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### PRESCHOOL PROVIDER'S NOTION OF QUALITY PRESCHOOL BUILT ENVIRONMENT IN MALAYSIA

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#### *Abstract*

Access to quality early childhood education as well as building and upgrading education facilities as part of social resilience and effective learning environments have been envisaged as Goal Four in the 2030 Agenda for Sustainable Development by United Nations. An increasing number of studies reveal that preschool built environment quality plays an equally significant role in children's development and learning. To improve the built environment quality of preschools, it is crucial to identify issues encountered in the existing preschool built environment. Eleven preschools in Penang, Malaysia were selected as case studies to explore the quality of preschool built environment from the perspectives of preschool providers. A total of 11 preschool principals participated in a semi-structured interview. Content analysis resulted in the generation of five themes; i) space availability, ii) premise dilemma, iii) significance of outdoor environment, iv) budget determining the availability of quality spaces and iv) parental demands and expectations. Findings revealed that participants concurred with the built environment playing a significant role in the overall quality of preschool. Existing built environment factors such as windows, doors and availability of outdoor spaces also affected the decision on classroom arrangements and activities carried out. The resulting discussion of this paper hopes to provide constructive suggestions for designers and stakeholders in their bid to enhance the preschool built environment as part of efforts to enhance the quality of early childhood education as a whole. This would be a first step to ensure a better built environment for the wellbeing of young children.

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**Keywords:** Quality education, preschool quality, preschool built environment quality, early childhood provider.



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## 1. Introduction

Global recognition on the magnitude of early childhood care and education (ECCE) in laying the foundation for lifelong learning arise based on neuro-scientific evidence (Shonkoff & Phillips, 2000) and economic findings (Karoly, 2016) portraying high returns in human capital from investment in ECCE. With the advent of the 2030 Agenda for Sustainable Development Goals (SDG) set by the United Nations (2016) on Quality Education (Goal Four) for social resilience and effective learning environments, recent focus in many countries including Malaysia has shifted to the quality of these establishments. Nevertheless, while programme appraisals and measurements on quality point towards high-quality programmes contributing constructively towards children's developmental outcomes (Manning, Garvis, Fleming, & Wong, 2017; Shonkoff & Phillips, 2000), these constructive effects are atypical experiences for a majority of children except when ECCE settings attended are of high quality (Bonetti & Brown, 2018). In Malaysia, although efforts to boost quality in education has been captured in the Education Blueprint 2013-2025, improving education quality beyond 2015 was recognized as one of the sector's challenges (MOE, 2015). To address this conundrum, the issue of quality in education for young children merits critical address as quality ECCE provision compensates for disadvantages and fosters resilience especially for vulnerable children (UNESCO, 2006). Globally, UNESCO has called for governments to implement facility and provider focused regulatory standards to monitor and improve quality in these settings (Anderson, Raikes, Kosaraju, & Solano, 2017; UNESCO, 2010). As definitions of quality deviate in association with values, a country's socio-economic context, beliefs as well as the requirements of the community of users across countries and diverse stakeholder groups (Taguma, Litjens, & Kim, 2012), a common and irrationally high standard of quality will lead to ill-informed conclusions in policy and fund allocations (UNESCO, 2006). Thus, there is a need to examine the quality of education in preschool from the standpoint of built environment that is reflective of the Malaysian context and identify related issues of the existing preschool built environment.

### 1.1. Quality Measurements from the Perspective of Process and Structural Dimensions

To help distinguish the different areas of quality in preschools including those related to policy, (UNESCO and UNICEF (2012) has taken a two-tier approach with quality addressed through two dimensions - structural and process. Process indicators include proximal factors of children's experiences (Hartman, Warash, Curtis, & Hirst, 2016; Slot, 2018) and concerns interaction quality between staff and children (UNESCO, 2010) as well as social, emotional physical and instructional aspects (Slot, 2018). Conversely, structural indicators are measurable factors that can be regulated (Hartman et al., 2016) and include credentials of staff, teaching skills, safety and health concerns, staff-child ratios as well as the physical setting (UNESCO, 2010). Albeit measuring different aspects of preschool quality, both indicators are constantly related (Vandell & Wolfe, 2000). In short, structural measures are inputs to process characteristics. These characteristics include the location and overall environment of preschool settings, which forms the framework for the processes that are experienced by children (Taguma & Litjens, 2010) whom can be regulated (Hartman et al., 2016). Structural features thus form prerequisites for process quality (Slot, 2018) as they enable process quality elements to operate, thus impacting children's outcomes (Fenech, 2011). Studies have found that process quality improves through

manipulation of structural characteristics and when structural quality measures are well regulated (Hartman et al., 2016). This is where the built environment quality of preschools plays a role in enhancing or restraining aspects of process quality.

### **1.2. Built Environment as part of Structural Quality Measure**

A growing number of researches have thus far revealed that the quality of preschool should equally emphasize the built environment in which education happens. For example, the built environment of preschools has been recognised to considerably affect children's socio-emotional and cognitive development (Ferguson, Cassells, Macallister, & Evans, 2013). Since spaces are agents for change (Oblinger, 2006), transformed spaces facilitate behaviour adjustment and practice (Murray & Lamb, 2018; Oblinger, 2006). As the design of classrooms also has the means of notifying us on the didactic means and core of the pedagogy directing educative efforts young children's learning (McClintock & McClintock, 1968), children's learning in preschool can either be stimulated or restricted depending on a preschool's built environment. To further analyse and characterise quality and cultural significance of learning outcomes, cultural differences and understanding of learning standards should be addressed (Profeta, 2012). In this vein, quality should remain contextually and culturally appropriate. With built environment playing a critical role in both structural and process measures of quality, one of the first ways to ensure better quality preschools is to understand the present physical environment settings of preschools. Since there is a need to match preschool built environment designs to the requirements of users derived from pedagogy and policies (Rahim, 2001; Shaari & Ahmad, 2016), it is crucial to identify issues encountered in the existing preschool built environment from stakeholders especially preschool providers who determine the built environment set up of preschools so that built environment quality of preschools can be improved.

### **1.3. Preschool Built Environment in Malaysia**

In Malaysia, preschools cater to children ages four to six years (MOE, 2015) and are under the purview of the Ministry of Education (MOE) who exercises quality assurance for both public and private preschools through enforcement of the National Preschool Quality Standards (NPQS) on all preschool operators. On the other hand, built environment requirements of preschools are governed by different laws and regulations such as the Town and Country Planning Act 1976 (Act 172); National Land Code 1965 (Act 56); Education Act 1961; Education Act 1996 (Act 550); Uniform Building By-Law 1984; Education Regulations 1997 & 1998; and Local Government Act 1976 (Act 171); and local council requirements. These regulations however, are not linked to discussions in NPQS which discusses process quality enhancement especially curriculum content heavily. Only a short outline on space management to guide learning and teaching as well as a few propositions of activities that could be conducted in those spaces were discussed in the NPQS. As discussions of preschool curriculum and built environment matters are discussed separately, a gap exists making it difficult to comprehend how the preschool built environment can create the framework for process quality enhancement. Although data from empirical studies conducted predominantly in the Western World are crucial for determining built environment characteristics contributing towards better learning outcome, these data may not be contextually

appropriate for use in Malaysian preschools for two main reasons. Firstly, the definition of quality is not universal and thus, minimum standards to achieve built environment quality cannot be universally defined leading to possibly unaffordable high-quality standard which would result in ill-informed policy decisions. Secondly, as structural quality and process quality are interrelated, matching preschool built environment design to user requirements is essential.

## **2. Problem Statement**

In contrast with studies concentrating on the physical environment of preschools, the majority of researches on preschools have mainly concentrated on process dimension and concerns over staff credentials, teaching experience, safety and health concerns, staff-child ratios, as well as curriculum development and programming. In Malaysia, likewise, policies have been predominantly biased towards the social environments (Shaari & Ahmad, 2016) with less importance given to the built environment quality. As Nicholson (2005) affirms that buildings, thus the built environment reflect and disseminate ideas of the way children learn and the approach of teaching, borrowing standards of built environment quality from Western countries for preschools in Malaysia directly would be unsuitable as learning environments should reflect the type learning they support. In addition, Walden (2015) notes that expertise of school planning does not rest only on architects and engineers but also on users. Coupled with the fact that most of the decisions on pedagogical approaches and curriculum are decided at setting or staff level and are not explicitly defined by the national government (Wall, Litjens, & Taguma, 2015) while efforts in enhancing the overall quality of preschool education can only be realised if stakeholders are sensitive to aspects supporting better quality learning environment (Mohidin, Ismail, & Ramli, 2015), understanding issues surrounding built environment quality of preschools from the perspectives of preschool providers is crucial. Furthermore, as lack of consistency between planned ideals and implemented reality can be a barrier to preschool quality (Tee & Nor, 2018), the perspective of preschool providers on issues encountered in the existing preschool physical environment would be a first step to plan solutions for the enhancement of the overall built environment of preschools in Malaysia.

## **3. Research Questions**

The study attempts to understand the extent built environment impact the overall preschool quality from the perspective of preschool providers guided by the following research questions:

- What are preschool providers' perceptions of their respective preschool built environment?
- Do existing built environment factors such as windows/ doors/ colours/ acoustic/ scale and proportion/ furnishing etc. affect preschool activities?

## **4. Purpose of the Study**

As part of efforts to improve physical environment quality of preschools in Malaysia, the purpose of the study is to explore the built environment quality of preschools from the perspectives of preschool providers as a means to identify issues encountered in the existing preschool physical environment.

## **5. Research Methods**

### **5.1. Case Study Selection**

Multiple case studies were selected as this method would assist in exploring the topics more broadly under contextual conditions, allowing closer examination of present preschool practice through multiple sources of evidence. The target population for this study included eleven private preschools registered with the MOE and under the jurisdiction of the Penang Island City Council. Private preschools were selected as they represent the highest percentage in the number of students (Department of Statistics Malaysia, 2016). Furthermore, most of these private preschools are established based on for-profit purposes and are business orientated. The population included preschools located within Bayan Baru and Sungai Ara in Penang as these areas are made up of generally middle-income, working-class residential neighbourhoods which would help control socioeconomic status bias.

### **5.2. Sampling Method**

After defining the population, stratified random sampling was employed to select preschools for the study. Typology of preschool premise was used as stratification with four strata established including corner lot terrace house, semi-detached house, detached house and shop lot. Eleven principals from the selected preschools agreed to participate in the study.

### **5.3. Data Collection Procedure**

Prior to the interview, ethical clearance was acquired from the Human Research Ethics Committee (HREC) of Universiti Sains Malaysia and all principals who volunteered for the study signed a consent form before the start of the interview. The actual study took place from August 2018 to October 2019. On the day of the interview, permission to record the interview session was obtained from principals before each interview. Audio recordings of interviews were transcribed non-verbatim with grammatical errors corrected. To ensure transcripts are reflective of the recordings, each transcript was checked constantly while listening to the audio recording after the first round of transcription. Any discrepancies were corrected. This process was repeated for all interview data.

### **5.4. Data Analysis**

Data from the transcripts were analysed through in vivo coding so that data are rooted in the participant's own language. In the first round of data analysis, NVivo software was used and a total number of 100 'codes' were auto generated through word frequency query. Following this, the data were qualitatively interpreted through content analysis based on the codes generated from the NVivo software. Content analysis enabled the researcher to be closer with the data to generate more comprehensive data of the interview content. Theme analysis was also employed to measure dispersion or association of feedback was then conducted using coded data from interview to generate themes pertinent to the study. This process culminated in the extraction of five pertinent themes related to preschool stakeholder's perception of the overall physical environment quality of preschools.

## 6. Findings

Following data analysis of the interview obtained from the eleven principals (10 female and one male), issues on physical environment factors affecting teaching and learning teaching as well as perception of the overall physical environment quality of preschools were classified and structured into five main themes. The main themes identified included: i) space availability, ii) premise dilemma, iii) significance of outdoor environment, iv) budget determining availability of quality spaces and iv) parental demands and expectations.

### 6.1. Space Availability

In general, all participants agreed that built environment quality plays a role in the overall quality of preschool. Data gathered implied that availability of space was the main concern in discussions on built environment quality for preschools within residential premises. This finding was similar to the findings obtained by Mohidin et al. (2015) who highlighted that more spacious indoor and outdoor playing area enhances environmental stimuli for children. In this study, participants agreed that space constraints affected classroom arrangements and activities carried out, as indicated by several participants:

*“Spaces are the most important aspect...We have so many spaces (required) but actually we have to cater (to the children) in this type of building which is too small. Then we cannot fulfil everything. So it is quite hard for us. This is a challenge. To create all the corners for them for carrying out activities or maybe for role play is the most challenging for us.” (P11)*

Nevertheless, while space constraints were a major built environment quality issue for preschools within corner lot terrace and semi-detached residential settings, participants from preschools which were housed in shop lots did not share this restriction. This finding was however inconsistent with the finding by Mohidin et al. (2015) who found that shop lot were restricted in its spaces layout. As noted by a participant:

*“I would say that in the shop lot, I don't have space or layout restrain. Meaning I can freely design it. This is a good thing.” (P10)*

This implies that the majority of preschool providers in residential settings felt that having more space would enable them to create more corners for different activities which would enhance the quality of a preschool's built environment (P11). Conversely, providers in shop lots have the flexibility to add on activity corners and felt that space was not a topic of concern. This dissimilar notion on availability of space is captured further in the next theme on premise dilemma.

### 6.2. Premise Dilemma

It was found that as the existing physical environment affected classroom arrangements and activities carried out, the type of premise in which preschools were housed in plays a role in the overall

built environment quality. As all the case studies were not purpose-built preschools but retrofitted from existing buildings, premise dilemma was explained by a participant in the following scenario:

*“Because the physical environment is already fixed, we cannot change the physical environment so we have to change our activities or our (furniture) arrangement. We cannot change the physical environment because this house was not built by us. If we built the preschool ourselves it would be better. We can do whatever we want.”(P2)*

This scenario shows that existing built environment factors such as windows, doors and availability of outdoor spaces also affected the decision on classroom arrangements and activities carried out as well as the awareness of the possibilities purpose-built preschools bring. However, in addition to the predicament of retrofitting preschools within a fixed built environment, the additional constrain felt by participants was that a majority of preschool premises were rented rather than owned by the respective preschool providers. Thus, agreement from the respective owners would have to be sought before major enhancement to the built environment can take place. One participant indicated that:

*“I cannot make decisions (to the built environment) because this is a rented area. I have to check with the owner. You know in Malaysia, it is very hard if we want to extend (the premise). We have to draw the floor plan and engage an architect to sign. It is not easy.”(P5)*

The finding on the majority of private preschools was on a rental basis resonated with the findings of Salleh, Agus Salim, Kamaruzzaman, and Mahyuddin (2016) who found that 68.5% of preschool out of 1000 randomly selected preschools around Malaysia were rented. Seeing that premises are not owned by the principals or preschool operators, approval from the respective premise owners would be required for major renovations works. Ultimately, this finding indicates a limitation in the existing local preschool scenario which would have to be taken into consideration in discussions of efforts to enhance the built environment of preschools.

### **6.3. Premise Dilemma**

While participants concur that space availability contributes towards the overall built environment quality of preschools, budget constraints were cited as the prime factor they could not fulfil the requirement for space. Sentiments of participants are highlighted as follows:

*“...sometimes because of the cost, you try to have minimum changes...If you have a bungalow, it would be best. But then it is going to be costly right?”(P5)*

*“Maybe it would be good to find a bigger space for children’s activities. But bigger space will cost more as rental definitely is going to be higher. Then only can you have a better and bigger place with a garden.”(P11)*

The finding of this study here is reflective of the conclusion drawn by Salleh *et al.* (2016) indicating that refurbishment of preschools differs based on the principals available budget as well as vision. Similarly, Bakar, Daud, Nordin, and Abdullah (2015) noted that one of the reasons teachers reported in hindering play in preschool was the lack of materials for play reflecting budgetary issues. These studies highlight the need to address budgetary considerations when it comes to discussions on enhancing the built environment of preschools.

#### **6.4. Significance of Outdoor Environment**

The existence of the outdoor environment is deemed an essential criteria making up a preschool's built environment quality by all participants from preschools housed within residential premises. Two participants expressed their opinions as follows:

*“There is one thing not good about shop lot and it is that there is no outdoor area. You cannot have an outdoor area for children to play. Then if you do everything indoors, like having the first floor as an indoor playground, there is one problem. Diseases can easily spread easily because it is all air-conditioned.”* (P7)

*“Some schools are in shophouse, but it is actually not very ideal for outdoor play. Children cannot touch the trees and grass.”* (P11)

Admittedly, a participant whose preschool is housed within a shop lot noted that without an outdoor environment, some activities with children could not be conducted. Likewise, Tee and Nor (2018) noted that limited resources including the availability of outdoor space contribute towards a structured preschool curriculum culminating in a more formal approach undertaken in preschools. However, the principal from the shop lot based preschool felt that there were upsides to having indoor play area:

*“Obviously, not having an outdoor, we cannot do as many things with living creatures. We can't do plants...So that's where it's limited...So I did say we do not have an outdoor area. But only then, the children will not get sunburn and can play even through the haze.”*(P9)

Although the principal noted the benefits of having an indoor play area, the aspect of outdoor play area should not be discounted since previous studies including those by Acar (2014) as well as Shaari and Ahmad (2016) have highlighted that outdoor spaces have largely been ignored in educational settings. In addition, Acar (2014) noted that young children must be provided with opportunities for outdoor play and as such, outdoor spaces have to be designed to contribute towards children's learning. Similarly, Aziz and Said (2015) put forth that in order to optimise children's play experiences, the creation of a better environment for children's outdoor play would be required. Besides, the outdoor environment is significant for children's physical socialisation as children are provided with the opportunity of getting in touch with plants, animals and environmental conditions (Acar, 2014; Sandberg, 2010). Thus, the aspect



of the outdoor environment in contributing towards built environment quality must be taken into consideration.

### **6.5. Significance of Outdoor Environment**

Parental demands and expectations also played an indirect role in the overall built environment of preschools. Essentially, participants felt that they have to live up to the expectations and demands of parents when setting up a preschool as noted in the following comment:

*“What we put here is also to accommodate the parents...because, as a school, we are part of the family institution. So it is not good to have a school that is perfect for children but does not work for parents. So we have to do something that is good for both.” (P9)*

Parental demands and expectations in a way determined the type of facilities provided in preschools as noted by a few participants:

*“We cannot do like what they have overseas. For example, it may seem very fun to have mud play, but in Malaysia, it is not suitable. It is actually the parents who do not allow this type of play because of germs and all these sorts of things. So a lot of things we cannot cater for the children because of the parents. They do not really agree.”(P5)*

*“Actually sometimes during the holidays, we let them play with water. Sometimes only but it also depends because some of the parents disagree. They are afraid their children will get sick. The children nowadays are very fragile. Cannot too cold, cannot too hot.”(P7)*

The finding on parental demands and expectations playing an indirect role in the built environment quality of private preschools in Malaysia were similarly reflected upon by Tee and Nor (2018). Likewise, Badzis (2003) noted in her study that a few teachers cited parental pressure impacted the way they conduct preschool lessons. Thus, aspects surrounding parental demands and expectations should also be taken into consideration as this aspect plays a role in influencing the type of activity spaces provided by principals within preschools.

## **7. Conclusion**

Findings from this study reveal that issues encountered in structural quality dimension (space availability) affect process dimension (means for teachers to teach and for children to learn). Thus, the built environment quality of a preschool should not be put as an afterthought especially for children in the most vulnerable communities. In light of the issues discussed, while participants were all in for better quality physical environment and understood the importance of space availability both indoors and outdoors for children’s learning and development, undeniably, budget considerations and constraints restricted possibilities of upgrading and enhancing existing preschool built environments. As such, while built environment factors which have been found in other studies to contribute towards the enhancement

of children's learning are considered pertinent, findings indicate an additional need for designers to take into consideration user's perspective to come up with more resilient solutions so that it is economically viable. Nevertheless, as more stringent ECCE regulations have been shown to contribute towards higher process quality (Hartman et al., 2016), discussions on acceptable minimum standards of preschool built environment quality must be addressed together with budgetary concerns during round table discussions between preschool and city council stakeholders as well as built environment designers. Furthermore, as private preschools diverge in their operation from ethos, management criteria and social economic context, further research to explore in-depth issues and methods on ways to enhance the built environment of preschools would be fundamental to formulate practical solutions towards the enhancement of the overall built environment of preschools in Malaysia.

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