Early Childhood Education Papers
Volume 14 Issue 2 Year 2025 Pages 88-100

P-ISSN 2252-6382| E-ISSN 2686-3375
https://journal.unnes.ac.id/journals/belia

The Effectiveness of Implementing Project Based Learning with a Scientific Approach in Increasing Understanding of Personal Safety Skills for Children Aged 5-6 Years.

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Abstract: This study aims to determine the effectiveness of implementing Project Based Learning with a scientific approach in improving the understanding of Personal Safety Skills in children aged 5-6 years. This study uses a quantitative approach with a One Group Pretest-Posttest Design experimental method by providing treatment to the children. This study involves 25 children from TK Pertiwi 14.13.18 Seliling, selected using total sampling/census technique. The data collection technique used was oral tests and documentation. Statistical analysis used the Paired Sample T-test analysis technique through IBM SPSS Statistic 25 software. The research results from the t-test calculations obtained a significance value of 0.000 < 0.05, so Ho is rejected and Ha is accepted, meaning there is a significant increase in children's understanding of Personal Safety Skills. The N-Gain test results showed 80% > 76%, which falls within the effective criteria based on Hake's effectiveness categorization. Therefore, it can be concluded that the implementation of project-based learning with a scientific approach improves the understanding of personal safety skills in children aged 5-6 years at TK Pertiwi 14.13.18 Seliling, Alian District, Kebumen Regency, Central Java.

Keywords: *Project Based Learning, Scientific Approach, Personal Safety Skills.*

INTRODUCTION

Children are a mandate as well as a gift from God Almighty, which we must always protect and protect at all times because in them inherent dignity, dignity, and rights as human beings that must be upheld (Ariyulinda in Nessa et al, 2022). The rights of children that must be maintained and protected are contained in the Law of the Republic of Indonesia Number 23 of 2002 concerning Child Protection which states that every child has the right to live, grow, develop and participate reasonably in accordance with the dignity of humanity and receive protection from violence and discrimination. Based on this law, all parties, including the government, parents, family, and society, are obliged to provide protection to children from all actions that will harm children. However, this is not in accordance with the phenomenon that is happening now in Indonesia (Priambada & Suwadi, 2023).

Data from the Online Information System for the Protection of Women and Children (Simfoni PPA) shows that throughout 2022 there were 9,588 children who were victims of sexual violence in Indonesia. The number of sexual violence against children in Indonesia increased in 2023, totaling 10,932 incidents. In 2023 the province of Central Java ranks third in contributing to the high number of cases of sexual violence against children after West Java and East Java. The number of cases of child sexual abuse in Central Java province in 2023 was 795. Kebumen district is one of the top 10 districts with the highest rate of child sexual abuse out of 35 districts in Central Java province. Cases of child sexual abuse in Kebumen district in 2023 amounted to 31 cases.

Sexual violence against children according to Pertiwi (2018) is a relationship or interaction between a child and an adult, such as a stranger, sibling, or parent, in which the child is used as an object to satisfy

the perpetrator's sexual needs. Children are forced, threatened, and tricked into doing these things. Sexual activities include groping, penetration (pressure), molestation and rape. In addition, there are sexual activities that do not involve bodily touch, such as looking, or verbal sexual abuse.

Experts are of the opinion that it is highly unlikely that children aged 3 to 6 years will be able to successfully escape from a sexually abusive situation or perpetrator. In cases where such children are victims of sexual violence and find that they have no control over their circumstances, experts argue that it is highly unlikely that such children will be able to successfully extricate themselves from the situation (Nessa et al, 2022).

The increasing number of cases of sexual abuse against children every year shows clear evidence of children's lack of knowledge about sexual education that they should have received from their parents early on. (Solehati et al, 2022). For this reason, education is needed about personal safety skills or self-protection skills in children.

Bagley & King in N. M. Umar et al (2018) stated that personal safety skills are a set of skills that must be mastered by children in order to maintain their own safety and avoid acts of sexual violence. There are 3 components that children must master, namely recognize, resist, report. Sarno & Wurtele (1997) argue that personal safety skills are an effort to combine children's knowledge and skills through group-based teaching which is usually carried out in an educational environment regarding personal safety to prevent sexual violence in children.

Personal safety skills for children can be introduced through learning activities in early childhood education institutions. This is in line with the opinion of Sembiring & Kurniawan (2022) that one of the areas that can touch all levels of society in delivering sexual education material in early childhood is through education in schools. Although schools function as a tool for awareness and learning, sex education has not been specifically implemented in the school curriculum. However, looking at the reality in the field, there are still Early Childhood Education institutions that have not implemented the introduction of personal safety skills, namely Pertiwi Kindergarten 14. 13. 18 Seliling, Alian District, Kebumen Regency, Central Java.

The learning process for children should consider the characteristics of children during their development. Early childhood has characteristics such as being egocentric, having great curiosity, being a social being, being unique, usually rich in fantasy, having a short concentration power or difficult to focus, and is the most potential learning period. (Asfuri, 2020). One of the lessons that can be applied to introduce personal safety skills is project-based learning. Macdonell's opinion in Ningrum et al (2021), project-based learning is considered a student center-based approach that is in accordance with the character of early childhood.

Brandon Goodman and J Stiver's opinion in Ningsih et al (2022) Project-based learning is a teaching approach based on learning activities and real tasks that provide challenges for students to solve in groups with topics related to everyday life. The syntax of project-based learning is as follows: (1) presentation of the problem, (2) making a plan, (3) preparing a schedule, (4) monitoring the project, (5) conducting an assessment, and (6) evaluation (Sani, 2015).

Project-based learning can be applied with the scientific approach in learning activities because the syntax of project-based learning is closely related to the research stages. This is in line with the steps in the scientific approach, which is a learning process that requires students to act like a scientist (M. A. Umar, 2017). In line with the opinion of Banawi (2019) that the five stages of the scientific approach can be synergized with the syntax of the project-based learning model.

The scientific approach is an approach to gaining knowledge based on a logical structure involving steps such as observing, questioning, trying, analyzing, and communicating. (Yolanda & Suryana, 2014). In

line with this opinion according to Akromah & Rohmah (2019) The scientific approach has several stages of learning delivery starting from observing, questioning, gathering information, processing information, and communicating.

Previous research conducted by Raini (2021) shows that learning that applies a scientific approach with a project-based learning model can improve student learning outcomes as indicated by an increase in the average in cycle I of 71.00 increasing in cycle II to 79.67. Supported by opinion of Banawi (2019) project-based learning strategies increase creativity (mindset and work) and learning outcomes (cognitive, affective, and psychomotor) of students.

Based on the results of interviews with the principal of TK Pertiwi 14. 13. 18 Seliling, the school has not included personal safety skills in the lesson plan. This causes a lack of understanding of children about personal safety skills. Based on the results of observations, there are still many students at TK Pertiwi 14. 13. 18 Seliling who do not know the limits in touching friends' body parts when playing. Therefore, research will be conducted at TK Pertiwi 14. 13. 18 Seliling to determine the effectiveness of the application of project-based learning with a scientific approach to increase understanding of personal safety skills for children aged 5-6 years.

METHODS

This research uses a quantitative approach with the Pre-Experimental Design method. Pre-experimental design is not a real experiment because there are still external variables that contribute to the formation of the dependent variable. So, the dependent variable is not only influenced by the independent variable because there is no control variable and the sample is not randomly selected (Sugiyono, 2019). The technical design used is One-Group Pretest-Posttest Design so that the results of the treatment can be known more accurately, because it can compare with the situation before being treated.

The independent variable in this study is the application of project-based learning with a scientific approach. The dependent variable of this study is the understanding of personal safety skills.

Population is a generalization area consisting of objects or subjects that have certain quantities and characteristics chosen by researchers to study and then draw conclusions (Sugiyono, 2019). The population in this study were all students of TK Pertiwi 14.13.18 Seliling.. Based on information obtained from the principal, the number of students in Pertiwi 14.13.18 Seliling Kindergarten is 25 students. Meanwhile, a sample is part of the quantity and characteristics possessed by the population or a small part of the population members taken in a certain way so that they can represent the population (Sodik & Siyoto, 2015). Sugiyono (2019) argues that research with a population below 100 should use all members of the population as samples as subjects to be studied or called a census or total sampling. This study will use a census or total sampling technique because the population is less than 100 children. The sample of this research is all children aged 5-6 years at TK Pertiwi 14.13.18 Seliling as many as 25 students.

Data collection techniques are oral tests and documentation. Oral tests were conducted twice, namely during the posttest and pretest. Documentation in this study is in the form of photos during treatment as research support.

The results obtained were then analyzed using the Paired Sample T-Test test in order to make a decision to accept or reject the hypothesis. Then analyzed using the N-Gain test to see the effectiveness of the application of project-based learning with a scientific approach to increasing understanding of personal safety skills for children aged 5-6 years at TK Pertiwi 14.13.18 Seliling.

RESULT AND DISCUSSION

This research was conducted at TK Pertiwi 14.13.18 Seliling, Alian District, Kebumen Regency, Central Java from July to August 2024. The sample in this study were kindergarten B students at TK Pertiwi 14.13.18 Seliling, totaling 25 children. The research began by seeking information through interviews and observations at school to find out what materials would be implemented in teaching and learning activities and the condition of children's understanding of personal safety skills. The results of the information obtained show that the material about Personal Safety Skill is not yet in the lesson plan and the lack of understanding of personal safety skills is indicated by children not knowing the limits in touching a friend's body when playing. According to data from the Online Information System for the Protection of Women and Children (Simfoni PPA), Kebumen district is one of the districts categorized in the top 10 districts with the highest rate of child sexual abuse out of 35 districts in Central Java Province. There were 31 cases of child sexual abuse in Kebumen district in 2023. The increase in cases of child sexual abuse every year is clear evidence of children's lack of knowledge about sexual education, which they should have obtained early on from their parents (Solehati et al, 2022). Therefore, it is necessary to provide material about personal safety skills to increase understanding of personal safety skills for children aged 5-6 years.

The next step is to carry out a pretest which aims to determine and measure the initial level of understanding of the experimental group. After obtaining the pretest score, then the treatment is given. The provision of treatment is carried out through the application of project-based learning with a scientific approach in learning about personal safety skill material. The provision of treatment was carried out after circle time until break time and was carried out 12 times. The series of treatments given are as follows:

Table 1. Treatment Series

Project Stages	Scientific Approach (5M)	Project Based Learning Syntax	Day Sequence
Beginnings	Observing	Project definition/problem presentation	1
	Inquire	Planning and steps to complete the project can be done through experiments.	
	Gathering information	Preparation of project implementation schedule	
Development	Associating	Project completion with teacher facilitation and monitoring.	2 - 11
Conclusion	Communicating	Project preparation and presentation. Evaluation of the project process and results.	12

The last step taken is the posttest to measure the level of understanding of children's personal safety skills after treatment through the application of project-based learning with a scientific approach in learning about personal safety skill material.

he results obtained in this study are:

Table 2. Descriptive Analysis Results

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Pretest	25	14	22	19.16	2.075
Posttest	25	23	29	26.84	1.795
Valid N (listwise)	25				

The data in the table above shows the results of descriptive analysis of 25 respondents. From the table above, it is known that the pretest results show the acquisition of the lowest (minimum) value of 14 and the highest (maximum) value of 22. Furthermore, for the posttest results, the lowest (minimum) value is 23 and the highest (maximum) value is 29. The level of understanding of personal safety skills of children before being given treatment (treatment) obtained an average (mean) value of 19.16 and after being given treatment through the application of project-based learning with a scientific approach to personal safety skill material, the average (mean) value of children increased to 26.84.

Descriptive data is used to categorize data based on scores which are divided into 4 parts, namely very high, high, low, and very low. The following is the pretest score categorization data from the level of understanding of personal safety skills for children aged 5-6 years at Pertiwi 14.13.18 Seliling Kindergarten:

Table 3. Pretest Categorization of Level of Understanding of Personal Safety Skill for Children 5-6 Years of Age TK Pertiwi 14.13.18 Seliling

No.	Category	Interval Value	Frequency	Percentage (%)
1	Very Low	14-17	5	20%
2	Low	18-21	18	72%
3	High	22-25	2	8%
4	Very High	26-29	0	0%

The results of the pretest categorization table show that of the 25 children, the number of children who have a very low level of understanding of personal safety skills is 5 children or 20% with a value range of 14-17. Furthermore, children with a low level of understanding of personal safety skills are 18 children or 72% with a value range of 18-21. Children with a high level of understanding of personal safety skills are 2 children or 8% with a score range of 22-25. While children with a very high level of understanding of personal safety skills with a value range of 26-29 are 0 or 0%.

The following are the results of the pretest value distributor of the level of understanding of personal safety skills for children aged 4-5 years in the form of a pie chart:

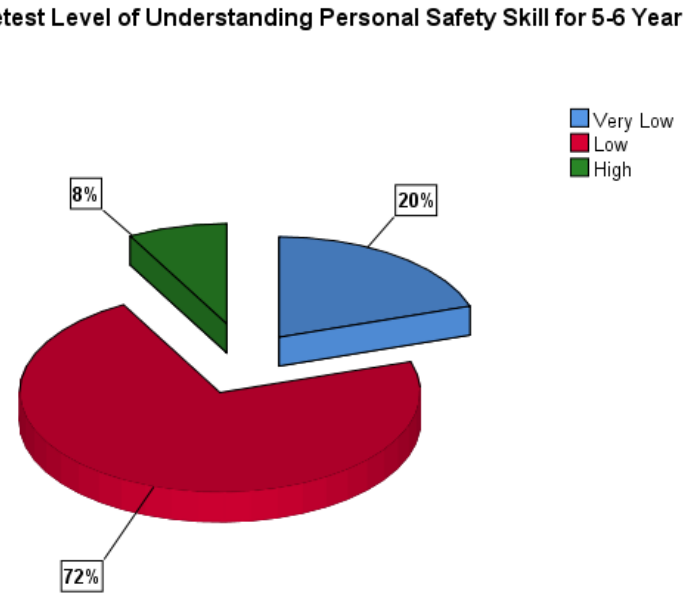

Fig. 1. Diagram of Pretest Results of Understanding Level of Personal Safety Skill for 5-6 Year Old Children at TK Pertiwi 14.13.18 Seliling

Based on the distributor diagram of the level of understanding of personal safety skills of children aged 5-6 years before being given treatment, it can be concluded that children in Pertiwi 14.13.18 Seliling Kindergarten have an understanding of personal safety skills in the very low category 20%, low category 72%, and high category 8%.

Categorization of posttest scores from the level of understanding of personal safety skills of children aged 5-6 years after getting treatment (treatment) on personal safety skill material through the application of project-based learning with a scientific approach as follows:

Table 4. Posttest Categorization of Level of Understanding of Personal Safety Skill for 5-6 Year Old Children TK Pertiwi 14.13.18 Seliling

No.	Category	Interval Value	Frequency	Percentage (%)
1	Very Low	14-17	0	0%
2	Low	18-21	0	0%
3	High	22-25	6	24%
4	Very High	26-29	19	76%

The results of the posttest categorization table show that out of 25 children, the number of children who have a very low level of understanding of personal safety skills is 0 children or 0% with a score range of 14-17. Furthermore, children with a low level of understanding of personal safety skills are 0 children or 0% with a value range of 18-21. Children with a high level of understanding of personal safety skills are 6 children or 24% with a score range of 22-25. Furthermore, children with a very high level of understanding of personal safety skills with a value range of 26-29 are 19 or 76%. From these results, the level of understanding of personal safety skills after being given treatment through the application of project-

based learning with a scientific approach has increased, namely for the high category 24%, very high 76%, low 0%, and very low 0% of the total number of respondents 25 children.

The following are the results of the posttest value distributor for the level of understanding of personal safety skills for children aged 4-5 years in the form of a pie chart:

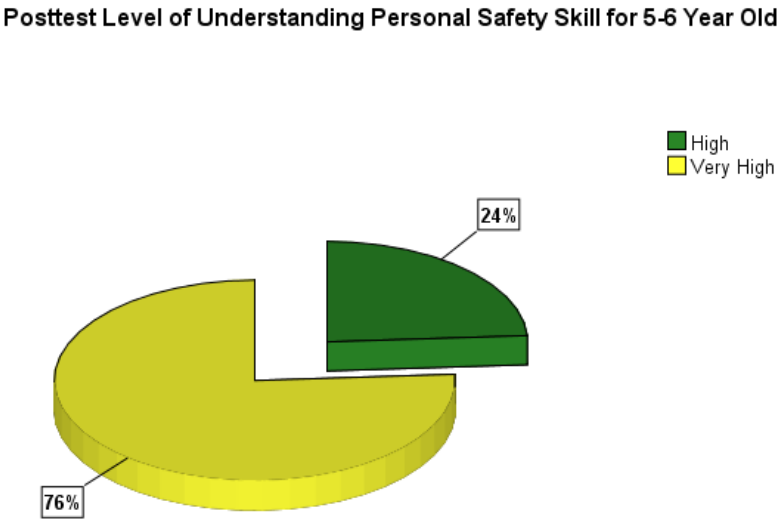

Fig. 2. Diagram of Pretest Results of Understanding Level of Personal Safety Skill for 5-6 Year Old Children at TK Pertiwi 14.13.18 Seliling

Based on the distributor diagram of the level of understanding of personal safety skills of children aged 5-6 years after being given treatment, it can be concluded that children in TK Pertiwi 14.13.18 Seliling have an understanding of personal safety skills in the high category of 24% as many as 6 children and a very high category of 76% as many as 19 children.

Judging from the pretest-posttest score category, it can be concluded that the average score of efforts to increase understanding of personal safety skills of children aged 5-6 years through the application of project-based learning with a scientific approach at the time of the posttest is higher than the average pretest score or there is an average increase. The data shows that the application of project-based learning with a scientific approach increases the understanding of personal safety skills of children aged 5-6 years at TK Pertiwi 14.13.18 Seliling.

Furthermore, a normality test is carried out to determine whether the data is normally distributed or not using the Shapiro-Wilk test.

Table 5. Normality Test Results

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	df	Sig.
Pretest	.177	25	.042	.923	25	.060
Posttest	.141	25	.200*	.920	25	.053

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Based on the results of the Shapiro-Wilk normality test, the pretest significance value was 0.60> 0.05 and the posttest significance value was 0.053> 0.05. That is, it can be said that the significance value of the pretest and posttest data is normally distributed. Thus, the data on the level of understanding of personal safety skills for children aged 5-6 years at TK Pertiwi 14.13.18 Seliling comes from normally distributed population data.

Normally distributed data is then used to conduct hypothesis testing using Paired Sample T-Test with the following results:

Table 6. Paired Samples Test Results

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	pretest - posttest	-7.680	1.215	.243	-8.182	-7.178	-31.600	24	.000

In the Paired Sample T-Test calculation, the basis for decision making is based on the significance value (sig), Ho is rejected and Ha is accepted if the significance value (2- tailed) < 0.05. Meanwhile, Ho is accepted and Ha is rejected if the significance value (2- tailed) > 0.05. Based on the table of Paired Sample T-Test test results, the test results obtained a significance value (2-tailed) of 0.000 <0.05, so Ho is rejected and Ha is accepted or the data is said to be effective. This means that there is a significant difference in increasing the understanding of personal safety skills for children aged 5-6 years at TK Pertiwi 14.13.18 Seliling after treatment through the application of project-based learning with a scientific approach.

Table 7. Paired Samples Statistics

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pretest	19.16	25	2.075	.415
	posttest	26.84	25	1.795	.359

Based on the table above, the average understanding of personal safety skills of children before and after the application of project-based learning with a scientific approach is from 19.16 to 26.84 so that there is an increase of 40.08%. From the data above, it can be concluded that the application of project-based learning with a scientific approach has an effect on increasing the understanding of personal safety skills of children aged 5-6 years at TK Pertiwi 14.13.18 Seliling.

Furthermore, the N-gain test was conducted to determine the effectiveness of the application of project-based learning with a scientific approach to increasing understanding of personal safety skills for children aged 5-6 years at TK Pertiwi 14.13.18 Seliling.

Table 8. Results of the Effectiveness Test of the Application of Project Based Learning with a Scientific Approach to Increasing Understanding of Personal Safety Skills for 5-6 Year Old Children at TK Pertiwi 14.13.18 Seliling

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
NGain	25	.50	1.00	.8004	.15000
NGain_presentation	25	50.00	100.00	80.0444	14.99982
Valid N (listwise)	25				

Table 9. Hake Effectiveness Categorization

Percentage (%)	**Interpretation**
< 40	Ineffective
40 - 55	Less Effective
56 - 75	Effective Enough
>76	Effective

Based on the results of the N-Gain test, the N-Gain value of 80%> 76% is an effective criterion based on the N-Gain effectiveness criteria according to Hake. So it can be concluded that the application of project-based learning with a scientific approach is effective for increasing the understanding of personal safety skills for children aged 5-6 years at TK Pertiwi 14.13.18 Seliling.

The results of the study are in line with research conducted by Raini (2021) shows that learning that applies a scientific approach with a project-based learning model can improve student learning outcomes as indicated by an increase in the average in cycle I of 71.00 increasing in cycle II to 79.67. Supported by the opinion of Banawi (2019) project-based learning strategies increase creativity (mindset and work) and learning outcomes (cognitive, affective, and psychomotor) of students. Then Desi Murniati Siregar et al (2022) in their research stated that project-based learning is effective for increasing students' learning motivation and learning outcomes with an achievement of 93% at TK Negeri 1 Air Merah and 100% at TK Character And Education Center (CEC). Supported by the opinion of Sari (2018) said that project-based learning can increase motivation, because in learning it goes through several processes that encourage students to think more creatively. This is also in line with the principle of the scientific approach, namely learning with a scientific approach can increase children's learning motivation and teacher teaching motivation (Suryana, 2017).

Project-based learning is a teaching approach based on learning activities and real tasks that provide challenges for students to solve in groups with topics related to everyday life (Brandon Goodman & J Stiver in Ningsih et al 2022). Supported by the opinion of Agustina (2021) project based learning is a learning method motivated by Constructivism Theory which provides many opportunities and freedoms for students to create a more active and interesting learning environment. Project-based learning is a learning activity that is carried out by providing projects in the form of challenges or problems that require children to solve these challenges or problems by making or creating an idea, idea, or a work product. The syntax of project-based learning is as follows: (1) presentation of the problem, (2) making a plan, (3) preparing a schedule, (4) monitoring the making of the project, (5) conducting an assessment, and (6) evaluation (Sani, 2015).

The application of project-based learning can be used together with the scientific approach because the syntax of project-based learning is closely related to the research stages. This is in line with the steps in the scientific approach, which is a learning process that requires students to act like a scientist

(M. A. Umar, 2017). Supported by the opinion of Banawi (2019) which states that the five stages of the scientific approach can be synergized with the syntax of project-based learning.

The definition of the scientific approach itself is a learning approach that contains the components of the learning process, namely observing, questioning, trying/collecting information, reasoning/associating, and communicating (Munastiwi, 2015). These components will later be synergized with project-based learning syntax. The principles of the scientific approach in learning activities are child-centered learning; learning forms students' self-concept; learning avoids verbalism; learning provides opportunities for children to assimilate and accommodate concepts, laws, and learning principles; learning encourages the improvement of children's thinking skills; learning increases children's learning motivation and teacher teaching motivation (Suryana, 2017).

The application of project-based learning with a scientific approach is the right learning approach to take because it is in accordance with the characteristics of children. In line with this opinion, according to Macdonell, project-based learning is considered a student center-based approach that is in accordance with the characteristics of early childhood (Ningrum et al, 2021). The characteristics of early childhood are egocentric, have great curiosity, are social creatures, are unique, usually rich in fantasy, have short concentration or difficulty focusing, and are the most potential learning period (Asfuri, 2020).

Project-based learning with a scientific approach can be applied to improve children's understanding of personal safety skills. Personal safety skills also known as personal safety skills are a set of skills that must be mastered by children in order to maintain their own safety and avoid acts of sexual violence (Bagley & King in N. M. Umar et al, 2018). In line with this theory, according to Hasanah et al (2019) personal safety skills are efforts to improve children's safety skills that must be mastered by children with the aim of reducing the risk of children becoming victims of sexual violence by increasing children's skills in protecting themselves, including children being able to distinguish appropriate and inappropriate touches, knowing various kinds of information for personal safety in various places, recognizing ways to find encouragement that can protect personal safety, and recognizing habits that can be done to protect personal safety.

In line with the above opinion, according to Miltenberger et al (2015) sexual harassment prevention skills/personal safety skills that must be shown by a child to stay safe consist of recognize, avoid, escape, and report. In this case the child can take action in the form of :

1) Saying "no" as a response to the temptation of sexual abuse. Saying "no" is important because it allows the child to avoid contact by firmly refusing to engage in the inappropriate actions the perpetrator is asking for.
2) Staying away from the perpetrator. Staying away is important because it keeps the child away from the perpetrator and makes it less likely that the perpetrator can use violence or other measures (e.g. persuasion, bribery or threats) to get the child to comply.
3) Telling a trusted adult about a dangerous incident. Telling a trusted adult about a dangerous incident is important so that the adult can take action to ensure the child is safe from the sex offender.

The application of project-based learning with a scientific approach on personal safety skills material makes children gain an understanding of self-protection skills through a meaningful and child-focused learning process. Children will do problem solving in groups by producing work or projects at the end of learning. In the process of completing the project, children will go through the process of observing, questioning, gathering information, reasoning, and communicating the results of the work.

The increase in understanding of children's personal safety skills is assessed by children's understanding of the 3 components of personal safety skills according to Bagley & King in N. M. Umar et

al (2018), namely recognize, resist, and report. Recognize is the child's ability to recognize which parts of the body can be touched and cannot be touched by others. Then, children are also taught who has the right to touch body parts that should not be touched, for example parents during certain situations such as bathing and doctors when examining. Resist is the child's ability to survive in dangerous conditions such as daring to refuse by saying "no", "stop", running for help or telling others. Report is the ability of children to report sexually unpleasant behavior they experience from other people or adults and be open to their parents or trusted people.

Based on the discussion, it can be understood that the application of project-based learning with a scientific approach greatly influences the increase in understanding of personal safety skills for children aged 5-6 years at TK Pertiwi 14.13.18 Seliling. This can be seen through the results of increasing children's understanding of which parts of the body can be touched and cannot be touched by others and children also understand who has the right to touch parts of the body that should not be touched, namely parents during certain situations such as bathing and doctors when examining. Then children understand what to do when facing dangerous situations such as refusing, screaming, running, and finally reporting or telling trusted people.

CONCLUSION

Based on the results of the study, it can be concluded that the application of project-based learning with a scientific approach is effective in increasing the understanding of personal safety skills for children aged 5-6 years at TK Pertiwi 14.13.18 Seliling. This can be seen from the results of statistical calculations after the treatment was obtained by calculating the Paired Sample T- Test with the help of the IBM SPSS Statistic version 25 program, namely the sig value (2-tailed) which is 0.000 <0.05, so Ho is rejected and Ha is accepted. This means that there is an effectiveness of the application of project-based learning with a scientific approach to increasing the understanding of personal safety skills for children aged 5-6 years at TK Pertiwi 14.13.18 Seliling. Then from the results of the N-Gain test, the results obtained were 80%> 76% so that based on the effectiveness category according to Hake, it is categorized in effective criteria. The components of understanding personal safety skills that increase are recognize, resist, report.

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