

STORYTELLING WITH PUZZLE MEDIA TO DEVELOP CRITICAL THINKING ABILITIES IN EARLY CHILDHOOD

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Abstract

This research aims to determine the critical thinking abilities of young children through telling stories using puzzle media. So far, the storytelling method has only been used to develop abilities in language and cognitive aspects which are limited to knowledge and understanding. Current educational demands encourage students to be able to think more complexly and at a higher level than just understanding and knowledge. These skills are what are called high order thinking skills (HOTS). One of the skills that surrounds HOTS is critical thinking skills. Critical thinking skills can be developed from an early age. This research uses descriptive qualitative methods. Data was collected through observation, interviews and documentation for 5 (five) kindergartens. The research results show that storytelling using puzzle media has promising potential for developing critical thinking skills in early childhood. Telling stories using puzzle media can help children analyze information, evaluate ideas, and draw conclusions. This research provides a new contribution to the field of early childhood education, especially in the development of critical thinking skills. The findings from this research can be used by educators and parents to design more effective and enjoyable learning activities for young children.

Keywords: Critical Thinking, Storytelling; puzzle media.

INTRODUCTION

Early childhood is a very crucial stage of development in the human life journey, because during this period, the foundations of various cognitive, emotional and social aspects are formed. (Santrock, 2007). Childhood is a phase where critical thinking skills begin to develop and play a very important role in determining the quality of human resources in the future. (Aeni & Setiasih, 2024; Ndofirepi, 2014). Children as the next generation of the nation will face various challenges and opportunities in the future, both in their careers and social lives. Therefore, it is important to ensure that they are equipped with good critical thinking skills.

Critical thinking is not only about the ability to identify and solve problems, but also involves the ability to evaluate information objectively, consider multiple points of view, and make decisions based on logical and analytical thinking.(O'Reilly et al., 2022). Children who have a tendency to ask questions and seek explanations for the phenomena around them show early signs of strong critical thinking skills. In this case, the role of teachers and parents becomes very important. They not only function as conveyors of information, but also as guides who provide the stimulation and guidance needed to develop critical attitudes in children. By creating an environment that supports exploration and reflective thinking, and providing encouragement for independent and creative thinking, adults can help children build skills that will be valuable assets in their life journey.(Al-Ghadouni, 2021; Santín & Torruella, 2017).

Critical thinking is a problem-solving activity that involves various mental processes, including analysis, evaluation, and synthesis of information. This ability includes not only evaluating arguments and considering various perspectives, but also making decisions based on strong evidence and logic. According to Wilingham (2008), critical thinking is an important skill that requires regular practice in order to develop properly.Pollarolo et al., (2023)adding that children learn and develop their cognitive knowledge through real contexts and experiences.

In childhood, this learning process occurs through playing and exploring the surrounding environment, which allows them to acquire knowledge from simple to complex (Hadi et al., 2021). These experiences, which involve interactions with a variety of objects and situations, play a vital role in forming the foundation of critical and analytical thinking skills in children. Therefore, developing critical thinking skills in early childhood is not only about introducing abstract concepts, but also about providing rich opportunities for active exploration and deep reflection.

The reality in the field shows that children's critical thinking skills have not developed. From the results of interviews conducted with teachers, it is explained that not all educational environments have puzzle media that are able to

implement children's critical thinking skills. Children also have different levels of understanding and skills so that children have difficulty in participating in this storytelling activity to explore children's critical thinking skills. In addition, parental involvement is minimal in providing support to children.

The hope that arises basically with puzzle media can be an effective tool in storytelling that is not only interesting but can also stimulate children's imagination. In addition, with storytelling activities it is also expected to improve children's critical thinking skills because they are invited to analyze, organize and solve problems through puzzles.

The gap between expectations and reality needs to be overcome by using puzzle media. Therefore, increasing critical thinking skills in early childhood can be done effectively through storytelling activities using puzzle media. Puzzle media as explained by (Zola & Nurhafizah, 2021) is a picture that is divided into several parts that must be reassembled, with the aim of sharpening thinking power, training patience, and getting used to sharing skills. Puzzle activities encourage children to think critically and analytically, which ultimately helps improve their cognitive abilities.

In the context of storytelling, puzzle media can be applied through several stages so that its benefits can be maximized. First, teachers or parents can start by introducing the picture or story that will be used, explaining the context and purpose of the puzzle. Next, children are given puzzle pieces and asked to put them together while listening to a story related to the picture. During this process, children are encouraged to make connections between puzzle pieces and story elements, as well as solve problems that arise when trying to put the picture together correctly. Finally, after the puzzle is assembled, children can discuss the story and picture with adults, so that children can reflect on and understand more deeply the message or theme conveyed. Through these stages, storytelling using puzzle media not only improves children's critical thinking skills, but also enriches their learning experience in a fun and interactive way.

As an effort to develop critical thinking skills in early childhood, storytelling using puzzle media offers an innovative and effective approach.

Puzzle media with its characteristics that require the arrangement of picture pieces, not only stimulates children's thinking power and trains their patience, but also provides an opportunity for them to practice critical thinking through active interaction. Through the stages of storytelling involving puzzles, children can be involved in the process of analyzing and synthesizing information, strengthening their cognitive abilities, and understanding the context of the story more deeply. With this approach, it is hoped that children will be better prepared to face future challenges with better critical thinking skills, while enjoying a fun and interesting learning process.

The difference between this study and other similar studies lies in the approach used. This study uses a type of research with a descriptive qualitative approach. Other studies that have been conducted focus on improving thinking skills and using treatment as one of the research methods.

This study aims to explore the effectiveness of using puzzle media in storytelling methods as a tool to develop critical thinking skills in early childhood. The main objective of this study is to describe the use of puzzle media in the context of storytelling can improve children's information analysis, evaluation, and synthesis skills. By analyzing the process and results of implementing storytelling using puzzle media, it is hoped that this study can provide valuable insights for educators and parents in designing more effective learning strategies to facilitate the development of critical thinking skills in early childhood.

RESEARCH METHOD

This study is a descriptive qualitative study. The subjects of the study were students of Kindergarten B and teachers in five (5) Kindergartens. The selection of the Kindergartens was based on the following criteria: (1). Located in the same sub-district; (2). Teachers involved were preferably the driving teachers. Data collection methods included direct observation, interviews, and analysis of children's work results. At the observation stage, the researcher observed the students' conditions, collected data through direct observation and interviews with children, and assessed their work results related to puzzle and storytelling

activities. The study was conducted for approximately 5 months involving 25 students of Kindergarten B and 5 Kindergarten B class teachers.

The research procedure includes several important steps, namely (1), determining the research question where in this study is an interview guideline aimed at the Kindergarten B class teacher, and an observation guideline aimed at students to see students' critical thinking skills; (2). choosing a data collection method, namely observation, interviews and documentation and (3). analysis techniques, namely describing findings in the field. With this approach, it is hoped that a deep understanding can be obtained regarding how storytelling using puzzle media can influence critical thinking skills in early childhood.

The data analysis was carried out using the Miles and Huberman Model, which went through the following steps: (1) Data reduction, (2) Data presentation, (3) Drawing conclusions and verification. (Miles & Huberman, 1994).

The critical thinking instruments used in this study are:

Table 1 Critical Thinking Skills Observation Guidelines

No	Question Items	Evaluation				Information
		BSB	BSH	BB	MB	
1.	Children ask questions about an object or event.					
2.	Children identify differences between various objects or events.					
3.	Children identify the cause and effect of an object or event.					
4.	Children express their opinions about what might happen to an object or event.					
5.	Children compare similar events with their own experiences.					
6.	Children compare similar events with their own experiences.					
7.	Children find solutions in events that occur					

8.	Children describe the cause and effect of an event in a simple way					
9.	Children anticipate an event based on the tendencies that occur in their environment.					
10.	Children put forward their opinions or ideas regarding events that occur.					
11.	Children express or know the reasons for comparing similar events with their experiences.					
12.	Children describe events in sequence and detail.					
13.	Children respond to other people's opinions using simple sentences.					

Adapted from :

<http://repository.unj.ac.id/2476/11/11.%20Lampiran-Instrumen%20Kemampuan%20Think%20Critical%20Children%20Usia%205-6%20tahun.pdf>

Notes:

- BSB : Very Well Developed = Score 4
- BSH : Developing as Expected = Score 3
- B : Developing = Score value 2
- BM : Not Yet Appeared = Score 1

Table 2 Interview Guidelines

No	Question Items
1.	What do you think about the use of puzzle media in telling stories for young children?
2.	Do you have experience using puzzle media in storytelling activities?
3.	In your opinion, what are the challenges faced in using puzzle media in educational environments or at home?
4.	Are there any obstacles that you feel in involving children in this activity?
5.	Are there any suggestions or recommendations that you can give to improve the use of puzzle media in storytelling?

Source: Researcher Data Processing

RESULTS AND DISCUSSION

This study focuses on the use of puzzle media in storytelling activities on critical thinking skills of early childhood children. Based on data collected from observations, interviews, and documentation in the form of children's work, it was found that the integration of puzzle media in storytelling activities had a significant impact on improving children's critical thinking skills.

1. Analytical Skills

Children were better able to identify and understand the parts of the puzzle, and relate them to relevant story elements. This skill was reflected in their ability to distinguish important story elements and arrange them in a logical order to form a coherent narrative. This is in line with findings reported by Berk & Winsler, 1995) which shows that manipulative activities such as puzzles can stimulate cognitive development in early childhood.

Children also learn to break down stories into smaller parts such as the introduction and the emergence of conflict. This helps them to understand how stories are constructed and how each element interacts with each other. (Yang & Wu, 2012). In addition, by using puzzles, children become easier to recognize the characters in the story and understand each character in the story. This improves children's ability to think critically about the behavior and decisions of each character in the story.

Children are also faced with challenges in putting together puzzles, they learn to find solutions and consider various possible alternative solutions. This is an important part of analytical skills, where they must evaluate the available options and choose the right one.

2. Better Evaluation Capabilities

The results showed that children showed progress in their evaluation skills. They were able to evaluate the different parts of the puzzle more effectively and determine which parts best complemented the overall picture. This ability allowed children to make better decisions about the

placement of puzzle pieces, as well as develop a deeper understanding of how story elements relate to each other and affect the overall narrative. Research by (Ginsburg & Health, 2007) supports that activities involving evaluation and assessment can strengthen children's critical thinking skills.

3. Information Synthesis Ability

Storytelling-related puzzle activities also contribute to the development of children's information synthesis skills. They show a better ability to integrate various information from puzzles and stories to form a complete understanding of the narrative. Children can creatively combine various story elements and images to reach a logical and adequate solution to solve the puzzle. Research by (Hanushek & Woessmann, 2008) shows that information synthesis is an important aspect of cognitive development that can be triggered through game-based activities.

4. Logical Decisions in Solving Puzzles

Children also showed an increased ability to make logical decisions about solving puzzles. They were able to determine the steps needed to complete a puzzle by considering a variety of factors, including the shape and color of the pieces, and their relationship to the context of the story. This ability reflects the development of more mature critical thinking skills, which are important for problem solving and other cognitive processes. Vygotsky & Cole (1978) argue that activities that require logical decision making support the development of more complex thinking skills.

Overall, the results of this study underline the effectiveness of using puzzle media as a tool to improve critical thinking skills in early childhood. The integration of this media in storytelling activities not only makes the learning experience more enjoyable but also encourages significant cognitive development in children. Based on the results of this analysis, it is seen that the use of interactive media such as puzzles

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can be a very effective strategy in supporting the growth of critical thinking skills in early childhood.

This study explores the impact of using puzzle media in storytelling on critical thinking skills of early childhood children. Based on data collected through observation, interviews, and analysis of children's work, it was found that most children showed significant progress in various aspects of critical thinking. The profile of these children's critical thinking skills showed positive developments in several key areas as follows:

1. Puzzle Piece Analysis and Comparison

Children showed an increased ability to analyze and compare puzzle pieces to construct a complete picture. They were able to examine each puzzle piece individually and assess how they fit together to form the overall picture. This ability reflects improved analytical skills, where children not only recognize shapes and colors, but also understand how the puzzle pieces relate to each other in the context of the picture and story. This is in line with research conducted by Berk & Winsler (1995) shows that manipulative activities can improve analytical skills in early childhood.

2. Evaluating Progress

During the puzzle activity, children showed progress in evaluating the puzzle construction process. They were able to assess how far they had progressed in constructing the puzzle and actively make changes or adjustments to correct errors or improve the fit of the puzzle pieces. This ability indicates an increase in evaluation skills, where children can critically assess their own work and make adjustments to achieve a better solution. Research by Ginsburg & Health (2007) support these findings by showing that self-evaluation and strategy adjustment are important parts of developing critical thinking skills.

3. Connecting Story Elements and Visual Context

Children also showed improved ability to relate story elements to the images they constructed, indicating a deeper understanding of narrative

and visual context. They were able to understand how story elements related to the images they constructed and showed a more complex understanding of how the story and images complemented each other. This ability reflects the development of information synthesis, where children can effectively integrate narrative elements with visuals. Research by Hanushek & Woessmann (2008) underlines the importance of synthesis ability in cognitive development, which is also reflected in the results of this study.

Overall, the results of this study indicate that the use of puzzle media in storytelling provides a significant contribution to the development of critical thinking skills in early childhood. By improving the skills of analysis, evaluation, and synthesis of information, puzzle activities provide an in-depth and rewarding learning experience that supports children's holistic cognitive development. This study emphasizes the importance of integrating interactive media in early childhood education to facilitate the growth of important critical thinking skills.

This study shows that storytelling involving puzzle media effectively develops critical thinking skills in early childhood. This activity serves as a stimulus for children's cognitive skills, by providing challenges that encourage them to think logically and creatively. Children are faced with various tasks that require analyzing puzzle pieces, evaluating their progress, and synthesizing information from the images and narratives presented. They learn to identify patterns, make rational decisions, and build coherent solutions, which shows an increase in their critical thinking skills. This study is in line with the findings of Berk and Winsler (1995) and Ginsburg (2007), which show that manipulative activities such as puzzles can significantly stimulate the cognitive development of early childhood.

In addition to providing a positive impact on critical thinking skills, the use of puzzle media also contributes to improving children's social skills. This activity encourages children to share puzzle pieces, work together in groups, and communicate effectively to achieve common goals. In this process, they learn to negotiate, listen to others' opinions, and resolve conflicts constructively, which are

important social skills for harmonious group interactions and healthy interpersonal relationships, as expressed by Vygotsky (1978).

Furthermore, puzzle media presents challenges that stimulate children to think logically and creatively in solving problems that arise during the game. Children use thinking strategies that involve analyzing shapes, colors, and relationships between parts to build a complete picture. This activity not only develops critical thinking skills but also stimulates their creativity in finding innovative and effective solutions.

Thus, storytelling using puzzle media is an effective method in developing critical thinking skills and social skills in early childhood. By providing challenges that stimulate logical and creative thinking and improve social skills, this activity offers a holistic learning experience that is beneficial for child development.

This study is in line with previous research results showing that visual media, including puzzles, can improve critical thinking skills in children. Unlike previous studies, this study provides a new contribution by adding a storytelling dimension to puzzle activities. By including narrative elements, this study not only strengthens existing findings but also deepens children's understanding and involvement in the critical thinking process. The integration of storytelling into puzzles provides a more meaningful and holistic context, which enriches the learning experience and significantly increases children's cognitive engagement.

The results of this study have important implications for educational and parenting practices. The storytelling approach using puzzle media offers an effective way to integrate the development of critical thinking skills into the kindergarten curriculum. By incorporating these activities into learning programs, educators can help children hone their analytical and evaluative skills in an engaging and interactive way. In addition, education and training for teachers and parents on how to use puzzle media in storytelling can improve their ability to support children's cognitive development more effectively. By understanding how to implement this approach, educators and parents can create better learning environments that stimulate and support the growth of critical thinking skills. This

approach also has the potential to enrich existing teaching methods by providing a more dynamic and fun tool for the learning process, making it a more engaging and meaningful experience for children.

CONCLUSION

Based on the results presented, it shows that the storytelling method using puzzle media is effective in developing critical thinking skills in early childhood. Data obtained from observations, interviews, and analysis of children's work showed a significant increase in children's critical thinking skills, including the ability to analyze, evaluate, and synthesize information. Children were not only able to arrange puzzle pieces better, but also showed a deeper understanding of the relationship between story elements and images. These results confirm that the integration of puzzle media in the storytelling method provides valuable cognitive benefits for child development.

It is recommended that parents include puzzle media as part of home learning activities to support the development of children's critical thinking skills informally but effectively. Integrating puzzles into daily activities, such as during free time or family activities, can provide additional opportunities for children to engage in problem solving and analytical thinking in a fun way. In addition, teachers are advised to adopt storytelling methods involving puzzle media in the kindergarten curriculum. By using puzzles as a teaching aid, the learning process can be more interesting and interactive, enriching children's educational experiences and facilitating their involvement in active learning. Integrating this approach in the classroom not only improves children's critical thinking skills but also creates a more dynamic and motivating learning environment.

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