

RESEARCH PROPOSAL

MIDDLE CHILDHOOD SENSIBILITIES TOWARDS PHYSICAL CHARACTERISTICS OF EVERYDAY LANDSCAPE IN LOW COST HOUSING NEIGHBOURHOOD

By

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1.0 Introduction

Many researchers have viewed urban areas as the enemy to children, impeding their physical, cognitive, social and emotional development (Oloumi et al., 2012; Karsten and van Vliet, 2012). Limited space hinders children from being active in the outdoor environment. Today's cities are becoming crowded due to many spaces that could potentially be children's places being transformed into more buildings especially suburban. This area received high impact from current and future urbanisation. The buildings were constructed to accommodate the requirements of urban life, such as businesses and the social opportunities available to the people in spend time indoors rather than outdoors. Moreover, the planned areas for children to play always end up as 'places for children' rather than 'children's places' because they are designed by adults but experienced by children (Day and Midbjer, 2007). This makes the places poor in contributing to children's play as they cannot explore and feel the adventure. Thus, the places are viewed as boring and are eventually abandoned by children. City or urban areas are packed with a variety of amenities, such as education and health facilities, which adults refer to as being appropriate in meeting children's developmental and life needs. However, adults seldom refer to play as one of the key elements in supporting children's development, but see it more as them wasting their time (Tai et al., 2006).

Children are small entities in the community; their opinions or decisions have always been viewed as immature, and this leads adults to view a child as an object rather than a subject. Therefore, this makes the adults view that they are responsible for deciding the children's needs and demands. As a result, children have less right to choose what they require for their needs. In fulfilling their demands and need, it is important to provide a quality environment that supports their physical, cognitive, social and emotional development. This means that they need a space where they can develop their physical, cognitive, social and emotional abilities (Kellert, 2002; Hughes, 2009). These developments can be achieved to a great extent through play. This is because when they are playing, they are capable of learning about themselves and their world through direct observations, sensory stimulation and movement through the space (Malone, 2003; Fromberg and Bergen, 2006). However, most of places where the children play have been constructed by adults, especially in urban areas. Furthermore, the urban areas have thwarted children's opportunities to play outside to any extent due to social and environmental changes, such as crime, bullying, traffic and pollution (Rissoto and Giuliani, 2006). Thus, parents have restricted the movement of their children to play outside where this play is concentrated around their homes and neighbourhoods, without considering that most of the child-driven free play is actually concentrated on the outdoor environment in these locations.

Concerned with this situation, this research has recognized children's homes as a part of their everyday landscape and their sensibility to physical characteristics, which might be significantly connected to the everyday landscape element. This is because while playing with the elements, children are actively using their five senses. Physical characteristics stimulate children's senses; they need to see, touch, hear, smell and taste the elements (Bartos, 2013). This makes children physically perform sensory activities that involve their locomotor and object control skills. Cognitively, children explore and discover the potential of each element that they encounter based on the physical characteristics of the element (Derr, 2002). Socially, they develop their own words to describe the elements among their peers, through discussion (Said, 2012), making the children feel accepted and helping their emotional development. This shows that the availability of physical characteristics in their everyday landscape helps children recognize the potential of the affordances of each element. Therefore, sensibility to the physical characteristics of the everyday landscapes in an urban

neighbourhood could be another factor that might help adults to understand more about the relationship between children, play and their places.

1.2 Statement of the Problem

According to Hart (1979) and Moore (1986), children's development starts at home, which has been referred to as a nucleus of children's activities. Thus, the particular neighbourhood where the home is located is an important place in a child's daily life. A home in an urban neighbourhood should receive priority attention as it has a different setting from a home in rural neighbourhood. A different setting influences children's activities as their play is based on the availability of features in their neighbourhood, and this makes children one of the agents in determining the character of the neighbourhood (Karsten, 2005; Min and Lee, 2006). As it is known to be a threat to children's development, an urban neighbourhood needs special treatment in creating a balance between meeting children's need and meeting adult's need. When designing places for children, the first necessity is to understand their needs and expectations (Sargisson and McLean, 2012) as they will prefer, and make greater use of places that meet these needs. Therefore, designing for children requires knowing the children, understanding the importance and necessity of play for them, and recognising what activities children do, and want to do, especially in urban neighbourhoods. This knowledge is required to ensure that the play environments are educational areas where children can learn, socialize and move, and that make them happy (Fromberg and Bergen, 2006). Thus, it is important to build a quality neighbourhood as it is referred to as the nucleus, or centre, for children's activities.

In Malaysia, the majority of the residents who inhabit urban neighbourhoods are in the bracket of RM3000 monthly income. This group has been defined by the Malaysian Ministry of Women, Family and Community Development as the 'urban poor' which are households in which the main breadwinner earns less than RM1500 per month. However, even if the income is doubled to RM3000 a month, this is barely enough for a household of five members, prompting the Malaysian Ministry of Federal Territories and Urban Wellbeing to consider increasing the urban poverty line

to RM3000 per month. In Malaysia, the high rate of migration to urban centres over the last three decades had increased the demand for affordable housing in many cities (Tan, 2011) and has caused an acute shortage in affordable housing. This has driven the Malaysian Government to launch *Perumahan Rakyat 1 Malaysia (PR1MA)* in 2012 to support the majority of urban residents who are from the middle income bracket. The Malaysian Government has built more low cost housing in urban neighbourhoods. In 2011, low cost housing constituted 16.1 percent of the housing development in Malaysia, with Johor having the highest number of such units (134,775), followed by Selangor with 131,330 units (Malaysia Government, 2011). Both are among the most highly urbanized states in Malaysia. According to the Tenth Malaysia Plan, after Selangor, Johor expects to build the highest number of low cost housing with 91,500 units. Up to the third quarter of 2011, the State capital, Johor Bahru, had a total of 85,396 low cost units, constituting 50.8% of the total of low cost units in the state.

Moreover, with the launch of Iskandar Malaysia in 2006, Johor received massive development under the residential enhancement, including attention to the quality of life of residents, with the emphasis on functional, liveable communities that promote social wellbeing (IRDA, 2013). In 2013, the Johor State Local Government targeted the commitment to build between 28,000 and 37,000 units of houses in the next five years under an affordable housing scheme. Table 1.1 shows the categories of houses under the PR1MA, which are Low Cost House, which is *Rumah Kos Rendah (RKR)*, Medium Low Cost House, which is *Rumah Kos Sederhana Rendah (RKSR)*, Johor Community House, which is *Rumah Komuniti Johor (PKJ A & PKJ B)* and, lastly, Johor Affordable House, which is *Rumah Mampu Milik Johor (RMMJ)*. Table 1.1 also shows that five out of the eight categories of houses that have been listed under the affordable housing scheme are comprised of low cost residential areas. Furthermore, low cost residential areas have been categorised according to the price of the houses, which are below RM 45,000 (Johor State Local Government, 2013).

Table 1.1: Housing categories under the affordable housing scheme in Johor

| Category | House price (RM) | Income limit (RM) |
|----------|-----------------------------|-------------------|
| RK 1 | 25,000.00 | >2000.00 |
| RK 2 | 28,000.00 | >2000.00 |
| RK 3 | 30,000.00 | >3,000.00 |
| RK 4 | 35,000.00 | >3,000.00 |
| RKSR 5 | 50,000.00 | >3,500.00 |
| PKJ A | 42,000.00 | >3,000.00 |
| PKJ B | 80,000.00 | >4,500.00 |
| RMMJ | 120,000.00 until 220,000.00 | >6,000.00 |

Source: Science, Technology and ICT Unit, Johor State Local Government.

According to the Department of Statistics Malaysia (2011), Malaysia's population pyramid shows that there are 9.5 million children who are below the age of 18, making up 32% of Malaysia's population of 29.9 million. This shows that a third of the Malaysian is made up of children. With the given rate of 20.41 per 1,000 citizens in 2011, the child population is estimated to increase over the next five years. Furthermore, 72.8% of Malaysia's population are living in urban areas and from Figure 1.1, among the fourteen states in Malaysia, Selangor and Johor are the states with the highest total numbers of children (UNICEF; Economic Planning Unit, Prime Minister's Department, 2013). These states are rapidly urbanised states and this clearly indicates that the majority of the children were living in urban areas rather than rural areas.

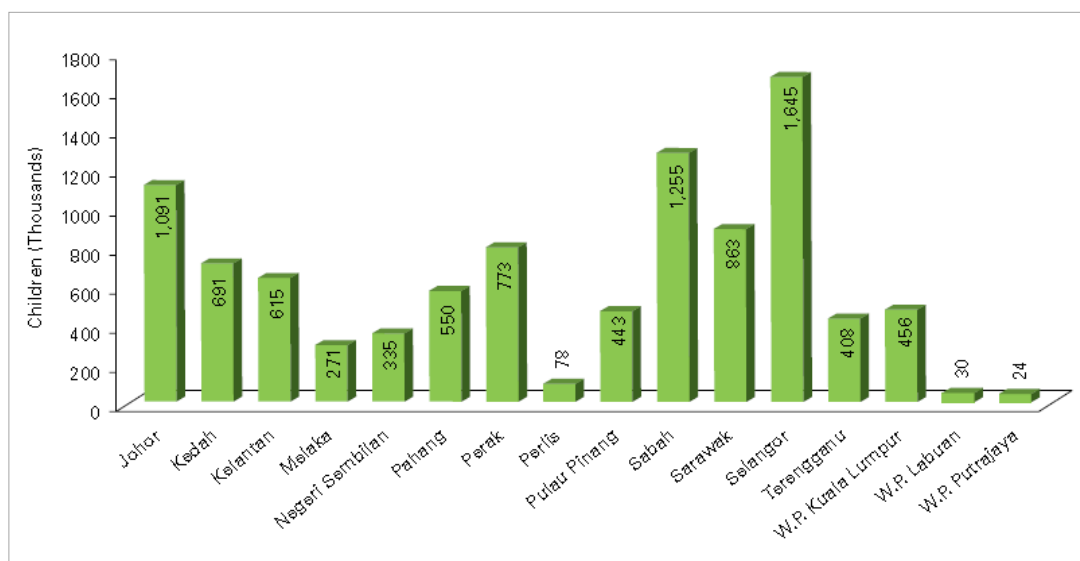


Figure Error! No text of specified style in document..1: Child Population in 2010

Source: Department of Statistics Malaysia (2011): Population distribution and basic demographic characteristics: Population and housing census 2010.

Note: The term 'children' includes those in the population below 18 years of age. The total

This shows that it is significant to recognise the impact of low cost housing areas on the children who are going to live there, especially in Johor Bahru. It is extremely important that the play areas designed in the neighbourhood should be capable of meeting the children's needs and desires and making a positive contribution to their development.

Recently low cost residential areas have become a concern. In terms of design, a low-cost house in Malaysia has to have the minimum standards specified, which are a built area of 550-660 square feet, two bedrooms, a living-room, a kitchen and a bathroom (Nair, 2011). A typical Malaysian family or household usually consists of five members: an adult male, an adult female and three children. This gives rise to the occupation of between two and six people per room or space (Sikod, 2001), which leads to overcrowding, which is defined as more than two persons per room, and is the most frequently cited indicator of unsatisfactory housing conditions among the urban poor (Harker *et al.*, 2008). The layout itself is crowded and the physical housing conditions, such as the presence of roaches, plumbing defects, and heating or cooling problems, contribute significantly to mental health dysfunction, such as being depressed, feeling worried, feeling sad, feeling helpless, and feeling emotionally upset (Green, 2011). Furthermore, Pevalin *et al.*, (2008) cited a quantity of research in his study that showed the link between poor building design and layout and mental health problems, such as stress, and alcohol or drug problems. Sadly, this has a significant impact on children's immediate and long-term health, education, safety and behaviour (Harker, 2007). Undeniably, this leaves children, who make up the majority of the community, but who are given the lowest priority, seldom being listened to and neglected in complying with their needs. To cope with their indoor environment problems, the children need outdoor environment spaces such as a 'loose-fit' place, a liked place and a secret place where they can feel free to enjoy playing without restrictions. Play helps with their stress relief, and enables them to recognise their self-potential, because it supports their physical, cognitive, social and emotional development (Florey and Greene, 1997; Fromberg and Bergen, 2006). Eventually, this will help to manage children's health, education, safety and behaviour problems, which are common problems among children who live in low cost residential areas (Harker, 2007). However, this matter has been neglected by the planners, developers and architects who only design conventional layouts, which are simply focused on

accommodating the total numbers of families to live there, without thinking how to accommodate the needs and demands of the community, especially the children (Zainal *et al.*, 2012). Plus, another concerned issues are the locations of the low cost housing area where mostly located at suburban area. According to UNICEF suburban areas are potentially be urbanised in the 20 years ahead, most of the areas across the country will be urbanised and this gave impact to the future low cost housing area and as well as current low cost housing area. As children make up the majority of the community, it is important to create a good quality neighbourhood. Moreover, this community will be the future generation in the next 15 to 20 years. Thus, before 37,000 units of housing are built, it is significant to understand how to create a better place for the children, even with limited space.

1.3 Research Gap

A variety of research into children's environments has revolved around their homes and neighbourhoods, which has shown that the neighbourhood is part of the children's arena of activities, and is capable of shaping children's daily lives. Many researchers have been concerned about how to create a better environment for children and how to urge them to be active in an outdoor environment. For example, open spaces and playgrounds manifested as the main concerns for Valentine and McKendrick (1997) and Sandseter (2007), who stressed that open spaces should be designed to keep children safe as this has become the factor that hinders children from being active in the outdoor environment. However, according to Bartlett (1999) children are capable of identifying unstructured spaces such as vacant lots, bushes and abandoned spaces, to become their spontaneous playscape. The children acknowledge that these spaces became their 'place', which makes planned places, such as open spaces and playgrounds unnecessary. They base their place on its level of affordances, which entails what the place could offer children in terms of play (Min and Lee, 2006; Castonguay and Jutras, 2010).

When explaining the relationship between children and their 'place', many researchers focused on the affordances of the element in children's everyday

landscapes (see Table 1.2). Their attentions were on what a particular space could offer the children to in terms of play; thus, many studies focus on children and their place making from affordances perspective. According to Kytta (2002, 2004) children perceive, utilize and shape the elements during their play. Perceiving affordances associated with the senses, especially sight or hearing, while utilizing affordances are regarded as an ability to use something, especially to find a profitable and practical use for a certain element (Kernan, 2010; Said, 2012). Shaping affordances is an ability to give a particular form or to create something (Chatterjee, 2005; Broberg *et al.*, 2013). Table 1.2 summarises the studies about children and their neighbourhoods, revealing that affordances have become factors that influence children's use of the outdoor environments, their experiences of being outdoors, the impact on children's development and the role of design in encouraging children's activities in the outdoor environment.

Table Error! No text of specified style in document.2: Previous studies on children’ research on outdoor environment and children’s aesthetic

| Discipline of study | Studies | Dimension applied | Parameters or variables |
|--|--|--|--|
| Environmental psychology, children and society, landscape and urban planning, social and behavioural sciences, children, youth and environments | Kyttä (2002); Bartos (2013); Castonguay and Jutras (2009); Min and Lee (2006); Evan <i>et al.</i> , (2007); Woolley, 2008; Oloumi et al., (2012); Lim and Barton (2010); Herrington and Studtmann (1998); Føjrtoft and Sageie (2000); Platt (2012); Sargisson and McLean (2012); Noschis (1992); Gaster (1992) | Children’s affordances, children’s sense of places, children’s favourite places, children’s public spaces, children’s neighbourhood places, landscape intervention, natural playscapes, greenness, environmental justice, children’s environments, children’s behaviour, urban public environments | Varying settings, five senses, quality of public spaces, environmental attributes, environmental qualities, insideness, landscape based, landscape elements, developmental needs, physical, social, housing qualities, accessibility, mobility, public policy, |
| Children and environment quarterly, aesthetic education, sensuous geography, early childhood education, emotional space and society, developmental processes, children’s therapy | Bartos (2013); Leder <i>et al.</i> (2004); Mailloux and Burke (2000); Billman-Mahecha and Gebhard (2009); Ezan and Lagier (2009); Helvacioğlu and Olguntürk (2009); Wang and Yu, (2012); Acar (2013); Mayesky (2006); Parson (1994); Mailloux and Burke (2000); Acer and Ömerođlu (2008); | Children’s symbolic processes, aesthetics of nature, nature appreciation, children’s attachment, children’s aesthetics, sense of place, aesthetic qualities, aesthetic experiences, aesthetic education, aesthetic response | Imaginative activities, aesthetic judgment, children’s perceptions, creativity creation, dimension of attachment, children’s characteristics, aesthetic preferences, judgment criteria, sensory experiences, aesthetic development, arts activities, developmental stages, physical characteristic as therapy intervention |

Based on Table 1.2, it is also shown that studies into the children’s relationships with the outdoor environment do not take into account the environment’s physical characteristics as part of their concern in understanding children’s relationships with a particular place. Thus, it is assumed that children value a place based on functionality, and aesthetics were viewed as not contributing to its value (Gibson, 1979; Kyttä, 2004; Said, 2006; Fadzila; 2014). Frequently, ‘aesthetics’ refers to a physical characteristic of the element, such as size, texture, colour and form, which provides features that can distinguish one scene from another within

certain time and space ranges (Chen *et al.*, 2009; Wang and Yu, 2012). These physical characteristics are solely referred to as aesthetic and do not contribute to children's engagement with a particular place (Min and Lee, 2006; Castonguay and Jutras, 2009; Oloumi *et al.*, 2012). However, based on Table 1.2, it influences children's senses, especially in different fields, such as early childhood education, aesthetic education, emotions and space. It has been viewed as one of the important components for children learning about their world. This is because the engagement with physical characteristics involves sensory integration between their sight, audio, tactile, olfactory and tasting abilities. This means that engagement with size, texture, form and colour activate children's sight, sound, olfactory system and taste. As a child knows the world more sensuously than adults do, the children might view physical characteristics differently from how adults view do (Bartos, 2013). Likewise, a designer must be capable of handling both aesthetics and functions because one of them cannot fulfil the quality design of a particular place without the other one (Acar, 2013). This makes the aesthetic inevitable and it should not be completely neglected, which means that, in designing a place, it should not simply be aesthetically pleasing, but more about how the aesthetic drives creativity in using the space. This leads to recognizing children's behaviour responses towards physical characteristics in developing their creativity, which makes them act upon the elements they encounter, either by rolling, grasping, running, peeling, crumpling or eating them.

In the early childhood education field it is recognised that children's potential or ability in invention or creation are associated with their aesthetic sense (Mayesky, 2006). This means they have to know and recognize the physical characteristics of the element in order for them to create a particular thing. As mentioned before, according to Kytta (2002, 2004) ability in creating or fashioning a particular form is known as 'shaped affordances', and it is part of level affordances. Moreover, the physical characteristics stimulate children's senses and make children understand their surroundings better. Fundamentally, this avoids sensory deficit among children and equips them to explore the adventure of their surroundings through play (Mailloux and Burke, 2008). From a sensory perspective, it activates their cognitive, motor and emotional skills towards it and this makes their play limitless (Florey and Greene 1997; Bartos, 2013). The contradictory views among researchers into physical characteristics lead this research to understand children's perspectives towards the

physical characteristics during their engagement with a particular place. As children learn through play, and to fill the gap, this research explores children's sensibilities toward the physical characteristics of the everyday landscape element in their neighbourhood.

1.4 Aim and Objectives of the Study

The aim of this research is to investigate middle childhood sensibilities through their sensory perceptions of the physical characteristics of everyday landscape elements in low cost neighbourhoods. Thus, two research objectives are constructed to achieve the research aim:

- i. To explore how the children are sensible to the physical characteristics of everyday landscape elements; and
- ii. To identify what the physical characteristics are in children's everyday landscapes that they are sensible of during their play.

1.5 Research Questions

This research constitutes four research questions, which are:

- i. What are the children's descriptions of the physical characteristics of everyday landscape elements?
- ii. How do the physical characteristics affect children's activities during their play?
- iii. How does the sensibility to the physical characteristics of everyday landscapes influence children's play?
- iv. What are the differences in children's sensibility according to their everyday landscapes?

1.5 Research Assumptions

An assumptions are developed in relation to three different fields. The first field is the educational field, which states that size, texture, form and colour significantly stimulate children's senses. This is because children generate knowledge through their senses (Mayesky, 2006). In child therapy, especially with children with behavioural and emotional disorders, it has been determined that exposure to different types of physical characteristics will ensure that children with sensory deficits will have more opportunity to explore in their play (Mailloux and Burke, 2008). Moreover, it is also strongly supported by the physical development of children's brain, which shows that, during middle childhood, the first spurt of development in children's brains occurs (Vander Zander, 2003). The development takes into account children's sensory and motor skills. This suggests that children, during this time, are actively using their senses and that engaging with the physical characteristics of their everyday landscape elements is necessary. Thus, it is assumed that the physical characteristics of children's everyday landscape elements can significantly influence children's senses. The influence can be seen from sensibility differences in children's play and places.

1.6 Scope and Variables of the Study

This research looks at children's sensibility towards the physical characteristics of the everyday landscape elements around their homes in an urban neighbourhood. The physical characteristics of the children's everyday landscape refer to the size, texture, form and colour of the elements that they play with. Sensibilities towards the physical characteristics of their everyday landscape are investigated through their language, play and place. This means that this research explores what sensibilities are from the children's perspectives. Their behaviour, activities and experiences of the physical characteristics will be addressed and understood through a phenomenological approach using qualitative methods as the research design. Due to this approach, the physical characteristics are the independent variables, while language, play and place are the dependent variables of this research.

The respondents in this research are middle childhood children because of their ability to extensively experience the outdoor environment (Chawla, 2002; Tai *et al.*, 2006). This ability makes them the major users of their neighbourhoods and shows that middle childhood children are the agents who give character to their neighbourhoods. Furthermore, their activities concentrated on sensorial engagement as their development at this period took place on their sensory abilities (Bee and Boyd, 2002; Vander Zander, 2003). Their perceptions of the physical characteristics are obtained through four qualitative methods, which include direct participation, photo-taking, play journals and in-depth interviews, to gather data on their definitions and descriptions of the physical characteristics and their sensibility in regard to their play and place concerning the elements as their play objects. Each method is used to answer the two objectives of this research. Direct participatory observations, photo taking and in-depth interviews are used to measure the children’s descriptions and definitions of the everyday landscape elements in their play activities. Furthermore, direct participatory observations, play journals and in-depth interviews are used to measure the children’s sensibilities in relation to their play and places. All the data will be analysed using descriptive and content analysis. Table 1.3 indicates the parameter, methods, research objective and tool to analyse in this study.

Table 1.3: Parameter, methods, research objectives and tool to analyse

| Methods | Research objective | Tool to analyse |
|---|--|---|
| <ul style="list-style-type: none"> • Participatory observation • Individual interview • Photo taking | RO 1:to explore how the children are sensible to the physical characteristics of everyday landscape elements | Descriptive analysis (Word Frequency and Word Tree) |
| <ul style="list-style-type: none"> • Participatory observation • Individual interview • Play Journal | RO 2:to identify the children’s sensibilities in their everyday landscapes during play | Content analysis (Matrix Words Query) |

The research chose the old, low cost housing areas in the urban neighbourhoods in Johor Bharu, Johor as the study sites. This is because The neighbourhoods were surrounded by a variety of natural elements consisting of biotic and abiotic elements, which offer different sensibilities in their play and places. The varieties of natural elements were due to the maturity of the neighbourhoods, which consisted of old, low cost residential areas that were built between 1989 and 1994. It is assumed that their engagement with the biotic and abiotic elements makes the children perform different activities according to their sensibilities towards the physical characteristic of the elements. Selection of site study will be based on the six criteria derived from previous research. The criteria are listed in Table 1.4:

Table 1.4: Criteria in choosing study sites based on previous research

| Criteria | Justification and Definition | Researchers |
|----------------------|---|---|
| Safety | Four main obstacles - traffic volume, crime, risky play and poor maintenance of recreational institutions hinder children from staying outside | Elsley (2004); Sandseter (2007); Littel <i>et al.</i> , (2011); Benwell (2013) |
| Supervision | Casual supervision from parents who allowed them to play (parents' permission) with their older siblings at a place where they can be observed by the parents and the community | Karsten and van Vliet (2006); Rasmussen (2004); Day and Midjber (2007); Veitch <i>et al.</i> , (2008) |
| Independent mobility | Children are not accompanied by their parents, which allows them to be mobile and unaccompanied, using their preferred method of transportation | Blakely (1994); Prezza (2007); Yatiman (2013) |
| Surface | Different types of surface affect children's play and movement | Kriesberg (1999); Sobel (2001); Kylin (2003); Aziz (2014) |
| Loose fit | Unstructured or unplanned spaces for children to play in | Thompson (2002) |
| Natural elements | Natural elements offer varieties of objects for children to play with | Fjørtoft and Sageie (2000); Kahn and Kellert (2002) |

1.7 Significance of the Study

The significance of this study is to fill the research gap and respond to the research problem statement. The study adds to the knowledge on children's sensibilities to the physical characteristic in experiencing their everyday landscape elements. The study exposed that sensibility to physical characteristics is another factor that should be understood by adults and researchers when discussing the children's environments. Children's sensibilities to the physical characteristics of their everyday landscape elements are investigated through their experiences with the everyday landscape elements in their play. The elements are available around their neighbourhood, especially near their homes. The study exposes that when children play, they sense the physical characteristics of the elements that they use as their play objects. The children's involvement with sensory activities exposes them to recognising the potential of affordances in their play objects. Thus, their abilities in recognizing, naming, classifying, labelling, signalling and identification are influenced by their sensibilities to the physical characteristics of the elements that are available in their everyday landscape.

Significantly, the study identifies that the affordances of a particular object start from children's sensibilities to the physical characteristics of the elements. Their sensibilities in play help the children to construct a space in their neighbourhood that becomes their 'place'. This adds new knowledge of planning and design, as the study suggests that in small and limited spaces, children are still able to transform spaces to become their places through sensibilities to the physical characteristics of the elements in the place. This should be taken into account in fulfilling children's demands and needs in preparing better neighbourhoods for them. This helps to support children's physical, social, cognitive and emotional development. This research will have greater contribution in child friendly environment and help planner and landscape architect in designing low cost neighbourhood.

1.8 Research Design

Conceptualization of this study is divided into four sections: (1) Literature Review, (2) Data Collection, (3) Data Analysis (4) Results and Findings and. Figure 1.2 illustrates a flowchart of the research design.

1.8.1 Literature Review

A review of literature explains about children's everyday landscapes, including children's sensibilities of the landscape and the Theory of Affordances as the underpinning of this research. It is divided into four parts. First part presents the definition of children's everyday landscapes, the factors contributing to children's engagement with their outdoor environment, and how children's homes could serve as their everyday landscape. Second part discusses the role of play in middle childhood development. It elaborates the characteristics of middle childhood development from physical, social, cognitive aspects and emotional, while play in middle childhood stresses what type of play children love to engage in. Lastly, the benefits of play and the role of play in middle childhood development are discussed. Third part explains children's sensibilities and the types of physical characteristics in their everyday landscapes. The importance of the physical characteristics of landscape features, including size, texture, colour and form, influence children's development. How they affect children's moods and contribute to their creativity is also discussed. Finally, forth part reveals the Theory of Affordances as the underpinning of this research. The types and levels of affordances are also clarified in this part

1.8.2 Data Collection

In order to collect the data, three strategies have been applied, which are the sampling strategy, data collection methods and; equipment and tools. How many children and what type of sampling techniques apply in this study will be revealed in Section 1.8.2.1. The data collection method in collecting data for this research is elucidated in Section 1.8.2.2. Lastly, the types of equipment and tools used in collecting the children's verbatim reports, photographs and actions in their play are further explained in Section 1.8.2.3.

1.8.2.1 Sampling Strategy

This study will be applied a phenomenological approach, even though there are no specific numbers for sample size as it depends on the cost and time. However, based on previous researchers, such as Bertaux (1981), Tesch (1984), Polkinghorne (1989), Morse (1994) and Guest *et al.*, (2006), who conducted research into qualitative methods, phenomenology will be a guideline in determining the sample size of this study. Charmaz (2006), for example, proposed that a total of twenty-five participants is a suitable number for smaller projects and, according to Ritchie *et al.*, (2003), qualitative samples frequently contain less than fifty participants. Furthermore, Green and Thorogood (2009, p.120) stated that “the experience of most qualitative researchers is around twenty participants or more”. Interest in capturing children’s sensibilities towards the physical characteristics of their everyday landscapes drove the decision to include participants at the higher end of the recommendations by Charmaz (2006) and Green and Thorogood (2009), which are twenty-five participants. Potential participants will be approached using a snowball technique. This technique is used because the aim of this study is primarily explorative, qualitative and descriptive (Hendricks *et al.*, 1992).

1.8.2.2 Data Collection Method

This research used four methods, each with different abilities, to address the children’s competencies. Direct participatory observation, photograph taking, play journals and in-depth interviews are the methods used in this research. These methods are referred to as child-friendly methods, which concentrate on child-centred research. The term child-centred refers to the level of children’s involvement in a particular research, which attempts to negotiate an understanding of the research aims in a situation or term that make sense to children (Smith, 2010). It tries to strike a balance between not patronizing children and recognizing their competencies, while maintaining their enjoyment of been involved with the research (Barker and Weller, 2003). In the end, these methods will facilitate children to communicate their views on sensibility towards the physical characteristics of their everyday landscape elements. A combination of techniques enable the data-generation process to be fun and interesting for the participants, as well as effective in generating useful and

relevant data (Barton, 2006). To ensure what the children said in the in-depth interview sessions are parallel with what they actually did in practice, it is necessary to include an observation method rather than relying solely on task-based methods (Punch, 2001). Thus, the in-depth interviews are combined with photograph taking, play journals and direct participation. In summary, the research methods used in this study are designed to answer four research questions.

1.8.2.3 Equipment and Tools

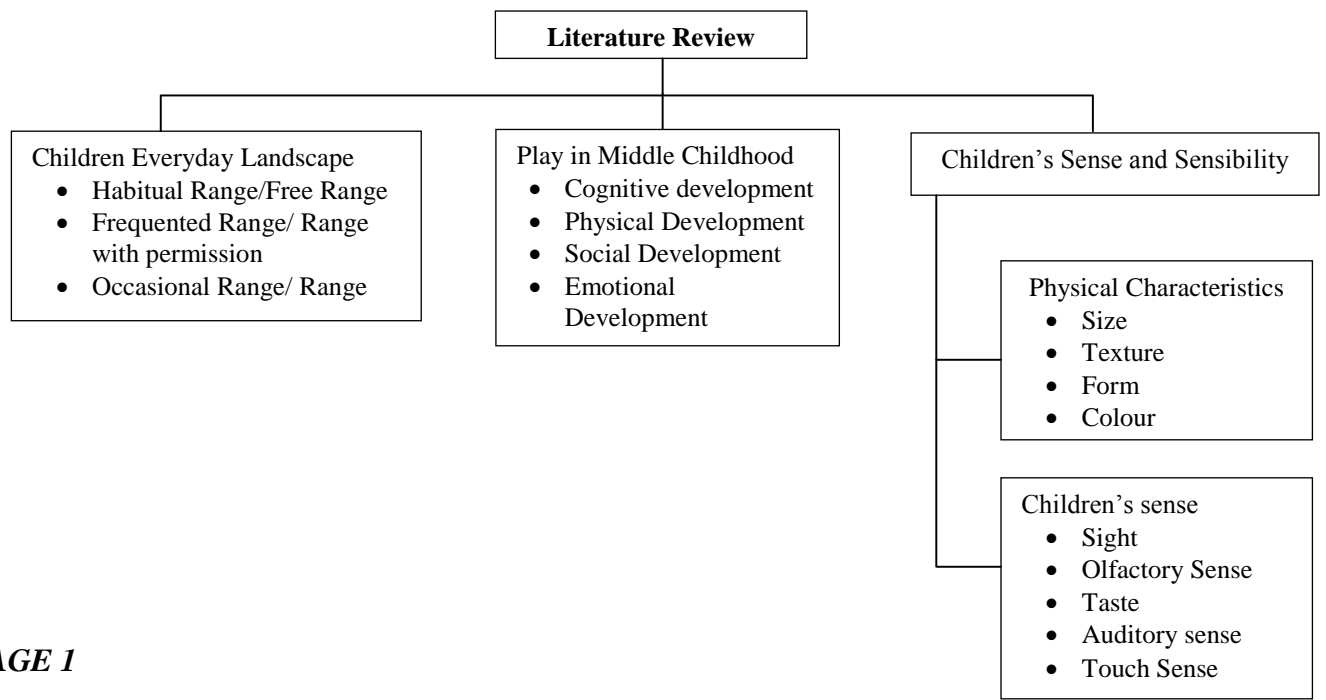
In order to collect data, several pieces of equipment will be used according to the data collection methods used in this research. During direct participation with the children, the field researcher and the assistant field researcher used a research diary to jot down the children's activities. An interview form for the children's photographs is constructed in order to act as a guideline for conducting the in-depth interviews, consisting of semi-structured questions. However, unexpected questions according to how the children responded will be jotted down in the interview form. The children's words will be recorded using a voice recorder in a mobile phone during the direct participatory observation and the in-depth interviews. The children's actions during their play sessions will be recorded using the phone. The photograph taking involves a Nikon 15 megapixel digital camera. An A5 sized exercise book will be given to each of the participants to write about their play. Table 3.5 summarises the data collection methods, equipment and tools and the total number of units used in this research. In the direct participation, the voice recorder will be placed in between three individuals who are the researcher, the group leader and one of the members who will be playing in the a particular group. The video recorder will be used when the children allowed the researcher to video record their activities. A total of four cameras will be needed in this research. During the photograph taking, the children needed to take photographs in a group, so they shared one camera per group. Each of the participants will be given one exercise book by the researcher to keep their play journal.

Table 1.5: Summary of data collection, tools and equipment, and unit of tools and equipment

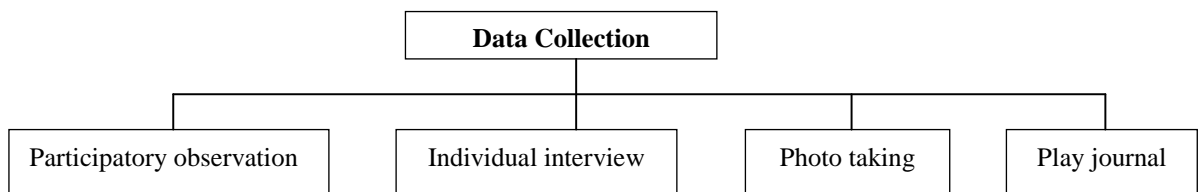
| Data collection methods | Equipment and tools | Units |
|-------------------------|------------------------|-------|
| Direct participation | Voice recorder | 3 |
| | Video recorder (phone) | 1 |
| Photo taking | Camera | 4 |
| Play journal | Exercise books | 32 |
| In-depth interview | Voice recorder | 1 |

1.8.3 Data Analysis

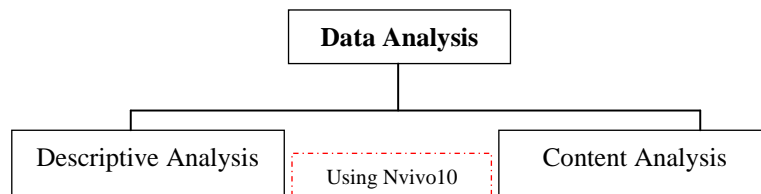
All of the data will be gathered using the four types of methods. It includes photographs, play journals, videos and voice recordings. The analysis in this study utilised NVivo 10, as it involved descriptive analysis and content analysis. All of the data will be analysed using four steps in NVivo 10, which are import, explore, code and query. The data from the different sources according to the three neighbourhoods will be imported into NVivo 10. Firstly, the data from multiple sources, such as documents, pictures and audio and video recordings will be explored, gathered and transcribed in a node, which is a collection of references on a specific theme, place, person, or other area of interest. The data gathered from the neighbourhoods consisted of nodes. Next, the descriptive analysis will be explained using word queries to answer RQ2 and RQ3. Word queries involve word frequency and word trees. In Section 3.10.2, the content analysis will be detailed to answer RQ4 and RQ5. While a matrix query will be used to analyse the sensibilities in children's play and children's place.



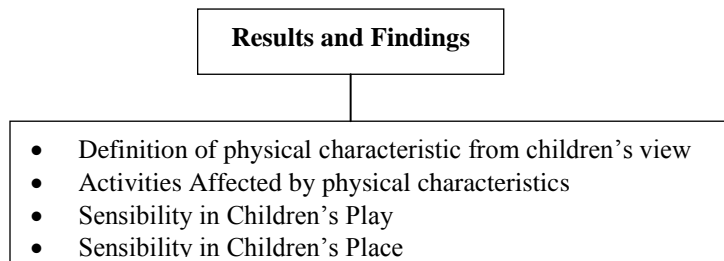
STAGE 1



STAGE 2



STAGE 3



STAGE 4

Figure 1.2: Flowchart of Research Design

1.8.4 Results and Findings

This stage discusses the findings of the study generated from the methods used during the data collection stage which will be photography, play journal, direct participation and in-depth interview. This stage presents the results and findings to achieve the research aim which is to investigate children's sensibility through sensory inputs from physical characteristics of everyday landscape elements in urban neighbourhoods. To achieve the aim of this study, the results and findings will be divided into two parts which respond to each research objective. The first part addresses Objective 1 to explore the children's sensibility to the physical characteristics of everyday landscape elements. Therefore, the definition of children's sensibility towards physical characteristics will be analysed base on the children's description about physical characteristics and their activities in sensing them. The second part addresses Objective 2 to identify the physical characteristics in the children's everyday landscape that engage the children's sensibility during play. Consequently, the children's sensibility on physical characteristics of everyday landscape elements will be analysed base on the children's location and play activities

1.9 Anticipated Findings

Urbanism is inevitable, it has been estimated that, in the 20 years ahead, most of the areas across the country will be urbanised. This is a major challenge in creating a good environment that can help children's development. Urbanism should not be avoided but should be adapted to create a better environment for children. Therefore this study anticipates two major findings:

- I. Type of children's everyday landscapes where they develop their own places by being sensible to the physical characteristics of the elements in their everyday landscapes. Among of children's places are loose fit spaces such as vacant lots and drainage reserves, where they potentially can be the important places for children to play. These unplanned spaces should be focused on when designing urban neighbourhoods. They should be designed to fulfil a multi-functional purpose for children, as well as for the

community of the neighbourhood. These place will show difference in sensibility towards physical characteristic of everyday landscape elements.

- II. Secondly the effect of the residents' actions in planting vegetation such as *Pandanus odoratus*, *Citrus hystrix*, *Manihot esculenta*, *Nephelium lappaceum*, *Muntingia calabura*, *Hibiscus rosa-sinensis*, *Jasminum sambac*, *Allamanda cathartica*, *Ixora sunkist*, *Gardenia jasminoides* and *Cananga odorata* are important elements in children's play as this action could help children's sensibilities. Thus, this action should be part of the neighbourhoods' activities because it helps children to understand their everyday landscapes better through play when they engage with it.

1.10 Research Schedule

| STAGES OF STUDY | YEAR 1 | | YEAR 2 | | YEAR 3 | |
|---|--------|-------|--------|-------|--------|-------|
| | Sem 1 | Sem 2 | Sem 3 | Sem 4 | Sem 5 | Sem 6 |
| Proposal | | | | | | |
| Literature review | | | | | | |
| Problem statement, Aim, Objective formulation | | | | | | |
| Methodology | | | | | | |
| Pilot study | | | | | | |
| Data collection | | | | | | |
| Data input and analysis | | | | | | |
| Findings | | | | | | |
| Journal writing | | | | | | |

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