

## **CHAPTER 06**

### **CONCLUSION**

This chapter presents the conclusion of the research. It draws together the findings, highlights the most important insights gained over the research works, revisits the research questions, aim and objectives of the dissertation and provides a summary of findings of this study and suggests future research areas.

#### **6.1 The Research Questions, Aim and Objectives**

The dissertation attempts to identify the landscape features (natural and man-made) in the playground areas that offer challenge in children play activities and the objective to examine the landscape features (natural and man-made) in kindergarten playground setting and evaluate the ability of the design in challenging children overt responses through play activities is achieved in order to advocate the design parameter in Malaysian kindergarten's playgrounds. In the beginning of the dissertation, the research questions posed as a guideline of the research work and discussed further in this chapter.

- i. *What kind of landscape features (natural and man-made) that can stimulate children's physical behaviour and performances in playing activities?*

In the literature review in chapter 2, the study identified that the landscape features that offer in the four kindergartens are comprised of natural and man-made elements. The landscape features (natural and man-made) were classified into a few groups of environmental qualities to verified that those elements offer in outdoor play space in kindergartens can stimulate children's physical behaviour and performances in playing activities. The landscape features (natural and man-made) includes surfaces, shelters, vegetation and animals, water, and microclimate, attached or detached objects, and climbable features.

- ii. *How does the arrangement and setting in kindergarten's playground are able to encourage children's performance through play activities?*

From four case studies conducted, the results have given different idea in terms of arrangement and setting of the outdoor play spaces. Some of the kindergartens are well planned yet poor in awareness of how important children exposure to the outdoor environments whereas, some kindergartens are a relinquished mosque which has limited space for children to play. Nevertheless, those constraints that occurred in each case study were never restricted this study to answer the second research questions. Each of the kindergarten outdoor play spaces offered spaces and tasks for children to play and explore. The arrangement and setting never stop the children to actively perform physically. The main issue raised in this point is that the variety of landscape features that offers in kindergarten playgrounds and the school regulation that limits the children dexterity in play is crucial. The arrangement and setting in each school and kindergarten

affords children to involve actions of *performatory* and *exploratory* as well as *productive* if the initial effort of planning and design were taken into consideration prior to develop the children development place such as kindergarten.

iii. *Why landscape features (natural and man-made) are significant in kindergarten setting?*

It is well accepted that children intellectual growth and cognitive learning were linked to wider experience in the environment, and it became generally accepted that experience-based and action-based learning was the most effective (Francis, 1998) in encouraging children skills. Francis (1998) also proved that well-designed and well-organized spaces were found to support cooperation and productive as opposed to disruptive behavior and to reduce discipline problems and vandalism. Similarly, as play environments were enriched to include more varied opportunities and more comfortable conditions, the play behavior itself was observed to become more vital, sophisticated, and more effective as expression. Researches also indicated that most adults recall from childhood an outdoor setting as the one most special or meaningful place to remember (Lynch, 1961; Cooper Marcus, 1978; Moore, 1993; Henniger, 1994). In this study, it showed that landscape features (natural and man-made) are very significant in kindergarten setting since the diversity suggests that functional properties of an environment are perceived through children's active performances. Therefore, the large results of positive affordances suggests that the outdoor play areas in kindergarten contributing to children active performances particularly physical activities which will also promoting to children well being.

## 6.2 Significant of Research Findings

The study found that kindergarten children practiced more time in classroom as compared experiencing outdoor. The properties and attributes in classroom were limitation of space for movement, crowdedness of furniture, formal place as well as behaviour. These were the negative affordances that caused the children to lose their sense of control and distraction in class. In other words, the young children in range 4 to 6 years perceived the kindergarten as a context and resource which not complete to their demands including playing, free movement and sense of control. Even though they experienced some positive affordances, for example, learning and socializing, the negative affordances of the indoor spaces like classroom eroded their physical well beings. Children as young as preschoolers should expose more to direct learning for the reason that learning through experience is effective to their development.

The playground, in contrast, was outdoor play contexts that amplify children physical performances. The children experienced increase in physical task for instance when they are active in play or social performances when involve playing with peers. According to the review and findings, the children become more active since the landscape features (natural and man-made) of the outdoor play area afforded more active activities as compared to the passive ones. As such, the positive affordances allowed the children to experience various types of activities including *performatory* and *exploratory* activities. It appears that play was the main performance of the children in the outdoor play area that promotes their physical responses and well being.

In physical aspect, the children's mobility and dexterity in the outdoor play area were higher when they were attached to the natural element setting. Most of these activities were performed with the play equipment particularly the manipulating ones. This phenomenon indicates that the outdoor play spaces specifically in kindergarten

settings should be designed and equipped with a variety of features for adventurous children like preschoolers.

In the perspective of education and planning service in Malaysia, the research permits deep insight on the role of outdoor play space in enhancing the development of kindergarten children. Visual and physical contacts with the natural element are paramount because the experiences can increase their physical responses that promote physical and mental well being. Therefore, it is important for the Ministry of Education Malaysia and allied agencies such as National Department of Landscape Malaysia to allocate funding in order to create a properly designed outdoor play space for the children in the kindergarten environment.

It is clear that play in outdoor play area encourage children to enhance their physical responses. The attachment with the natural environment promotes their physical well being that encourage children positive affordances. It can be concluded that the outdoor properties that foster the children behaviour responses are the play equipments, landscape features including plants, animals and favourable microclimate. And, its attributes are the greenery, beauty, sense of security and spaciousness.

It is also understandable that research on the natural elements effect of outdoor play space on the children in kindergarten settings demand a multidiscipline investigation. Knowledge from multi-disciplines such as childhood healthcare, children and environmental psychology, horticulture, architecture and landscape architecture is required. Environmental psychology and childhood healthcare suggests natural element setting is a positive shift of children's functioning. Inasmuch, environmental psychology gives insight to what variables to measure the changes of children functioning. Finally, architecture and landscape architecture give insight on how the children play space as a physiographic space become a social space for the children. Moreover, landscape architecture and environmental psychology direct the study to

focus on the properties and attributes of the outdoor properties that positively shift the children's functioning.

The research has shown that phenomenological approach conveys the valid data of children's responses because it examines the children's situated actions. The validity of the approach, however, must be supported and triangulated with data gathered from interviews on the teachers and staff that experience with children daily activities in school as well as direct involvement of the children.

### **6.3 Prospect Parameters of Design and Planning for Kindergarten's Outdoor Play Space**

Beer & Higgins (2000) argued that humans tend to understand their immediate environment in terms of the sequence and qualities of spaces that make up the areas they use frequently. Knowing exactly where one is and how that space relates to the others around it is of vital importance to all humans; the feeling of being lost and the fear associated with that feeling is an overwhelming one. More than this, the design and planning should meet the needs and requirements of the users in particular when considering children as the users. Therefore, the research prospects six general aspects for the garden development including site planning, garden features and structures, planting and wildlife sanctuary, way-finding and circulation, security, as well as microclimate. The design prospect parameters are mostly in general and thus they are applicable to any kindergarten environments in Malaysia. These planning and design aspects are useful for designers such as architects and landscape architects as well as kindergarten and preschool entrepreneur to assist them in establishing or maintaining

the outdoor play area for optimum effects. The prospect guidelines and recommendations are as follow.

Table 6.1: The planning and design prospect parameters

Aspect	Planning and design parameters
<b>Site planning</b>	Kindergartens spatial layout are important to enclose with open spaces for outdoor play area purposes, preferably in front of the building for easy viewing and facilitating caregivers' supervision and accessibility.
<b>Garden features and structures</b>	Variety of garden features and structures (natural and man-made) attached in the outdoor play space are important for manipulating play features that permits to children with plenty of affordances and feedbacks.
<b>Planting and wildlife sanctuary</b>	Vegetation is part of the outdoor play space composition to generate sense of familiarisation to the children as source of affordances and feedbacks.
<b>Way-finding and circulation</b>	Recognisable circulation path is essential to ease the children to go into outdoor play space and back into the classroom as well as to move from place to another.
<b>Security</b>	Conditions of the garden must protect from public intrusions.
<b>Microclimate</b>	Direct experiences with the microclimatic factors generate affective responses resulting to a variety of affordances and feedbacks.

#### 6.4 Recommendations for Future Research on Outdoor Play Area in Kindergarten Settings

This section briefly explained the potential research pertaining to natural element impact of outdoor play area to children in kindergarten settings including government school in Malaysia. Truthfully, the findings of this thesis are too small to be useful as a firm basis for generalized theory. However, the thesis has generated several suggestions

to be investigated in further research on children's outdoor play space in kindergartens.

The inspiration of anticipate research should be in these areas of interest;

- i. Studies on Physiological Outcomes
- ii. Studies on Affordances of Garden for Different Age Groups
- iii. Studies on Garden Composition: Plant and Animals versus Play Equipment
- iv. Studies on Manipulating versus Non-manipulating Features

It is clear that play in outdoor play area encouraged children to enhance their physical responses. The attachment with the natural environment promotes their physical well being that encourage children positive affordances. It can be concluded that the outdoor landscape elements (natural and man-made) that foster the children behaviour responses are the play equipments, landscape features including plants, animals and favourable microclimate. And, its attributes are the greenery, beauty, sense of security and spaciousness.

It is also understandable that research on the natural elements effect of outdoor play space on the children in kindergarten settings demand a multidiscipline investigation. Knowledge from multi-disciplines such as childhood healthcare, children and environmental psychology, architecture and landscape architecture is required. Environmental psychology and childhood healthcare suggests natural element setting is an audacity of children's performances. Inasmuch, environmental psychology gives a forthcoming to what variables to measure the children performances. Finally, architecture and landscape architecture give insight on how the children play space as a physiographic space become a social space for the children. Moreover, landscape architecture and environmental psychology direct the study to focus on the landscape elements and features of the outdoor properties that encourage children to be more



active in their play performances. The study concludes that the landscape features (natural and man-made) in outdoor environments offers in kindergartens outdoor play spaces fostered the physical skill of children and it should be incorporated in the design of a kindergarten. In fact, the planning of the spatial layout also should be considered in the preliminary stage of designing the kindergartens in Malaysia. The general aspect includes site planning, garden features and structures, planting and wildlife sanctuary, way-finding and circulation, security, as well as microclimate should be painstaking in order to achieve the purpose of the kindergarten as a hub of Early Childhood Development (ECD). This is the UNICEF's holistic policy framework and programming approach that support by our government in generating the Program Permata Negara.

In many developed country, investment in children is increasingly seen having the most valuable long-term sustainable impact on developing human capital. However, if the fundamental elements such as the place for childhood development are provided not in accordance with propriety of children behaviour, there is no way to help our new generations in developing human capital. It is vital to ensure that the new kindergarten planning and design can support and potentially help deliver the intended outcomes in the early childhood development.

Certainly, the findings rooted from a fundamental relationship of kindergarten children during play outside area and experiencing the physical responses toward outdoor landscape features (natural and man-made) that offers in four kindergartens shows that children who allow playing in kindergarten outdoor play space and attaching to the natural landscape features are more active in play performances particularly physical actions. The needs of quality and better design by the users (kindergarten children) and teachers are highly demanding. The impact of enhancement of kindergarten developments is anticipate to value for money in the built environment. It

also shows that from the case studies conducted, there is one kindergarten offers a good landscape design for children conversely; the school policy has limited the children to use the school area broadly in order to control the maintenance and beauty of the school landscape design. This is also one of the appalling conducts in local kindergarten management that should be changed.

Finally, perhaps most importantly, that natural element should be incorporated in the design of kindergarten's outdoor play spaces for children. Its design should be considered during the preplanning stage of the kindergarten development that allows architect and landscape architect to allocate the natural landscape elements as an extension of the children's play space rather than just a traditional playground. Therefore, the outdoor play area should be designed by a landscape architect who able to compose the play space in a complex and coherence manner that can fascinate the kindergarten children to play and explore. The garden features should include play equipments, garden structures, vegetation, animals and water.