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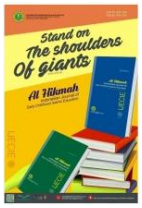

Implementation of The Pancasila Student Profile Strengthening Project (P5) Based on The Lilian Katz Model to Improve School Readiness of 5-6 Year Old Children

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ABSTRACT

School readiness is an important aspect of early childhood education because it lays the foundation for their success in the next level of education. Children aged 5–6 years are in a period of rapid development, both cognitively, linguistically, socially-emotionally, and motorically. However, learning practices in early childhood education tend to be conventional and focused on routine activities, leaving little room for children to explore, collaborate, and learn contextually. This study aims to analyze the implementation of P5 based on Lilian Katz's model in improving the school readiness of 5-6-year-old children. The method used is a quasi-experiment with a pretest-posttest control group design, involving 30 children as the experimental group and 15 children as the control group. The experimental group received project-based learning using the Lilian Katz model, while the control group used conventional methods. The research instrument was a child development assessment questionnaire covering aspects of cognition and general knowledge, language, social-emotional, physical motor skills, and learning approaches. The data were analyzed using the N-Gain Score test. The results showed that the experimental group obtained an average N-Gain of 0.76 (high category), while the control group obtained 0.63 (medium category). These findings indicate that project-based learning using the Lilian Katz model is more effective in holistically preparing children to enter primary education. Thus, the Lilian Katz model in P5 can be an innovative learning strategy to improve the school readiness of early childhood.

INTRODUCTION

Children's readiness or unreadiness for school is influenced by family and school. In the UNESCO document, The Contribution of Early Childhood Education to a Sustainable Society, it is stated that families, as children's first educators, have a very large influence in directing children's attitudes, values, behavior, habits and skills (Gjelaj, 2013) . Based on data from the Central Statistics Agency (BPS) from 2020 to 2024, children's school readiness in Indonesia shows quite good achievements, especially at the elementary education level. The School Participation Rate (APS) for children aged 7-12 years is consistently above 99%, reflecting almost equal access to basic education for children throughout Indonesia (Nurhanifa & Pujiastuti, 2020) . However, participation begins to decline at the senior high school level (ages 16-18 years), which although has increased from year to year, is still in the

range of 72-75%. This shows the challenges in maintaining the continuity of adolescent education, the importance of non-academic readiness, such as aspects of parenting, health, and the family environment in supporting children's transition to formal education.

According to William H. Kilpatrick, school readiness is a condition in which a child has a good balance in cognitive, social, emotional, and physical development, adapting to a formal educational environment (Knoll, 2012) . School readiness is the result of a balanced integration between the three aspects. Each aspect is interrelated and important to ensure that children can adapt and succeed in the school environment. Effective early childhood education must pay attention to children's development holistically, providing the necessary support for each aspect of school readiness. (Agustin et al., 2023) . This involves collaboration between parents, teachers, and the community to create a learning environment that supports children's development (Ramadhini & Nasution, 2022) . School readiness involves a child's ability to use language effectively in academic and social contexts. "Language is the primary tool children use to think, communicate, and learn (Karpov, 2003) . School readiness, in Dewey's view, is not only about academic ability, but also about a child's ability to interact with the environment and develop the social and emotional skills needed to succeed in school (Wasitohadi, 2014) . According to Vygotsky, school readiness depends not only on a child's academic ability, but also on their social and emotional abilities. Vygotsky emphasized the importance of social interaction in children's cognitive development, known as the "Zone of Proximal Development" (ZPD) theory (Fani & Ghaemi, 2011) .

Based on the explanation, it can be concluded that school readiness is a child who has a good balance in cognitive, social-emotional, and physical motor development. This concept emphasizes the importance of a holistic approach in early childhood education, where a child's success in a formal education environment is greatly influenced by the balance of all aspects of development. School readiness is not only determined by academic ability, but also by the child's social-emotional abilities, and language skills. Therefore, collaboration between parents, teachers, and the community is needed to create a learning environment that supports optimal child growth and development towards comprehensive school readiness.

The dimensions of school readiness according to ("School Readiness: National Education Goals Panel Definition and the Essential and Coordinated Elements," 2010) are: 1. Cognition and general knowledge are two important aspects in intellectual development including abilities such as thinking, understanding, remembering, and solving problems, which are the basis for learning and adapting to the environment (Fardiah et al., 2019) . Meanwhile, general knowledge is a collection of information about a field obtained through education, experience, and social interaction, which supports understanding and the ability to communicate broadly (Hanafy, 2014) . Both complement each other in forming individuals who think critically, are able to make the right decisions, and can actively participate in social and academic life. 2. Language and communication development is a gradual process that is very important in child development. This ability develops through social interaction, environmental stimulation, and daily experiences. The support of parents and teachers through activities such as talking, reading stories, and playing plays a very important role in

optimizing children's language and communication skills (Pan et al., 2019) . 3. Children's social and emotional development is very important to shape their personality, ability to interact, and readiness to face the outside environment such as school. With the support of a positive environment, children can grow into individuals who are confident, empathetic, and able to build social relationships (Nurmalitasari, 2015) . 4. An effective learning approach considers various important aspects of the child, including enthusiasm for learning, adaptability, persistence, attention, and creativity. In addition, learning styles that include curiosity, perseverance, reflective ability, and imagination are important factors in supporting children's involvement in learning. (Pan et al., 2019) .

Based on preliminary research data conducted by researchers in the field regarding the problem of school readiness in PAUD institutions, data was obtained; In the problem of cognition and general knowledge, there are still many children in PAUD institutions who are unable to understand basic concepts such as shapes, colors, numbers, and sequences. This is due to the lack of child-centered learning stimulation and minimal active involvement in learning (Papalia et al., 2009) . In the problem of language and communication development, many children are not yet able to communicate effectively, both in conveying ideas and understanding teacher instructions (Karpov, 2003) . In the problem of social and emotional development, many children are not yet able to regulate emotions, cannot work together with friends, and are not used to following rules and routines (Santrock, 2019) . In the problem of learning approaches, which are applied in PAUD institutions are also one of the factors that influence children's readiness. Several institutions still apply an academic-oriented approach, such as reading, writing, counting, without paying attention to the needs and characteristics of early childhood development. (Johnson, 2018)

The Pancasila Student Profile Strengthening Project (P5) is one of the important innovations in curriculum development in Indonesia which is aimed at shaping the character of students at the Early Childhood Education (PAUD) level (Arna & Fathul, 2024) .Through (P5) it becomes a strategic means to introduce and instill the noble values of Pancasila through fun and meaningful project-based learning activities. The main goal is not to measure academic achievement, but to strengthen the foundation of children's character through concrete learning experiences that are relevant to their lives (Sari & Malik, 2024) . The implementation of P5 is associated with the six dimensions of the Pancasila Student Profile: faith and devotion to God Almighty, global diversity, mutual cooperation, independence, critical thinking, and creativity. P5 activities are designed according to the developmental stages of early childhood, prioritizing the process over the results (Cahyaningrum & Diana, 2023) .

The implementation of the Pancasila Student Profile Strengthening Project (P5) in PAUD institutions provides space for children to explore their interests and curiosity, build healthy social interactions, and foster a caring attitude towards the environment and others. Through this approach, children learn to work together, manage emotions, solve simple problems, and express their creativity. The entire process becomes a means of internalizing character values in the context of real life, not just memorizing concepts (Maruti et al., 2023)

Project-based learning provides children with the opportunity to learn through exploration that not only supports cognitive development but also trains social and emotional skills (Faridy & Rohendi, 2022) . The project learning method comes from John Dewey's idea of the concept of " Learning by doing ", namely the process of obtaining learning outcomes by carrying out certain actions according to their goals, especially the process of children's mastery of how to do a job that consists of a series of behaviors to achieve goals (Hasanah, 2018) . Project learning in PAUD institutions using this project method is expected to be able to develop children's abilities in solving problems faced, being able to complete their responsibilities (Ulfa, 2020).

In project learning there are various models that can be used, one of the models that is often used is the Lilian Katz model, a project is learning carried out by a group of children, or the whole class, or by one child. Project learning is carried out through a process of investigation into various aspects of topics that are of interest to students (Prabawati & Ambara, 2022).

The Lilian Katz model uses 3 phases, namely: phase 1 starting a project that begins with choosing a project topic obtained in two ways, namely suggestions from educators or based on children's interests and talents by planning field visits and conducting field visits. In this phase 2, the teacher reviews the backup plan and children's understanding to link concepts and skills, after which prepares field work and expert visits. The teacher conducts an investigation by visiting the project site or location, discussing with visitors and experts. Then, check the tools and materials to carry out the research. Representing what has been learned through writing, drawing, construction, dance, and role playing. Phase 3 Reflection by making Presentations, Project Shows and carrying out recalling projects that have been worked on.

As an innovation effort, the government launched the Pancasila Student Profile Strengthening Project (P5), which aims to instill Pancasila values from an early age through project-based learning (Arna & Fathul, 2024). P5 in early childhood education is directed at the process of exploration, collaboration, and character building in children in accordance with their stage of development (Cahyaningrum & Diana, 2023). Several studies show that project-based learning supports children's cognitive, social-emotional, and creative development (Faridy & Rohendi, 2022). However, previous studies have emphasized the effectiveness of P5 at the elementary and secondary school levels, while in-depth studies on the application of P5 based on Lilian Katz's model in PAUD are still limited. This is the gap in this study.

Based on the above description, this study is important to discuss because it can provide empirical contributions regarding the implementation of P5 based on Lilian Katz's model in improving the school readiness of early childhood. This study aims to analyze the effect of implementing project-based learning using Lilian Katz's model in P5 on the school readiness of 5-6-year-old children, covering aspects of cognition, language, social-emotional, physical motor skills, and learning approaches.s

METHODS

This study uses a quantitative approach with a *quasi-experimental design of the non-equivalent control group design* type. In this design, the researcher involved two groups, namely the control group and the experimental group, each of which was given a pretest and posttest to measure changes in learning outcomes after treatment. By involving 2 different institutions, namely the experimental group was given treatment in the form of innovative learning based on the Lilian Katz model, while the control group used conventional learning methods (Mutiara et al., 2021) . Measurement of school readiness of children aged 5-6 years, which includes aspects of cognition and General Knowledge, Language Development, Social-Emotional Development, Physical Motor Development and Learning Approaches (Sylvi et al., 2024) was carried out before and after the implementation of project-based activities Strengthening the Pancasila Student Profile (P5) with the Lilian Katz project learning model, using instruments that have been tested for validity and reliability.

Data collection techniques were carried out through pretests and posttests designed to measure children's achievements in five main aspects of school readiness, namely cognition and general knowledge, language, social emotional, physical motor, and children's learning approaches (Azzahra & Siregar, 2024) . In addition, documentation was used to collect administrative data and learning activities during the treatment. (Ahmad et al., 2023). In addition, a child development assessment questionnaire was used with development achievement indicators with the categories BSB (Developing Very Well), BSH (Developing According to Expectations), MB (Starting to Develop), and BB (Not Yet Developing) to assess children's development achievements .

The data obtained were analyzed using the N-Gain Score formula, namely by comparing the difference in posttest and pretest scores, then calculated based on the maximum potential for improvement. The N-Gain value is categorized into three levels, namely high (N-Gain> 0.7), medium (0.3 <N-Gain ≤ 0.7), and low (N-Gain ≤ 0.3), as stated by Hake. The analysis was carried out descriptively quantitatively to describe the difference in learning outcomes between the control and experimental groups after the intervention.
The following Lilian Katz Project Learning Method can be carried out through 3 phases, namely:

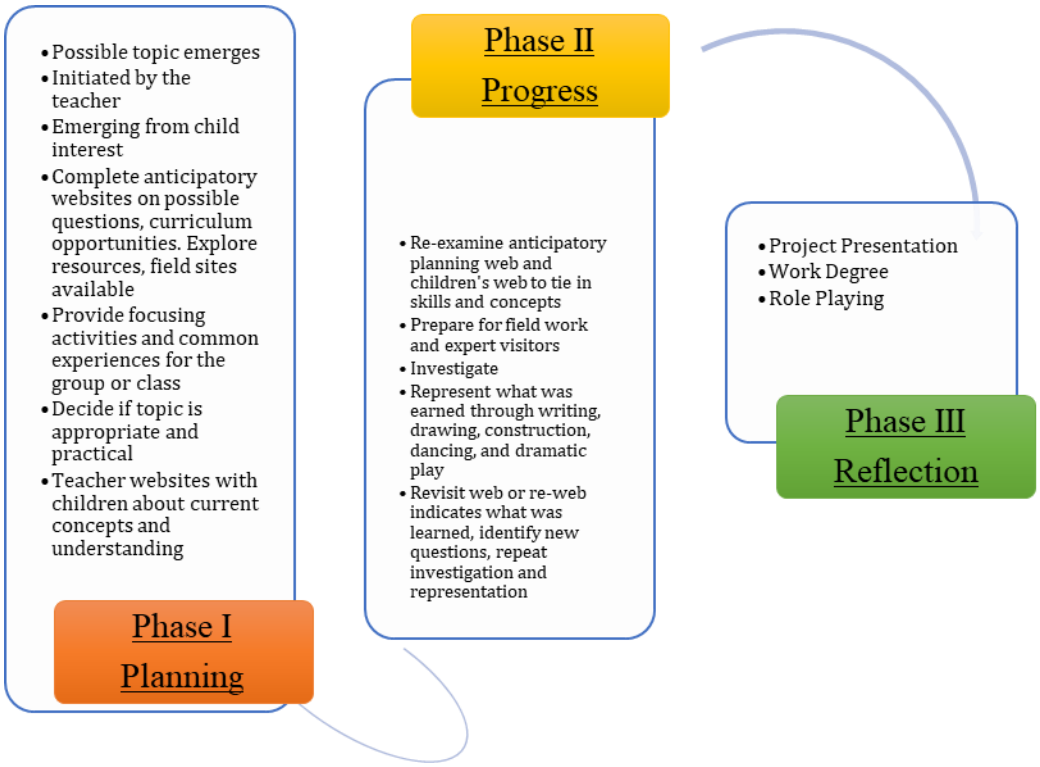


Figure 1Lilian Katz Model Flowchart

Based on the image above, it can be concluded that the three-phase project method is:

a. Phase I

The first phase in the project learning method begins with the selection of a topic, either from the teacher's suggestion or based on the child's interests. Once the topic is determined, the teacher compiles a list of exploratory questions and ensures that it is in line with the curriculum. The teacher also looks for a visit location, which can involve parents in the process, and plans the main activities of the project. The topic is selected based on the child's level of interest, consistency of purpose, and feasibility of implementation. If the topic meets the criteria, the teacher discusses with the child about the concept to be learned and re-compiles the list of questions to support the investigation process.

b. Phase II

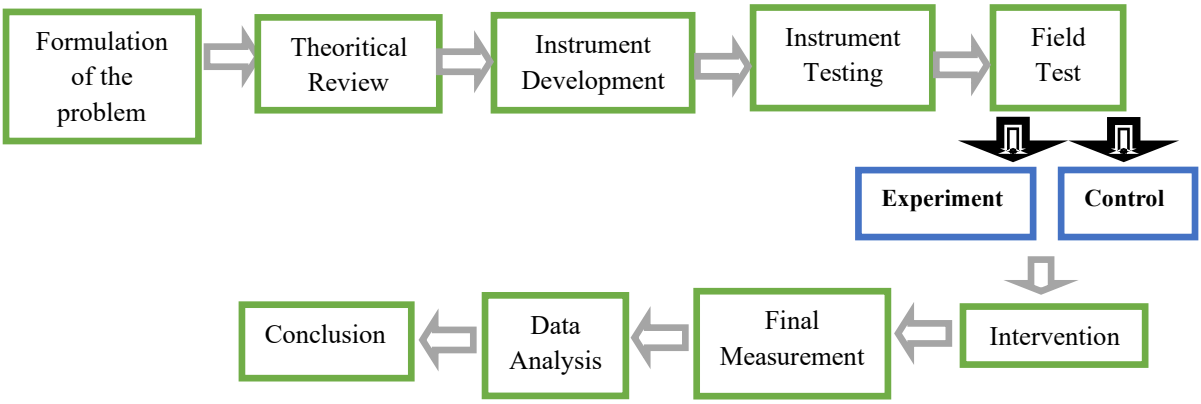
In the second phase, the teacher reviews the backup plan and the child's understanding to connect concepts and skills. The teacher prepares field activities, including visits to project sites and meetings with experts. During the investigation, the child makes direct observations, discusses, and uses tools and materials for research. Learning outcomes are represented through various means such as writing, drawing, construction, dancing, and role-playing. The teacher then reviews the results, identifies the learning that has been achieved, formulates new questions, and continues the investigation and the next representation.

c. Phase III

The third phase, the teacher reviews the entire project process. The teacher plans a final activity where children can share information and experiences gained during the project. Children are encouraged to retell their experiences, while the teacher evaluates the achievement of learning objectives (Katz & Chard, 2000).

Based on several opinions, it can be concluded that the stages of project learning include determining the theme, explaining the implementation rules, preparing tools and materials, implementing the project, assessing the results, and evaluating the child's learning experience.

Research Design Flow



Variable X	Variable Y
Lilian Katz Model-Based P5 Project	School Readiness

Figure 2Research Design Flow

Figure 3 Independent Variables and Dependent Variables

This study is included in the design of experimental and control groups where children's school readiness is measured through pretest and posttest activities. In the experimental group when learning using the Lilian Katz method with P5 activities, while the control group uses conventional methods. The following is the group design according to Sugiyono:

01	**X**	**02**
03		**04**

Figure 1Pretest-Posttest Research Design

Information :

O1 = Pretest experimental group

O2 = Pretest Control Group

X = Treatment using the model (Learning

Lilian Katz Model Project)

O3 = Posttest of experimental group

O4 = Posttest control group

The questionnaire assessment is:

Table 1. Questionnaire Assessment

Answer	Score
Undeveloped Stage	1
Stages of Beginning to Develop	2
Growing As Expected	3
Developing Very Well	4

The following is the Ngain Score test formula in (Meltzer, 2002)

$$\text{N-gain} = \frac{\text{Post-Test Score} - \text{Pre-Test Score}}{\text{Ideal Score} - \text{Pre-Test Score}}$$

According to (Meltzer, 2002) there is an interpretation of the effectiveness of the N-gain Score. The following table explains the interpretation of the effectiveness of the N-gain Score.

Table 2. Interpretation of Ngain Score

N-GAIN VALUE	CATEGORY
G > 0.7	Tall
0.3 ≤ G ≤ 0.7	Currently
G < 0.3	Low

The research instrument used was a questionnaire (Wicaksana & Sanjaya, 2022) . Data collection was carried out by providing a number of statements to teachers to assess the development of children's school readiness, especially in the cognitive , language, physical motor, and social-emotional aspects during the learning process based on the Pancasila Student Profile Strengthening Project (P5) with the Lilian Katz model. This questionnaire

was designed based on school readiness indicators that have been adjusted to the research objectives. The following is a grid of school readiness instruments for children aged 5-6 years

Table 3. Grid of school readiness instruments for children aged 5-6 years

INDICATOR	SUB INDICATORS
ACADEMIC COMPETENCE	1. PJBL can improve knowledge and numeracy skills 1-10 or more
	2. PJBL can improve children's ability to recognize identity
	3. PJBL can improve children's ability to recognize letters
	4. PJBL can improve children's ability to recognize colors
	5. PJBL can improve children's ability to recognize basic geometric shapes (triangles, circles, and squares)
	6. PJBL can improve the ability to recognize the five senses
	7. PJBL can improve children's ability to recognize body parts
BASIC THINKING SKILLS (BTS)	8. PJBL can improve object classification abilities (e.g., shape, color, and size)
	9. PJBL can improve the ability to retell pictures using 4-5 story sentences.
	10. PJBL can improve the ability to understand and explain the chronology of an event.
	11. PJBL can improve distinguishing the shapes of several images.
	12. PJBL can increase awareness of the position of an object, such as: behind, in front, right, left.
SOCIAL AND EMOTIONAL MATURITY	13. PJBL can improve control of emotions such as stress, frustration and anger.
	14. PJBL can increase the display of aggressive behavior (biting, hitting, kicking, or hurting other children)
	15. PJBL can increase activities with other children.
	16. PJBL can increase sharing of toys and tools with others.
	17. PJBL can enhance the experience of sharing in play activities with peers.
	18. PJBL can improve (understanding other people's feelings) in students
	19. PJBL can improve students' ability to do schoolwork independently or with a little help.
	20. PJBL can improve students' pro-social behavior in the classroom
PHYSICAL ABILITY AND MOTOR DEVELOPMENT	21. PJBL can improve students' ability to hold a pencil correctly
	22. PJBL can improve students' fine motor skills, especially in holding objects the size of a baseball and the size of a soccer ball with two hands.
	23. PJBL can improve students' ability to cut without injuring themselves.
	24. PJBL can improve students' ability to dress/undress themselves independently

	25.	PJBL can improve the ability to use the bathroom independently.
	26.	PJBL can improve the ability to tie shoelaces independently.
SELF DISCIPLINE	27.	PJBL can increase students' attention through sitting quietly and calmly in class.
	28.	PJBL can improve students' ability to behave conducively in class (not disrupting class activities).
	29.	PJBL can improve the ability to care for class belongings.
	30.	PJBL can improve students' ability to complete tasks within the specified time.
	31.	PJBL can improve children's ability to clean up the play media that has been used.
COMMUNICATION COMPETENCE	32.	PJBL can improve children's understanding in following orientation (commands, steps) of two or more steps.
	33.	PJBL can improve the ability to express feelings in the form of words with appropriate language.
	34.	PJBL can increase eye contact between students and peers and teachers.
	35.	PJBL can improve students' ability to express feelings of respect for others (teachers and peers) using respect in the classroom, such as saying thank you and responding to other people's greetings appropriately.
	36.	PJBL can improve students' ability to listen to others and take turns speaking in conversations.
	37.	PJBL can improve the ability to express ideas, opinions, and concepts that are easily understood by others.
	38.	PJBL can improve the ability to discuss with others using complete sentences, listen and interact with others.

RESULT

The steps of the Lilian Katz Project Model have 3 phases starting with phase 1 Starting, namely 1. Topic selection; the teacher begins by observing the child's interests through activities, conversations, and objects that are often played. Next, the teacher has a light discussion with the child to explore their interests. Based on the results of observations and discussions, the teacher chooses a topic that is concrete, relevant, and appropriate to the child's developmental stage. The topic can be developed through three project phases: introduction, exploration, and compilation of results. The teacher also discusses with the team to refine the topic to suit the curriculum, and ensures the availability of supporting resources, such as tools, materials, or resource persons. 2. Exploration; The teacher plays a role in providing various resources such as pictures, books, videos, props, and relevant exploration materials. The teacher also organizes exploration activities through direct observation, experiments, interviews, or field visits. Children are encouraged to take notes, draw, or make models as a representation of their findings. In addition, the teacher facilitates group work, discussions, and recording of exploration results and provides follow-up questions to deepen the child's understanding (Souisa et al.,2024)(Katz, 1989) 3. Group Formation; The teacher

first determines the purpose of forming the group, whether to play, discuss, or carry out a collaborative project. The teacher needs to observe the characteristics, interests, and social dynamics of the children before determining the number and size of the group, which ideally contains 3-5 children. Grouping can be done based on interests, mixed abilities, or randomly to keep it fun. The teacher then explains the goals, rules, and encourages children to choose roles in the group, such as leader or tool guard, to practice responsibility and leadership. During the activity, the teacher accompanies, monitors, and provides communication support between group members. Afterwards, the teacher invites the children to evaluate and reflect on their group work process (Essa, 2019) . Phase II Progress, namely In planning play activities, the teacher begins by observing the interests and developmental needs of the children to determine the type of game that is appropriate, both based on the theme, developmental goals, and interests of the children. The teacher then provides safe and varied play tools and materials, and designs a play area that allows for free and structured exploration (Sasmita & Isnaningsih, 2023), and Phase III Reflection, namely Role Play, In designing role play activities, the teacher chooses a theme that is relevant to the child's daily life, such as a market, hospital, or fire department, which is adjusted to the interests and topics of learning. The teacher prepares supporting tools and materials, including properties and costumes, and involves children in making tools from simple materials. Before playing, the teacher explains the roles, tasks of each, and the basic rules of the game. The playroom is arranged to resemble a real situation to support children's imagination. While playing, the teacher facilitates, provides stimuli, and observes children's interactions. After the activity, a reflection is carried out with the child to deepen understanding, and documentation of the activity is prepared as part of the child's development portfolio (Pahrul & Amalia, 2020).

This study was conducted to see the development of the Pancasila Student Profile Strengthening Project (P5) based on the Lilian Katz model to improve school readiness for children aged 5-6 years. This study was conducted on two groups of children with an initial stage in the form of a pretest, which was carried out through routine learning activities that are usually implemented in schools, such as drawing or coloring activities (Rekysika & Haryanto, 2019). After that, the treatment was carried out by integrating P5-based project activities using the Lilian Katz model approach, one of which was by creating structured joint works, such as mini exhibitions or creative projects based on environmental exploration (Hamzah, Mujiwati, Khamdi, Usman, & Abidin, 2022). This project activity is designed to actively involve children in a collaborative, gradual, and fun learning process, which includes the development of cognitive, fine motor, communication, and social skills (Hamzah et al., 2022). Data from the research results were then analyzed to see the development of children's school readiness, which is displayed in the form of a maximum, minimum, average (average), standard deviation table as follows:

Table 4. Data Description

Descriptive Statistics						
	N	**Range**	**Minimum**	**Maximum**	**Mean**	**Std. Deviation**
Pre-Test Eksperimen	30	8	66	74	69,97	2,157
Post-Test Eksperimen	30	29	117	146	132,43	6,951
Pre-Test Kontrol	15	7	63	70	66,87	2,066
Post-Tesr Kontrol	15	12	116	128	120,87	4,086
Valid N (listwiswe)	**15**					

The table above shows that there was an increase in the average score between the pretest and posttest in both groups, both the experimental and control groups. In the experimental group that received treatment in the form of the development of the Pancasila Student Profile Strengthening Project (P5) based on the Lilian Katz model, the average score increased from 69,97 to 132,43. Meanwhile, the control group that was not given special treatment also increased from an average of 66,87 to 120,8. The overall average score of the experimental group remained higher, both before and after treatment. This shows that the P5 approach based on the Lilian Katz model has a positive contribution in increasing school readiness for children aged 5-6 years more optimally than the usual learning methods. Thus, this model can be an alternative effective learning strategy to be applied in early childhood education.

Table 5. N-Gain Values

NO	**NAME**	**EXPERIMENTAL CLASS**		**N-GAIN SCORE**
		Pre-Test	**Post-Test**	
1	ALT	1.82	3.29	0.67
2	AJN	1.84	3.32	0.68
3	KZ	1.79	3.34	0.70
4	GBR	1.74	3.37	0.72
5	ARK	1.84	3.26	0.66
6	ARM	1.84	3.39	0.72

7	MLQ	1.82	3.47	0.76
8	CH	1.84	3.45	0.74
9	KM	1.84	3.58	0.80
10	SM	1.82	3.42	0.73
11	ASH	1.79	3.39	0.73
12	HDL	1.82	3.37	0.71
13	HN	1.76	3.42	0.74
14	ZY	1.79	3.32	0.69
15	SCH	1.76	3.08	0.59
16	LL	1.92	3.76	0.89
17	RG	1.89	3.71	0.86
18	NFZ	1.92	3.84	0.92
19	IZ	1.87	3.74	0.88
20	MLK	1.82	3.68	0.86
21	ABBY	1.89	3.68	0.85
22	SYF	1.84	3.74	0.88
23	DVN	1.74	3.42	0.74
24	JSM	1.92	3.74	0.87
25	DJ	1.87	3.37	0.70
26	SMM	1.87	3.61	0.81
27	ZF	1.92	3.55	0.78
28	QI	1.95	3.42	0.72
29	AYS	1.82	3.39	0.72
30	ZI	1.89	3.42	0.73
	AVERAGE N-GAIN			**0.76**

Table 6. N-Gain Values

No	**Name**	**Control Class**		**N-gain score**
		Pre-Test	**Post-Test**	

1	SYW	1.74	3.21	0.65
2	AM	1.82	3.32	0.69
3	SHF	1.71	3.37	0.72
4	MH	1.79	3.34	0.70
5	KHL	1.79	3.34	0.70
6	ZDN	1.74	3.13	0.62
7	FZ	1.66	3.13	0.63
8	RSY	1.71	3.13	0.62
9	AND	1.68	3.13	0.63
10	DHM	1.79	3.08	0.58
11	KHD	1.76	3.11	0.60
12	NML	1.82	3.16	0.61
13	AZR	1.84	3.05	0.56
14	ZFR	1.74	3.13	0.62
15	ARY	1.82	3.08	0.58
	AVERAGE N-GAIN			**0.63**

Tables 5 and 6 show that the experimental group that followed the Pancasila Student Profile Strengthening Project (P5) based learning with the Lilian Katz model had a higher N-Gain value compared to the control group. The average N-Gain for the experimental group was 0.76, while the control group reached 0.63.

The percentage of results shows that the majority of children in the experimental group experienced an increase in school readiness that was in the high category, reflecting the success of the project-based learning strategy designed according to the child's interests and early experiences. Meanwhile, although the control group also showed an increase, most students were in the medium category, with an increase that was not as strong as the experimental group.

These results indicate that the P5-based approach with the Lilian Katz model is able to significantly encourage improvements in aspects of school readiness for children aged 5–6 years, both in terms of cognitive, social-emotional, and motoric. Several children in the experimental group showed high N-Gain achievements, such as students with values of 0.90 and 0.85, which indicated a positive response to active, exploratory, and reflective involvement during the project activities.

In contrast, in the control group using the conventional approach, although not completely failed, the improvements that occurred were less consistent. Some children showed progress, but many also experienced only minimal or stagnant improvements.

The average difference of N-Gain of 0.13 between the experimental and control groups indicates that the development of P5 based on the Lilian Katz model is more effective in improving children's school readiness. Thus, this approach is recommended as a relevant and impactful learning strategy in early childhood education, especially in preparing children to face the next level of education more optimally.

Based on the results of the pretest and posttest analysis of the control class (15 children) and the experimental class (30 children), a significant increase was found in all aspects of child development after the learning process took place, both individually and in groups.

Experimental Class consisting of 30 children, the average total score increased from 69.97 in the pretest to 132.43 in the posttest. The highest increase occurred in the aspects of Cognition and General Knowledge, Language, and Physical Motor, which reflects the positive impact of learning on children's thinking skills, language skills, and social abilities. This shows that the learning approach applied is effective in supporting children's overall development, both in terms of cognitive, social-emotional, motoric, and approaches to the learning process.

Meanwhile, in the control class consisting of 15 children, the average total score increased from 66.87 at the pretest to 120.87 at the posttest. Although the increase was different from the experimental class, these results still show positive developments, especially in the Cognitive, Language, and Social Emotional aspects, with an average individual increase ranging from 10 to 12 points.

DISCUSSION

Based on the results of data analysis, it is known that all aspects of children's school readiness in the experimental class showed a higher increase compared to the control class. In terms of cognition and general knowledge, the experimental class experienced an average increase from 22.67 to 41.03, with a difference of 18.36 points. In contrast, the control class only increased from 21.60 to 26.87 or 5.27 points. The significant increase in the experimental class shows that the active and real-life experience-based learning approach effectively improves children's logical and conceptual thinking skills. This is in line with the view of the 2022 Ministry of Education and Culture in (Rahmawati, Tairas, & Nawangsari, 2018)which emphasizes the importance of targeted cognitive stimulation to support academic readiness.

In the social emotional aspect, the average score of the experimental class increased from 14.27 to 27.73, while the control class only increased from 13.47 to 18.33. The increase of 13.46 points in the experimental class shows that learning strategies involving group work and social games can develop children's abilities in managing emotions and fostering social

relationships. States that good social emotional development is very important in helping children adapt to the elementary school environment (States, 2020).

Furthermore, in the physical motor aspect, the experimental class showed an increase from 10.97 to 21.20, while the control class only increased from 10.87 to 15.60. Activities that encourage motor activities such as physical play, cutting, and drawing have been shown to optimize children's motor coordination (Amelia & Aisya, 2021).

The learning approach aspect also experienced significant differences. The experimental class increased from 9.23 to 17.83, while the control class from 8.47 to 12.27. This shows that children in the experimental class have increased in perseverance, enthusiasm, and curiosity about the learning process. A learning approach that stimulates exploration and problem solving can increase children's learning motivation continuously (Azzahra, Firdaus, & Gandana, 2024).

Meanwhile, in terms of language, the experimental class increased from 12.83 to 24.63, with a difference of 11.8 points, higher than the control class which only increased from 12.20 to 17.47. Verbal interaction through stories, discussions, and role-playing in learning has proven effective in strengthening children's communication skills. Kemdikbudristek 2022 in (Rahmawati et al., 2018), stated that language skills are the main indicator of school readiness because they are closely related to the ability to understand instructions and establish social interactions.

Overall, the learning provided to the experimental class made a positive contribution to all aspects of the development of children's school readiness. This shows that learning strategies that are designed actively, participatively, and contextually not only improve learning outcomes but also shape children's overall readiness to enter elementary education. Emphasizing the importance of a holistic approach in supporting children's transition from PAUD to SD (Winayarsih et al., 2023) .

Based on the research results, it can be said that the development of the Pancasila Student Profile Strengthening Project (P5) based on the Lilian Katz model is effective in improving school readiness for children aged 5-6 years. This model provides more meaningful, contextual, and relevant learning to the needs and development of early childhood, so it can be used as an alternative strategy in early childhood education in accordance with the demands of the current curriculum.

Cognition and general knowledge are important components in early childhood school readiness which include the ability to think, understand, remember, and apply information in everyday contexts (Nafiati, 2021) . Cognitive development in children aged 5–6 years is greatly influenced by rich, interactive, and play-based learning experiences. They emphasize that cognitive aspects not only include basic logic and problem-solving skills, but also include general knowledge such as recognizing colors, shapes, numbers, letters, and understanding the world around children through exploration (Ricciardi et al., 2021). Children who receive adequate cognitive stimulation in a supportive educational environment

show better early academic performance when entering elementary school. In addition, active involvement of teachers in providing open-ended questions, encouragement for critical thinking, and opportunities for exploration through small projects are effective strategies in developing cognitive abilities and general knowledge (Mulyadi et al., 2021) .

Social emotional development in early childhood refers to the child's ability to recognize, manage emotions, establish positive social relationships, and demonstrate empathy and responsibility. According to (Denham et al., 2012), the development of children's emotions and social skills is an important foundation for academic success and psychological well-being in the future. Children who are able to manage their emotions well tend to have healthier social relationships and are able to adapt to the learning environment. Warm, responsive, and consistent interactions from adults, both teachers and parents, greatly influence children's social emotional growth (Peth-Pierce, 2000).

In the context of education in Indonesia, the importance of social emotional stimulation in the transition program from PAUD to SD, because good social emotional readiness determines the success of children in facing the structure and demands of the elementary school environment. To develop empathy, self-control, and communication skills through active social interaction (Pujianti et al., 2021) . Therefore, stimulation through role-playing activities, group discussions, and strengthening social values are very necessary in the early childhood learning process.

Physical motor development is an important aspect in early childhood growth and development which includes the child's ability to control body movements, both gross and fine. According to (Formiga & Linhares, 2020), children's motor development occurs gradually and is influenced by the interaction between biological and environmental factors, including opportunities to move and explore. The development of fine motor skills such as grasping, writing, and cutting, as well as gross motor skills such as running, jumping, and kicking, are important indicators of a child's readiness to enter elementary school (Karmila, 2022). This is in line with the PAUD to SD transition approach which encourages physical involvement as part of a complete learning experience.

The learning approach is an important foundation in designing the teaching and learning process, especially in early childhood education. Learning has criteria; how often children are enthusiastic about learning, adaptable, persistent, and attentive, children's creativity in working or playing (Pan et al., 2019). According to (Joyce & Calhoun, 2024), the learning approach is a set of strategies used to create meaningful learning experiences, in order to develop students' understanding and skills. The approach is a philosophical perspective of an educator in managing learning as a whole, including how teachers interact, deliver materials, and create a learning atmosphere (Jainiyah, Fahrudin, Ismiasih, & Ulfah, 2018). In the context of PAUD, it emphasizes that the learning approach must be holistic and oriented towards child development, by paying attention to their interests, needs, and stages of growth and development. An effective approach must be adaptive to the characteristics of students, especially children who learn through direct experience and play (Rusdawati & Eliza, 2022)

Language development is an important stage in their readiness to enter primary education. At this age, children are usually able to use complex sentences, understand longer verbal instructions, and express ideas, feelings, and experiences in a more structured way (Institute for Research on Poverty, 1995). At the age of 5 to 6 years, children have mastered around 2,000–2,500 vocabulary words and are beginning to understand grammatical rules more systematically, including the use of past tense and plural forms (Ervin & Miller, 2012). In addition, children are also able to engage in coherent two-way conversations and understand meaning in a social context. Children are accustomed to expressing opinions and actively understanding information. Early literacy at the age of 5–6 years is an important indicator of the success of primary education, because it is the foundation for the ability to read, write, and understand learning instructions. Therefore, language stimulation through stories, singing, discussions, and imaginative activities is the main strategy in supporting optimal child language development at the age of 5–6 years (Munajah & Supena, 2021).

CONCLUSION

1. Research Findings

   Based on the research results, it can be concluded that the Development of the Pancasila Student Profile Strengthening Project (P5) with the Lilian Katz model has proven effective in improving school readiness for children aged 5-6 years. The experimental group using this approach showed a higher increase than the control group, with an average N-Gain value of 0.76 (high) compared to 0.63 (moderate). Improvements occurred in all aspects of development, including cognitive, language, social-emotional, physical motor skills, and learning approaches. This proves that project-based learning involving exploration, collaboration, and reflection can support children's overall development. Therefore, the Lilian Katz model can be recommended as an innovative learning strategy in early childhood education to prepare children to enter elementary school more optimally.

2. Scientific Contributions

   Scientifically, this study contributes to the development of early childhood education studies by presenting an integration between national education policy through P5 and Lilian Katz's project approach. This contribution enriches the understanding of innovative learning strategies that emphasize process, active participation, and child involvement in learning. Thus, this research can be a reference for teachers and early childhood education practitioners in designing more contextual and holistic learning models.

3. Research Limitations

   The limitations of this study lie in its scope of implementation, which is still limited to certain educational units, so the results cannot be generalized widely. In addition, the duration of the study was relatively short, so it was not able to capture the long-term impact of the implementation of the Lilian Katz model-based P5 on children's school readiness. External factors such as parental support and the environment have not been fully researched, even though these factors also influence learning outcomes.

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