



Impacts of Outdoor Landscape on Early Learning: Insights from the NCDRC Kindergarten at UPSI

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ABSTRACT

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This study was set on the National Child Development Research Centre (NCDRC) Kindergarten, Universiti Pendidikan Sultan Idris (UPSI), to identify the role of the outdoor landscape in shaping the sense of place and assisting the T&L process of children. Qualitative research design with 15 informants from UPSI's Department of Development and Asset Management (DDAM) and kindergarten teachers were interviewed, revealing themes in outdoor landscapes impact in children's physical, cognitive, emotional, and social development educationally. The study emphasizes the importance of landscape design for holistic child development, compelling kindergarten authorities and the Ministry of Education to prioritize landscape designs in kindergartens.

1. INTRODUCTION

Referring to the basic landscape architecture dictionary written by Hussein, Mohamed, and Shariff [1], landscape design means the cohesive arrangement of landscape elements to decorate a space in the outdoor area to look beautiful and harmonious with presentable and tasteful manner. In addition, such arrangement of the outdoor landscape spaces plays an important role in enhancing educational experience and well-being of learners to increase their spirit and motivation to learn and attending the school [2]. Che-Rasli and Hussain [3] stated that aesthetically pleasing outdoor landscape spaces can inspire students and consequentially imparts positive feelings towards the learning environment and process. In the context of educational institutions, outdoor landscape spaces that include the outside and inside the classroom, play an important role in reducing emotional stress to the students. On the outdoor landscape space especially, Edutopia [4], Hussain et al. [5] and Abdul et al. [6] added that besides stimulating the students' creativity and imagination, it also serves the functional elements from its natural environments that is proven to help physical, social, emotional, cognitive, and psychomotor development of children as well as enhancing their sensory perception. This is in line with the opinions of Helaluddin [7] and Jalil and Rani [8], that social interaction between children and the school or kindergarten environment plays an important role in shaping their learning experiences. They emphasized that the design of outdoor landscape environments can create a good sense of place to attract children's interest in school, as well as inculcate positive

interaction to influence their emotional state and performance. The sense of place in kindergarten landscape design plays an important role in creating a stimulating environment that supports children's learning development [9]. Proshansky [10] and Jukim et al. [11] stated that well-designed landscape spaces not only shape the sense of place but also provide suitable relaxation spaces for children and create a positive atmosphere through the harmony and cohesive design of landscape elements. Having said so, Malaysia is yet to utilizing the benefit mentioned to its full potential. There is still lack of emphasis on the importance of landscape environments in actualizing the sense of place in educational institutions, essentially for the early educational institution – the kindergartens [12]. Study [12] and Ali et al. [13] noted that only 17.4 percent of schools in Malaysia emphasized the function of outdoor landscape environments and focus on the sense of place as a principle in landscape design in educational institutions. They also emphasized that most outdoor landscape environments are instead, poorly designed, made haphazardly, constrained by financial limitations, and ignorance from the school's side in generating ideas during the design process. This statement is supported by Husaini et al. [14] saying that landscape spaces outside educational institutions generally have not been fully benefitted in terms of their usefulness, function, and aesthetics in the T&L process outside the classroom. Among other things, constraints in terms of administration also limits the beautification of these outdoor spaces, hindering the sense of place spirit that should have been one of the main reasons children chose to use the space. The objective of this study is to explore the extent to

which outdoor landscape environments in NCDRC kindergartens can foster positive interactions among children, provide different learning spaces, and create a positive environment in shaping the sense of place in NCDRC kindergarten. The sense of place in the design of outdoor landscape environments is not only important for providing visual and sensory stimulation to children but also to help improve their concentration, creativity, and sensory development. Moreover, the sense of place element in outdoor landscape environment design can create an encouraging, stimulating, and supportive learning environment for children, ensuring that they have a positive T&L experience and thus, lay the foundation for lifelong learning. Having said that, this research is aimed to explore the answers to the question; what is the role of the outdoor landscape in creating the sense of place and supporting the T&L process of children in NCDRC?

1.1 The space outside of classroom

The T&L environment outside the classroom refers to the educational activities that take place outside the classroom, whether formally or informally [15]. According to Chandler [15], outdoor learning encompasses activities involving natural environments, experiential learning, or learning opportunities that are not limited to the structured curriculum in the confined classrooms. Bluma and Lipowska [16] stated that there are various ways to foster children engagement in outdoor learning environments. One of which is by focusing on functional landscapes outside the classroom because this approach can provide unique and mutual learning opportunities for children. Nazarudin and Tan [17] express that due to the children's age level, the mental and physical development state due for experiential learning that the landscape environment outside the classroom is highly important for them. This is because children inherently have high curiosity and imagination, so an attractive and enjoyable landscape environment can indirectly enhance their focus and productivity. The harmonious decor of the outdoor environment, with the blend of elements of rugged and soft landscapes, foster curiosity for them to explore, stimulate their creativity, and encourage their physical and mental development. Additionally, the landscape environment outside the classroom encourages outdoor learning where children can learn about the natural world that is from direct senses of texture of the soil, careful observation on the plants and trees, green areas, the flora and fauna, the sound of waterfalls, and things of the sort [18]. Other than that, outdoor landscape environments with components such as big bushy plants can provide shade and comfort to one, the sound of water flows or waterfalls creates a soothing atmosphere, while sculptures, benches, tables, and gazebos add cheerfulness to the environment [19]. This is also supported by Kalam [20], who suggested that a well-designed and harmonious landscape environment can influence the atmosphere of an area and thus actualizes the sense of place. This explains the importance of the landscape environment, especially for outdoor learning spaces, in the physical and mental development process of children.

1.2 Sense of place

Hussain et al. [21] explained that the sense of place refers to the subjective feeling that everyone has towards a particular place or area. This is created by the cohesive selection and

arrangement of the landscape elements that concocted a certain feeling to the environment. In the context of the outdoor classroom landscape, the sense of place plays an important role in shaping the experiences and perceptions of students essentially, the teachers, and staffs towards that place. The functions of the sense of place in this context are as follows, but not limited to: 1) creating identity for the school, 2) connecting emotions and interactions with users, 3) improving students' learning attitudes, 4) stimulating active learning outside the classroom, 5) fostering interest in caring for the environment and surroundings, 6) encouraging social involvement among users, and 7) fostering a sense of ownership of a place because users can develop the feel that they have an important role in shaping and maintaining their surroundings. This statement is supported by Mohamed and Salim [22], saying that in any setting where a sense of place is created, emotions in individuals to appreciate the area are of the feelings of love and affection towards the place. A strong sense of place, especially in school or kindergarten areas, will connect emotions and feelings of affection to children. This indirectly explains that the kindergarten is a safe and friendly place, they will find it easier to adapt and build positive social relationships.

1.3 Guidelines for landscape design in Malaysian educational institutions

The National Landscape Guidelines for Focused Areas (Educational Environment) under the Jabatan Landskap Negara Malaysia has outlined several key factors that need to be considered during the planning and implementation process. This includes: 1) student needs, 2) cultural aspects, 3) environmental sustainability, and 4) conducive learning environments [23]. Although there are listed specific and uniform guidelines for all educational institutions, there are several general principles that can be considered as references. The following are some aspects that are typically the focus of landscape design for educational institutions in Malaysia: 1) suitability with climate and surroundings, 2) creative and diverse development, 3) conservation and sustainability plans, 4) safety and accessibility, 5) user-friendly open and social spaces, 6) exploration zones outside classrooms, 7) landscapes integrating high artistic and aesthetic elements, and 8) multifunctional spaces. It is therefore crucial for comprehensive physical planning to develop the role of the outdoor landscape environment. This field cannot be overlooked because the environmental factors, especially outside the classroom, have a positive relationship with the physical, social, emotional, cognitive, and psychomotor development of school children. The landscape planning in educational institutions especially the early education like kindergarten needs to be comprehensive and considering various factors to ensure the creation of conducive learning environments that are eco-friendly and supportive of holistic student development. Good landscape design not only provides pleasing visual aesthetic but also enriches the learning experience on life learning in educational institutions.

1.4 The Froebel approach theory

According to Care for Kids [24], the children are considered as seeds while parents and teachers are gardeners and kindergartens are gardens for children. Thus, this statement also been supported by Froebel approach theory which

explains the teacher's role in designing children's experiences and activities in kindergarten [25]. Froebel was the first to recognise that children's brains develop significantly during their first three years of life, and his kindergartens world (children's gardens) were founded on the belief that humans are fundamentally creative beings who must be allowed to experience, learn, and develop on their own terms and in their own timeframe. This learning philosophy emphasises the value of play, nature, and hands-on experiences in fostering a child's intellectual, emotional, and physical development especially when the kids explore the outdoor landscape [24]. Outdoor T & L experiences like gardening, being with plants and animals as well as exploring natural materials, are essential to the Froebel approach. Connecting with nature not only enhances children's understanding of science and the environment but promotes their physical well-being and emotional connection with the natural world. Hence, this statement is also supported by Che-Rasli and Hussain [3], outdoor landscape activities carried out in a conducive and planned environment stimulate children's development and thus can enhance the sense of place.

2. RESEARCH METHODOLOGY

This study was conducted using qualitative research design with a case study approach to examine the role of outdoor classroom landscapes in shaping the sense of place at the NCDRC kindergarten. Tobi [26] and Creswell and Creswell [27] explained that the qualitative research design is an inquiry manoeuvre to understand social issues based on comprehensive and complex descriptions. These complex descriptions are obtained from eligible informants who have strong connections to the study site, experience, or phenomenon in study. Qualitative research involves various interpretive and naturalistic methods to obtain a comprehensive understanding of the phenomenon or issue being investigated [28]. Suggestively, the data for this study were collected through semi-structured interviews that were done by Focus Group Discussion (FGD), observation, document analysis and audio-visual materials. The data collection was done at the NCDRC kindergarten located at UPSI in the Perak state of Malaysia, as depicted in Figure 1. The establishment of NCDRC is one of the Training programs for educators and caregivers known as PERMATA, a project for the national centres of excellence for children and is a pioneering kindergarten in Malaysia for early childhood development. In-depth semi-structured interviews were conducted as the primary source of data to gather information and in-depth details about the informants' experiences interacting with the environmental landscape at NCDRC kindergarten. A total of 15 representatives from the DDAM, UPSI which consists of Landscape department, Architect department, Civil department, Legal and Town Planning department together with teachers at NCDRC kindergarten were selected as informants for this study. Informants were chosen based on their extensive experience in designing educational institutional landscape environments and teaching experience at NCDRC kindergarten. All interviews were recorded using digital voice recorders, and data saturation was reached with the 15th informant. In addition, several observation sessions were conducted on social and learning activities at NCDRC kindergarten, followed by further supports from document analysis and audio-visual materials as

triangulation strategy to solidify the findings of the main data collection. Observations were made on various components of the outdoor landscape environment at NCDRC kindergarten, including hard and soft landscape elements, natural features such as plants, water, and natural forms, as well as human-made elements such as building structures, roads, and art elements. Next, the authors formulate themes that are developed from the process of organising related categories, and these categories support the themes that have been created. The researcher has named each category individually to avoid overlapping the categories, as the duplication can influence the development of a theme. This can accidentally create a theme that is not actually necessary. Finally, new themes that are created from the categories can be considered as mutually exclusive. A particular data unit can only contain one theme or is called as mutually exclusive [28]. However, the themes that are developed by the researcher are complemented by other themes to formulate answers to the research questions. To ensure that the data and themes are accurate, the researcher has analysed the entire data in its original form. In other words, the data analysed is stored in the informant's original form or language. Here are the stages of the author's data analysis:

1. Draw on the ideas that come from interview transcripts.
2. Write memos, comments, and reflections in the field notes.
3. Give codes to the initial set of materials obtained from interviews, documentary analysis, and participant observation.
4. Try themes for the informants by identifying significant statements from the informant's experience.
5. Add metaphors, analogies, and concepts provided by the informants.
6. Analyse significant statements.
7. Manage new findings (serendipity issues).

2.1 Focus group discussion

The FGD was conducted to explore the role of outdoor classroom landscapes in shaping the sense of place at NCDRC kindergarten, UPSI in the perspectives of local authorities representing four different government bodies, namely the landscape department, architect department, civil department, legal and town planning department together with five teachers at NCDRC kindergarten. They were selected based on their experience in managing the planning and design of the landscape environment at the said place. This step aligns with the scope of this study, which requires a deeper understanding of the perspectives of university landscape officers and teachers at NCDRC kindergarten who have experienced in designing and planning the landscape structure at NCDRC kindergarten. The FGD sessions for this study were conducted with two moderators. Merriam and Tisdell [29] explained the relevance of having two moderators responsible for the FGD so that one could focus on facilitating group data collection, while the other took detailed notes and managed technical needs such as recording devices, cameras, and meeting the diverse needs of individuals. Additionally, the FGD collected informants of various backgrounds and ages that in return enriched the findings of this study. Furthermore, the purpose of the FGDs is to further understand their opinions and views on the important considerations needed to design outdoor landscape environments that emphasize the sense of place, specifically at the NCDRC kindergarten. Their opinions and

views are crucial for this study to enhance the existing guideline lists for designing landscape environments in Malaysian educational institutions. This is consistent with

Stewart and Shamdasani [30], who stated that FGDs are useful for exploratory studies, especially when little is known about the research phenomenon.

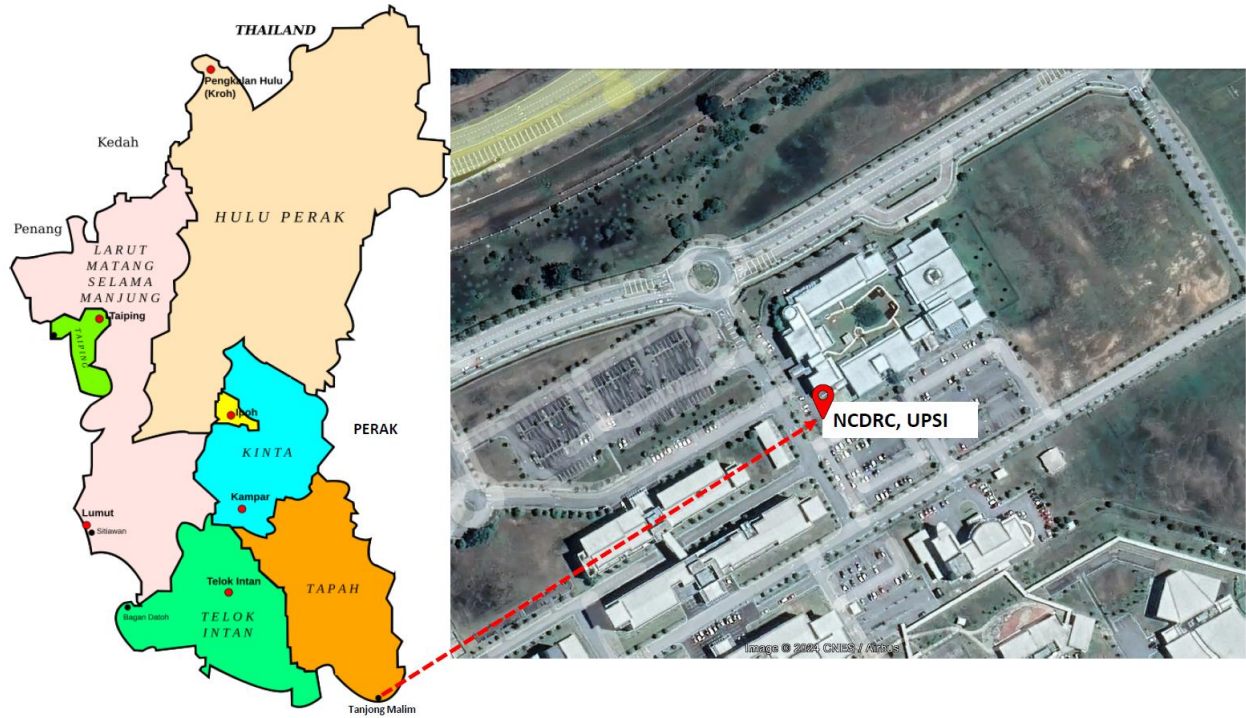


Figure 1. Case study location - NCDRC, UPSI, Perak, Malaysia (Google Earth Pro, 2024)

3. RESULT AND DISCUSSION

This section presents and discusses the findings of the study through data that have been collected and analysed by the authors in order to explore and understand the role of the outdoor landscape in shaping the sense of place and indirectly assisting the T&L process of children in NCDRC, UPSI. With an eye on the systematic research flow, the consistency of discipline throughout a uniform system helps in keeping the authors to stay focused on the aim of the study. This study managed to gather data from eligible informants that have over 10 years of experience and profound knowledge about the sociological and landscape transitions at NCDRC kindergarten. As the main data collection, the FGD gathered all informants for face-to-face interviews successfully. Some of the informants were involved in policy development, strategic planning, guidelines, and design of outdoor kindergarten environmental landscapes at NCDRC kindergarten. In this study, the name and identity of the informant are not disclosed. To ensure that their name is not mentioned, a pseudonym is given to each informant when explaining the theme that has emerged from the findings. Table 1 enlists the informants participated in this study.

3.1 The role of outdoor environmental landscapes at NCDRC

The aim of this study is to explore the role of outdoor environmental landscapes in shaping the sense of place at NCDRC kindergarten. Findings for this research were gathered through FGD session with representatives from the UPSI and supported by participant observation, audio-visual

materials, and document analysis. The collected data were transcribed and analysed using the thematic analysis that coded, categorized, and then organized the categories into themes that answer the research questions. Two themes were formed based on the data regarding the role of outdoor landscapes in shaping the sense of place at NCDRC kindergarten, UPSI, as follows Table 2.

Table 1. Informant detail

| Informant | Age | Gender | Occupation |
|-----------|-----|--------|---------------------|
| I01 | 33 | Female | Landscape architect |
| I02 | 38 | Female | Landscape architect |
| I03 | 35 | Male | Landscape architect |
| I04 | 40 | Male | Architect |
| I05 | 34 | Female | Architect |
| I06 | 46 | Male | Civil engineering |
| I07 | 44 | Female | Civil engineering |
| I08 | 46 | Female | Town planner |
| I09 | 38 | Male | Legal officer |
| I10 | 39 | Female | Legal officer |
| I11 | 52 | Femal | Teacher |
| I12 | 50 | Male | Teacher |
| I13 | 31 | Female | Teacher |
| I14 | 34 | Female | Teacher |
| I15 | 36 | Female | Teacher |

Table 2. The themes

| | |
|-----------------|--|
| Theme 1: | The characteristics of dual-functional environmental landscape features at NCDRC kindergarten contribute to the formation of a sense of place. |
| Theme 2: | The interaction of children and the landscape environmental space at NCDRC kindergarten. |

Theme 1: The characteristics of dual-functional environmental landscape features at NCDRC kindergarten contribute to the formation of a sense of place.

It was found that the characteristics of outdoor environmental landscapes at NCDRC kindergarten has the capacity to form a sense of place at NCDRC kindergarten. A well-designed outdoor environmental landscape at NCDRC kindergarten plays a crucial role in shaping the sense of place, providing positive experiences for children, and stimulating the physical, social, emotional, cognitive, and psychomotor development of children at NCDRC kindergarten. According to informant I05, the use of creative and diverse landscape design, including a combination of artistic design, natural landscapes, and sensory tactile play spaces, give a positive impact on attracting and stimulating children's imagination to explore and appreciate their environmental space. I05 said,

“A good landscape must incorporate essential elements in its artistic design. In kindergarten areas, spaces for children to play and imagine is crucial; areas like water puddles, sand pits, treehouses are all good for them. Safety must also be ensured so that children can explore well.”

This finding is consistent with the statement from informant I02, saying that well-designed landscape elements that interact with the children's preferences can indirectly shape the sense of place. The open and green spaces around the outdoor environmental landscape of NCDRC kindergarten provide opportunities for children to engage in outdoor activities, relax, and learn about nature outside the classroom. The use of soft elements such as a variety of trees and ornamental plants with diverse shapes, functions, and characteristics also enhances the beauty of the outdoor environmental landscape at NCDRC kindergarten, besides providing greenery and creating a refreshing environment. I02 added,

“Since we upgraded the outdoor environmental landscape at NCDRC kindergarten two years ago, the attendance of children at the kindergarten has been positive. This is because every day, children at the kindergarten get excited when outdoor playtime begins. They can play, think, and explore their surroundings freely and safely.”

Another informant reaffirmed this finding and stated that, since the upgrade of the outdoor environmental landscape at NCDRC kindergarten, many positive changes have occurred in the physical, social, emotional, cognitive, and psychomotor development of kindergarten children at NCDRC kindergarten. With the existence of exploration gardens and sensory tactile gardens at NCDRC kindergarten, the level of social development and interaction between children and teachers has improved. The exploration gardens and sensory tactile gardens at NCDRC kindergarten have encouraged social interaction and collaboration among children, teachers, and parents, thus fostering a positive community spirit. Children seem to have ventured out to ask questions to teachers about how their environment behaves and imagine the benefits of the environment on their physical and mental development. I10 explained,

“Since the development of the exploration garden and sensory tactile garden, these children have started showing interest in playing outside the classroom. Previously, they were reluctant to play outside due to the non-conductive environment and lack of the "wow" factor. Now, they are starting to play and interact with children from different classes. Most importantly, I can see their team spirit, leadership, and camaraderie when they engage in activities

in these gardens.”

This finding is consistent with other data set from other data collection namely the participant observation. The children's engagement in playing and exploring the landscape environment outside the classroom is also depicted in a picture that the NCDRC kindergarten had hung in their premise. Figure 2 is the picture found in the NCDRC kindergarten wall that evokes the intention of children exploring the nature outside the classroom. The finding also triangulated with a document analysis in which Shamsuddin et al. [31] emphasized in order to foster a sense of place for each area, the planning and design factors should be carefully considered, especially in sensitive areas such as educational institutions. Another similar research has concluded similar findings that the landscape components outdoor the classroom would allow pupils to develop their creativity, problem-solving skills, and social interactions [13]. The same authors denoted, a good outdoor landscape including a softscape and hardscape elements such as huge canopy trees can create shade and comfort, creating a soothing atmosphere, and adding to the cheerfulness of the environment. This is to promote positive interaction among children, provide diverse learning opportunities, and create an environment that has a positive impact on children's holistic development.



Figure 2. A picture depicting the exploration space in the sensory tactile garden at NCDRC kindergarten

Theme 2: The interaction of children and the landscape environmental space at NCDRC kindergarten.

The interaction of children with the outdoor environmental landscape at NCDRC kindergarten plays a crucial role in shaping their learning experiences. Additionally, the interaction between children and their environmental surroundings also has a positive correlation with the physical, social, emotional, cognitive, and psychomotor development of kindergarten children at NCDRC kindergarten. To create an environment with a strong sense of place, well-designed environmental landscape should provide opportunities for children to interact with their surroundings, thus indirectly influencing their emotional, mental, physical, and academic performance. This is supported by informant I01, who asserted that diverse and engaging outdoor landscapes can create an ideal learning environment outside the classroom. This allows children to engage in learning activities that are not confined to the classroom but also occur outside, creating a more holistic learning experience. I01 stated,

“With the existence of outdoor activities combined with the presence of well-designed and perfect landscape

elements, it will further encourage interaction among children with nature and people. Previously, these children had less interaction with teachers, but after the addition of landscape spaces here, we have seen many positive changes.”

This finding is consistent with the statement expressed by informant I13, the pleasant and comfortable outdoor landscape environment with functional landscape elements can serve as a medium for the development of children's learning resources. Children will interact with their natural environment; they will start asking questions to teachers if they feel it is a new discovery outside the classroom. These children will gain a more and enjoy learning experience through activities outside the classroom. The statement from informant I13 is seconded by informant I06 saying that,

“Previously, these children would feel uneasy when they were brought to play with soil in the sensory garden. But now, they no longer feel uneasy; they will ask us many questions if they encounter something new... for example, if they find worms or insects on a tree. This interaction makes them more confident to communicate with us or with anyone else.”

The interaction experience among kindergarten children at NCDRC kindergarten is crucial in their physical, social, emotional, cognitive, and psychomotor development processes. The positive influence from the aesthetically pleasing outdoor environment can enhance the quality of learning. Additionally, these children are more likely to participate in learning activities and experience an improved understanding of their environment. According to Kopeva et al. [32], well-designed landscapes can provide excellent spaces for social activities and encourage interaction among children. Apart from shaping a sense of place, a good landscape environment also fosters strong relationships among children, teachers, and parents, supporting the development of social skills.

These findings have resulted in implications to the development of existing theoretically knowledge regarding outdoor landscape design strategies and explained how the roles of outdoor landscapes in creating a sense of place and assisting the teaching and learning process at NCDRC. From the theoretical angle, this study suggested an emerging design idea to design and develop the outdoor landscape for kindergartens with intact symbolism to its cultural landscape such as play outside the classroom is the natural way through which children explore and make sense of the world. Playing outside the classroom is not seen as entertainment, but a good integration of landscape within can create a meaningful and purposeful activity that allows children to develop their creativity, problem-solving skills, and social interactions. Through play, children engage in self-directed learning and construct their understanding of concepts. Hence the outdoor landscape is the learning environment for the children to gain more knowledge and experiences. Outdoor experiences like gardening, being with plants and animals as well as exploring natural materials, are essential to the Froebel approach. Connecting with nature not only enhances children's understanding of science and the environment but promotes their physical well-being and emotional connection with the natural world. This contribution is a valuable addition to the scarcity of research in the Malaysian context which focuses on the outdoor landscape and kindergarten. However, this topic is abundant in developed countries and other exemplary countries for the success of their education institutions like

Japan, South Korea, Switzerland, and the United Kingdom. Thus, this study intended to address the gap in Malaysia. Moreover, this study can bridge the gap between the modernisation and sustainability of the outdoor landscape environment at Malaysian education institutions, especially within kindergartens to mitigate the declination of outdoor class learning experiences.

4. CONCLUSIONS

The landscape environment outside the classroom specifically for the NCDRC kindergarten does not only plays a crucial role in shaping a positive sense of place, but also has a positive impact on the physical, social, emotional, cognitive, and psychomotor development of the children. The mental and physical development of children influenced by the outdoor landscape environment is particularly important in ensuring that they fully benefit from their surroundings. Based on this study, several benefits of the expansive outdoor landscape environment at NCDRC kindergarten are crucial for the cognitive and physical development of the children.

Children at NCDRC kindergarten are exposed to experiential learning elements where the good outdoor landscape at NCDRC provides opportunities for them to explore their environment and understand experiential concepts practically and creatively. Moreover, the experience of playing at the outdoor makes children at NCDRC kindergarten more creative and imaginative due to the influence of the environment in the good outdoor landscape. The role of this landscape is crucial in supporting creative activities and outdoor play, stimulating the development of creativity and imagination, as well as strengthening cognitive skills such as problem-solving, analysis, and social skills like cooperation and communication. Additionally, the good outdoor landscape at NCDRC also contributes to the physical development of these children, allowing them to engage in physical activities such as play and learning activities outside the classroom, indirectly aiding in their psychomotor development.

Through well-planned landscape design at NCDRC kindergarten, it not only created the sense of place but also an educational environment that supports holistic development and contributes to the overall well-being of the physical and mental elements of children. Learning in the classroom may only be cognitively understood by a few pupils, but learning outside the classroom and practically experience the topic will make it easier for the pupils to understand. In addition, the functional landscape outside the classroom will also allow pupils to be aware of their surroundings and explore the world outside the classroom. As they are growing up, the perception through the senses experienced are also developing and simultaneously, the pupils will adapt to the environment. In ensuring the TnL process successful in improving the pupils' cognitive and psychomotor development, the selection of activities, soft and hard landscapes elements, and design are also playing a very important role. The functional landscape aspects must emphasize elements such different variety of plants (color, texture, size, appearance and function), water elements (shower pools, mini waterfalls), diversity of garden furniture (resting areas, spaces for social activities), open spaces to carry out TnL activities (mini garden, greenhouse), and variety of appropriate activities that can be done in each space provided. A good outdoor landscape environment can

create positive learning experiences and development for children at the early schooling stage. Therefore, a policy, act, and guidelines emphasizing explicitly on the design of outdoor landscape environments for educational institutions in Malaysia need to be established. This should be used in conjunction with existing planning guidelines to make it a better strategy for enhancing the uniqueness and importance of outdoor landscape environments.

Scholarly, future research can be further enhancing the findings of this research. Conducting different settings of the same context can provide additional data and findings that could expand comprehension of the role of outdoor landscape with regards to the children's development. Considering this study took place in NCDRC, a kindergarten that is owned by a larger institution UPSI, the results may be confined to an established company while other kindergartens that are not managed by larger companies may differ in the findings. This implies of same context but subjects to other variables that could influence the overall phenomenon.

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