

OPTIMIZING EARLY CHILDHOOD CRITICAL THINKING SKILLS IN MANAGEMENT STUDIES THROUGH PROJECT-BASED LEARNING MODELS

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Abstract :

This research aims to contribute to efforts to improve children's critical thinking skills through the Project Based Learning model. The approach used in this research is qualitative with case study research. This research took place at Bina Anaprassa Kindergarten, Karangayar, Paiton, Probolinggo. The data collection techniques used in this research were observation, documentation and open interviews. Observations were carried out directly observing the learning activities carried out at Bina Anaprassa Kindergarten. Interviews were carried out with the principal and 2 teachers of Bina Anaprassa Kindergarten group B, using the Project Based Learning model showing explorative and probing activities and drawing conclusions from a problem. The Project Based Learning model can also increase children's creativity, so that children's critical thinking skills and creativity can develop well. Through collaboration between schools and families, learning becomes more holistic and supports children's overall development. Schools and families also have a big influence on improving children's critical thinking skills. The implications of this study explain the importance of the role of collaborative education between educational institutions and families in shaping children's critical thinking skills from an early age.

Abstrak:

Penelitian ini bertujuan untuk memberikan kontribusi terhadap upaya meningkatkan kemampuan berpikir kritis anak melalui model Project Based Learning. Pendekatan yang digunakan dalam penelitian ini adalah kualitatif dengan penelitian studi kasus. Penelitian ini berlangsung di TK Bina Anaprassa Karangayar, Paiton, Probolinggo. Teknik pengumpulan data yang digunakan dalam penelitian ini adalah observasi, dokumentasi dan wawancara terbuka. Observasi dilakukan dengan mengamati secara langsung kegiatan pembelajaran yang dilaksanakan di TK Bina Anaprassa. Wawancara dilakukan kepada kepala sekolah dan 2 orang guru TK Bina Anaprassa kelompok B, dengan menggunakan model Project Based Learning menunjukkan kegiatan eksploratif dan menyelidik serta menarik kesimpulan dari suatu permasalahan. Model Project Based Learning juga dapat meningkatkan kreativitas anak, sehingga kemampuan berpikir

kritis dan kreativitas anak dapat berkembang dengan baik. Melalui kolaborasi antara sekolah dan keluarga, pembelajaran menjadi lebih holistik dan mendukung perkembangan anak secara keseluruhan. Sekolah dan keluarga juga mempunyai pengaruh besar dalam meningkatkan kemampuan berpikir kritis anak. Implikasi dari penelitian ini menjelaskan pentingnya peran pendidikan yang kolaboratif antara institusi pendidikan dan keluarga dalam membentuk kemampuan berpikir kritis anak sejak usia dini.

INTRODUCTION

Education is very important in supporting human development. This educational process lasts a lifetime. So the role of family, teachers and the environment is very important for children, especially parents, especially during early childhood. Because premarital age is an important period and the period that most determines the success of a child's development and is the most effective period for developing all aspects of a child's development. Fragility or weak development of children at an early age results in weak development of children in the following years. On the other hand, if at an early age the child experiences a good development process, the child will grow up with better development for the next stage (Sari, 2018). One aspect of development that needs to be developed is cognitive development.

Cognitive development can be characterized by the development of children's competencies and skills. Important competencies and skills in the 21st century contained in the 21st century framework are critical thinking, communication, collaboration and creativity (4C) (Saenab et al., 2019). Saputri & Katoningsih (2023) explains that critical thinking is the capability to analyze reality, generate and organize ideas, hold opinions, design comparisons, draw conclusions, evaluate opinions and solve problems. Critical thinking is thinking using reasoning, being reflective, responsible and experienced in thinking (Syafi'i et al., 2021).

However, the development of children's critical thinking skills also depends on the learning provided by the teacher. The National Education Standards Agency (BSNP) in the 21st Century National Education Paradigm states that one of the strategies for achieving education in the future is to apply creative teaching and learning methods which adhere to the principle that each individual is unique and has their own talents, so the teaching and learning method You must also pay attention to the diversity of "learning styles" of each individual. (Nurul & Wardani, 2019) explains that an active learning process is student-centered learning.

Like the research conducted Yunita et al., (2019) with the title "Improving Critical Thinking Ability through a Scientific Approach". This research aims to improve the critical thinking skills of early childhood class B2 at Pertiwi 3 Kindergarten Palembang through a scientific approach. Based on the data obtained, the percentage of children's critical thinking abilities in the pre-cycle was fifty percent. Then, it was seen that there was an increase in children's critical thinking abilities starting from pre-cycle, cycle I, and cycle II.

Similar research was also conducted Reswari (2021) with the title "Effectiveness of Steam-Based Learning on the Critical Thinking Ability (Hots) of Children Aged 5-6 Years". The aim of this research is to determine the effectiveness of STEAM-based learning on critical thinking skills in young children in Ngajun District, Malang Regency. Based on the research results, it can be concluded that the effectiveness of STEAM-based learning influences critical thinking skills (HOTS) in children aged 5-6 years.

Furthermore, research conducted Yulistia & Syafrudin (2022) with the title "Implementation of Science Fairy Tales in Learning to Improve Students' Critical Thinking Skills" this research aims to improve students' critical thinking skills in learning using science fairy tale learning resources. The research results show that using science tales in learning activities can improve students' critical thinking skills. This can be seen from the increase in the average score of students' critical thinking skills in Cycle I of 65 with the "fair" category (C), increasing in Cycle II of 79.5 with the "good" category (B+).

Similar research was also conducted Dewi et al., (2019) with the title "The Influence of Learning Models and Critical Thinking Abilities on Understanding Physical Science". The aim of this research is to determine the influence of learning models and critical thinking skills on the understanding of physics in group B kindergarten students in the Maninjau and Tanjung Sani districts, Tanjung Raya District, Agam Regency. The results of this research show that 1) Children's understanding of physics science taught using the quantum learning model is higher than the contextual teaching and learning model. 2) There is an interaction effect between learning models and critical thinking skills on understanding physical science. 3) Children's understanding of physics taught using the quantum learning model is higher than the contextual teaching and learning model for children who have high critical thinking abilities. 4) Children's understanding of physics taught using the quantum learning model is lower than the contextual teaching and learning model for children who have low critical thinking abilities.

Furthermore, research was carried out (Imamah & Muqowim, 2020) with the title "Development of Creativity and Critical Thinking in Early Childhood through STEAM and loosepart Based Learning Methods". The aim of this research is to develop a learning process using STEAM and loose part based learning methods. With research results that STEAM and loose part-based learning can integrate all aspects of children's development, such as being able to encourage and develop children's creativity in critical thinking, in this research it is shown by the way children ask creative questions, and are able to solve problems, and can provide a point of view. or accept different points of view or opinions from friends, and be able to dare to take risks that are the child's choice, which have previously been calculated for the negative and positive impacts on the child.

The research research above illustrates that improving critical thinking skills in early childhood can be stimulated through STEAM-based learning, environmental experiments and scientific approaches. This is different from this research which focuses on providing stimulation to strengthen critical thinking

skills in young children through the application of the project based learning model. This is a point of difference between previous research and this research, so that this research occupies a novelty.

This research was conducted at a formal institution under the auspices of the Nurul Jadid Paiton Probolinggo Islamic boarding school. Based on the results of observations carried out at Bina Anaprasa Kindergarten Group B, it was found that children's critical thinking skills were still not well developed, out of 27 children there were 15 children who did not have good critical thinking skills. For example, children cannot focus on the problems they face, children cannot analyze the problems they face and children cannot draw conclusions about the problems they face. One way to overcome the problems that occur is by implementing a project based learning model. This model can be practiced at school with various activities such as making posters about cleanliness and making fruit salad.

This research is important to carry out so that it can always provide new changes, especially in the application of existing learning methods at the Bina Anaprasa Group B Kindergarten institution, by implementing learning methods that are suitable for early childhood and are able to overcome students who experience obstacles in thinking critically. Through the application of the project based learning model as an effort to strengthen children's critical thinking skills. The aim of this research is to find out how project based learning influences children's critical thinking skills. Because in essence the critical thinking skills of young children will not grow by themselves, there needs to be a stimulus to develop and improve them.

Based on the description above, researchers are interested in carrying out further research on the project based learning model in Bina Anaprasa Kindergarten group B. With the title "Strengthening Early Childhood Critical Thinking Skills through the Project Based Learning Model". Through in-depth analysis, it is hoped that this research can provide insight to all teachers in schools and the wider community.

RESEARCH METHODS

The research approach used in this research is a qualitative research approach with case study research. The research carried out included observation, interviews and documentation activities. The qualitative research method that the researcher carried out was able to provide real results by using case study research on the Bina Anaprasa Paiton Probolinggo Kindergarten institution. The initial activity that the researcher carried out was observing the school environment and student activities, to help the researcher get more information about the institution. After that, the researchers conducted interviews with 2 teachers and the principal of Bina Anaprasa Kindergarten regarding the development level of 27 children in group B of Bina Anaprasa Kindergarten. Then the researcher's final activity is documentation of students' work results in the form of an assessment of child development indicators.

Data analysis stages include; data collection, data reduction, data presentation, and drawing conclusions (verification). Data analysis was carried

out from the beginning of the research until the data was collected, then analyzed to ensure that the application of the project based learning model could strengthen children's critical thinking skills at Bina Anaprasa Kindergarten.

FINDINGS AND DISCUSSION

Results of interviews carried out using question and answer techniques with the resource persons, at Bina Anaprasa Kindergarten. The resource persons who were successfully interviewed were the principal of Bina Anaprasa Kindergarten and two homeroom teachers of Bina Anaprasa Kindergarten group B on December 17 2023.

The research results show that children's critical thinking skills can be improved by teachers through various activities such as question and answer, telling stories and acting. This statement was confirmed by the ustadzah (DI). In stimulating the strengthening of critical thinking skills in early childhood, teachers have ways to train children's critical thinking skills through various methods, one of which is telling stories.

Based on the results of interviews with the principal and two teachers at the school, the teacher applied several learning techniques to stimulate children's critical thinking skills, one of which was the storytelling method using hand puppets and question and answer props. In the school environment, learning activities are the most basic activities. This indicates that the success or failure of achieving educational goals is influenced by the learning carried out by teachers to build students' interest in learning (Bali et al., 2021). However, there are still some children who cannot analyze the problems of these activities. This happens because children are less able to adapt to their learning environment or sometimes children get bored with the storyline. So the teacher will imitate the voice of the story character, and at the end of the meeting the teacher will give a question and answer about the story that has been read.

At Bina Anaprasa Kindergarten the Project Based Learning model has been implemented since 2021, and has been practiced in various activities. One of them is a cooking class, namely cooking activities carried out in class. In this activity, female students create a product from the results of their thinking in accordance with the learning theme. 1) The teacher will first introduce the various food ingredients that will be used, such as fruit, biscuits and chocolate sauce. 2) Kids choose the ingredients they want to use and plan their own creative snack menu. 3) As a small project, students also participate in purchasing necessary food ingredients with supervision from teachers or adults. Then students will make a salad according to their taste. 4) after the salad has been made, students are provided with pieces of fruit, and they decorate the snack according to their imagination. 5) after the project is finished, students explain their experiences and the reasons they chose certain ingredients. 6) after the activity is finished, students will sit together to share the salad they have made with the teacher and friends. This project not only introduces students to the basics of cooking, but also engages them in creative and fun activities. Through this process, students learn about food ingredients, food processing, cooperation, and develop their fine motor skills. In the learning process, not only critical thinking skills develop, but also social emotional aspects, children's creativity,

and children's physical motoric development can also develop well.



Figure 1. Process and results of students making fruit salad

Documentation of learning outcomes shows that children are able to complete learning activities by making salad according to the teacher's directions. This shows that the child's cognitive abilities have begun to develop (MB). Children have begun to be able to focus on learning, children can analyze learning and children can draw conclusions about projects that have been completed. And this is in accordance with the scope of critical thinking, namely analyzing and drawing conclusions about the problems faced.

Through the Project Based Learning model, children's critical thinking skills will be stimulated when children are able to demonstrate explorative and probing activities and draw conclusions from a problem. The Project Based Learning model can also increase children's creativity, so that children's critical thinking skills and creativity can develop well. This statement was confirmed by the ustadzah (SA).

Project Based Learning Model

At Bina Anaprasa Kindergarten the independent curriculum has been implemented since 2021. In the independent curriculum there are several learning models that can be applied at school, one of which is the Project Based Learning model. The Project Based Learning Model is a project-based learning model that actively involves students in the learning process. The aim of using the Project Based Learning model at Bina Anaprasa Kindergarten is to teach students to be able to work collaboratively in solving problems and producing a project in the learning process and drawing conclusions from the project created. Good learning outcomes can be influenced by student activity in class. Because the learning process is not monotonous and boring, students will more easily understand the material being studied.

Benefits of the Project Based Learning Model

Project-based learning at Bina Anaprasa Kindergarten can provide benefits for students, including (1) students gain new knowledge and abilities in learning. Students not only know about the benefits of fruit but also how to process fruit into healthy food, one of which is fruit salad (2) to develop students'

problem solving skills, students not only make fruit salad according to the teacher's direction, but students are also given the freedom to make salad according to their imagination using the ingredients that have been provided (3) making students more enthusiastic in the learning process, because in the process of making fruit salad students also participate in purchasing the necessary food ingredients with teacher supervision (4) advancing and growing students' abilities in processing resources. In the process of making salads, students are given the freedom to decorate the salad according to their imagination with various toppings provided (5) fostering cooperation between students. During the salad making process, students will discuss with their groups about the salad they will make. Project-based learning (Project Based Learning Model) at Bina Anaprasa Kindergarten can provide benefits for students, including (1) students gain new knowledge and abilities in learning. Students not only know about the benefits of fruit but also how to process fruit into healthy food, one of which is fruit salad (2) to develop students' problem solving skills, students not only make fruit salad according to the teacher's direction, but students are also given the freedom to make salad according to their imagination using the ingredients that have been provided (3) making students more enthusiastic in the learning process, because in the process of making fruit salad students also participate in purchasing the necessary food ingredients with teacher supervision (4) advancing and growing students' abilities in processing resources. In the process of making salads, students are given the freedom to decorate the salad according to their imagination with various toppings provided (5) fostering cooperation between students. During the salad making process, students will discuss with their groups about the salad they will make.

Project Based Learning Model Steps

In implementing the Project Based Learning model, there are several technical activities that must be carried out according to a theoretical review. There are five steps in the Project Based Learning Model Steps; among others (1) Determining the theme, The teacher determines the theme by paying attention to the achievement of the learning objectives that have been set. The learning theme at Bina Anaprasa Kindergarten is about fruit. (2) Planning learning activities, Learning activity planning includes activities that are in accordance with the project theme. Activities that combine play, art and social interaction. At Bina Anaprasa Kindergarten, the activities carried out are making fruit salad, to improve students' artistic skills by decorating the salad according to their imagination and form social interaction by forming small groups to work together in completing the project. (3) Preparation of learning implementation schedules, Determine the steps and schedule between the teacher and students in completing the project. Steps for implementing learning prepared at Bina Anaprasa Kindergarten, introduction to food ingredients to be used, purchasing food ingredients, and the project completion process. (4) Project completion, Monitoring carried out by teachers regarding student activity when completing projects. At Bina Anaprasa Kindergarten students will complete a fruit salad making project with teacher supervision. The teacher will assess student activity

during the completion process. (5) Presentation and reflection, At Bina Anaprasa Kindergarten, upon completion of the project students will present reasons for choosing certain materials. Then reflection is carried out together with friends, discussion of what they have learned and students will share their experiences during learning. Then, students will sit together to share the salad they have made with the teacher and friends. (6) Presentation and reflection, At Bina Anaprasa Kindergarten, upon completion of the project students will present reasons for choosing certain materials. Then reflection is carried out together with friends, discussion of what they have learned and students will share their experiences during learning. Then, students will sit together to share the salad they have made with the teacher and friends.

Strengths and Weaknesses of the Project Based Learning Model

Learning with the Project Based Learning Model at Bina Anaprasa Kindergarten has important advantages and benefits in their development, including: 1) improving children's language skills, in making fruit salad children will talk to the group about the fruit salad that will be made, they will also listen to several directions teachers and children will learn to understand the language they hear. With this, children's language skills can develop well. 2) improve children's social emotional development. In the fruit salad making project, children will be invited to interact, work together, communicate and share the fruit salad they have made with friends and teachers. 3) hone students' skills, both through practice, theory and application. In this fruit salad making project, children are given the freedom to develop their imagination by decorating the salad according to their taste, and telling about their experiences in the process of completing the project. So children will be more creative. Although the Project Based Learning approach has many benefits, there are also several weaknesses or challenges when applied to early childhood. including: 1) limited concentration. Young children tend to have limited concentration. So that when the process of making fruit salad is too long, some children lose interest or are easily distracted. 2) Difficulty in group work. The fruit salad project requires students to work in groups. This is a challenge for students learning about social interaction. So various disagreements, conflicts and difficulties in being responsible arise. 3) difficulty in equalizing learning. Because in this project, there are still several students who are just learning about social interaction, so the children's level of understanding and abilities vary. This can make it difficult for teachers to align learning, assessment can be subjective and it is difficult to measure individual achievement.

However, the Project Based Learning model can be adapted to the needs and characteristics of young children. With good planning, adequate teacher support and flexibility in implementation, some of these weaknesses can be overcome. The teacher's role in the Project Based Learning model is very important. Because although this approach encourages active involvement and student exploration, the teacher still has the role of facilitator, guide and assessor. With the role of an effective teacher and the implementation of a good Project Based Learning model, learning can become more meaningful, relevant and in-

depth for students. As part of the educational process, in order to obtain learning outcomes whose output is a balance with the achievement of cognitive and psychomotor skills, the role of a teacher is in implementing learning (Dakir et al., 2021). Not only the role of teachers, the role of families in the Project Based Learning model is very important to support and complement students' learning experiences. Collaboration between schools and families can have a positive impact on children's development. The family environment is a place for the initial formation of children's personality and character as well as a place for future investment in preparing quality human resources so that the role of parents is also important in supporting the development of children's critical thinking skills. So that children who grow and develop well will describe the situation and behavioral conditions of their family environment, especially their parents (father and mother).

CONCLUSION

At Bina Anaprasa Kindergarten, learning using the Project Based Learning model shows that children are able to complete learning activities by making salad according to the teacher's directions. Children's cognitive abilities begin to develop, showing focus, analysis and the ability to draw conclusions. The PjBL model stimulates students' active and exploratory involvement, improves critical thinking skills, and can increase children's creativity. This model provides benefits such as increased knowledge, problem-solving skills, enthusiasm, and the ability to work together. The PjBL steps involve selecting a theme, planning, schedule, project completion, presentation, and reflection. The advantages of PjBL involve critical thinking training, student activity, and non-monotonous learning. However, some disadvantages include the potential for less conducive classroom situations and some students' discomfort with the lack of structure.

The role of teachers in PjBL as facilitators, guides and assessors is very important. Collaboration between schools and families also supports children's development. Families can encourage interests, provide resources, involve themselves in projects, and provide emotional support. In the context of Bina Anaprasa Kindergarten, the implementation of the independent curriculum with PjBL shows positive results. PjBL provides student activity, improves critical thinking skills, and creates a learning atmosphere that is not monotonous. Through collaboration between schools and families, learning becomes more holistic and supports children's overall development. However, the critical thinking skills of children at Bina Anaprasa Kindergarten, Karanganyar, Paiton, Probolinggo must always be improved. Therefore, there is still room for researchers to study and examine strengthening children's critical thinking skills in a more appropriate and relevant way.

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