



## Play-based learning in practice: An exploration of early childhood education teacher's experiences in Yogyakarta City

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### Abstract

Playing has become an effective method to holistically stimulate various aspects of child development. However, misconceptions among early childhood education (PAUD) teachers regarding the concept of Play-Based Learning (PBL) can lead to potential malpractice. Therefore, this study aims to explore the extent of PAUD teachers' experiences in Yogyakarta City in implementing PBL. Using a survey design, this research produced both quantitative and qualitative data. Data collection was conducted with the assistance of Google Forms, targeting PAUD teachers in Yogyakarta City through random sampling (N=41) using closed, semi-open, and openended questions. Quantitative data were analyzed using descriptive statistics, and qualitative data were analyzed using thematic analysis. The results showed that 12.2% of PAUD teachers in Yogyakarta City had low experience in implementing PBL, 56.1% were in the medium category, and the remaining 31.7% were in the high category. This condition is supported by PAUD teachers' recognition that they face a challenge in needing to have broad insights. Meanwhile, four weaknesses of teachers include the various disparity of teacher's understanding of the PBL concept and three main skills that still require support to improve the quality of PBL implementation and overcome existing weaknesses. Therefore, the study recommends the need to facilitate the strengthening of PAUD teachers' skills tailored to their cluster needs in implementing PBL.

**Keywords:** early childhood; experience; teacher; play-based learning

## INTRODUCTION

Early childhood education emphasizes the importance of play in child development (Murtafiah, Sumantri, & Dhieni, 2022). Through play, children can explore ideas, build and use new understandings, identities (Hardiyanti, 2021), and experiment (Iskandar, 2021). Play is a necessity for children, as every child has a high level of curiosity. Play occurs spontaneously through interactions with others or objects around them, such as running, walking, digging in the soil, bathing, jumping, climbing trees,

drawing, or singing with full imagination (Hayati & Putro, 2021).

Learning while playing and learning through play in early childhood have the same meaning, indicating activities conducted by children with joy and without coercion, yet having patterns expected to stimulate child development (Wahyuni & Azizah, 2020). Early childhood is a period of rapid growth and development, often referred to as the golden age (Rijkiyani et al., 2022). Therefore, this period is the right and crucial time to provide education to children so they can achieve optimal physical and mental growth and development (Yusuf et al., 2023). Teachers and parents strive to provide learning experiences through an academic approach (Abror et al., 2021); however, turning children's learning outcomes into academic achievements poses a challenge for early childhood education (PAUD) teachers. This ultimately directs play practices into a structured framework to achieve academic abilities (Hardiyanti, 2021).

In the context of education, early childhood education (PAUD) teachers are expected to perform their duties professionally, which includes possessing pedagogical competence (Syarifuddin, 2020). Pedagogical competence in play refers to the teacher's ability to manage student learning and the specific skills that distinguish teachers from other professions, affecting the success and outcomes of the learning process (Roostin et al., 2022). Therefore, teachers responsible for early childhood education must integrate enjoyable approaches into the learning process (Nurdin, 2021).

However, research findings on PAUD teachers in 30 PAUD institutions in West Java Province indicate that, in practice, teachers excessively restrict and supervise children, limiting their active role in choosing play activities. This diminishes the natural inclination of children to play freely as they wish (Iskandar, 2021). This is supported by another study in Manggarai Regency, involving 20 PAUD institutions, which revealed that teachers' innovation in creating diverse play activities is still lacking. As a result, learning focuses more on academic skills such as reading, writing, and arithmetic with less engaging methods (Sum, Graciela, & Taran 2020). These teaching practices indicate a misunderstanding or even incorrect perception of play-based learning.

Various studies have shown that play has many benefits for child development. The application of PBL by adults in school, home, and surrounding environments can facilitate significant child language development because it is fun (Anggraini et al., 2023). Children's expressive language can be stimulated through play activities, such as role play (Yuniati & Rohmadheny, 2020; Sriami, Haryono, & Muntommimah, 2021).

Children who speak fluently have good expressive language skills, starting with good capture and understanding skills (Hoar, 2022).

In addition to language development, PBL is also proven to stimulate children's cognitive abilities, such as the ability to think, understand, explore in finding solutions to various problems (Kadir et al., 2024). Supported by media, such as colourful balls, can also help stimulate children to recognize colours (Nurwahidah et al., 2023), comprehensive games (Tatminingsih, 2019), and Montessori math games (Putri & Dewi, 2020). It can be said that playing through game activities and media support can help stimulate children's language development well..

Children's gross motor skills at TKIT AL-Mufid can also improve after playing the traditional game "engklek" to train their body balance (Masriah et al., 2023). Meanwhile, playing puzzles is one of the activities that can improve children's fine motor skills (Khoerunnisa et al., 2023). Through play activities with peers, children can work together, overcome conflicts, understand other people's perspectives which are part of emotional development that supports their social skills (Aulia & sudaryanti, 2023). All of these research results show that there have been many research results that prove the benefits of play on various aspects of children's development and skills.

Such are the holistic benefits of PBL for children's development. However, the misconceptions experienced by ECE teachers towards PBL in West Java and the practice of implementing PBL that is still lacking in Manggarai District, is an interesting thing to further research in the city of Yogyakarta. This is because Yogyakarta, with its different socio-cultural characteristics from West Java, and the history of the first kindergarten in the city, is a benchmark for the development of ECE (PAUD) in Indonesia.

In addition, notes from the results of the researcher's discussion with the management of the Aisyiyah Regional Leadership Organization (PWA) in the PAUD division stated that the main challenge faced at this time is the performance of PAUD teachers in implementing meaningful play-based learning, even though PBL is not new. Reinforced by an interview with one of the heads of a pilot kindergarten in Yogyakarta city who is often a training facilitator, it was mentioned that PAUD teachers in Yogyakarta city are still found who have not mastered play-based learning and compared to other districts in Yogyakarta province, PAUD teacher training is quite rare. However, this condition has not been explored in depth through research on the

percentage of ECE teachers in Yogyakarta who have implemented PBL and the extent of their experience. Therefore, this study was conducted to explore the extent of ECE teachers' experiences in implementing play-based learning (PBL).

## **METHOD**

This research uses a survey design that produces quantitative and qualitative data. The research began with a search of previous literature to build a conceptual framework and differences to the previous research. The sample taken in this study was 41 ECE teachers in Yogyakarta City (20% of data collected from the total sample frame) obtained through random sampling technique. The sample frame of the population in this study was 224 PAUD teachers (representatives of each institution) in Yogyakarta City. The data of sample frame was imported from the IGTKI website. Demographic data distribution of participants were divided into groups of gender, age range, latest education, certification status, and training ever attended. The demographic data is presented in table 1 below.

**Tabel 1. Demographic Data of Participants**

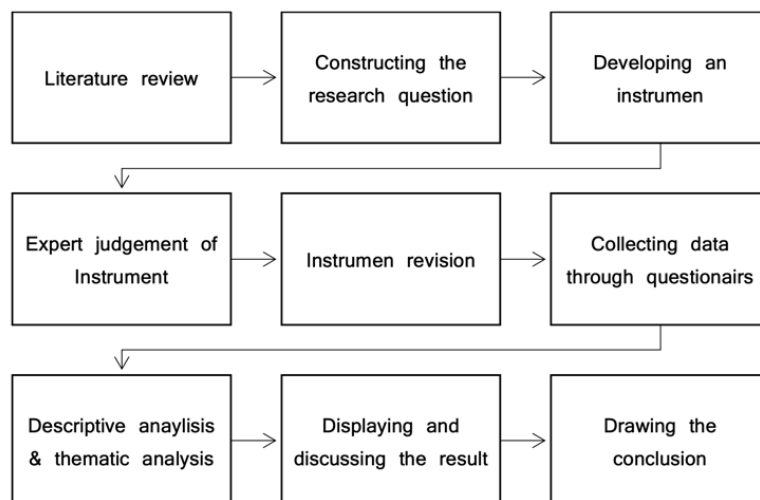
|  |  |    |
|--|--|----|
| <b>Sex</b>   | Man  | 1  |
|  | Woman  | 40 |
| <b>Age</b>   | > 51   | 11 |
|  | 41-50  | 17 |
|  | 31-40  | 8  |
|  | 20-30  | 5  |
| <b>Education</b>                                   | S1 PAUD (ECE Bachelor's Degree)                          | 20 |
|  | SMA (Senior High School)                                 | 10 |
|  | D3 (Diploma)   | 2  |
|  | S1 (Other Educations Field)                              | 8  |
|  | S1 (Non-Educational Field)                               | 1  |
| <b>Professional Teacher's Certification Status</b> | Granted  | 16 |
|  | Not granted  | 25 |
| <b>The training participations</b>                 | Tiered Education & Training (Basic, advance, proficient) | 36 |
|  | Not completed  | 5  |

Kuesioner dikembangkan berdasarkan pertanyaan penelitian utama yaitu sejauh mana manfaat, tantangan, dan strategi guru PAUD Kota Yogyakarta dapat menggambarkan tingkat pengalaman mereka dalam menerapkan PBL. Pertanyaan

penelitian ini menjadi indikator dalam mengembangkan aitem pertanyaan dalam kuesioner. Kuesioner terdiri dari pertanyaan tertutup, semi terbuka, dan terbuka. Setelah kuesioner dilakukan pemeriksaan oleh dua orang ahli dan diperbaiki sesuai masukan, selanjutnya kuesioner dimasukkan ke *google form* untuk didistribusikan melalui organisasi mitra.

The questionnaire was developed based on the main research question, namely the extent to which the benefits, challenges and strategies of Yogyakarta City PAUD teachers can describe their level of experience in implementing PBL. This research question became an indicator in developing the question items in the questionnaire. The questionnaire consisted of closed, semi-open, and open questions. After the questionnaire was checked by two experts and corrected according to the input, the questionnaire was then entered into google form to be distributed through partner organizations.

Quantitative data generated from the questionnaire was analyzed with descriptive statistics to describe the extent of ECD teachers' experiences with PBL. This method helps researchers in understanding the distribution, concentration, and dispersion of data. Statistical analysis was conducted using SPSS version 22 of IBM SPSS Statistics. Qualitative data were analyzed using thematic analysis to identify and analyze emerging themes or patterns (Braun & Clarke, 2006). The results of quantitative and qualitative data analysis were combined to provide a more complete understanding of the phenomenon under study, presented in a structured manner including using tables, graphs, narratives. The research procedure can be shown through the following flowchart.



**Figure 1: Prosedur penelitian survey**

## **RESULTS AND DISCUSSION**

The presence of male teachers in early childhood education (PAUD) in Yogyakarta City is significantly lower compared to female teachers, based on the demographic data in **Table 1**. This low male participation in PAUD teaching is influenced by stigmas and challenges faced by male PAUD teachers. The public perception that PAUD teaching is more suitable for women contributes to the lower interest of men in becoming early childhood educators (Maulana, Kurniati, and Yulindrasari, 2020). However, it is important to note that male teachers play a crucial role in improving the quality of PAUD, not only for male students but also in balancing gender roles within the predominantly female-dominated environment (Rachman, Pranoto, and Formen, 2022). Therefore, exploring ways to encourage male teachers to enter the field of PAUD can contribute to the overall development of early childhood education (Mukhlis, 2019).

The majority of PAUD teachers in Yogyakarta City are 40 years old, according to demographic data. The productive age for teachers is 15 years and above, and the minimum retirement age is 60 years (Qomario et al., 2018). Based on the age composition of PAUD teachers in the city, the highest age range is 51 years old with 11 teachers, while the lowest age range is 20 years old with 5 teachers. This means that teachers still have many working years before reaching retirement age. Therefore, it is important for PAUD teachers in Yogyakarta City to focus on improving the quality of learning through reflective efforts based on their past teaching experiences. By doing so, they can continue to provide a high-quality learning experience for their students until they reach retirement age.

The distribution of education among PAUD teachers in Yogyakarta City reveals that nearly 50% of them meet the minimum academic qualification required for PAUD teachers. According to the regulations set by the Ministry of Education and Culture of Indonesia, a minimum academic qualification of a D4 or S1 (undergraduate) degree is necessary for PAUD teachers (Nusa & Irawan, 2020). Research conducted shows that PAUD teachers who have graduated from S1 PG PAUD demonstrate better performance compared to those who have graduated from Non-PG PAUD (Andriana et al., 2018). This suggests that the educational background of PAUD teachers plays a significant role in their teaching performance. The study further suggests that the higher

the academic qualifications of a teacher, aligned with their field, the better their performance is likely to be (Mahyuddin & Yanti, 2018)..

The performance of teachers in PAUD (Early Childhood Education) is influenced by factors such as teaching experience and training (Khotimah & Rohmadheny, 2021). However, the study also found that the results differed from the data shown in Table 1, which indicated that tiered training could support teacher experience in implementing PBL (Problem-Based Learning). Table 4 showed that only 12.2% of the participating teachers were categorized as having low implementation of PBL, despite the majority of teachers not being certified. This suggests the need for regular activities to enhance the professional skills of PAUD teachers, as proficient and professional teachers are crucial for the comprehensive development of children. This finding aligns with a previous study which emphasized the importance of continuous professional development for PAUD teachers (Darsinah et al., 2018).

The tiered training program implemented to enhance teacher professionalism at different levels has shown positive outcomes. The training is divided into three levels: basic training for young companion teachers, advanced training for companion teachers, and advanced training for PAUD (Early Childhood Education) teachers (Ulfah et al., 2023). This training aims to equip educators with the necessary skills and knowledge at each stage of their career progression. Additionally, it has been recognized that training is essential to improve the competence of three levels of PAUD teachers: PAUD teachers, companion teachers, and young companion teachers (Anggraini, 2022).. Many PAUD teachers in Yogyakarta City have actively participated in these training programs and are implementing Problem-Based Learning (PBL) in their classrooms. However, while efforts are being made, ongoing support is still required to further enhance their professionalism.

Furthermore, the results of the measurement of PAUD teacher experience that has been through descriptive statistical tests can describe the data in general such as the mean (Mean), highest (Max), lowest (Min) and standard deviation of PAUD teacher experience in Yogyakarta City. These results are presented in **Table 2** below.

**Tabel 2. Descriptive Statistic Analysis**

|                                       | <i>N</i> | <i>Minimum</i> | <i>Maximum</i> | <i>Mean</i> | <i>Std. Deviation</i> |
|---------------------------------------|----------|----------------|----------------|-------------|-----------------------|
| Early Childhood Teacher's Experiences | 41       | 24,00          | 43,00          | 34,8537     | 4,53630               |
| Valid N (listwise)                    | 41       |                |                |             |                       |

Furthermore, calculations were made to categorize the level of PAUD teachers' experience in implementing PBL using the results of the descriptive statistical test above. Categorization is determined based on the mean value and standard deviation of each scale using the formula in **Table 3** which divides into three levels of categories namely high, medium, and low.

**Tabel 3. Rumus kategorisasi data**

| <i>Category</i> | <i>Formulas</i>          | <i>Range</i>     | <i>Total</i> |
|-----------------|--------------------------|------------------|--------------|
| High            | $M+1SD \leq X$           | $< X \leq 38$    | 44,00        |
| Modderate       | $M - 1SD \leq X < + 1SD$ | $30 \leq X < 37$ | 43,5         |
| Low             | $X < M-1SD$              | $X < 29$         | 27,5         |

Next, the results of the calculation of the categorization of PAUD teachers' experience scores in implementing play-based learning can be seen in the following **Table 4**.

**Tabel 4. The Categorization of Early Childhood Education Teacher's Experiences on Play-Based Learning Implementation**

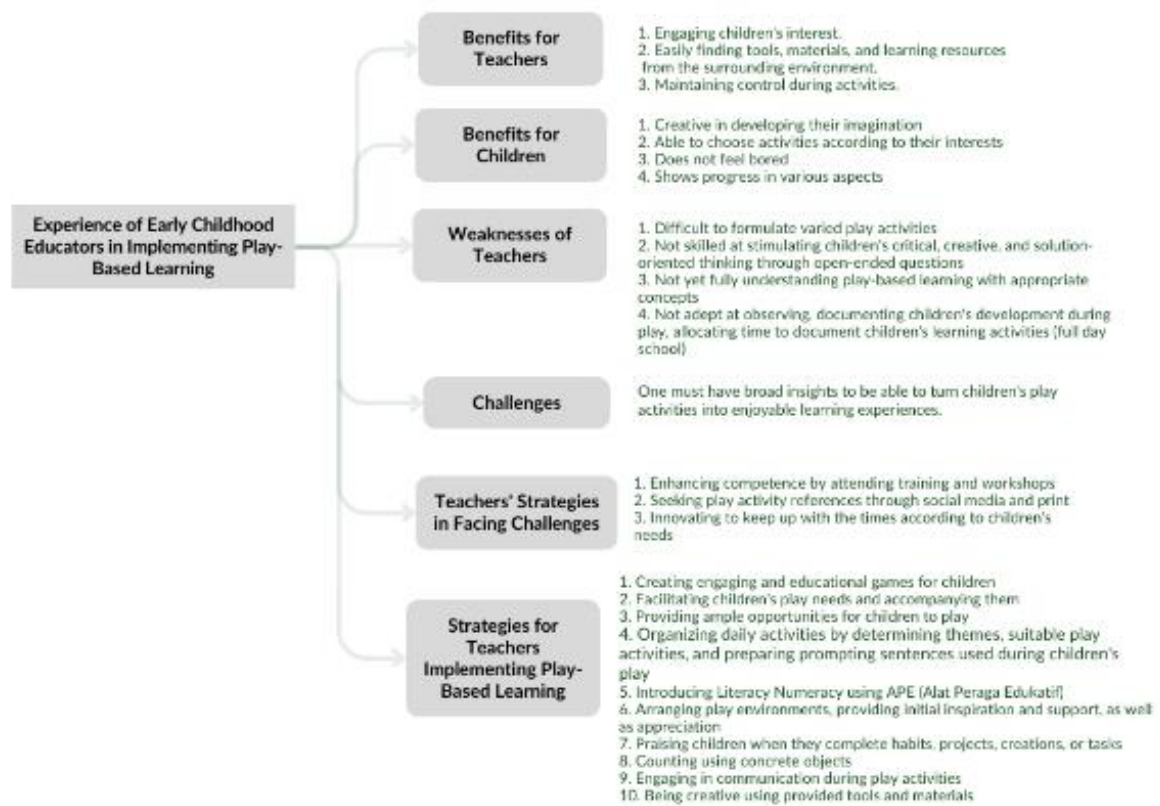
|       |              | <i>Frequency</i> | <i>Percent</i> | <i>Valid Percent</i> | <i>Cumulative Percent</i> |
|-------|--------------|------------------|----------------|----------------------|---------------------------|
| Valid | HIGH         | 13               | 31,7           | 31,7                 | 31,7                      |
|       | MODERATE     | 23               | 56,1           | 56,1                 | 87,8                      |
|       | LOW          | 5                | 12,2           | 12,2                 | 100,0                     |
|       | <b>Total</b> | 41               | 100,0          | 100,0                |                           |

he main themes include the benefits of PBL for children, benefits for teachers, teacher weaknesses in implementing PBL, teacher shortcomings in implementing PBL, challenges, teacher strategies to overcome challenges, and teacher strategies in implementing PBL.

Table 4 shows that 12.2% of participants, which is 5 people, have a low tendency. This group consists of PAUD teachers in Yogyakarta City who haven't received tiered training and only around 50% of them have professional teacher



certificates. As a result, these participants have limited experience in implementing play-based learning (PBL) due to their inadequate understanding of PBL concepts. Figure 1 further supports this data, indicating that these PAUD teachers faced difficulties in implementing PBL, particularly in developing diverse play activities and promoting critical, creative, and problem-solving thinking skills in children effectively. Critical thinking skills are crucial for approaching situations and problems systematically and rationally (Kusuma et al., 2023). The teachers also expressed a lack of proficiency in observing, recording, and documenting children's development during play.



**Figure 2. Early Childhood Teacher's Experiences in Implementing Play-Based Learning Themes**

In this study, the authors discuss the challenges faced by teachers in implementing Project-Based Learning (PBL) in Early Childhood Education (PAUD). They emphasize the importance of having a broad understanding and being able to facilitate engaging and diverse learning activities for children. The participants of the study, who lacked professional training and experience, sought strategies to overcome these difficulties by attending training workshops and seeking references for play activities

from various sources. The researchers Husain & Kaharu (2021) found that after participating in the workshops, the teachers realized the significance of these activities and acknowledged that they provided new knowledge to cope with the rapidly evolving times. Therefore, the authors suggest that teachers should receive training that focuses on understanding the concept of PBL, effective teaching strategies, and integrating play activities. They also recommend seeking references for play activities that are suitable for their specific learning context through social media. By doing so, teachers can innovate according to the needs of children and keep up with the changing educational landscape.

The text suggests that a group of Early Childhood Development (ECD) teachers has a medium level of experience in implementing Project-Based Learning (PBL), with a percentage of 56.1%. This group consists of participants who have adequate formal and non-formal educational backgrounds. Additionally, the demographic data shows that 36 individuals have participated in tiered training, indicating a fairly good experience in implementing PBL. Teachers and children alike have benefited from PBL, as it allows for easier conditioning of children, increased enthusiasm and active participation in the learning process, and the opportunity for children to choose play activities that align with their interests. This approach stimulates creativity and prevents boredom among children (Yuliantina & Yuliati, 2023). Furthermore, the use of the surrounding environment as a real learning resource has been seen as beneficial in motivating children to actively engage (Aminingtyas & Wardhani, 2023). Participants in this group utilize their formal and non-formal education to implement various strategies in PBL and overcome challenges, demonstrating their potential to develop expertise in implementing PBL.

Table 4 shows that 31.7% of PAUD teachers have a high level of experience in implementing Problem-Based Learning (PBL). While this percentage is lower than the group with a medium level of experience, it still indicates that this group of teachers has a strong proficiency in PBL. This group primarily consists of teachers with a bachelor's degree in early childhood education (20 individuals), although only 16 of them hold professional teacher certificates. The government's initiative to require teacher certification contributes to maintaining education quality and teacher welfare (Nusa & Irawan, 2020).. However, the number of teachers in this high experience category is not as high as the moderate category. Out of the 16 certified early childhood education

teachers, 13 have a high level of experience in implementing PBL. It is possible that the small number of teachers lacking high PBL experience could be due to their age, as individuals over 50 may struggle to adapt their established mindset to scientific advancements. Further research is needed to explore the relationship between age and the capacity to implement PBL.

The text discusses how teachers overcome challenges and difficulties in implementing Project-Based Learning (PBL) and highlights the strategies they use. The teachers recognize the benefits of PBL for both students and themselves. In Figure 1, the text mentions that the strategies for implementing PBL and overcoming its challenges are outlined. The teachers understand that training, workshops, and seeking independent references from various sources can help them innovate and improve the quality of PBL. The text also emphasizes that professional teachers need to keep up with the times, update their knowledge in the latest information, science, and technology, in order to provide relevant and contextualized material for students (Pentury & Anggraeni, 2022). Overall, the text underscores the importance of teachers constantly striving to improve their teaching methods and adapt to the changing educational landscape.

Then, this group of participants in the high category had various strategies to implement PBL well. These strategies include making interesting and educational games, facilitating children's play needs and accompanying them, providing ample play opportunities for children. Thus children can explore, recognize, understand, and utilize the surrounding environment (Mayar et al., 2022). Play stimulates children's imaginations and provides opportunities to try new ideas without fear and mistakes (Harahap, 2022) so that children can show progress in various aspects of development optimally.

In addition, they also prepare trigger questions to stimulate children, provide initial inspiration, arrange a comfortable and pleasant play environment ((Rachman, 2020; Anggraini et.al., 2023; Zantika et al., 2024), support and appreciation for each child who has completed the project, done good habits and completed the activity to completion is a form of reward in the form of praise, thumbs up, rewards, applause and others for them which can increase motivation (Agustina, Azizah, & Koesmadi, 2021; Asti et.al, 2023; Fadli, 2024) and children's confidence (Dewi & Watini, 2022; Islami, Gustiana, & Haerudin, 2023; Sofiah & Watini, 2023). Children can be facilitated with concrete objects in learning, because it can be a strategy in learning mathematics

(Nurhidayah & Astari, 2019), such as classifying objects Arini & Fajarwati, 2020) as an effort to stimulate children's cognitive development (Turiyah, 2022; Fauziddin & Elyana, 2018). Participants also have a strategy for implementing PBL by inviting children to communicate while playing, and teachers encourage children to be creative using various tools and materials provided, so as to develop children's creativity (Nurlina et al., 2022; Imamah & Muqowin, 2020) and art skills (Yunaeni & Nuraeni, 2023).

Other strategies that teachers have used to support the success of PBL are expected to optimize the development of children's potential as a whole. What they do is make interesting and educational games to support literacy and numeracy in children. As the results of research using the ATIK model through drawing media (Puspitasari & Watini, 2022), even technology-based game applications (Widhiasih & Yunita, 2021). Various educational games, both modern and traditional, such as congklak (Fydarliani et al., 2021), role-playing games, puzzles, and legos, have been shown to be beneficial in improving children's cognitive abilities at that age (Kusyairi et.al., 2019; Hasanah, 2019; Damayanti et al., 2022). Traditional games with social-emotional aspects in early childhood have increased such as the ability to interact with peers, solve problems, self-confidence, and cooperate with others around them (Prayitno et al., 2024).

The use of Educational Game Tools (APE), as mentioned by participants, also contributes to improving children's physical motor development, because the game stimulates all aspects of development tailored to the age and developmental stages of children (Fadilla et al., 2024). It is the obligation of a teacher to be responsible for preparing before starting the teaching and learning process, including choosing teaching materials and learning models is also an important thing that must be considered (Kusuma et al., 2023).

The teacher not only provides the games, but is also present to accompany the children in their play process. Teachers observe children playing actively or passively, which helps teachers understand the child's way of thinking, and also improves communication between teachers and children (Nabila & Sakinah, 2022). They provide support according to children's needs, giving children the opportunity to explore and play according to their interests and abilities. This will be effective if children are given time to play without interruption to achieve satisfaction in early childhood (Wahyuni, 2023).

The study discussed in the text highlights some limitations that should be considered in future research. The sample size used in the study was only 20% of the population, consisting of representatives from each PAUD unit. It is suggested that future research should include all PAUD teachers in Yogyakarta City, as educators within one PAUD unit may have diverse conditions, competencies, and experiences. Furthermore, the study relied solely on a questionnaire for data collection, which limited the depth of the information obtained from the participants. To overcome this limitation, future research is recommended to include interviews or focus group discussions to gather more comprehensive and validated data. These considerations will help enhance the scope and reliability of future studies in this area.

## **CONCLUSION**

This study reveals three categories of experience levels of teachers in Yogyakarta City in implementing Project-Based Learning (PBL), with the majority falling under the medium category. The high category comes in second, while only 12.2% of teachers are in the low category. PAUD teachers have recognized the challenge they face in needing to have broad knowledge, with four weaknesses identified in their knowledge and skills. Some of the weaknesses include a lack of understanding of the correct PBL concept and the need for improvement in teaching skills. Teachers are aware that their various strategies can aid in implementing PBL and overcoming their weaknesses, but they require support and facilities to continue updating their skills. The study therefore recommends strengthening the skills of early childhood teachers in implementing PBL, particularly focusing on addressing the difficulties faced by this group. This includes improving skills in providing various play activities, stimulating thinking through open-ended questions, and assessing child development.

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