (LORI) Version 2.0 of 2009 developed by John Nesbit, Karen Belfer, and Tracey Leacock.

The media expert and subject matter expert validation assessment aspects can be seen in Table 1 and Table 2 below.

Table. 1. Media Expert Judgement Instrument

No	Aspect	Number of assessment items
1	Presentation design	4
2	Interaction usability	1
3	Accessibility	2
4	Standards Compliance	2

No	Aspect	Number of assessment items
	Total of assessment items	9

Table. 2. Subject Matter Expert Judgement Instrument

No	Aspect	Number of assesment items
1	Content quality	4
2	Learning Goal Alignment	3
3	Motivation	2
	Total of assesment items	9

2.4. Data Analysis Techniques

The analysis technique applied in this study is quantitative analysis. Quantitative data is sourced from the validity assessment of learning media in the form of questionnaires that have been responded to by subject matter experts and media experts. Scoring for each item of the instrument uses the Likert scale. The data from the validation instruments of both types of experts serves as the basis for the analysis process. The following is the formula used:

$$Result = \frac{total\ score\ earned}{maximum\ score} \times 100\%$$

3. RESULT AND DISCUSSION

3.1 Result

The development output from this study is an educational media product named the Audio Flashcard "Domino Hijaiyah," primarily designed for students, especially those in Al-Quran Education (PAQ). The content provided in the Audio Flashcard "Domino Hijaiyah" focuses on basic hijaiyah letters tailored for students equivalent to first-grade elementary school level. The objectives of developing this product are: (1) to implement letter level sequencing to facilitate systematic learning and comprehension of hijaiyah letters, (2) to encourage student interaction thus enhancing their social skills, (3) to motivate students to learn through engaging game-based media, and (4) to support strategic thinking in card placement.

Generally, this interactive learning media is designed to introduce and improve students' understanding of hijaiyah letters through a domino card game format. By integrating learning and play elements, the students can more easily comprehend, recognize, and memorize hijaiyah letters. This game is not only enjoyable but also educational, promoting social interaction among peers. The learning media consists of

three difficulty levels: Level 1 begins with letters from *Alif* to *Ra'*, Level 2 from *Za'* to *Fa'*, and Level 3 from *Qof* to *lam Alif*. It is hoped that students can learn progressively, starting with basic letters advancing to more complex ones.

The detailed development stages of the Audio Flashcard "Domino Hijaiyah" educational media are as follows:

3.1.1 Planning

This stage comprises two parts: student characteristic analysis and material analysis. Regarding student characteristics, Piaget's theory of cognitive development was adopted, revealing that students aged 6-7 years are in the symbolic thinking stage but are not yet fully capable of cognitive operations. Learning experiences aided by interactive learning media substantially support children in transitioning towards the concrete operational stage. At this age, children enjoy mentally representing objects through symbols or signs (Nainggolan & Daeli, 2021).

Material analysis considers that hijaiyah letters are part of the Islamic Religious Education curriculum. The learning using Audio Flashcard "Domino Hijaiyah" operationalizes the students' basic competencies in recognizing hijaiyah letters, including recognizing forms, spelling, and articulating letters correctly. The assessment focuses on cognitive and applicative basics: (1) letter name recognition, (2) identification of letter shapes including similar letters, and (3) correct pronunciation according to the basic sounds.

3.1.2 Production

The production involved designing cards measuring 14 cm by 7 cm (half the size of standard domino cards). The cards are made of 310 gsm Art Carton and laminated on both sides. The front design of each card features illustrations of two hijaiyah letters, positioned in the upper and lower columns respectively. The font used is clear and child-friendly. The back side includes a barcode functioning as a tool to assist with letter pronunciation if a student cannot yet read or articulate the front letters. Additionally, the color scheme includes bright and contrasting colors to attract students' attention. An illustration of the Audio Flashcard "Domino Hijaiyah" design accompanies the text.



Figure 1. Audio Flashcard "Domino Hijaiyah" Illustration

3.1.3 Evaluation

Evaluation was conducted through validity assessment by experts in material and media via expert judgement. The material validity was assessed by a PAQ At-Taqwa Bandung Islamic Religious Education teacher, and media validity by an Educational Technology lecturer at UPI. The validity results are presented in Table 1.

Table. 3. Expert Judgement Result

No	Validator	Percentage (%)	Evaluation Category
1	Material Expert	100%	Excellent
2	Media Expert	97,2%	Excellent

3.2 Discussion

The Audio Flashcard "Domino Hijaiyah" serves as a flashcard-based learning media supported by audio for students who face difficulties recognizing and reading hijaiyah letters. During the learning process, the media is not solely student-operated; teacher guidance is essential to facilitate the game at the beginning of the lesson. This approach aims to keep students motivated to learn hijaiyah letters continuously, minimizing frustration when transitioning letter recognition into concrete understanding.

Validity assessments conducted through surveys by material and media experts showed that the material component received a perfect score (100%) categorized as excellent. This encompasses aspects such as content quality, alignment with learning objectives, and motivational elements. Therefore, the material of the Audio Flashcard "Domino Hijaiyah" is suitable for students aged 6-7 to enhance their ability to read hijaiyah letters.

For the media aspect, the score was 97.2%, also rated excellent, covering presentation design, interaction usability, accessibility, and standard compliance. The media expert initially identified a concern regarding insufficient color contrast between certain hijaiyah letters and their background, which could reduce visual clarity for young learners. Specifically, the original design used light blue backgrounds with green letter outlines, creating a color combination that may be challenging for children aged 6-7 years to distinguish clearly. This feedback was addressed by revising the color scheme to employ brighter, high-contrast combinations such as pairing dark letters with light backgrounds and vice versa. This revision aligns with established principles in visual design for early childhood education, as Akbar (2022) emphasizes that appropriate color selection significantly influences student engagement and comprehension when using flashcard media. The revised design not only meets accessibility standards but also enhances the visual appeal necessary to maintain learner attention during

gameplay. This comprehensive result and discussion highlight the systematic development, educational value, and expert validation of the Audio Flashcard "Domino Hijaiyah," supporting its efficacy for early learners in hijaiyah letter recognition and reading skills.

This high level of feasibility can be critically analyzed through the lens of Jean Piaget's Theory of Cognitive Development, which posits that children aged 6–7 years are in the symbolic thinking stage. During this phase, learners begin to represent objects through symbols but still require scaffolding to transition toward concrete operational thinking. The utilization of domino cards as visual symbols, augmented by synchronized audio, provides the cognitive bridge necessary to minimize learner frustration when encountering the abstract structures of Hijaiyah letters.

Furthermore, the efficacy of this media is supported by the multisensory experience framework proposed by Edgar Dale (1946), which suggests that conceptual understanding is enhanced when learning involves concrete and diverse sensory engagement. By integrating visual stimuli—such as bright colors and engaging illustrations—with auditory output via QR codes, the media facilitates simultaneous visual and auditory processing. This alignment is consistent with the findings of Maksuroh & Agustin (2025), which emphasize that such multisensory approaches help early childhood learners recognize and retain letter shapes more effectively.

Critically, the game-based learning format of the dominoes addresses the challenges of low motivation often associated with conventional "blackboard and lecture" methods. As underscored by Nisa & Darmawan (2025), the variety and quality of learning media are primary determinants of student engagement levels. "Domino Hijaiyah" functions not only as a delivery mechanism for content but also as a platform for social interaction, strategic thinking, and collaborative play, thereby making the acquisition of literacy more humanistic and engaging. Technical refinements, such as improving color contrast based on expert feedback, further ensure that the media meets the visual perception standards required for early childhood education.

Despite the favorable validation results, this study has several limitations that warrant acknowledgment. First, the evaluation was limited to expert validation involving only two validators (one material expert and one media expert), without conducting field trials with actual students. While expert judgement provides valuable theoretical and technical assessment, it cannot fully capture students' authentic learning experiences, engagement levels, or actual improvement in hijaiyah letter recognition skills. Second, the study did not compare the effectiveness of 'Domino Hijaiyah' against conventional teaching methods through controlled experimental design. Third, the assessment focused solely on product feasibility rather than measuring direct learning outcomes such as retention rate, pronunciation accuracy, or long-term mastery of hijaiyah letters. These limitations suggest that while the media

demonstrates strong potential based on expert evaluation, empirical evidence of its pedagogical effectiveness remains to be established through comprehensive field testing.

4. CONCLUSION

This study successfully developed the *Domino Hijaiyah Audio Flashcard* as an interactive learning medium suitable for children aged 6–7 years. The validation results, which achieved scores of 100% for material quality and 97.2% for media design, indicate that the product meets high pedagogical and technical standards. The integration of visual, auditory, and game-based elements demonstrates strong potential to support early learners in recognizing and pronouncing Hijaiyah letters in an engaging learning environment.

From a practical perspective, this media contributes to Islamic early childhood education by offering an alternative instructional tool that aligns with children's developmental characteristics and learning preferences. Theoretically, the findings reinforce the relevance of multisensory and play-based learning approaches in supporting foundational literacy skills.

Future research should extend beyond expert validation by conducting large-scale field testing with more diverse student populations. Empirical studies are needed to measure learning outcomes such as long-term retention and pronunciation fluency compared to conventional instructional methods. Further investigation into secondary variables, including optimal play duration, teacher facilitation strategies, and audio accessibility in low-resource settings, is recommended to enhance the effectiveness and scalability of the media.

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