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Validation of the Educational Game Media "Hurufia" in Recognizing Letters for Children Aged 4-5 Years

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ABSTRACT

The ability to recognize letters is an important aspect in the development of early childhood literacy that needs to be stimulated through interesting learning activities that are appropriate to the child's characteristics. Based on the results of observations at Dharma Wanita Jegulo 3 Kindergarten, it was found that out of 10 children aged 4–5 years, 5 children still had difficulty in recognizing letters. This study aims to determine the level of validity of the educational game media HURUFIA (Children's Interactive Letters) based on Canva AI in introducing letters to children aged 4–5 years. This study uses the Research and Development (R&D) method with the ADDIE development model which includes the stages of Analysis, Design, Development, Implementation, and Evaluation. The research subjects consisted of two material experts, two media experts, one class teacher, and 10 children aged 4–5 years at Dharma Wanita Jegulo 3 Kindergarten. Data collection techniques used material expert validation questionnaires, media expert validation questionnaires, and teacher response questionnaires. Data were analyzed using quantitative descriptive techniques by calculating the percentage of media feasibility. The results of the study showed that the HURUFIA educational game media obtained a validation percentage of 75% from material experts with a category of feasible and 90% from media experts with a very feasible category. In addition, teacher responses to the media obtained a percentage of 83.5% with a very feasible category. These results indicate that the HURUFIA educational game media based on Canva AI is suitable for use as a learning medium to introduce letters to children aged 4–5 years. Thus, HURUFIA media can be an alternative learning media that is innovative, interactive, and appropriate to the characteristics of early childhood in supporting early literacy development.

Keywords: Educational Games, HURUFIA, Recognizing Letters, Media Validation

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INTRODUCTION

Early childhood education (PAUD) is a level of education that plays a crucial role in developing all aspects of a child's development, including language and literacy. Literacy skills are basic skills that serve as the foundation for reading and writing development in subsequent stages of education. According to (Abdiah, 2023), literacy is an early skill that forms the basis for children to understand symbols, recognize letters, and develop reading and writing skills. Furthermore, Marie Clay's early literacy theory explains that reading and writing skills develop gradually through meaningful learning experiences that are appropriate to the child's development (Yulianti & Sidik, 2024).

Letter recognition is an important indicator of literacy development in children aged 4–5 years. Children are expected to be able to recognize letter symbols, name letters, and connect letters with the appropriate sounds and images. However, observations at Dharma Wanita Jegulo 3 Kindergarten showed that out of 10 children aged 4–5 years, 5 still experienced difficulties in letter recognition. Children were not yet able to distinguish several similar letter shapes, were not consistent in naming letters, and still needed assistance in connecting letters with the appropriate images. This condition indicates that children's literacy skills still need to be optimized through the use of interesting learning media that are appropriate to the learning characteristics of early childhood.

One factor contributing to low letter recognition skills is the use of conventional and less interactive learning media. These media generally include whiteboards, letter cards, and worksheets, which fail to actively engage students in the learning process. Yet, learning media plays a crucial role in helping teachers deliver material in a more engaging and easily understood way for students. According to (Anggraeni et al., 2023), learning media serves as a means of conveying learning messages, helping students understand the material more effectively and meaningfully.

One alternative media that can be used to improve letter recognition skills is educational games. Educational games are learning media that combine game elements with educational objectives, creating a fun learning experience. (Fadhli et al., 2023)states that educational games can increase learning motivation, student engagement, and provide a more interactive learning experience. Furthermore, digital educational games have the advantage of integrating visual, audio, and animation elements, which can increase children's interest and understanding of learning materials (Dalubhasang et al., 2024).

Current digital technology advancements also provide opportunities for educators to develop more creative and innovative learning media. One platform that can be utilized is Canva AI. According to (Herman et al., 2025), Canva AI is a digital design platform that makes it easy for educators to develop learning media in a practical, engaging, and interactive way. Furthermore, Canva AI enables the integration of various multimedia elements such as images, audio, animation, and interactive features that can enhance the quality of learning (Selfia Rianti et al., 2025).

Based on these conditions, researchers developed the Canva AI-based educational game HURUFIA (Interactive Letters for Children) as a learning tool to introduce letters to children aged 4–5 years. This game is designed with various interactive activities such as recognizing letters, matching letters to images, finding the correct letter, and other play activities that support children's literacy development. The media development was carried out by considering the

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learning characteristics of early childhood, who tend to prefer play activities, interesting visuals, and interactive learning.

Previous research has shown that using Canva-based educational games can increase children's enthusiasm, engagement, and focus in the learning process (Putri et al., 2025). However, research specifically examining the validation of Canva AI-based educational games for introducing letters to children aged 4–5 years is still limited. Therefore, this study focused on the validation of the HURUFIA educational game by subject matter and media experts to determine the appropriateness of the media before use in learning activities.

The purpose of this study was to determine the validity and feasibility of the Canva AI-based educational game HURUFIA as a learning tool for introducing letters to children aged 4–5 years. The results are expected to serve as a reference in the development of innovative learning media that support the improvement of early childhood literacy skills.

RESEARCH METHOD

This study used a Research and Development (R&D) method aimed at developing and validating the educational game HURUFIA (Interactive Letters for Children) as a learning medium for introducing letters to children aged 4–5 years. The development model used was ADDIE. (Analysis, Design, Development, Implementation, Evaluation) because this model has systematic stages and is suitable for developing learning media.

The Analysis stage was conducted through observations and interviews with teachers at Dharma Wanita Jegulo 3 Kindergarten to identify children's literacy learning needs. The analysis results showed that out of 10 children aged 4–5 years, 5 children still had difficulty recognizing letters. Next, in the Design stage, researchers designed the Canva AI-based HURUFIA educational game that includes letter recognition activities, matching letters with images, and interactive games that suit the characteristics of early childhood. In the Development stage, the design that has been created was developed into an educational game product and then validated by material experts and media experts. The Implementation stage was carried out through a limited trial on children aged 4–5 years, while the Evaluation stage was carried out to determine the feasibility of the media based on validation results and user responses.

The validation subjects in this study consisted of two material experts and two media experts. In addition, the validated media was tested on a limited basis with one class teacher and ten children aged 4–5 years at Dharma Wanita Jegulo 3 Kindergarten. Data collection techniques used a material expert validation questionnaire, a media expert validation questionnaire, a teacher response questionnaire, and student observation sheets.

The research data was analyzed using quantitative descriptive analysis techniques by calculating the percentage of validation results using the formula:

$$P = \frac{\sum X}{\sum Xi} \text{ X } 100\%$$

Information:
P : Percentage of eligibility
$\sum X$: Total score obtained
$\sum Xi$: Maximum score

E-ISSN : 3026-6556
ANJASMORO
ISLAMIC INTERDISCIPLINARY JOURNAL

Table 1
Media Eligibility Criteria

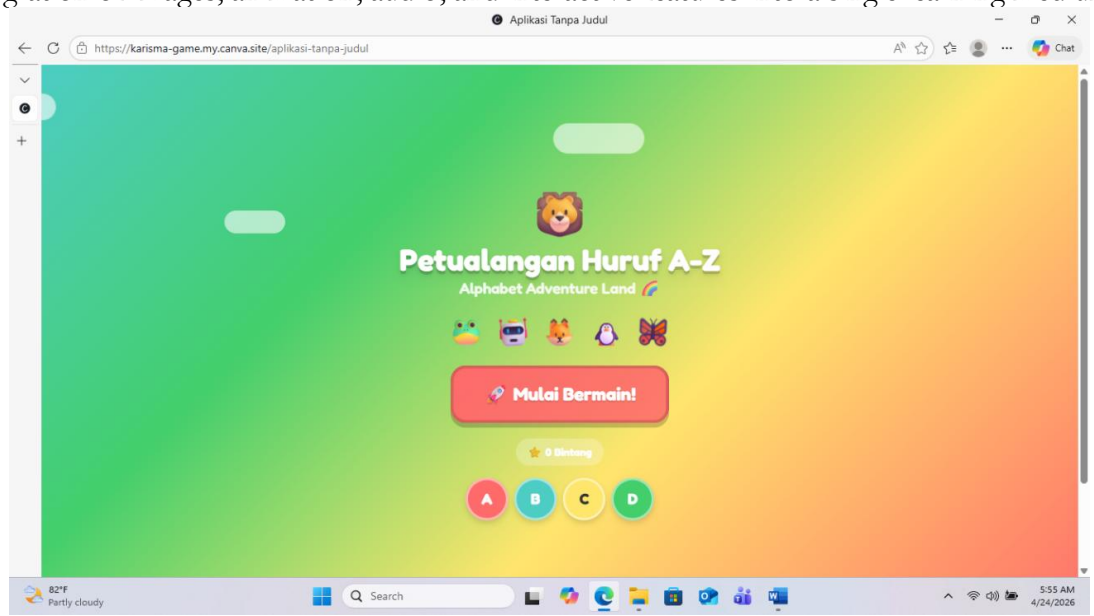
No	Percentage Range	Score	Criteria
1	76% - 100%	4	Very Feasible
2	51% - 75%	3	Feasible
3	26% - 50%	2	Quite Decent
4	0% - 25%	1	Less than Feasible

RESULTS AND DISCUSSION

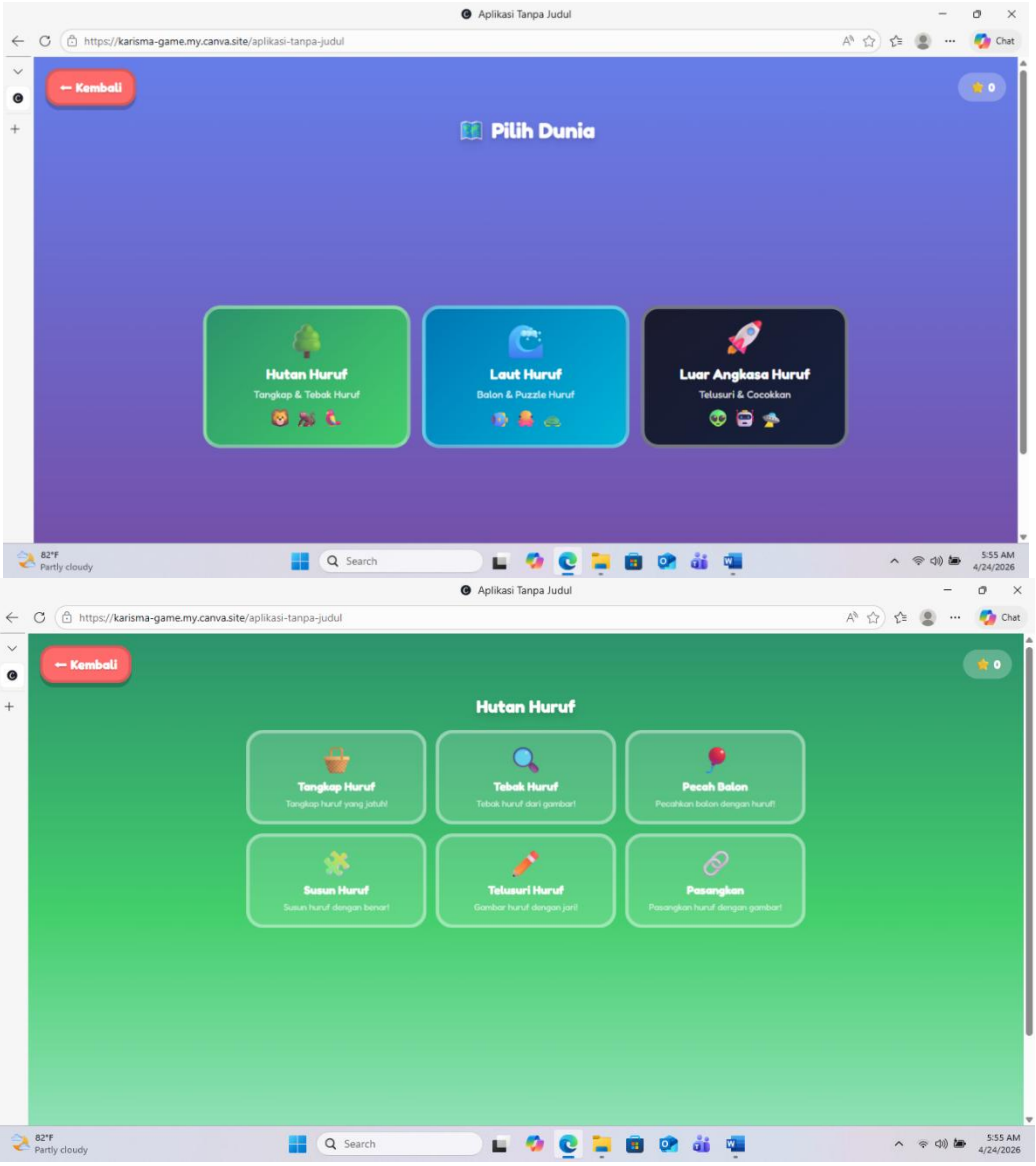
Product Description

The product developed in this research is the Canva AI-based HURUFIA (Interactive Letters for Children) educational game media designed to help children aged 4–5 years recognize the letters of the alphabet A–Z. This media was developed using the ADDIE model which includes the stages of Analysis, Design, Development, Implementation, and Evaluation. HURUFIA contains various interactive activities such as recognizing letters, matching letters with images, selecting the appropriate letter, and other educational games tailored to the learning characteristics of early childhood.

The media is designed with engaging visuals, bright colors, child-friendly illustrations, and easy-to-understand game instructions. The media was developed using Canva AI, enabling the integration of images, animation, audio, and interactive features into a single learning medium.



E-ISSN : 3026-6556
ANJASMORO
ISLAMIC INTERDISCIPLINARY JOURNAL



Material Expert Validation Results

Validation by material experts was carried out by two validators to assess the suitability of the material content, learning objectives, literacy indicators, language use, and the suitability of the material to the characteristics of children aged 4–5 years.

The validation results from the content expert showed that the HURUFIA educational game media achieved a feasibility percentage of 75%, categorized as "Feasible." These results indicate that the material presented in the media aligns with the objectives of early childhood literacy learning. However, the validator provided several suggestions for improvements, such as refining the game instructions, adjusting learning indicators to match the game activities, and simplifying the language to make it more accessible to children.

E-ISSN : 3026-6556
ANJASMORO
ISLAMIC INTERDISCIPLINARY JOURNAL

Table 2
Expert Validation of Material 1

NO	INDICATOR	MARK				
		1	2	3	4	5
1.	Media Content 1. The content of the material is in accordance with CP, TP, ATP, and IKTP				√	
	2. The content is easy to understand			√		
	3. The content of the material is in accordance with the concept of Canva AI-Based Educational Games				√	
	4. Suitability of material with aspects of language development (recognizing letters of the alphabet)			√		
	5. The content of the material is presented simply and clearly.			√		
	6. Delivery of material according to child characteristics				√	
	7. Match the example image with the letter			√		
	8. Quality of material delivery			√		
2.	Presentation 1. Presentation of material can attract the interest of early childhood learning.				√	
	2. Game instructions are clear and easy to understand			√		
	3. Easy to use teacher material				√	
	4. The language used is simple and easy to understand				√	
AMOUNT		42				

Table 3
Validation of Subject Matter Expert 2

NO	INDICATOR	MARK				
		1	2	3	4	5
1.	Media Content 1. The content of the material is in accordance with CP, TP, ATP, and IKTP				√	
	2. The content is easy to understand				√	

E-ISSN : 3026-6556
ANJASMORO
ISLAMIC INTERDISCIPLINARY JOURNAL

	3. The content of the material is in accordance with the concept of Canva AI-Based Educational Games				√	
	4. Suitability of material with aspects of language development (recognizing letters of the alphabet)				√	
	5. The content of the material is presented simply and clearly.				√	
	6. Delivery of material according to child characteristics				√	
	7. Match the example image with the letter				√	
	8. Quality of material delivery				√	
2.	Presentation 9. Presentation of material can attract the interest of early childhood learning.					√
	10. Game instructions are clear and easy to understand			√		
	11. Easy to use teacher material				√	
	12. The language used is simple and easy to understand				√	
AMOUNT		48				

Media Expert Validation Results

Media expert validation was carried out by two validators to assess aspects of appearance, graphic design, navigation, ease of use, interactivity, and suitability of the media to the characteristics of early childhood.

The media expert validation results showed that the educational game "HURUFIA" achieved a feasibility score of 90%, categorized as "Very Feasible." These results indicate that the media has an attractive appearance, is easy to use, and is able to support the learning process of early childhood. The validator provided several inputs, including clarifying the gameplay steps at each level, adjusting game commands to learning indicators, and strengthening the connection between the game theme and the activities presented.

Table 4
Media Expert Validation 1

No	Aspect	Indicator	No Item	MARK				
				1	2	3	4	5
	Physical Media	Media durability (not easily damaged)	1					√
		Media safety for children (not sharp, not dangerous)	2					√
		Media is easy to store and move	3				√	
		The accuracy and quality of	4					√

E-ISSN : 3026-6556
ANJASMORO
ISLAMIC INTERDISCIPLINARY JOURNAL

		the materials used						
	Media Design and Display	The layout of letters and images is neatly arranged	5					√
		The suitability of the image to the learning theme	6			√		
		Media size according to children's needs	7				√	
		Readability of letters (clear and easily recognizable)	8				√	
		Composition and size of letters	9				√	
	Use of color	The combination of letter and background colors is harmonious	10				√	
		The colors used are attractive to children	11				√	
		The accuracy of the color composition (not too striking/excessive contrast)	12				√	
	Media Content	Suitability of media content with the aim of recognizing letters	13				√	
		The letters used are appropriate to the developmental stage of children 4-5 years old	14				√	
		Compatibility of physical media with digital media (Canva AI)	15				√	
		Clarity of letterforms on media	16				√	
	Supporting Components	Ease of access and use of Canva AI	17					√
		Instructions for use are easy for teachers to understand	18			√		
		Instructions for using the media are clear	19			√		
		Media can be used independently or in groups	20				√	
AMOUNT						82		

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ANJASMORO
ISLAMIC INTERDISCIPLINARY JOURNAL

Table 5
Media Expert Validation 2

No	Aspect	Indicator	No Item	MARK				
				1	2	3	4	5
	Physical Media	Media durability (not easily damaged)	1					√
		Media safety for children (not sharp, not dangerous)	2					√
		Media is easy to store and move	3					√
		The accuracy and quality of the materials used	4					√
	Media Design and Display	The layout of letters and images is neatly arranged	5				√	
		The suitability of the image to the learning theme	6					√
		Media size according to children's needs	7				√	
		Readability of letters (clear and easily recognizable)	8					√
		Composition and size of letters	9					√
	Use of color	The combination of letter and background colors is harmonious	10					√
		The colors used are attractive to children	11					√
		The accuracy of the color composition (not too striking/excessive contrast)	12					√
	Media Content	Suitability of media content with the aim of recognizing letters	13					√
		The letters used are appropriate to the developmental stage of children 4-5 years old	14					√
		Compatibility of physical media with digital media (Canva AI)	15					√
		Clarity of letterforms on	16					√

E-ISSN : 3026-6556
ANJASMORO
ISLAMIC INTERDISCIPLINARY JOURNAL

		media						
	Supporting Components	Ease of access and use of Canva AI	17					√
		Instructions for use are easy for teachers to understand	18					√
		Instructions for using the media are clear	19					√
		Media can be used independently or in groups	20					√
AMOUNT				98				

Table 6
Recapitulation of the Comparison of Validation Results

Validation Aspect	Validator 1	Validator 2	Average	Category
Material Expert	70%	80%	75%	Very Feasible
Media Expert	82%	98%	90%	Very Feasible

The percentage results were then categorized based on media feasibility criteria. The validation results showed that the HURUFIA educational game media obtained a percentage of 70% from material experts one with the category "Feasible", 80% feom material expert two wiht the category “Very Feasible”, 82% from media experts one with the category "Very Feasible" and 98% from media expert two with category “Very Feasible”. Overall, the average percentage of media eligibility reached 82,5% which is included in the category “Very Feasible”. These results indicate that the HURUFIA educational game media is suitable for use as a learning medium in introducing letters to children aged 4-5 years.

Product Revision

Based on suggestions and input from material and media experts, several revisions were made to the educational game "HURUFIA." These revisions included refining the user manual, adapting game activities to literacy indicators, using lowercase letters more appropriate to children's developmental stages, and reinforcing the themes at each level. These revisions aimed to improve the quality of the media, making it more effective in introducing letters to children aged 4–5 years.

Discussion

The results of the validation by material experts showed that the HURUFIA educational game media obtained a percentage of 75% with a "suitable" category. This result indicates that the material contained in the media is in accordance with the learning objectives and indicators of early childhood literacy development. According to (Abdiah, 2023), literacy skills are basic abilities that include the recognition of symbols, letters, and language sounds that need to be stimulated from an early age. Therefore, presenting letter recognition material through interesting game activities can help children understand the concept of letters more easily.

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ANJASMORO
ISLAMIC INTERDISCIPLINARY JOURNAL

Meanwhile, the media expert validation results obtained a percentage of 90%, categorized as "very suitable." These results indicate that the media's appearance, design, and interactivity meet the characteristics of early childhood learning. This finding aligns with the opinion (Anggraeni et al., 2023)that learning media functions as a means of conveying learning messages that can increase students' attention and understanding. The attractive visual display, use of bright colors, and interactive activities in HURUFIA can increase children's interest in participating in learning activities.

Media development using Canva AI also facilitates the integration of various multimedia elements such as images, animations, audio, and interactive activities. The results of this study support the opinion of Herman et al. (2024) who stated that Canva AI can be utilized as a platform for developing creative, engaging, and easy-to-use learning media for educators. Furthermore, (Selfia Rianti et al., 2025)Canva AI demonstrates high flexibility in developing visual-based learning media that can increase student engagement.

This study's findings are also supported by research (Putri et al., 2025)showing that the use of Canva-based educational games can increase children's enthusiasm, focus, and participation during learning activities. The similarity of these research findings suggests that Canva-based learning media has significant potential for use in early childhood education, particularly in developing literacy skills.

Based on the validation results from material and media experts, it can be concluded that the HURUFIA educational game media meets the eligibility criteria for use as a learning medium for introducing letters to children aged 4–5 years. This media not only presents developmentally appropriate material but also creates a fun learning experience through interactive and engaging play activities.

CONCLUSION

This research resulted in the Canva AI-based HURUFIA (Interactive Letters for Children) educational game media designed to help children aged 4–5 years recognize letters. The media development was carried out using the ADDIE model, which includes the stages of analysis, design, development, implementation, and evaluation. HURUFIA media was developed by combining visual elements, audio, and interactive activities that are appropriate to the learning characteristics of early childhood so that it can be used as an engaging learning medium for introducing letters.

The validation results show that the HURUFIA educational game media received a feasibility rating of 75% from material experts, categorized as feasible, and 90% from media experts, categorized as very feasible. Furthermore, teachers' responses to the use of the media received a very feasible rating of 83.5%. These results indicate that the HURUFIA media has met the aspects of material suitability, appearance, ease of use, and interactivity, making it suitable for use in learning to recognize letters for children aged 4–5 years.

Based on the validation results, it can be concluded that the Canva AI-based HURUFIA educational game is a suitable learning tool for supporting letter recognition activities for children aged 4–5 years. This medium can be an alternative learning innovation that can increase children's interest and engagement in the early literacy learning process.

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