



## Developing Application-based Puzzle Learning Media on Increasing Child's Ability to Recognize Letters

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### ABSTRACT

Based on the results of study, application-based puzzle learning media in improving Children's ability to recognize letters aged 5-6 years has been generated "very valid" with an assessment percentage 96.16%. The proportion of children's fundamental reading abilities that were assessed before utilizing puzzle learning media was 18.7%, which was classified as "very low." The Percentage results of children's reading abilities examination after they used puzzle learning media was 73.9% and were classified as "high". The media is reported to be effective in the effectiveness test since there is an increase in the development of children's reading abilities before and after they utilize puzzle learning media. The study produced valid and effective application-based puzzle learning media that could be employed as one of the early childhood learning media. Adobe Flash Professional CS6 was used to create this puzzle learning material.

**Keywords:** Learning Media, Puzzles, Reading Skills, Children Aged 5-6 Years

### 1. INTRODUCTION

Early childhood refers to children aged 0 to 8 years who are in the midst of a unique phase of growth and development. This implies that each child has unique interests, qualities, abilities and histories. Children aged 0-8 years are included in child care, child care, private and public preschool, kindergarten, and basic education programs throughout childhood, according to NAEYC (National Association for Young Children's Education).[1]

All parts of children's development can develop in kindergarten, and one of these characteristics is the ability to read children. Children may start school with a lot of reading knowledge[2], on emergency literacy or knowledge and competencies related to reading in preschoolers. The effectiveness of formal reading education in schools depends on the reading ability of students.[3]

The reading readiness skills that will be developed are: 1) Auditory Discrimination Ability 2) Visual Discrimination Ability 3) Perceptual Motor Ability 4) Oral Language Ability 5) Building a Background Experience 6) Interpretation of Figure 7) Progression from Left to Right 8) Use of Oral Language 9) Recognition of seeing words 10) Literacy 11) Coordination of movement.[4]

Furthermore, Children who like pictures or letters from the beginning of their development will have a greater desire to read because they know that reading, opening new doors, fixing information, and having fun.[5]

The ability to read in children develops in several stages. Divides the stages of development into four parts, namely: 1) The stage of awareness of writing 2) The stage of reading pictures 3) The stage of reading recognition 4) The stage of fluent reading.[6]

Learning media are tools, approaches, and tactics used in the classroom to improve communication and engagement between teachers and students.[7]

Puzzle learning is a game in which pieces of pictures are arranged to produce a complete picture. He found that the puzzle learning media could also be used as a learning media after that. It can be used to help children improve their reading skills.[8]

Adobe Flash Professional CS6 was used to produce this educational material. Adobe Flash Professional CS6 is a piece of software created by Adobe Systems Incorporated in the United States. Adobe Flash Professional CS6 is one of the personal computer software and the main product of Adobe Systems, according to Rezeki (2018:859). Vector images and animations are created using Adobe Flash Professional CS6. The files created by this program can be exe or swf archives, and can be played in a web browser by installing Adobe Flash Player.[9]

Based on the observations of children aged 5-6 years at Perwagas Kindergarten in Padang City, schools still use books when learning to recognize letters, the use of books in learning activities is less interesting and monotonous because children only learn to recognize letters through book texts. Children's abilities vary; some can recognize letters, while many more cannot identify letter symbols or distinguish one letter from another.

The author is interested in conducting an in-depth study with the title "Development of Application-Based Puzzle Learning Media in Developing the Ability to Recognize Letters in Children aged 5-6 Years" based on the description given. Learning media, according to research results, have a significant role in early childhood learning, especially in developing the ability to recognize letters in children aged 5-6 years, and can help instructors overcome obstacles and provide interesting learning experiences for children.

## 2. LITERATURE REVIEW

### 2.1 Learning Media

Media, if understood in broad terms, are humans, materials, or events that build conditions that enable students to acquire knowledge, skills, or attitudes.[10]

The role of the media in learning, especially in early childhood education, is increasingly important, considering that the development of children at that time was in a period of concrete thinking. Therefore, one of the principles of education for early childhood must be based on reality, meaning that children are expected to learn something for real. Thus in education for early childhood must use something that allows children to learn concretely. This principle implies the need to use the media as a channel for delivering educational messages to early childhood. A teacher when presenting information to early childhood must use the media so that the information can be received or absorbed by the child properly and in the end it is hoped that changes in behavior will occur in the form of abilities in terms of knowledge, attitudes, and skills.[11]

## **2.2 Puzzle**

3-dimensional puzzle is a game medium to unite pieces of pieces to form a predetermined image or writing. Puzzle is a form of puzzle that is solved by arranging the pieces of the picture into a complete picture.[12]

Media puzzle is a game of arranging the pieces of the picture so that it becomes a complete picture.[13]

Puzzle games are one of the educational games that are easy to apply and understand by children, especially for early childhood.[14]

## **3. METHOD**

Development research, often called R&D, is a type of research conducted (R&D). According to Sugiyono (Haryati, 2012), the research and development process is a technique used to produce certain products and analyze their effectiveness.

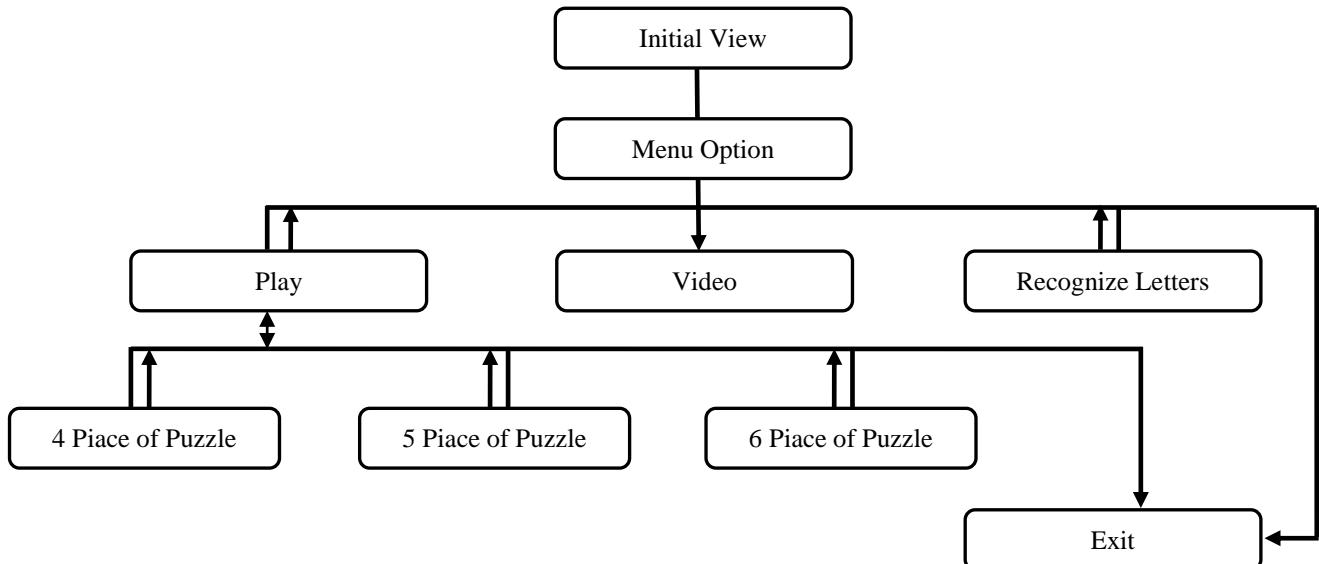
The 4D model is referenced in this research approach. The decision to use this research model was made based on the fact that the design of this 4D model is very simple. There are three main steps to make this Puzzle learning: define (define), design (design), and develop (develop).

The data collected from the experiments were separated into two categories: qualitative and quantitative data. The results of filling in the criticisms and ideas given by the media validator and material validator are collected into one to improve the product that has been made so as to produce qualitative data. Meanwhile, quantitative data were collected through filling out questionnaires conducted by media and material validators. The data will then be presented in quantitative descriptive data analysis or in tabular format.

## 4. RESULT AND DISCUSSION

### 4.1 Product Design Stage

To describe the design of the game, it is necessary to have a sketch of the display design. Sketches formed in a flowchart, flowcharts are useful for simplifying the explanation of the flow process of the program for easy understanding.



### 4.2 Initial Design of The Application





## 5. CONCLUSION

Based on the results of the validation of media experts, material experts, and observations, it can be concluded that the application-based puzzle learning media developed for the development of letter recognition skills in children aged 5-6 years is valid and feasible to use in the learning process, especially in developing letter recognition skills. children aged 5-6 years. This can be seen in the increase in the ability to recognize children's letters due to the use of this application-based puzzle learning material. It is believed that this puzzle learning media will help children improve their letter recognition skills, and teachers can use this puzzle learning media as a complement to classroom learning.

## ACKNOWLEDGEMENTS

Thank you to the lecturer of Padang State University, especially the Department of Early Childhood Education who have provided supportive guidance and direction in completing this article.

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