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Development *gameboard digital* for increase the ability to recognize hijaiyah letters in early childhood

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Abstract

This study aims to produce a digital *gameboard* as a teaching medium for literacy in identifying hijaiyah letters in early childhood through a *Research and Development approach referring to the Borg and Gall* model . The subjects of the study were children aged 5-6 years at RA AT, through a limited trial involving 6 children and a broad trial involving 12 children. Data were collected through observation, questions and answers, documentation, and validation sheets from media experts and material experts. Validation data were processed using percentage techniques, interview data and documentation were processed descriptively, while trial data were processed using descriptive statistics assisted by SPSS. The validation results showed that the digital *gameboard* was in the very feasible category, with a percentage of media experts of 80.55% and material experts of 86.11%. Children's abilities improved, as indicated by an average score rising from 2.13-2.54 in the limited trial to 3.17-3.28 in the broader trial.

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INTRODUCTION

Early childhood education provides a crucial foundation for supporting a child's overall growth and development, including the development of literacy skills. Literacy at this age encompasses more than just skills. read And write, but Also covering introduction symbol, sound, and understanding base to meaning A letter. In context education Islam, domination letter Hijaiyah is foundation main Which need built since early so that children can learn the Quran well. Therefore, introducing the Hijaiyah letters should be delivered through a creative, engaging learning process that is aligned with the developmental stages of early childhood.

Early childhood is generally characterized by a love of movement, being easily attracted to visual stimuli, and being more enthusiastic about play activities compared to learning methods that tend to be passive and unvaried. This view aligns with that put forward by Apriyani et al. (2021) , who stated that learning for early childhood should focus on their needs and developmental stages. child, so that approach Study through play become choice the most in accordance. Through activity play, child get experience in a way directly, exploring the surrounding environment, and building new understandings that make it easier for them to interpret various concepts in a deeper and more contextual way.

The characteristics of early childhood indicate that between the ages of 2 and 7, children begin to understand symbols, images, language, and sounds as representations of objects. According to Santrock (2018), at this stage of development, children learn more effectively through concrete observation, engaging media, and play activities, as these align with their cognitive developmental characteristics. Therefore, the use of teaching media that integrates visual, audio, and game elements, such as a digital gameboard, is considered appropriate to support early childhood teaching activities to understand the hijaiyah letters.

However, the reality on the ground is that teaching the Hijaiyah alphabet still often relies on conventional media, such as Hijaiyah letter cards, Iqra books, and direct lectures. While these media can help children recognize the shapes of the Hijaiyah letters, their use is considered ineffective. maintain concentration child through term time Which long, next Children tend to get bored quickly and are less actively involved in the learning process.

The development of digital technology opens up significant opportunities for educators to create more innovative teaching media that encourage more active student engagement through learning activities. Interactive teaching media that combine visual, audio, animation, and game elements are considered capable of realizing this. experience Study Which more interesting, will make it easier child in understanding material Which shared. In side That, media interactive Also believed can increase children's motivation, concentration, and activeness during learning activities.

The development of digital technology opens up significant opportunities for educators to create more innovative teaching media that encourage more active student engagement through learning activities. Interactive teaching media that combine visual, audio, animation, and game elements are considered to be the best way to achieve this. experience Study Which more interesting, next make it easier child to understand material Which shared. In side That, media interactive Also believed can increase children's motivation, concentration, and activeness during learning activities.

Matter This clarified by findings Goddess & Agung (2021) concluded namely Interactive multimedia-based *educational game* media is suitable for early childhood, as it has been proven to create a more

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enjoyable, flexible, and effective learning environment in optimizing children's abilities. In line with this, Sari & Suyadi (2024) revealed that the approach *game-based learning* very aligns with the character of early childhood, because it provides space for children to learn based on fun play activities, thus potentially increasing engagement, motivation, and the quality of children's learning experiences as a whole. Among the various forms of digital media available, such as interactive learning applications, animated videos, and augmented reality, digital gameboards were chosen because they combine the advantages of familiar and popular board games with digital interactivity, thus encouraging social interaction between children during play—something that tends to be minimal in individual application-based digital media. In addition, digital gameboards are relatively simpler to operate and do not require high device specifications, making them easier to adapt to learning conditions in RA/TK. A form of media that has the potential to be improved through activities to introduce the hijaiyah letters is digital gameboards.

Form media Which potential For improved on introductory teaching letter Hijaiyah namely *gameboard* digital. Media This realized in An educational game format that allows children to directly engage with the material being studied. By utilizing a digital gameboard, children can observe the shapes of the hijaiyah letters, listen to their pronunciation through audio, and pronounce the letters in a series of simple and fun play activities. Nasher & Ferdiansyah (2021) in their research revealed that the implementation of digital-based educational games has been proven to improve interest child in learn letter hijaiyah. This is also supported by Widhiasih & Zannah, disclose namely media teaching Interactive game-based learning has been proven to increase children's interest and participation in activities. introduction letter hijaiyah. Utilization media Which unite element Visual, audio, and interactive activities will create a more enjoyable learning experience, making it easier for children to recognize and remember the Hijaiyah letters.

Besides play a role in increase interest Study, media learning Game-based learning also provides opportunities for children to gain active and engaging learning experiences. The use of interactive media allows children to be directly involved in teaching activities, making the material more easily understood and tailored to the characteristics and learning styles of early childhood. This aligns with the findings of Sari & Suyadi (2024) , who found that the use of interactive games has been shown to increase children's participation, motivation, and the quality of their learning experiences through engaging activities aligned with their developmental stage.

Based on observations made, learning activities to introduce the Hijaiyah letters in class so far still rely on Hijaiyah letter cards as media, so that process Study tend monoton as well as not enough include child in a way active.This has resulted in decreased concentration in some children, boredom, and difficulty distinguishing between similarly shaped hijaiyah letters. Furthermore, the use of hijaiyah cards has been deemed less stimulating for children because the activity is limited to seeing and saying the letters, without any sound elements or interactive games.

This aligns with the concept of *game-based learning,* which places games as part of the teaching activity. Children then gain learning experiences through fun, interactive activities that involve direct participation. This approach provides children with opportunities to learn through challenges, game rules, and feedback throughout the activity. Furthermore, the use of *digital gameboards* also relates to the concept of *multimedia learning* because it integrates visual and audio elements in delivering material. The visual display of the hijaiyah letters accompanied by audio pronunciation allows children to receive information

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through two integrated presentations. The combination of game, visual, and audio elements creates a more captivating learning experience and aligns with the character of early childhood. Hidayat & Rohman (2020) stated that the use of game-based media (*game-based learning*) has been proven to increase motivation And participation child age early through learning activities, because Children learn through fun and interactive observations.

Based on this, the development of more innovative and relevant teaching media, tailored to the character of early childhood, is an urgent need. The purpose of this research is to develop a digital *gameboard* as a learning medium capable of improving literacy skills in recognizing the hijaiyah letters in early childhood, and to determine its suitability based on assessments by media and subject matter experts. Through this medium, it is intended that teaching activities can be more interactive, enjoyable, and meaningful for children.

Previous studies on the development of hijaiyah letter learning media and *game-based learning* for early childhood generally still discuss these two aspects separately, namely static visual media on the one hand or interactive games without audio content of letter pronunciation on the other hand, so that there are not many media that harmonize visual, audio, and game elements at the same time specifically for the introduction of hijaiyah letters. The novelty of this study lies in the development of *a digital gameboard* that combines these three elements in one teaching medium that is systematically designed based on a *Research and Development approach* . This study is expected to share practical contributions in the form of alternative learning media that have been tested for their suitability for early childhood educators, especially through teaching literacy in recognizing hijaiyah letters, as well as providing theoretical contributions to the development of *game-based learning studies* in the context of religious education at the early age level.

METHOD

This study applies the *Research and Development* (R&D) method by referring to the *Borg and Gall development model* . The R&D method is a research approach that aims to create a specific product while testing its feasibility and effectiveness (Sugiyono , 2019) . The product created in this study is a digital *gameboard* designed to support the improvement of literacy skills in recognizing the hijaiyah letters in early childhood.

The study process was carried out based on nine stages adapted from the *Borg and Gall model* , including needs analysis, product planning, initial product development, validation, revision, limited trials, further revisions, broader trials, and final product refinement. In the needs analysis stage, observations and interviews were conducted with teachers to identify the needs of hijaiyah teaching media. The planning and development stage was carried out by designing *a digital gameboard* containing hijaiyah letter material, visual displays, pronunciation audio, and game activities. The initial product was then validated by media experts and material experts, then revised based on the validation results. Next, a limited trial was conducted on 6 children and further revisions based on the trial results. The revised product was then tested more widely on 12 children and refined into a final product. The selection of the *Borg and Gall model* was based on the consideration that this model provides a systematic and structured development flow that will create an educational product that is suitable for application in the learning process. Tegeh & Jampel (2017) . This research was limited to the final product refinement stage and did not reach the dissemination stage,

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considering that the focus of this research was to produce a viable and tested product, not on the massive dissemination of the product.

The subjects of this study were children aged 5–6 years at RA AT. A limited trial included six children, while a broader trial included 12 children. Data collection was based on observations, interviews, and documentation, using instruments including observation sheets, interview guidelines, and validation sheets from media and content experts. Yusuf (2017) stated that observation and interviews are data collection techniques that are considered effective in gaining direct insight into the behavior, responses, and experiences of research subjects.

The data obtained from the expert validation results were analyzed using percentage techniques to determine the feasibility level of the developed media. Meanwhile, data from the results of trials on children were analyzed using descriptive statistics with the help of the SPSS program to produce an average value (mean) for each indicator of the ability to recognize hijaiyah letters, including the ability to name, differentiate, and pronounce hijaiyah letters. This descriptive analysis approach was used to share an explanation regarding the improvement of children's ability to recognize hijaiyah letters (Siregar , 2020) . The data obtained from the results of interviews and documentation were reviewed descriptively qualitatively based on the stages of data presentation, data reduction, and drawing conclusions, in order to obtain further explanation regarding the responses and experiences of the study subjects during the teaching activities.

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RESULTS AND DISCUSSION

Result

A. Results Test Validation

1. Results Test Validation Expert Media

Validation by media experts was conducted to determine the suitability of the upgraded digital *gameboard* before it entered the child testing phase. The assessment covered various aspects, including media appearance, design quality, color selection, ease of navigation, audio clarity, and the media's alignment with the characteristics and needs of early childhood.

Table 1. Summary Results Validation Expert Media

Validator	Score Percentage (%)	Category
Validator Expert Media	**80.55%**	**Very Worthy**

The media expert assessment results showed that the digital gameboard achieved a feasibility score of 80.55%, categorizing it as highly feasible. The study stated that the developed media met feasibility criteria in terms of appearance, design, navigation, audio, and suitability for early childhood characteristics. This assessment was descriptive and was used to determine the feasibility of the product, not to test the significance of improvements in children's abilities.

Validators assessed that the digital *gameboard* features an attractive design with color combinations suitable for young children. It also features audio pronunciation of the Hijaiyah letters. Also called as Wrong One superiority main media, Because allows children For hear at a time imitate sound letter Hijaiyah in a way

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direct. In addition, the simple navigation system makes this media easy to operate and is assessed according to children's abilities.

However, the validator also provided a number of suggestions for improvements, such as adjusting the layout of several visual elements, improving the size of the buttons on the a number of part, as well as improvement legibility letter Hijaiyah so that more clear And easily observed by children. All of this input was then used as the basis for revisions before the media proceeded to the limited trial stage.

Overall, the results of the media expert validation prove that the improved digital *gameboard has met the eligibility criteria from the learning design aspect.* and aspect technical media, so that stated worthy For tested on students. The level of feasibility achieved also reflects the potential of this media to support more interactive and meaningful learning through the integration of visual and audio elements and educational games that align with the characteristics of early childhood.

2. Results Test Validation Expert Material

Validation by material experts was conducted to monitor the suitability of the content contained in the digital *gameboard* before it was implemented in learning activities. The assessment covered several aspects, including the suitability of the material to the learning objectives, accuracy in recognizing the hijaiyah letters, and systematic presentation.

.**Table 2.** Summary Result Validation Expert Material

Score Validatior	Precentage (%)	Category
Validator Expert Material	86.11%	Very Worthy

the percentage of suitability is 86.11%, which places this media in the very good category worthy For utilized as means teaching introduction letter Hijaiyah for early childhood. This percentage reflects that the enhanced content aligns with teaching objectives and meets children's developmental needs.

The validator assesses that the Hijaiyah letter material in the digital *gameboard has been arranged* in a way structured as well as tiered, started from introduction form letter hijaiyah, pronunciation, until activity Which hone skills child in identify and show letter hijaiyah. Besides That, feature audio pronunciation Which available assessed effective to make it easier child understand relatedness between form visual as well as sound from each hijaiyah letter.

However, even though the media has been included in the very suitable category, the validator still provided a number of suggestions for improvements, including simplifying the game instructions to make them easier for children to understand, as well as rearranging the order of presentation. material on a number of level game. Input the furthermore used as a reference in the revision process before the media enters the trial stage.

In a way overall, results validation expert material indicates that *gameboard* digital has met the eligibility standards in terms of content and is suitable for use as a medium teaching to support improving literacy in recognizing the hijaiyah letters for early childhood.

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Meanwhile, based on the results of the two validators, the digital *gameboard* received a feasibility rating of 80.55% from media experts and 86.11% from material experts, placing the product in the feasibility to very feasibility category overall. After improvements were made based on input from the validators, the product then proceeded to a limited trial phase for early childhood groups.

Results Test Try the Field

1. Test Try Limited

A limited trial was conducted with six young children to assess the applicability of a digital *gameboard* to learning the Hijaiyah alphabet. In this session, the children were given the opportunity to interact directly through enhanced media based on various game activities, including letter shape recognition, letter pronunciation, and listening to audio pronunciations of the Hijaiyah alphabet.

Table 1. Results Test Try Limited

Descriptive Statistics					
	N	**Minimum**	**Maximum**	**Mean**	**Standard Deviation**
child can mention a number of letter Hijaiyah correctly	6	2	3	2.46	,102
child can show letter Hijaiyah in accordance simple sequence	6	2	3	2.54	,292
child can mention letter Hijaiyah in simple order	6	2	3	2.50	,354
child capable finish game on digital gameboard with minimal assistance	6	2	3	2.33	,606
children show interest in concentrating while using media	6	2	3	2.13	,518
Valid N (listwise)	6				

Through the results of descriptive statistical analysis, all measured indicators obtained mark average in range 2.13 until 2.54. Mark average highest This is achieved by the indicator of children's ability to display the Hijaiyah letters in a simple sequence, namely 2.54. This achievement indicates that most children are able to recognize and differentiate the Hijaiyah letters displayed on *the gameboard.* digital. Temporary That, ability child in mention letter Hijaiyah according to the simple sequence, the average score was 2.50, and the ability to correctly name several Hijaiyah letters was at 2.46.

In terms of media usage, the indicator of children's ability to complete games on digital *gameboards* with minimal assistance received an average value of 2.33. Results This describe that child Already start capable follow gameplay and understand how to operate the media quite well, even though at a number of stages activity Still required guidance from Teacher. As for The indicator of children's interest and concentration while using media obtained an average score of 2.13. Although this figure is the lowest among the other

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indicators, results the still reflect that child share response Which positive on the use of digital *gameboards* through teaching activities.

In a way overall, results test try limited show that *gameboard* The digital media developed has been able to be utilized by early childhood children in activities to introduce the hijaiyah letters. Children demonstrate the ability to recognize, name, and And show a number of letter Hijaiyah Which there is in games. Furthermore, the engaging visuals and audio letter pronunciation features available on the media also encourage children to be more active in learning activities. Based on these overall results, the product was deemed suitable for further testing, with several improvements based on observations made during the limited trial.

Based on the results of a limited-scale trial, it was found that the implementation of a digital *gameboard* provided a much more interactive learning experience compared to the Hijaiyah letter cards previously used in learning activities. Children appeared more enthusiastic and eager to participate in learning activities, driven by the combination of visual, game, and audio elements that gradually made it easier for them to understand and comprehend the Hijaiyah letters.

2. Test Try The widest

The most extensive trials were conducted after the digital *gameboard media* was refined. based on input from expert media, expert material, and findings in the previous limited trial stage. This stage involved 12 children in group B with the aim of measuring the level of media usage and understanding the extent of their skills. child to understand letter Hijaiyah through utilization gameboard digital that has been developed.

Table 2. Test Try The widest

Descriptive Statistics						
	N	**Minimum**	**Maximum**	**Mean**	**Standard Deviation**	**Variance**
child can mention a number of letter hijaiyah correctly	12	3	4	3.28	,075	,006
child can show letter hijaiyah in simple order	12	3	4	3.27	,072	,005
child can can mention letter hijaiyah in simple order	12	3	4	3.28	,075	,006
children are able to complete games on digital gameboards with minimal assistance	12	3	4	3.25	,261	,068
child show interest concentration while using the media	12	3	4	3.17	,359	,129
Valid N (listwise)	12					

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The results of the descriptive analysis using SPSS show the average value obtained at every indicator Which classified as very Good. In indicator ability child In pronouncing the hijaiyah letters correctly, the average score was around 3.28 with a minimum score of 3 and a maximum of 4. This achievement indicates that most children have succeeded in recognizing and pronouncing the hijaiyah letters correctly after using digital *gameboard media.*

Meanwhile, the indicator for children's ability to identify the Hijaiyah letters in a simple order received an average score of 3.27, indicating that children are able to understand the order of the Hijaiyah letters introduced through digital games. The indicator for children's ability to name the Hijaiyah letters in order received an average score of 3.28, indicating positive developments in children's ability to remember and pronounce the order of the Hijaiyah letters.

On indicator ability child finish game in digital *gameboard with* help minimum, obtained mark average as big as 3.25. Results This The results showed that children were able to operate the media independently with minimal teacher guidance. Meanwhile, the children's interest and concentration indicators while using the media achieved an average score of 3.17. While this score was the lowest among the other indicators, it still fell within the good category and demonstrated that children were enthusiastic about learning using digital *gameboards* .

Overall, the results of the broadest trials show that digital *gameboard media* Which improved worthy And effective used in teaching Introduction to the Hijaiyah alphabet for early childhood. All indicator average scores ranged from 3.17 to 3.28, reflecting that the media is able to support children in better recognizing, pronouncing, and understanding the order of the Hijaiyah alphabet. Furthermore, the integration of visual elements, color, audio pronunciation, and game-based activities in *gameboard* digital proven capable raise participation And participation children are active when teaching activities are taking place.

B. Response Child to Media *Gameboard* Digital

Data regarding children's responses to the use of digital *gameboards* were collected in two ways, namely observation during the learning process and interviews. simple Which done after child finished use media Based on observations, the majority of children showed high levels of enthusiasm and interest when interacting with the digital *gameboard* . They appeared to actively follow the instructions given, paying close attention to each letter of the hijaiyah alphabet. Which displayed, as well as make an effort imitate pronunciation letter Which they listen through the audio feature on the media.

Meanwhile, the results of a simple interview revealed that the children shared response Which positive on media Which developed. When The researcher asked the question, "Do you enjoy learning using a digital *gameboard* ?", most of the children answered, "I enjoy it, because it has the sounds of the letters." One of them child disclose, "I Like the game Because Can hear voice hijaiyah letters." While another child stated, "The picture is good and I now know the correct letters." Furthermore, several children also admitted that it was easier to remember the hijaiyah letters because they could see the shape of the letters and hear how to pronounce them simultaneously.

Compared to the previously used Hijaiyah letter cards, children's focus and engagement levels were significantly improved when using the digital *gameboard* . Children not only recognized letter shapes but also actively tried to pronounce the letters they heard through audio. This condition is described as follows: *gameboard* digital succeed create observations Study which is more interesting and fun, while also supporting a more comprehensive introduction to the Hijaiyah letters through a combination of visual, audio and interactive game elements.

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C. *GameBoard* Capabilities Enhancement Digital

Through results implementation test try limited or test try The study found that children's skills in understanding the Hijaiyah alphabet improved after using a digital *gameboard* . This ability is reflected in from existence improvement score average on every indicator ability children after this media is applied in learning activities.

In a limited trial phase involving six children, the average score for the children's abilities ranged from 2.13 to 2.54. The indicator for the children's ability to show the hijaiyah letters in a simple sequence recorded the highest score with an average of 2.13. 2.54, whereas indicator interest And concentration child moment use media acquisition average lowest as big as 2.13. Results the indicates that Children begin to be able to recognize and name the Hijaiyah letters through playing activities with digital *gameboards* , although some activities still require guidance from teachers. After done improvement media based on evaluation And input From the previous stage, the digital *gameboard* was tested again at the widest trial stage.

Involving 12 children. The results showed an increase in all indicators, with an average value ranging from 3.17 to 3.28. The indicator of the ability to correctly name a number of hijaiyah letters received the highest average value of around 3.28. Next, children's skills in naming and showing hijaiyah letters in a simple order also increased with an average of around 3.28 and 3.27, respectively. The indicator of the ability to complete games independently received an average of 3.25, while the indicator of children's interest and concentration during media use received an average of 3.17.

The improvements in all these indicators demonstrate that the digital *gameboard* is able to facilitate children's recognition of the hijaiyah letters better than the letter cards previously used. The presence of engaging illustrations, audio pronunciation features, and interactive game activities encourage children to be more actively involved in the learning process. Children not only observe the shapes of the hijaiyah letters but also can recognize them. listen pronunciation And direct imitate, so that experience The learning gained becomes much more meaningful.

More carry on, during ongoing activity learning, looks that Children showed considerable enthusiasm when using the digital *gameboard* . They appeared more focused in following game instructions, more confident in pronouncing the Hijaiyah letters, and were able to complete various learning activities with less assistance than when using Hijaiyah cards. Therefore, the conclusion is that the enhanced digital gameboard used in this study is effective as a teaching medium to increase literacy in recognizing the Hijaiyah letters in early childhood.

Discussion

A. Validation Test

Validation results obtained by media experts indicate that the digital *gameboard* achieved a feasibility percentage of around 80.55%, categorizing it as very feasible. This achievement indicates that the improved media meets the feasibility standards for learning media suitable for use with early childhood. This finding aligns with the study by Dewi & Agung (2021), which found that interactive multimedia-based teaching media are considered feasible . so that implemented on child age early, remember his abilities in Combining visual, audio, and interactive elements relevant to a child's developmental stage. The integration of these three elements has been proven to create more engaging and varied learning experiences, further facilitating children's absorption and understanding. material learning with more easy. A number of aspect Which get an assessment positive covers quality appearance visual, election color, convenience in navigation, as well as audio integration of the pronunciation of the Hijaiyah letters which also supports the learning process.

The high level of feasibility of this media can be understood from the characteristics of the digital gameboard, which combines visual elements, audio, and game activities through a single teaching medium.

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This combination not only displays visual aspects but also provides a more interactive learning experience that aligns with the characteristics of early childhood. From a practical perspective, the validation results indicate that the digital gameboard has the potential to be used as an alternative medium for teaching the Hijaiyah alphabet, particularly to help teachers present more varied learning activities. However, this study needs to be understood by considering the study's limitations, particularly the relatively limited number of test subjects and the media's implementation in a specific learning context. Therefore, these feasibility results cannot be broadly generalized to all early childhood children. Future studies could include a wider range of subjects and more diverse institutional contexts to obtain a more comprehensive picture of the use of digital gameboards.

The high feasibility value reflects that digital *gameboards* are able to create more enjoyable and varied learning observations compared to other media. learning conventional Which previously executed. Combination between Bright colors, child-friendly illustrations, and audio features allow children to absorb material through multiple senses simultaneously. This is in line with Arsyad's (2019) explanation , which emphasized that interactive teaching media can increase students' attention and interest in learning because it can harmonize visual and audio elements within a single teaching unit.

In addition, the presence of audio features for each hijaiyah letter is one of the... superiority main media This. Through feature the, child not just can understand the form letter in a way visual, However Also have the opportunity For listen And Imitating the pronunciation of letters directly. This finding aligns with a study by Nasher & Ferdiansyah (2021) , which concluded that utilizing interactive digital media to teach the Hijaiyah alphabet will increase children's interest and facilitate more effective letter recognition activities.

However, despite being considered suitable, the media validator still provided several improvements, particularly regarding the layout of visual elements, button size, and the clarity of the lettering in some parts of the game. This feedback emphasized the need for careful revision to ensure the resulting product truly aligns with the needs of its users, particularly young children in the early stages of motor and cognitive development. After improvements were made based on the validator's suggestions, the media was declared ready for testing with children.

With thus, results validation expert media confirm namely *gameboard* digital media has met the eligibility criteria to be a teaching medium and can function as a teaching medium means Which support improvement literacy introduction letter Hijaiyah for Early childhood. The use of visual, audio, and interactive game elements in this media is a key factor contributing to the successful development of this product.

Validation results obtained by material experts indicate that the digital *gameboard* achieved a feasibility percentage of approximately 86.11%, categorizing it as a highly suitable medium for use. This achievement indicates that the content for introducing the hijaiyah letters contained in the media aligns with learning objectives, aligns with the developmental characteristics of early childhood, and is structured using the principles of systematic and hierarchical presentation. through format game interactive allows child For know the shape of the hijaiyah letters while listening to their pronunciation through the audio feature available at each level of the game.

The height percentage validation material reflect that content Learning on digital *gameboards* has supported the development of early childhood literacy, particularly in recognizing symbols and letter sounds. The material is structured in a tiered manner. help child understand draft in a way gradually, from Which most. From simple to more complex levels, the teaching process can be more effective. This aligns with Susanto Susanto's (2017) explanation , which emphasizes that teaching for early childhood should be tailored to their developmental stage and presented in stages for easier absorption.

Additionally, the audio pronunciation feature for the Hijaiyah letters provides children with the opportunity to hear, imitate, and memorize the sounds of the letters directly. This process contributes to

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strengthening early literacy, as children not only understand the visual form of letters but also the relationships between symbols. And sound Which produced. In line with matter the, Hidayat & Rohman (2020) stated that game *-based learning media* will increase children's participation in the learning process because it provides an experience that is both fun and meaningful.

The results of the validation by material experts also demonstrated that presenting content in a digital game format can enhance the appeal of learning the Hijaiyah alphabet. Children gain a much more active learning experience compared to other methods. conventional Which only depend on card letter. This study is in line with the study Nasher & Ferdinand (2021) disclose namely the media Interactive digital can encourage increased interest in learning for children in recognizing the Hijaiyah letters, because it combines visual, audio, and interactive activity elements through one integrated teaching media platform.

Despite being categorized as very suitable, the validator still provided several suggestions for improvements to perfect the product, including simplifying the game instructions and adjusting the order of presentation of the material at certain levels. These inputs are an integral part of the development process, as they play a role in improving the quality of the media before it is implemented in the trial phase. Therefore, the validation results from the material experts confirm that the digital *gameboard* meets the eligibility standards in terms of content And worthy functioned as media teaching to raise literacy in recognizing the hijaiyah letters for early childhood.

B. Field Trial

The results of a limited trial showed that the digital *gameboard* achieved an average score of 2.13 to 2.54 for each indicator. This achievement indicates that children are beginning to be able to utilize the developed media to learn the hijaiyah letters while also participating in various learning activities available in the game. The indicator with the highest achievement was the ability to child show letter Hijaiyah in accordance order simple with mark average 2.54, temporary indicator interest And concentration during use media recorded an average score of 2.13.

The findings show that since the early stages of use, children have shown the ability to recognize and differentiate a number of hijaiyah letters. displayed on *gameboard* digital. Ability This can appear Because media presenting the Hijaiyah letters in an attractive visual display and enhanced by audio features pronunciation, so that child get observation Study Which include The senses of sight and hearing simultaneously. This aligns with Arsyad's (2019) view , which emphasizes that media that integrates visual and audio elements can make it easier for students to understand the material because information is received through more than one sensory channel.

As for mark average Which Not yet optimal on a number of indicator This indicates that children are still in the adaptation phase to new media. Considering that previously, learning to recognize the Hijaiyah letters was done using conventional letter cards, children needed time to understand the flow and operation of the digital *gameboard* . Despite this, throughout the activity, children demonstrated a high level of curiosity and enthusiasm for the media. This relevant with opinion Hidayat & Rohman (2020) mentioning that basic teaching game (*game-based learning*) will raise motivation to learn child because present experience Which more pleasant compared to conventional approaches.

On indicator ability finish game with help minimum, Children begin to be able to follow the instructions provided in the media, although in some parts Still need guidance from Teacher. Matter This show that Digital *gameboards* have a sufficient level of usability for early childhood use. Prensky (2017) suggests that game-based learning media can encourage children to learn actively through exploration and direct interaction with the material being studied.

In side That, presence feature audio pronunciation letter Hijaiyah on media Helping children connect the visual form of letters with the sounds they produce. Children not only observe the letter symbols but also

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listen and try to imitate their pronunciation directly. This process is a crucial part of early literacy, particularly in recognizing symbols and sounds. This study is supported by Nasher & Ferdiansyah's (2021) study , which states that interactive digital media can increase children's interest in learning and help them recognize the hijaiyah letters more effectively.

Overall, the results of limited trials prove that digital *gameboards* have potential Which Enough Good become media learning introduction letter Hijaiyah for early childhood. Although some obstacles are encountered in the early stages, children are able to show progress in recognizing and pronouncing the Hijaiyah letters as well. start used to interact with media learning digital. Results This then used as a basis for carrying out improvements before the media is continued to a wider trial stage.

The results of the broadest trials show that the digital *gameboard* that has been developed shows satisfactory results in all observation indicators. Based on analysis statistics descriptive, mark average each indicator are in range 3.17 until 3.28. Matter This indicates namely the majority child has succeeded in recognizing, mentioning, and showing the hijaiyah letters well after using a digital *gameboard in the learning process.*

Indicator ability child in mention a number of letter Hijaiyah in a way achieved the highest average score, namely 3.28. This achievement demonstrates that the digital *gameboard* plays a role in helping children recognize and pronounce the hijaiyah letters better. This success is supported by a combination of the display visual And element audio Which allows child Study through two sensory channels simultaneously. In line with this, Arsyad (2019) suggests that media that involves more than one sense can encourage students to improve their interpretation and memory of the material being taught.

In the indicator of children's ability to show and say the hijaiyah letters in a simple order, the average values obtained were around 3.27 and 3.28 respectively. This mention that child No just capable recognize form visual hijaiyah letters, but also begin to understand the sequence of letters introduced through the media. Ability the is part important from improvement literacy early childhood age early, specifically through matter recognize symbol And link it with appropriate sounds. Susanto (2017) emphasized that the introduction of symbols and language from an early age early become foundation for growth ability literacy on stages furthermore.

Apart from the aspect of recognizing letters, it is an indicator of the child's ability to complete the game on *gameboard* digital with help Which minimum get mark The average was around 3.25. The study showed that children were able to understand how to operate the media and follow the flow of the game quite independently. This indicates that the intuitive and simple media design aligns with the developmental characteristics of children. child age early. Study This in tune with Tegeh & Jampel's (2017) view states that quality teaching media must be easy for students to use in order to support the achievement of teaching objectives optimally.

The indicator of children's interest and concentration during media use obtained an average score of 3.17. Although this figure is the lowest among the other indicators, the results are still in the good category. During the activity, children appeared enthusiastic about the game flow, paying close attention to the media display, and actively imitating the pronunciation of the hijaiyah letters conveyed through the audio feature. This proves that the game element in the digital *gameboard* can encourage active involvement of children through learning activities. This study is consistent with the study by Hidayat & Rohman (2020) , which showed that *the game-based learning approach* is effective in increasing children's motivation, attention, and active participation during learning.

Overall, the results of the broadest trial confirm that the digital *gameboard* is an effective teaching medium for increasing literacy in recognizing the hijaiyah letters in early childhood. Compared to the hijaiyah letter cards previously used in the classroom, the digital *gameboard* creates a much more interactive learning experience, combining images, colors, audio, and activities . game. Through media This, child just like that

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know form letter Hijaiyah, However Also can hear, imitate, And remember letter in a way more effective, then the teaching objectives can be achieved more comprehensively and meaningfully.

C.Response Child to *Gameboard* Digital

Through insights gained based on interviews as well as observation during the learning process took place, the children showed a very positive response to implementation *gameboard* digital in activity introduction letter hijaiyah. Matter This can be seen from the children's enthusiasm when involved in games, their attention to media displays, and their activeness in listening and imitating the pronunciation of the hijaiyah letters. Which served through feature audio. From results interview, revealed that Children enjoy using this media because it is attractive, contains elements of play, and is equipped with sounds for pronouncing letters. A number of children even in a way direct disclose flavor Like they Because can hear the sounds of letters while learning in a playing atmosphere.

In addition, the audio pronunciation feature for the Hijaiyah letters available in the digital *gameboard* also enriches children's learning experience in a more comprehensive way, because children not only understand the visual model of the letters, but can also hear and imitate them. the sound in a way direct. Matter This play a role in build foundation early literacy child through introduction symbol And sound letter in a way integrated. Study This in line with the study by Aryani & Ambara (2021) , which revealed that the media is based on multimedia interactive will push involvement child in learning through a combination of visual elements, audio, and interactive activities, so that the learning process becomes more meaningful for children.

This study also states that the use of digital *gameboards is capable of* push child For involved more active in learning compared to When using Hijaiyah letter cards, when learning still relies on letter cards, some children appear less able to maintain concentration and are easily distracted. Different with condition the, after *gameboard* digital applied, children tend more enthusiastic And capable follow activity learning to completion, driven by the challenges at each level of the game and the simple appreciation given as a reward for their achievements. This aligns with the findings of Mardhotillah & Rakimahwati (2021) , who revealed that the use of interactive Android-based games has been proven to increase early childhood engagement, motivation, and active participation in the learning process, as it provides a much more engaging and interactive learning experience compared to conventional teaching media.

Thus, the positive response shown by the children confirms that the digital *gameboard* is able to create a fun learning atmosphere, stimulate learning interest, and facilitate children's understanding of the hijaiyah letters based on a combination of visual, audio, and interactive game elements. These results further strengthen the notion that the enhanced media is aligned with the learning characteristics of early childhood, which is essentially more effective learning through a play-while-learning approach.

D.Ability Enhancement *Gameboard* Digital

Research findings indicate that the developed digital *gameboard* has proven effective as a learning medium for early childhood hijaiyah literacy. This effectiveness is reflected in the improvement in children's learning outcomes between the limited trial and the broader trial phase. In the limited trial, mark average ability child range between 2.13 until 2.54, And increased to 3.17 to 3.28 in a larger trial. This increase proves that *gameboard* digital capable support child in recognize, mention, and displays the hijaiyah letters better than before this media was implemented.

This improvement in children's abilities is inseparable from the digital *gameboard's character* , which combines visual, audio, and interactive game elements into a single teaching medium. Children are not only introduced to visual models of the hijaiyah letters but can also hear their pronunciation through the audio feature and imitate them directly. This combination of various stimuli makes it easier for children to absorb the material because the learning process involves more than one sense simultaneously. This aligns with

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Arsyad's (2019) view that teaching media that integrates visual and audio elements can increase students' attention and facilitate their interpretation of the material being taught.

The effectiveness of this media is also evident in the increasing interest and participation of children during learning activities. Based on observation and interview data, children show excitement Which tall moment interact with a digital gameboard. They appeared more active in following the flow of the game, listening to the audio pronunciation of the letters, and attempting to name the hijaiyah letters displayed on the screen. This demonstrates that the developed media successfully created a learning atmosphere. Study Which pleasant And in harmony with character child age early which are more interested on activity Which nature play. This study is in line with the study by Hidayat & Rohman (2020) which concluded that the basic teaching approach game (*game-based learning*) will push motivation, participation, and participation child in a way more optimal in process learning. Matter This Also Supported by Hidayatullah, Hidayatullah et al (2022) stated that digital-based literacy media is able to support the teaching process for early childhood because it provides more interesting, interactive learning observations and is in line with the needs of children. development child. In line with That, Aisha et al (2022) reveals the use of interactive teaching media in activities to introduce the Hijaiyah letters proven capable increase skills child in order to understand letter through more active, interesting and enjoyable learning observations.

Besides increasing interest in learning, digital gameboards have also been proven to help child in remember form at a time sound letter hijaiyah. Before This media was developed, learning still relies on conventional letter cards which only serve form letter without supported feature audio and interaction digital, so that a number of child Still experience obstacle in differentiate And remembering letters that have similar shapes. After using a digital gameboard, children gain richer learning observations because they can observe letters, listen to them, and pronunciation, at a time interact direct through game. This finding relevant with study Nasher & Ferdiansyah (2021) Which disclose that interactive digital media will increase children's understanding of teaching materials because it provides more active and engaging learning observations. This study is supported by by Aisha et al (2022) disclose The use of interactive learning media in hijaiyah letter recognition activities has been proven to improve children's skills in understanding letters, through more active, interesting, and enjoyable learning observations. The positive responses given by teachers and children also strengthen the conclusion regarding the effectiveness of the developed media. Teachers stated that the presence of digital *gameboards* makes teaching activities more interesting and helps children in recognizing letters. Hijaiyah with more easy. Next, children display response positive to appearance media, feature audio pronunciation, as well as various activity available games. This study aligns with the study by Alfina et al. (2023) , which revealed that teaching media specifically developed to align with the characteristics of early childhood has been proven to increase children's participation in learning while also facilitating their recognition of the hijaiyah letters through fun and meaningful activities. Furthermore, Nurrita (2018) emphasized that teaching media that is enjoyable and relevant to students' needs can increase teaching effectiveness by delivering material more optimally.

Based on all the findings above, it can be concluded that digital *gameboards* have proven to be effective as a teaching medium to increase literacy. introduction letter Hijaiyah on child age early. Effectiveness This proven through improving children's skills to understand and pronounce the hijaiyah letters, increasing interest in learning, and positive responses from teachers and children to improved media.

CONCLUSION

Through the results of the study, the improved *digital gameboard based on the Research and Development* (R&D) approach with the Borg and Gall model was declared suitable for use as a learning medium for recognizing the hijaiyah letters in early childhood. The validation results of media experts of 80.55% and material experts of 86.11% stated that the media was in the very suitable category, but the trial

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results showed an increase in children's abilities, through an average value in the limited trial of 2.13–2.54 and increased to 3.17–3.28 in the broadest trial. The new findings and scientific contributions of this study are in the improvement of the digital *gameboard* that aligns the visual display, audio pronunciation of the hijaiyah letters, and game activities in one learning medium, resulting in a multimodal media development model that can be a reference for studies or practices in early childhood education, especially in game-based learning-based religious literacy learning. The limitations of this study are the total number of trial subjects which are generally limited to children aged 5–6 years in one educational institution and the analysis of the trial results which still uses descriptive statistics, so that the improvements found cannot yet be used to conclude a statistical effect. As a recommendation, it is suggested that future studies include more diverse subjects and educational institutions, apply inferential statistical analysis to test the significance of the influence of digital gameboard use more strongly, and explore the potential for developing this media in other literacy aspects, such as the introduction of Arabic numbers or basic Arabic vocabulary, in order to expand the benefits and scope of its application in early childhood education.

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