

## **The Effect of the Application of the Project-Based Learning Model on Early Childhood Social-Emotional Skills**

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### **Abstract**

The application of the project-based learning model is one of the strategies that can be chosen to develop the principle of play while learning and make children the center of learning in early childhood education. This study aims to examine the effect of the application of the Project Based Learning (PBL) model on early childhood social-emotional skills. The research method used is quasi-experimental with a non-equivalent control group design. The research subjects consisted of early childhood children who were divided into two groups: an experimental group that applied PBL and a control group that did not use the Project Learning method. Data were collected through observation and assessment of children's social-emotional abilities before and after the intervention. The results show that the application of the PBL model significantly improves early childhood social-emotional skills compared to conventional learning methods. The implication of this study is that the PBL model can be an effective alternative in the development of early childhood social-emotional skills, which has a positive impact on their readiness to face future challenges.

**Keywords:** Learning-Based Learning Model, Children's Emotions, Children's Social Interaction

### **Introduction**

Early childhood according to the National Association for the Education of Young Children (NAEYC) defines early childhood as a child who is in the age range of zero to 8 years and is in the process of growth and development. They have a pattern of growth and development in physical, cognitive, social-emotional, creativity, language and communication aspects that are special according to the stages they are going through. This suggests that early childhood is an individual who has unique characteristics (Zhang et al., 2024). This period is marked by various important periods that are fundamental in the child's life, and then to the

final period of his development. Early childhood undergoes very rapid growth and development both physically and mentally, commonly called the golden age or "the golden age" so that during this period a person's quality of life has extraordinary meaning and influence for the next life. This period also only lasts once in the lifetime of each individual (Trianto, 2011).

Therefore, to achieve the growth and development of children can run well until they are adults, they must get an optimal education (Alemneh & Gebrie, 2024). Various aspects of development that need to be developed in early childhood include the development of religious and moral values, physical, motor, social-emotional, language, cognitive and art. All aspects of development cannot develop by themselves, but are integrated and intertwined with each other (LeTendre & Gray, 2024). The social-emotional aspect is one of the developmental aspects of early childhood. Children's social and emotional development is usually ignored by teachers and parents (Wu, 2024). When their teachers are not allowed to take part in the learning process, including the way the child expresses his feelings, they often feel unhappy and upset at this age. This social-emotional development aims to give children confidence, social skills, and the ability to control emotions (Musingati, 2017).

The optimization of social-emotional development is determined by the quality of cooperation between parents, teachers, and the environment (Wahyuni, Syukri, & Miranda, 2015). Optimizing this social-emotional development can be done by starting to invite children to get to know themselves and the environment. It can also be done by playing with peers who will train and improve children's socialization skills (Musingati, 2017: 1-2). The implementation of the curriculum by the Education unit must pay attention to the achievement of student competencies in the education unit in accordance with the decision of the Minister of Education, Culture, Research and Technology of the Republic of Indonesia Number 56 of 2022. The independent learning curriculum is a reference for the development of the curriculum of the Education unit, especially early childhood education (Shekhar et al., 2024). Intracurricular learning in the independent learning curriculum is designed so that children can achieve the abilities contained in the learning outcomes one of the main characteristics of the independent curriculum is project-based learning. (Riser et al., 2024)

Project-Based Learning is a learning model that provides opportunities for teachers to manage learning by involving project work (Wena, 2011:144). The goal is for children to develop soft skills, social skills, and character according to the Pancasila student profile. Project-Based Learning provides an opportunity for teachers to manage learning by involving children to collaborate with their peers to create a project. The project-based learning approach is one of the strategies that can be chosen to develop the principle of play while learning and make children the center of learning in early childhood education (Yang, 2024). Based on the above problems, the solution that can be done is to provide learning that suits the needs of students by applying the project-based learning method. The project-based learning method is carried out in groups so that it can stimulate children's social skills.(Lloyd-Esenkaya et al., 2024)

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## **Literature Review**

### *Early Childhood*

Early childhood is a unique individual with all the potential he has. When a child is born, he or she is not yet social. This means that he does not yet have the ability to get along with others. So she needs the guidance and upbringing of others, especially her parents as her closest people (Nurhasanah et al., 2021). Hurlock said that early childhood is a group of humans who exist in the process of growth and development.

The national standard of early childhood education is regulated in the regulation of the Minister of Education and Culture of the Republic of Indonesia No. 137 of 2014 concerning the national standard of early childhood education that the level of achievement of child development is a reference in developing other standards and developing the curriculum for the implementation of early childhood education as well as criteria for the ability achieved by children in all aspects of development and growth, 6 aspects of development, namely moral and religious, cognitive, physical, motor, social-emotional, language, and art (Sewu et al., 2021). This shows that early childhood is a unique individual.

Based on the above explanation, it is concluded that early childhood is an individual who is experiencing a process of rapid development, the learning process as a form of treatment given to children must pay attention to every stage of child development. Early childhood education is a form of educational service provided to early childhood from birth to the age of six years by providing stimulation to all aspects of development owned by children including physical and non-physical aspects.

### *Model Project Based Learning*

According to the Ministry of Education and Culture, in Kokom Komalasari emphasized that project-based learning or textured assignments *Project-based learning* is a learning approach that requires comprehensive learning where the student learning environment is designed so that students can investigate authentic problems including deepening the material of a lesson, working independently and ultimately producing real work.

According to Hosnan, *Project Based Learning* is a learning model that uses projects/activities as a medium. *Project Based Learning* is a learning method that uses problems as the first step in collecting and combining new knowledge based on their experience in real activities.

Project-based learning is a learning that is designed for complex problems and is product-oriented. In *the project-based learning* approach, students develop a project either individually or in groups to produce a product, for example, a portfolio. Project-based learning is a learning model that provides opportunities for teachers to manage learning by involving project performance. Based on these opinions, it can be said that in the *project-based learning* approach, teachers play the role of facilitators so that students can get answers to guiding questions. Through this project-based learning, students can explore a material using various ways that are meaningful to them. Students are accustomed to working collaboratively,

assessments are carried out by measuring, monitoring and assessing all learning outcomes and learning resources can be greatly developed.

Referring to some of the definitions mentioned above, it can be understood that *Project Based Learning* is a learning strategy that uses projects/activities as a means of learning to achieve competency in attitudes, knowledge, and skills. In addition, this project-based learning has great potential to provide an engaging and meaningful learning experience for students. Given that each student has a different learning style, *Project Based Learning* can provide opportunities for students to explore material using various ways that are meaningful to them and conduct collaborative experiments.

### *Social Emotional Skills*

Early Childhood Social Emotional Ability (AUD) Social emotional consists of two words, namely social and emotional. According to Plato, humans are potentially born as social beings (zoon politicon). Social emotional learning or also known as social emotional learning (SEL) is a method that can help students develop self-awareness, self-control, and interpersonal skills. Through this learning, students can learn how to manage emotions well, show empathy for others, build healthy relationships, set goals, and make responsible decisions in their lives.

Syamsuddin (1995:105) revealed that "socialization is a learning process to become a social being", while according to Loree (1970:86) "socialization is a process where individuals (especially) children train their sensitivity to social stimuli, especially the pressures and demands of life (their group) and learn to get along by behaving, like other people in their social environment". This is in line with the opinion of Hurlock (Rachmawati, et al: 2013) who explained that children's social development is the acquisition of behavioral skills in accordance with social demands. Beaty in Susanto (2013), states that children's social development is related to their prosocial behavior and social play.

Mira yanti Lubis (2019) "Developing Early Childhood Social Emotions Through Play". It should be understood that the level of interaction between children and other people, ranging from parents, siblings, playmates, to society at large is called the term social development. Meanwhile, emotional development is an overflow of feelings when children interact with others. Thus, children's sensitivity to understand the feelings of others when interacting in daily life, is a social-emotional development.

Based on the above understanding, it can be concluded that discussing social development must involve emotions, as well as vice versa, discussing emotional development must intersect with children's social development. Because the two are integrated in a complete psychiatric frame that cannot be separated from each other. A child's emotional development has been there since birth or infancy. When children are able to know themselves and their own feelings, then children are able to achieve their emotional development. When children are able to understand other people's feelings and interact well, they have achieved social development. If children already have good social-emotional maturity, they are able to understand their own feelings, understand the feelings of others, build friendships, get along, and share.

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## **Research Methods**

The research method uses a quantitative approach with the type of experimental research. The form of experiment used is a quasi-experiment. It is said that pseudo-experiments are used because the results of experiments that are dependent variables are not only influenced by independent variables but also by external variables that affect the formation of dependent variables. The sample in this study is 20 from early childhood. The data collection procedure in this study consists of observation, tests, and documentation. The data analysis techniques in this study used descriptive statistical analysis, inferential statistical analysis, and hypothesis testing.

## **Results**

### **Early Childhood Emotional Overview Before the Application of Project-Based Learning Methods to Control**

The influence of the *Project Based Learning Method* can be known after conducting pretests and postes with the aim of seeing students' initial abilities, students' final abilities and their improvement. The initial ability is obtained from *the pretest* given before the treatment is given while the final ability of the student is obtained through the postes given after the treatment. Improvement is obtained by means of mean difference test if the pretest data have no difference between control and experiment.

**Table 1.** Data Category Emotional Ability Pretest Control

<b>It</b>	<b>Value</b>	<b>Category</b>	<b>Frequency</b>	<b>Percentage</b>
<b>1.</b>	13-19	BB	1	<b>10%</b>
<b>2.</b>	20-26	MB	2	<b>30%</b>
<b>3.</b>	27-32	BSH	6	<b>50%</b>
<b>4.</b>	33-40	BSB	2	<b>10%</b>
	<b>Sum</b>		<b>11</b>	<b>100%</b>

Based on Table 1, it is known that 1 child, with a percentage of 10%, is in the category of Undeveloped. Then there are 2 children with a percentage of 30% who are in the category of Starting to Develop, 6 children with a percentage of 50% Berkebang as expected and 1 child developing very well with a percentage of 10%.

Post-test data control *the Project Based Learning Method* using the questions prepared.

**Table 2.** Data categories of Post-test control capabilities

<b>It</b>	<b>Value</b>	<b>Category</b>	<b>Frequency</b>	<b>Percentage</b>
<b>1.</b>	13-19	BB	0	<b>0%</b>

<b>2.</b>	20-26	MB	1	<b>10%</b>
<b>3.</b>	27-32	BSH	7	<b>70%</b>
<b>4.</b>	33-40	BSB	2	<b>20%</b>
	<b>Sum</b>		<b>10</b>	<b>100%</b>

Based on table 2, it is known that there is 1 child with a percentage of 10% who is in the category of Starting to Develop, 7 children with a percentage of 70% are developing as expected and 2 children are developing very well with a percentage of 20%.

### **Early Childhood Emotional Description After the Application of Project-Based Learning Methods in Experiments**

The effect of the application of *the Project Based Learning Method*, it is necessary to conduct pre-tests and post-tests on experiments. The pretest data is known after the application of *the Project Based Learning Method* using the prepared questions.

**Table 3.** Experimental Pretest capability data category

<b>It</b>	<b>Value</b>	<b>Category</b>	<b>Frequency</b>	<b>Percentage</b>
<b>1.</b>	13-19	BB	0	<b>0%</b>
<b>2.</b>	20-26	MB	1	<b>10%</b>
<b>3.</b>	27-32	BSH	2	<b>20%</b>
<b>4.</b>	33-40	BSB	7	<b>70%</b>
	<b>Sum</b>		<b>10</b>	<b>100%</b>

Based on table 4.3 above, it can be seen that there are 1 child with a percentage of 10% who is in the category of Starting to Develop, 2 children with a percentage of 20% Berkebang as expected and 7 children who are developing very well with a percentage of 70%.

**Table 4.** Simple Linear Regression Analysis

	<b>Type</b>	<b>Sum of Squares</b>	<b>Df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
<b>1</b>	Regression	88,090	1	88,090	27,199	<b>.001b</b>
	Residual	25,910	8	3,239		
	<b>Total</b>	<b>114,000</b>	<b>9</b>			

*Source: SPSS 25 Data Processing Results*

Based on table 4, it is known that the F value is calculated at 27.199 with a significance level of  $0.001 < 0.05$ . Therefore, it can be concluded that there is an influence between the

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application of *the Project Based Learning Method* on the Early Childhood Emotional Ability of the Control Group and the Experimental Group in the Pots-Test test.

### **Discussion**

Learning in control and experiments has experienced a significant increase. After a significant increase was known, the two controls had an average pretest score of 28 and a posttest score of 30 and the experiment had an average pretest score of 35 and a posttest score of 35. Based on the pretest calculation in the quantitative data analysis results that the two are normally distributed and have the same initial ability, then the t-test calculation or one-way mean difference in the pretest value of the Control Group and the Pretest of the Experimental group (can be seen in and the Post-test value, it can be concluded that there is an influence between the application of *the Project Based Learning Method* on the Early Childhood Emotional Ability of the Control Group with the Experimental Group in the Pots-Test Control Post-test of the Experimental Group (can be seen in Tables 4.3 and 4.4) and the results can be seen in Tables 4.19 and 4.21 that the pretest scores of the control group and the experimental group after the application of *the Project Based Learning Method* both have sig. 0.000.

The difference in the increase in the results of the Pretest of the control group and the experimental group is likely due to the fact that after the application of *the Project Based Learning Method*, this can be seen when conducting experiments, where children in the Pretest and Posttest of the experiment are more visible in their learning and social activities, because before and after the application of *the Project Based Learning Method* Discuss and ask questions with the teacher, starting from what tasks are done during the experiment, then the division of tasks during the experiment, and the variation of findings during the experiment.

### **Conclusion**

Based on the results of research that has been conducted on "The Effect of the Application of the Project Based Learning Model on Early Childhood Social-Emotional Ability", it can be concluded as follows.

1. The Effect of the Project Based Learning Model on Early Childhood Social Skills: The application of the Project Based Learning (PBL) model shows a positive influence on early childhood social skills. Children who are involved in PBL activities are more likely to participate in positive social interactions, such as sharing, cooperating, and showing empathy to their peers.
2. The Effect of the Project Based Learning Model on Early Childhood Emotional Ability: The PBL model also has a positive effect on children's emotional ability. Children are better able to manage their emotions, such as controlling anger and disappointment, and expressing their feelings in a positive and constructive way. Results of Quantitative Analysis: Quantitative data analysis showed that there was a significant difference in

social-emotional skills between the group of children who participated in PBL and the control and experimental groups. The average score of children's social-emotional ability in the PBL group was higher than that of the group that did not participate in PBL in both groups.

3. Based on the conclusions that have been mentioned, there are suggestions given through this study, namely: PBL implementation that kindergarten teachers are advised to apply the Project Based Learning model more often in learning activities. PBL can be an effective alternative to improve children's social-emotional skills. In addition, it is recommended that training and workshops for teachers related to the implementation of PBL be held so that they are more prepared and competent in implementing it.

### **Declaration of conflict of interest**

There is no conflict of interest in this work.

### **References**

- Ahmad, Susanto. (2021). *Early Childhood Education (Concepts and Theories)*. Jakarta: PT Bumi Aksara.
- Alemneh, S., & Gebrie, G. (2024). The role of project-based learning in improving the writing ability and sub- writing abilities of 10th grade Amharic speaking students. *Social Sciences and Humanities Open*, 9. <https://doi.org/10.1016/j.ssaho.2024.100843>
- Dadan, Suryana. (2021) *Early Childhood Education: Practice and Learning Theory*. Jakarta: Kencana.
- Dwi Sulisworo. (2020). *Project Based Learning Learning Concept*. Semarang: Central Java Alpirin.
- Ghozali, Imam. (2013). *Applications of Multivariate Analysis with IBM SPSS Program*. Edition 7. Semarang: Diponegoro University Press.
- Julia Maria Van Tiel. (2019). *Social Emotional Development of Gifted Children*. Jakarta: Prenada.
- LeTendre, G. K., & Gray, R. (2024). Social robots in a project-based learning environment: Adolescent understanding of robot–human interactions. *Journal of Computer Assisted Learning*, 40(1). <https://doi.org/10.1111/jcal.12872>
- Lloyd-Esenkaya, V., Russell, A. J., & St Clair, M. C. (2024). Zoti's Social Toolkit: Developing and piloting novel animated tasks to assess emotional understanding and conflict resolution skills in childhood. *British Journal of Developmental Psychology*, 42(2). <https://doi.org/10.1111/bjdp.12475>
- Mira Yanti Lubis. (2019). Developing early childhood social-emotional through play. *Journal of Early Childhood Islamic Education*.



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- Nurhasanah et al. (2021). Analysis of Discrimination in Determining the Function of District/City Grouping in Indonesia based on the Human Development Index Indicator. *Journal of Economics and Technology Management*. Vol. 5 (1).
- Ni Wayan Eka Praba Dewi, I.K. Gading, P., Aditya Antara. (2018) The Effect of Project-Based Learning Methods on Cooperation Ability in Kindergarten Group B Children. *Journal of Early Childhood Education*
- Nila Lainlin Nisfa, Lita latiana, Yuli Kurniawati Sugiyo Pranoto, Diana. (2020). The Effect of the Project Based Learning (PjBL) Learning Approach on Children's Social and Emotional Skills. *Journal of Early Childhood Education*. Semarang State University, Indonesia.
- Nurhayati. (2023). Early Childhood Social Emotional Development Bandung Widina Bhakti persada Bandung.
- Riser, Q. H., Rouse, H. L., & Choi, J. Y. (2024). Measuring social-emotional development in schoolchildren: A national-level analysis of ECLS-B cohort data. *Journal of School Psychology, 103*. <https://doi.org/10.1016/j.jsp.2023.101270>
- Shekhar, P., Dominguez, H., Abichandani, P., & Iaboni, C. (2024). Unpacking High School Students' Motivational Influences in Project-Based Learning. *IEEE Transactions on Education, 67*(1). <https://doi.org/10.1109/TE.2023.3299173>
- Yudithia Dianputra, (2021) The Importance of Developing Social-Emotional Aspects for Early Childhood, <http://yd.blog.um.ac.id/pentingnya-pengembangan-aspek-sosial-emosional-untuk-anak-usia-dini/> Accessed on November 22, 2023
- Wahyuni, S., Syukri, M., and Miranda, D. (2015). Improvement of Social-Emotional Development through Group Assignment to Children Aged 5-6 Years. Tanjungpura University, Pontianak. pp. 1-15.
- Wu, X. Y. (2024). Unveiling the dynamics of self-regulated learning in project-based learning environments. *Heliyon, 10*(5). <https://doi.org/10.1016/j.heliyon.2024.e27335>
- Yang, W. (2024). Coding With Robots or Tablets? Effects of Technology-Enhanced Embodied Learning on Preschoolers' Computational Thinking and Social-Emotional Competence. *Journal of Educational Computing Research, 62*(4). <https://doi.org/10.1177/07356331241226459>
- Zhang, W., Guan, Y., & Hu, Z. (2024). The efficacy of project-based learning in enhancing computational thinking among students: A meta-analysis of 31 experiments and quasi-experiments. *Education and Information Technologies, 29*(11). <https://doi.org/10.1007/s10639-023-12392-2>