



The Effect of Experiential Learning on the Ability to Recognize Patterns and Cooperation in Children Aged 4-5 Years

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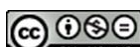
Experiential learning;

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ABSTRACT

The results of initial observations conducted at KB Talia Insan Mulia found that the ability to recognize patterns and cooperation was still underdeveloped. For this reason, the author wants to develop Experiential Learning through playing Maze to improve the ability to recognize patterns and cooperation. The purpose of this study is to determine the effect of experiential learning on the ability to recognize patterns and cooperation in children aged 4-5 years. This study uses quantitative research using experimental methods. This study involved 30 early childhood subjects aged 4-5 years, 14 female subjects or 46.66%, 16 male subjects or 53.34%. The instruments in this study were pattern recognition ability observation sheets and cooperation ability observation sheets. The data analysis technique in this study used descriptive analysis with JASP 0.19.10 and non-parametric statistics with the Mann-Whitney U test. The test result shows that p is smaller than 0.05 which means the hypothesis is accepted. Experiential learning has an effect on the ability to recognize patterns and cooperation in children aged 4-5 years. The experiential learning method is expected can become the main strategy in learning in PAUD.

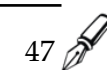


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INTRODUCTION

Children's education age Early childhood (PAUD) is a critical period in development physical, cognitive, social, and emotional children (Yusnita & Zebar, 2024; Rico-González et al., 2024). Children between ages 4 and 5 years be at the stage invention tall Where they Study through experience direct and interaction with environment (Cappelen et al., 2020; Mohammed et al., 2023; Liu & Wang, 2022). Children at the age of this is very active in explore environment around and start develop skills the basis on which base learning next. One of the skills main at stage this is ability know pattern, which plays a role important in learning mathematics and solving problem (Charlesworth, 2016; Takahashi et al., 2015; Qin et al., 2024). In addition, skills cooperation is also very important, because child start interact with Friend peers and learn Work The same in various activity (Ghosh, 2024).

In the environment education, Experiential Learning or learning based on experience give a unique and effective approach. The theory that introduced by Kolb (2015) emphasize importance experience direct in the learning process. Required activities participation active allow child Study with a fun and interactive way, so that increase motivation and involvement in children (Kolb, 2015; Harfitt & Chow, 2020). This method No only help child understand concepts abstract like patterns, but also supports development skills social with Work The same in group (Reys et al., 2017).



Although there is lots supporting research effectiveness learning based on experience, there is need For in a way special test its influence to ability child age early in ability know pattern and work same. The right and effective learning method is very important For support its development. One of an increasingly sophisticated approach get attention is experiential learning, which focuses on learning through real-world experiences. Experiential Learning, developed by David Kolb, focuses on the learning process active where the individual involved direct and can reflect his experience (Jackman, 2012; Kolb, 2015).

Based on results observation on Monday and Tuesday, September 10 2024 which has been done with objective For know development cognitive in concept mathematics, in particular understanding pattern. Based on observation that draft base know object surrounding(name, color, shape, size, pattern,) Already developed, However ability know pattern Not yet develop in accordance hope. From 30 children (10 children) ability know pattern AB-AB/ ABC-ABC is appropriate characteristics certain Already growing, and 20 child ability know pattern AB-AB/ABC- A B C start develop (Charlesworth, 2016; Reys et al., 2017).

Introduction pattern which done Teacher during This not enough effective, still There is the child who Not yet Can know and understand draft patternAB -AB/ABC- A B C, Still There is child Which backwards in copy pattern next, old boy For estimate pattern next and must given example several times (Pamungkas & Sunarti, 2018). In the activities introduction pattern, teacher still often using LKA in activity his learning Because media Supporter Still limited.

Observation cooperation skills are given in activity Block building project in accordance the numbers printed on the paper Together. However results observation show children Still tend play alone and only there are 4-5 children visible play together to finish project said. Likewise when given project clean environment school, it seems only a number of child who joins cooperate clean environment school.

Assessment The first thing that was done at KB Talia was introduction color with implementing Experiential Learning through Maze with jump over a number of the color you want introduced, and this give enough impact big and there is significant changes to ability know color on participants educate KB Talia Insan Mulia. For That writer want to Developing Experiential Learning through play Maze for increase ability know Patterns and Cooperation among participants educate KB Talia Insan Mulia who are 4-5 years old.

This method expected can increase understanding child about ability know pattern and push development skills social like Work same. In education child age early, experiential learning helps child know pattern through games, activities creative, and interactive social (Cantor et al., 2019).

Research Wang and Zhang (2024) explains that with the right social-emotional learning model in early childhood, children can have good emotional regulation and are able to make the right decisions. Learning experiences give children a deeper understanding and become a guide for their lives. Integration of local cultural values into early childhood education through experiential learning methods has shown a significant positive impact on character development (Suri & Chandra, 2021; Sakti et al., 2024; Rossetti, 2023). This approach, which emphasizes direct experience and active participation in children, enhances children's understanding of universal aspects of character formation, such as cooperation, tolerance, and social responsibility (Forestal & Finch, 2021; Kong, 2021).

Furthermore, Several previous studies have stated that the experiential learning approach is effective in improving children's understanding of the concept of values, norms, and cognitive-emotional development through direct experience and practical activities (Leal-Rodríguez & Albort-Morant, 2019; Fitri et al., 2024). In addition, several other studies have stated that children's social emotional and cognitive development can be improved with experiential learning which can significantly encourage children's cognitive and social emotional development (Blewitt et al., 2018; Calhoun et al., 2020; Steele & Neimann, 2020).



RESEARCH METHODS

This study uses a quantitative approach with a quasi-experimental method to test the effect of experiential learning on the ability to recognize patterns and cooperation in children aged 4-5 years. The design used is a nonrandomized pretest-posttest control group design, where participants are divided into two groups, namely the experimental group that received experiential learning intervention and the control group that followed conventional learning (Jannah, 2018; Kolb, 2015).

The study was conducted at KB Talia Insan Mulia with 30 participants aged 4-5 years, 15 children each in the experimental and control groups.

The independent variable in this study is experiential learning, while the dependent variables include the ability to recognize patterns and children's cooperation. Data collection was carried out through observation using instruments pattern recognition ability observation sheet and cooperation ability observation sheet, that had been tested for validity and reliability through expert judgment tests and reliability tests between risks and documentation.

The data analysis technique in this research uses descriptive analysis with JASP 0.19.10 and non-parametric statistics with the Mann-Whitney U test.

RESULTS AND DISCUSSION

This study aims to test the effect of experiential learning on the ability to recognize patterns and cooperation of children aged 4-5 years. The following are the results of the data analysis:

Pattern Recognition Ability

The results of the descriptive analysis showed an increase in the ability to recognize patterns in the experimental group compared to the control group. The following table shows the average pretest, posttest, and gain scores of each group.

Table 1. Description of pattern recognition ability data

Group	Initial trial (Average)	Posttest (Average)	Profit Value (Average)
Experimental	38.46	64.4	25.93
Control	46.06	47.73	1.66

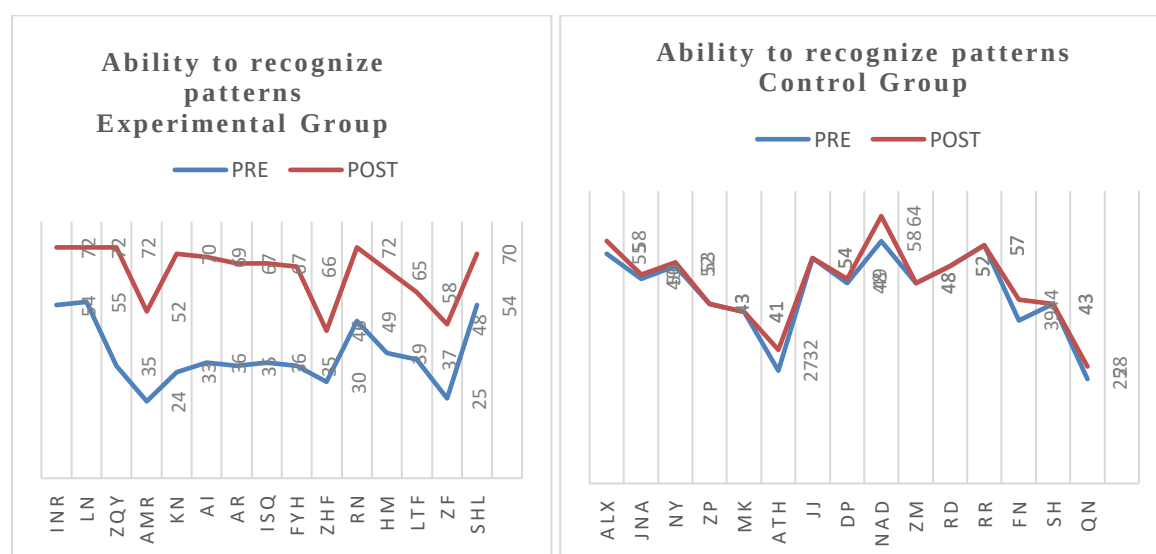
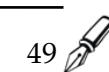


Figure 1. Comparison diagram of pattern recognition ability of experimental and control groups



Based on Table 1 and Figure 1, the results of the hypothesis test using the Mann-Whitney U test show a p value < 0.001, which indicates a significant influence between experiential learning activities on the ability to recognize patterns.

Collaboration Ability

Improved cooperation skills were also seen in the experimental group compared to the control group, as shown in the following table.

Table 2. Description of collaboration ability data

Group	Initial trial (Average)	Posttest (Average)	Profit Value (Average)
Experimental	10.46	14.73	4.26
Control	12.13	12.6	0.46

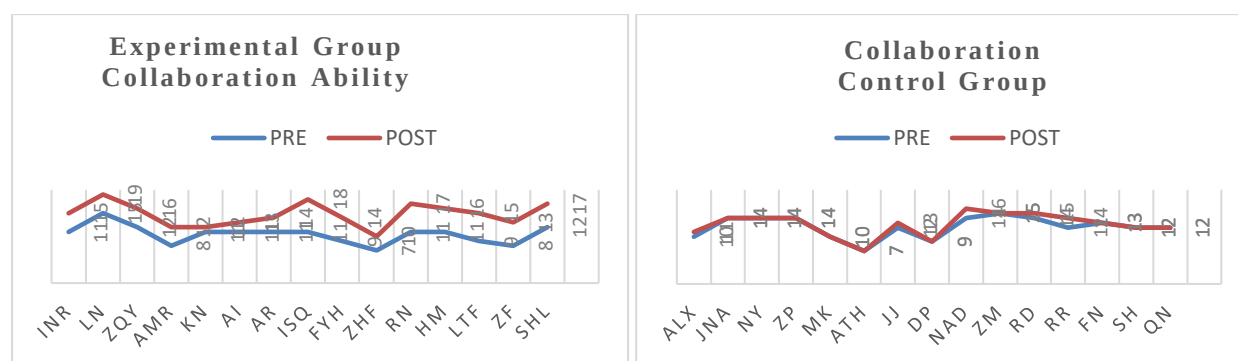


Figure 2. Comparison diagram of the cooperation ability of the experimental and control groups

Based on Table 2 and Figure 2, the results of the second hypothesis test also show a p value < 0.001, which means that experiential learning activities have a significant effect on early childhood cooperation skills.

In the research This can it is said that there is influence experiential learning towards ability know patterns and cooperation. This is because of experiential learning approach allows child For in a way active involved in experience directly relevant with context learning. Based on data analysis, there is improvement ability know significant pattern, visible from score ability know pattern before and after treatment.

In addition, cooperation between children also increased, it is seen from Child shows initiative For participate in activity group, child involved active in activity group like give ideas or take role in assignment, Child offers help to a friend in trouble in finish task group, child accept help from Friend moment face difficulty in task group and child show attitude responsibility to task group like tidy up toy.

Based on data analysis, there was a significant increase in pattern recognition ability, seen from the pattern recognition ability score before and after treatment. In addition, cooperation between children also increased, seen from children showing initiative to participate in group activities, children being actively involved in group activities such as providing ideas or taking roles in assignments, children offering help to friends who had difficulty completing group assignments, children accepting help from friends when facing difficulties in group assignments and children showing a sense of responsibility towards group assignments such as tidying up toys.

David Kolb defines experiential Learning as a holistic learning model, where a person learns, develops, and grows (Kolb, 2015; Bartels, 2023). The use of the term Experiential Learning itself is intended to emphasize that experience has an important role in the learning process, and this is what differentiates Experiential Learning from other learning models, such as cognitive

learning theory or behaviorism (Morris, 2020; Le et al., 2023; van Dorresteijn et al., 2025). The experiential learning process, which includes concrete experiences, reflection, conceptualization, and active experimentation, helps children develop deeper conceptual understanding and improve social skills through direct interaction with peers (Radley et al., 2017; Ho & Lau, 2025). Thus, this approach is effective in improving the cognitive and social abilities of early childhood.

This is in line with Habib (2021) who stated that Experiential Learning is a learning process, a process of change that utilizes experience as a learning medium, so learning is not only from material that comes from books or from educators. Liang et al. (2020) further explains that the learning experience will be very effective if all learning wheels are used, from setting goals, conducting observations and experiments, re-checking, and planning actions.

CONCLUSION

Based on data analysis, there was a significant increase in pattern recognition ability, seen from the pattern recognition ability score before and after treatment. In addition, cooperation between children also increased, seen from children showing initiative to participate in group activities, children being actively involved in group activities such as providing ideas or taking roles in assignments, children offering help to friends who had difficulty completing group assignments, children accepting help from friends when facing difficulties in group assignments and children showing a sense of responsibility towards group assignments such as tidying up toys.

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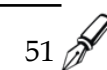
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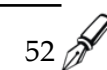
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