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An Exploration of Children Play Learning Space at Seri Iskandar, Perak

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Abstract: Play learning space is beneficial for children's health and education especially at school. Therefore, the study highlighted the character that need to enhance of indoor and outdoor in finding the most preferred play learning space that close to children at school. Moreover, both settings have strengths that can affect children in engaging play learning. A total of 4 themes of elements found in the settings have been highlighted for indoor and outdoor, which consist of a space of playground, plants, water, and animals setting of environments. This study carried on the assessing of preferred tendencies by children (n=128) aged 5 to 6 years old at Seri Iskandar, Perak more likely indoor or outdoor environments for engagement in play learning space. Pictorial studies through photo elicitation and interviews have been carried out at kindergartens around Seri Iskandar, Perak. Analysis using the R-software to obtain a mean comparison will be done to see the tendency of the choice. Future studies can be expanded to see the spatial characteristics that is essential to have in school so that children feel belonging and increase happiness level when they have their play-based learning at school.

Keywords: Indoor, outdoor, play learning, children

1. Introduction

Play learning increase enjoyment and positive impact especially for kindergarten aged 5 to 6 years old children. Play learning is a good connection in strengthen happiness during learning at school. Play learning according to Piaget (1962) is divided into 3 classifications which is exercise play, child aged 0-2 years old, symbolic play, children aged 2-8 years old and play with rules, for children aged 7-8 years old. This study involved symbolic play child. The classification of play really helps in shaping the formation of an early stage of mental development, social interaction, initial communication, and physical health for children in education. Normally children at the aged of 5 to 6 years old is under the symbolic play, where at this stage, they are in the process of early imaginatively according to their needs and interests in set out their self-ability at school. According to Beate et al. (2021) play learning whether indoor or outdoor is divided into:

- Functional play (physical play activities, e.g., running, jumping, climbing, wrestling).
- Constructive play (building play activities, e.g., creating forms and constructions with different kinds of materials, drawing, painting).
- Symbolic play (creative/imaginative play, e.g., role play, dramatic play, social play).

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• Non-play (self-focused/looking on; no interaction with others, not engaged in play, e.g., daydreaming, empty staring, watching activities; or talking, not engaged in active play but talking with another child).

• Mixed play (when children combine several types of play without any type being dominant).

All this play learning requires space setting to perform. The setting of space is truly matters in performing play learning. It is very significant in easing the connection between children, teachers, and its space setting. Due to that, both factors may contribute to the selection of preferred setting of space. Furthermore, study need to be carried out on what are the preferences space setting that children acquire at school for education. Therefore, identifying the preferences environment of children aged 5 to 6 years old for their play learning in preschool through analysis using R-Software need to be done. This contributes to the engagement between children with their school environment easily. Through this analysis, it in the selecting of the best preferred play learning space setting they loved most. Although, this study not covered about spatial characters that vital to have in school.

1.1 Space Characteristics of Indoor and Outdoor for Play Learning

Early education for children, space of learning can be categorised through indoor space and outdoor space. According to Ladd et al. (1999) and Leggett & Newman (2017) an indoor learning space is under the roof and inside a building where children learn. It's often called an indoor learning environment. The Outdoor learning can define as active learning of the outsides of a building with the natural environment and surroundings. In outdoor education, the children can learn through what they do, encounter, and discover with guidance. The children also learn about the items of nature like sands, grass, and plants and develop their outdoor learning skills (Cooper, 2015; Leggett & Newman 2017)). The differences between the indoor and outdoor learning space are an outdoor space facilitates more fantastic range of movements for children to learn through play-based activities. Talal et al. (2021) stated that sensory learning experiences are also readily available in the outdoors space. By contrast, the indoors were limited by the size of the spatial (Tanwattanakul et al., 2020) and limited numbers of activities carried out at one time.

The chances to play and learn indoors and outdoors gradually drops. Children's learning environments are significantly more constrained in space and need a more specific character to ensure their safety and accessibility. An unprecedented rise in concern for children's safety, referred to as a 'culture of fear,' has coincided with a loss in access to indoor and outdoor places for play and learning (Furedi, 2006). To create a space that supports strong development and fosters optimum learning experiences for children, a specific characteristic necessary be present in children's learning indoor and outdoor space.

In Malaysia, the study of indoor and outdoor learning space for preschool remains sparse due to the Malaysian education system's focusing on developing curricula and delivering knowledge (Saleh et al., 2018), rather than enforcing the children creative ability at their age level. Table 1 highlight the characteristics of indoor and outdoor space for children's preferences in learning.

Table 1 - The Characteristics of Indoor and Outdoor Space for Children's Preferences in Learning

Space	*Space and Activities*	*Engagement*	*Safety and Freedom*
Indoor	i) Personal and group space ii) Feels like home	Open ended material	i) Space and boundaries ii) Traffic patterns/ accessibility
Outdoor	i) Learning through play ii) Sensory learning	Skills and communication development	

1.2 Space and Activities

The integration of indoor and outdoor learning space, the characteristic of space and activities need to be diverse and promote childhood education. In the indoor learning space, the centres or classroom is limited spaces or environment for early child development. It is too little personal space and place for group activities that make a child feel unpleasant and may cause unwelcome behaviours. According to Chapnevis et al. (2020), the classroom or space is significant, and either can enhance or hinder a child's learning and some activities. Generally, the early childhood indoor environments should be rich in learning, activities and games, experiences, and people. As stated by the Office of Academic and Educational Standards (2006), the indoor space for the learning space for a child has an area of 2.0 square meters. Meanwhile, 2.50 square meters were indicated by New Zealand Government (2008) and 3.25 square meters by Stankovic et al. (2006).

The space and activities of indoor learning for the children also need to feel like home. When a child's learning environment resembles their home, they are more likely to feel comfortable being themselves and belonging. "Filling classrooms with students is not the best, connected strategy. Instead, it aims to develop a setting that matters to children (Sandra Duncan, Jody Martin, 2016). Therefore, indoor learning space needs to improve with lots of structures, quality of architectonic design and quality of organization of space.

Meanwhile, the outdoor learning space characteristic is more on learning through play. An early childhood learning incorporates various elements intended to encourage structured and unstructured physical activity, play, and education is known as an outdoor play and learning environment (Ernst, 2017; Nedovic & Morrissey, 2013). The outdoor learning blend natural areas, vegetations, and environmental features to attract children to learn about nature and its elements. In the previous study by Kyttä (2003), Loebach (2020) and Sandseter et al. (2020), the outdoor space helps in developing children's senses in learning and play. Children can benefit from the local ecosystem's such flora and fauna, including improved physical health, numerous opportunities to develop motor skills, stress relief, improved visual-motor integration, and increased creativity level. Besides, it may improve their verbal and interpersonal abilities, vitamin D production through sun exposure, and enhanced cognition and attention.

The characteristic of space and activities are essential to enhance the children being more active, challenging, collaborative and positively contribute to childhood development. The best space and activities for children in outdoor and indoor learning space are developed based on children's physical, social, and cognitive demand.

1.3 Engagement

Preschool has been identified as a critical setting. It encourages and contribute to children's physical, social, and cognitive development and school grounds are a potential environment for learning for children. Most of the children spend almost 5 hours at preschool for learning. Therefore, the engagement at indoor and outdoor learning space is through open-ended material like books and physical features such flowers, blocks, puzzles. According to Aziz & Said (2015), the indoor learning space did not directly support the children's motor and cognitive development. It merely allowed for social advancement.

By contrast, outdoor learning space more connected with natural environments. It offers an opportunity development of skills, communication, and experience. As stated by Bakar & Ismail Said (2017), the outdoor space improves children's social and physical qualities. The children affiliated with the outdoor also develop their knowledge through (i)stimulation and feedback, (ii)source for their social play and learning and (iii) set of their affordances.

1.4 Safety and Freedom

According to Children in Europe (2005), freedom and safety are vital for children's development. Factors of safety that need to consider are space and boundaries. Previous study by Leggett & Newman (2017), space and boundaries for indoor space are contingent on the proportion of area for the total number of children in the classroom or space. It eases children accessibility and function of the space.

Space and boundaries need to be organized for children's independence, easy to use and safe for them. The outdoors features should be marked and free from obstruction. As revealed by Ernst (2017) and Kyttä (2003), the design and materials for space and boundaries differ depending on curricula systems. Some might have an expansive garden, open green space, and an outdoor playground. By contrast, others may primarily utilize a paved or lawn area or use nearby park. The outdoor space should be suitable for the children's ages, sizes, and abilities, then safe, organized and include planned activities.

2. Methodology

2.1 Respondents and Data Collection

This study applies quantitative approaches. This study was conducted through observation, and photo elicitation of preferences with children. This study explores the early growth stage of a children at kindergarten learning focusing on children between the ages of five and six years old. This study done with 2 phases, start at the beginning of the school session, which is in March, and the middle of the school session in June. Within 5 kindergartens listed, three were permitted from the school's managements to allow this study namely Tadika PASTI, Tadika Mutiara Montessori, and Tadika PINTAS. A total of 128 respondents consisting of 90 people aged 5 years old (70%) and 38 people aged 6 years old (30%) children from three selected preschools around Seri Iskandar, Perak has been carried out.

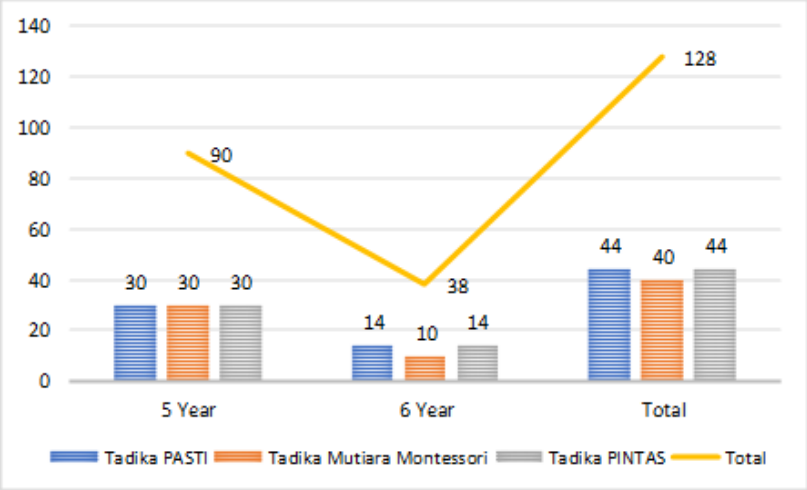

Fig. 1 - Profile of the respondent

2.2 Procedures

The assessment of first phase begins with familiarization sessions process in a small group with the respondents (children) and teachers. The formation of small group of among 5 years old and 6 years old, to ease comfort and reduce children's fright and doubt when the study or communication is being conducted with them. This initial introduction process is very important because it can help researchers to recognize children's ways and behaviour as well as abilities when conducting research at the next level. Activities such as chatting about family, the environment, and their interests, showing pictures and taking pictures will be done at this initial stage. Observations were made through children's actions, communication, and interactions among them while in class. The first phase was taken in March, where it is a process of getting to know & approaching children.

A photo storytelling session was conducted to gain interest among the children at the second phase. The sessions were conducted in small groups exploring the elements in the environment and interesting landscape places around Malaysia. At this stage, children need to tell stories about any place or location or environment they have been to either alone or with their family to do activities during school holidays. Data recording about the places they visit and the activities they do will be done at this stage.

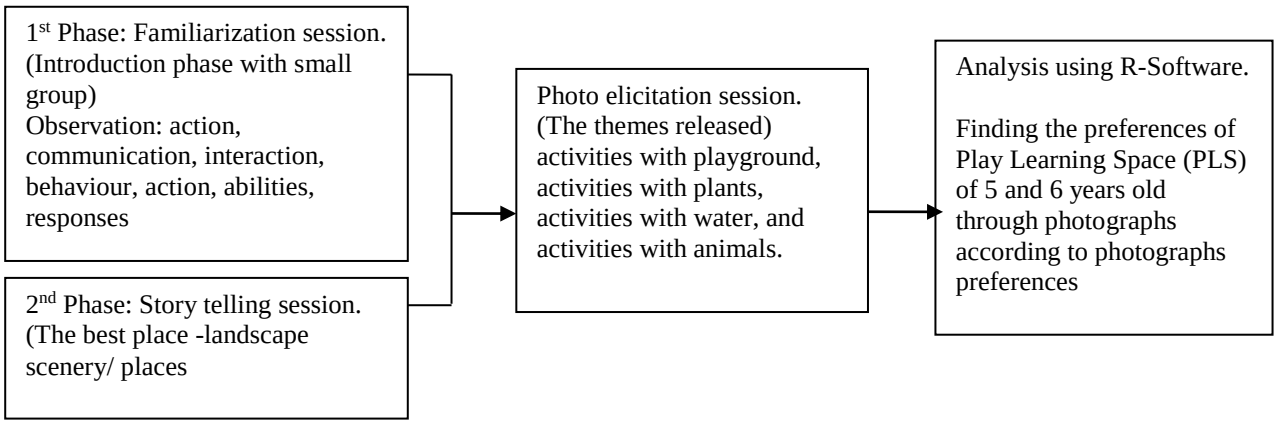

Fig. 2 - Framework of the Study

A photo-elicitation technique consisting of 4 themes of 8 photos displayed through photographs, representing the theme of the surrounding landscape elements was used to determine the play learning at the outdoor and indoor landscape space that was preferred or desired by the children. Each theme arranged 2 photos of indoor and outdoor theme in one sheet. For each theme, the left side is the indoor, the right side is the outdoor. Children need to choose either the left or the right-side picture on each photographs theme. They need to react and hand up if they love that pictorial environment. All 8 samples of pictures from 4 themes have been displayed to them. The themes released are the activities with playground, activities with plants, activities with water and activities with animals (Abdullah et al., 2017) .

Fig. 3 - Theme: Playground

Fig. 4 - Theme: Plants

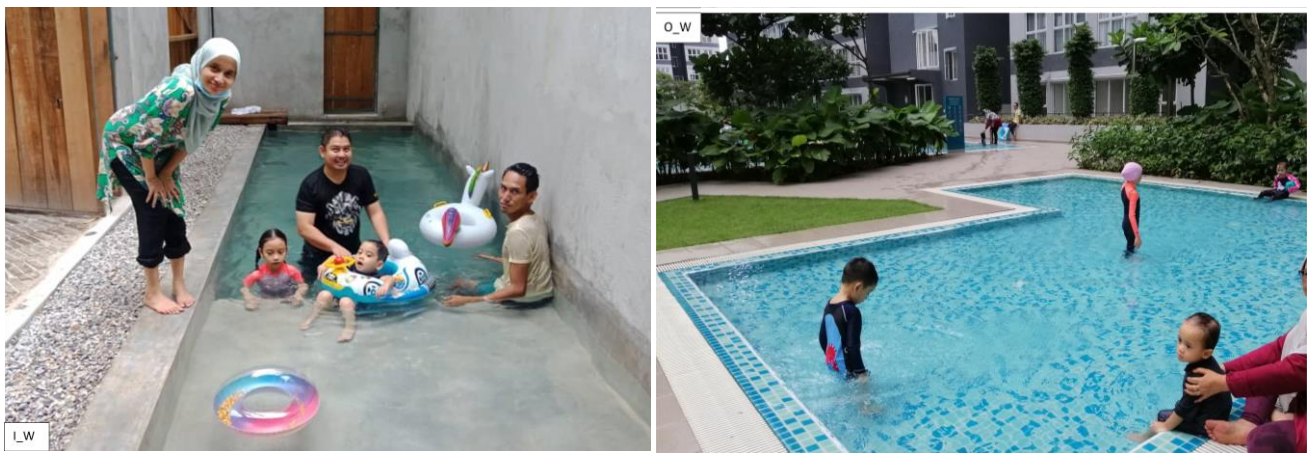

Fig. 5 - Theme: Water

Fig. 6 - Theme: Animals

Children need to respond once on each sheet by hand up if they preferred. Every hand up by the respondents will be counted. All the recorded counted data been analysed through R-Software. From R-Software, the first stage analysis will be done to see the Normality Test- indoor or outdoor environment. This Normality Test is to find out the selection of play space environment in general that have been chosen by children either of indoor or outdoor space.

Next, the analysis will be detailed with a Split Plot Test. At the Split Plot Test analysis stage, the indoor or outdoor selection that have been obtained from the normality test will be graded according to the preferences scale along with the character of the theme that is preferred by children aged 5 and 6 years. This Split Plot test will be conducted to find out the results of the study of the character of play space preferences by children around Seri Iskandar, Perak.

All the behaviours and action, communication, and face expression will be saved as documents proof and has been recorded. This part is the most crucial part in this study because children act differently referring to age, gender, ability, and creativity. This stage is an engagement stage between researcher, teacher, and children (respondent) and their imaginary environment for choosing their preferences. Their responses such as communication, behavioural action, and movement have been captured and recorded.

3. Result and Discussion

This study involved a sample size of 128 respondents obtained from three selected preschools in Seri Iskandar, Perak. Thus, this respondent (n) calculated with a 99% confidence level (1% margin of error). Of the 128 children, 90 students were five years old (68.125%), and 38 students were six years old (31.875%).

3.1 Normality Test

From the test, respondents prefer to choose indoor space rather than outdoor space. It is clear by the number's calculation of the mean for indoors is 3.195 compared with outdoors is 1.789. The higher mean value of indoor space is the choice of preschool children compared to outdoor space. Abdullah et al., (2018), and Ernst (2017) found that children subject in their study preferred spaces with opportunities for a sheltered, variety of games and activities. Table 2 shows the calculation of the normality test.

Table 2 - Value of Normality Test- Indoor and Outdoor

Analysis Descriptive	Indoor	Outdoor
Sample of respondent (n)	128	128
Mean	**3.195**	**1.789**
Variance	25.52741256	8.1635
Standard Deviation	1.0428	1.0397
Standard Error	0.0921	0.0919
p-Value	2.814e-08	2.269e-08

Hypothesis	less than alpha value = 0.05. the hypothesis is an alternative hypothesis (Ha) is accepted at a 99% confidence level (alpha = 0.05). Therefore, the data is not normally distributed.	less than alpha value = 0.05. the hypothesis is an alternative hypothesis (Ha) is accepted at a 99% confidence level (alpha = 0.05). Therefore, the data is not normally distributed.

3.2 Split Plot Test

From the Split Plot Test, the preferred indoor space themes analysis result from aged 5 years old and 6 years old need to be considered through the preferences strongest factor. The strongest factor in the normality test is indoor space (4 themes; Playground, Plants, Water, and Animal). All these indoor themes will be arranged according to the preferences of children aged 5 and 6 years, refer to Table 3.

Table 3 - Indoor Theme Preferences by Children

Group	Year 5	Year 6	Theme
a	**4.000**	**2.667**	**Playground**
b	3.000	1.000	Plants
c	2.000	0.000	Water
d	1.000	0.000	Animal

Table 3 shows the result of indoor theme preferences by children aged 5 and 6 years old. The test of mean separation reported according to the alphabetical grouping scale of preferred value named a, b, c and d. a is referring to the highest value (first preferred most) choose by the children, b is second preferred, c is the 3rd choice of preferred and d is the lowest value (less preferred). For the most preferred theme aged 5 years old, the highest value is a 4.0000, the playground at a 99% confidence level, secondly is plants, group b, 3.000-preferred, moderately preferred is water, group c (2.000), then followed by the animal (1.000-less preferred). Children aged 5 and 6 years old preferred most a playground, rather than animals play space.

This concludes that children love free play indoors in a playground space with lots of play structures to make an exploration of activities, communication with varieties of coloured structure and under the shaded space with less heat environment. Playgrounds provide excitement for children. It also helps in improving the social relationship between children and their environment. They can communicate better orally through meeting new friends, saying hello, shouting fun, calling friends, etc. There are various movements and physical activities that can be done such as holding play equipment/ tools, holding a ball, hooking a fence, jumping, walking, standing, and crawling with others. All these activities can improve the emotional level of children in a positive way. However, the structure of the playground must be child-friendly and safety controls must be carried out by guardians and parents to ensure the safety of children.

Children start changing their pattern style more towards cool and soothing environment, indoor environment conditions rather than outdoor because it is more comfortable, less heat, and safer. Indoor space looks more attractive not only because the playing atmosphere is more comfortable and cooler, it is also not at risk of being hit by rain. In addition, the play materials and structure are more user-friendly, not burning & easier to handle. Moreover, there are various play structures that can be found indoors versus outdoors such as toy cars, remote binoculars, toys using soft nets, kitchen utensils and others.

The process of playing in learning requires an optimal physical environment whether indoor or outdoor to encourage children's opportunities for exploration, social interactions, and a range of experiences and learning (Beate et al., 2021). Children's play preferences space not only provide information about the properties and attributed qualities of environments but also reveals children's capabilities to deal with and adapt to the environmental setting. This shows their self-endurances individually and with the community at their early aged.

4. Conclusion and Recommendation

Overall, this study has been successful in academics by creating two main findings related to the objectives of the study that form the basis of this study. First, the assessment that has been analysed explained how play learning spaces of indoor and outdoor generate children's viewpoint that involve the development of their healthy growth precisely at school. Secondly, the study has identified the inclinations of 4 themes space environment based on children selection for early childhood education. Analysis of the photo-elicitation data conclude that an indoor environment was the most

preferred. The findings of the study also provide the necessary guidance in preparing early education space needs for early learning. Theoretically, this study contributes deeply to the body of knowledge in children's growth development and early education studies by identifying space related to children's preferences at school.

Respondents in this study were limited to children around Seri Iskandar. This limits any generalizations that can be made to the local context. Future studies should be conduct include participants combining teachers and family members in other regions to acknowledge for generalization in a global context. Any generalization to other regions in different countries of the world should consider possible differences of interpretation by the participants in question as well as impacts from the condition and economic aspects. In addition, research also needs to be done to foresee the factors that influence children's tendency to decide. Generally, this may help in educating educational bodies in creating a conducive play learning space for preschool and fully utilize comprehensively with children.

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