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Minimalist Biophilic Interior Design at Daycare in Jakarta

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Abstract

Daycare is a public facility that not many people know about or use currently. Even though daycare can be a support for parents who work and don't have a nanny. Even though several daycares have been established in Jakarta itself, the concept presented at this daycare is very different. The current condition of Jakarta, which is increasingly congested and air pollution is quite high, is one of the reasons for designing this daycare. Daycare is designed not only as a supporting facility, but as a place that can support children's development and growth. This design uses a biophilic minimalist concept, where this concept presents a natural concept combined with a minimalist concept that is suitable for children.

Keywords: *Biophilic, Daycare, Jakarta, Minimalist, Natural*

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INTRODUCTION

Minimalist Biophilic Interior combines the principles of minimalist design with the philosophy of biophilia, which recognizes humanity's natural connection with nature (Gegadannitisswari, 2009). The design emphasizes simplicity, clarity and balance of space, while introducing natural elements such as natural light, greenery and organic materials (Sejati, 2017). This approach aims to create a calming environment, promote health and well-being, and increase productivity (Browning, 2014). The implementation of minimalist biophilic interior design has been shown to provide a number of benefits to its occupants. Research shows that exposure to natural elements in a space can reduce stress, increase concentration and improve mood (McGee & Park, 2022). Natural lighting, for example, not only reduces eyestrain but also helps regulate circadian rhythms, which contributes to better sleep and an overall healthier lifestyle (Kellert, 2022).

In addition to the individual benefits, minimalist biophilic interior design also has a positive impact on the environment (Byrne, 2011). The use of recycled and eco-friendly materials and sustainable construction practices help to reduce the carbon footprint and create more environmentally friendly spaces (McGee & Park, 2022). In addition, the integration of plants in the space can improve air quality and reduce indoor pollution. While the Minimalist Biophilic Interior concept offers many benefits, its implementation is not always easy (Cvetanovic et al., 2019). Designers must consider various factors, including building orientation, material selection, and room layout planning to achieve the right balance between minimalism and the presence of nature (Oksanen et al., 2023). In addition, education and awareness of the importance of sustainable interior design is also needed to encourage widespread adoption of this concept (GRAFITA & Rudianto, 2023).

The environment in which young children spend their formative years plays a crucial role in their overall development (Choiriyani & Lissimia, 2020). Daycare centers serve as vital spaces for early childhood education and care, making it imperative to create nurturing and stimulating surroundings (Nurcahyanti et al., 2021). By integrating the principles of Minimalist Biophilic Interior Design into daycare centers, we can cultivate environments that promote holistic development, well-being, and a connection with nature from an early age (Anam & Inayatul Maghfirah, 2022). Minimalist Biophilic Interior Design in daycare centers focuses on creating tranquil and inviting spaces that encourage exploration, creativity, and learning (Shareef & Farivarsadri, 2019). By employing clean lines, simple forms, and neutral color palettes, we provide a visually uncluttered environment that fosters a sense of calmness and security . This minimalist approach allows children to focus their attention on activities and interactions, promoting concentration and engagement.

Integrating biophilic elements into daycare interiors brings the benefits of nature closer to children. Incorporating natural materials such as wood, stone, and bamboo not only adds warmth and texture to the space but also connects children with the natural world (Ridho et al., 2021). Furthermore, introducing indoor plants not only improves air quality but also instills a sense of responsibility and appreciation for living organisms among young children (Kurnia et al., 2020). Daycare centers designed with a minimalist biophilic approach prioritize maximizing natural light whenever possible. Large windows and skylights not only illuminate the space but also create a connection between indoor and outdoor environments. Exposure to natural light regulates circadian rhythms, enhances mood, and supports healthy sleep patterns, all of which are essential for children's well-being and development (Chen, 2011).

Incorporating sensory-rich elements into the design encourages children to explore and engage with their surroundings. Textured surfaces, such as natural wood or soft fabrics, provide tactile stimulation, while elements like water features or nature-inspired artwork appeal to auditory and visual senses (Dharsono, 2014). By stimulating multiple senses, minimalist biophilic interiors contribute to the holistic development of children (Gonçalves et al., 2021).

As time goes by, many parents need daycare as a supporting facility to leave their children when they are at work and do not have a nanny or someone who can look after their children. In fact, quite a few children receive inappropriate care. According to the Ministry of Women's Empowerment and Child Protection, almost

4% of toddlers in Indonesia receive inadequate care and 84% of toddlers live with their parents. With this daycare facility, it is hoped that it can help parents, as well as help children's growth and development during their growth period, with the activities carried out. In designing this daycare, a minimalist biophilic concept is used which presents green space indoors. As we know, life in Jakarta is very busy, fast, and the air pollution is not good, therefore this concept is suitable for children as it can bring children closer to nature, improve body fitness and increase comfort. In fact, according to Browning, biophilic has a design that provides opportunities for humans to live and work in a healthy place, with minimal stress levels, and provides a prosperous life by integrating design with nature.

METHOD

The methods used in this design are survey, observation and documentation (Sholihah, 2006). Survey research is defined as the process of conducting research using surveys that researchers send to survey respondents (Almeida et al., 2016). Surveys were conducted at several daycares in Jakarta and in the areas where daycares were designed to determine strategic locations (Litan et al., 2010). Observation is way of gathering data by watching behavior, events, or noting physical characteristics in their natural setting (Faradila et al., 2023). Observations can be overt (everyone knows they are being observed) or covert (no one knows they are being observed and the observer is concealed) (Kassim et al., 2014). Observations were carried out directly and online to obtain field data to meet the required data requirements, while documentation was carried out using cellphones to take photos and videos while at the location (Cahyono et al., 2023) (Kadarin Nuriyanto & Rachmadhani, 2022).

Data analysis is the process of inspecting, cleaning and modeling data with the aim of finding useful information, informing conclusions and supporting decision-making (Hati & Ciputat, 2019). Data analysis consists of zoning, grouping, space size, space organization, circulation, and spatial relationship patterns. In zoning and grouping, rooms are divided into several sections, such as private, public, semi-public and service rooms. Space-forming components such as shapes, colors and materials are adapted to the needs of the space and are suitable for children (Mcallister & Maguire, 2012). The circulation flow in the room is adjusted to the needs so that activity and movement within it can be achieved. Space relationship patterns are arranged based on the relationship of one space to another, both in rooms that are directly and indirectly connected (Indriyani et al., 2022).

RESULT AND DISCUSSION

This daycare in Jakarta was built with a minimalist biophilic concept. As is known, air pollution in the capital city of Jakarta is not very good for health, because this biophilic concept is applied to this power care to create a natural atmosphere during these conditions. As well as a minimalist concept that is suitable for children. According to Kellert (2007), Biophilic design is a design theory that starts from studying the phenomenon that humans essentially love the natural environment.

The shapes used in this design are shapes that have natural properties and can help children recognize shapes, such as geometric shapes, rounds, squares, triangles, and others. In Sriti Mayang Sari's journal "Implementation of Space Experience in Interior Design", Kandisky (1979) stated that geometric shapes in design have a sense of goodness, the power to please and lead to safety to be used according to the child's character (Figure 1). The shape and colour also serve as inspiration for the use of materials and shape processing that will be applied to this design. The materials used include wood, natural stone and grass. Other supporting materials such as granite, glass, plastic and iron.

Figure 1. The application of tree motifs and shapes
Source: Agnes Putri R. Br. G., 2024

The shapes used come from leaves, tree branches, clouds, and shapes that can support children's stimulation. This form will later be implemented in the daycare interior, where the shape will be simplified again. The colours used are taken from natural colours which are dominated by green, blue and brown. As well as other supporting colours such as white, black, yellow, gray and red (Figure 2).

Figure 2. Color Composition
Source: Agnes Putri R. Br. G., 2024

The green colour is taken from the colour of the plants and leaves used, the brown colour is taken from the tree trunks and plants, and the blue colour is taken from the colour of the sky. The biophilic concept prioritizes natural aspects as outlined in the daycare design, so colours related to nature are used. As well as other colours as supporters combined with a minimalist concept. The classroom walls use a light green colour taken from the colour of leaves, this colour can provide a relaxed atmosphere, provide a harmonizing effect, and act as a balance (Figure 3). Meanwhile, the floor uses SPC material and a light brown colour, this colour can create a warm and comfortable atmosphere. Apart from that, the decorations on the walls are combined with a minimalist biophilic concept.

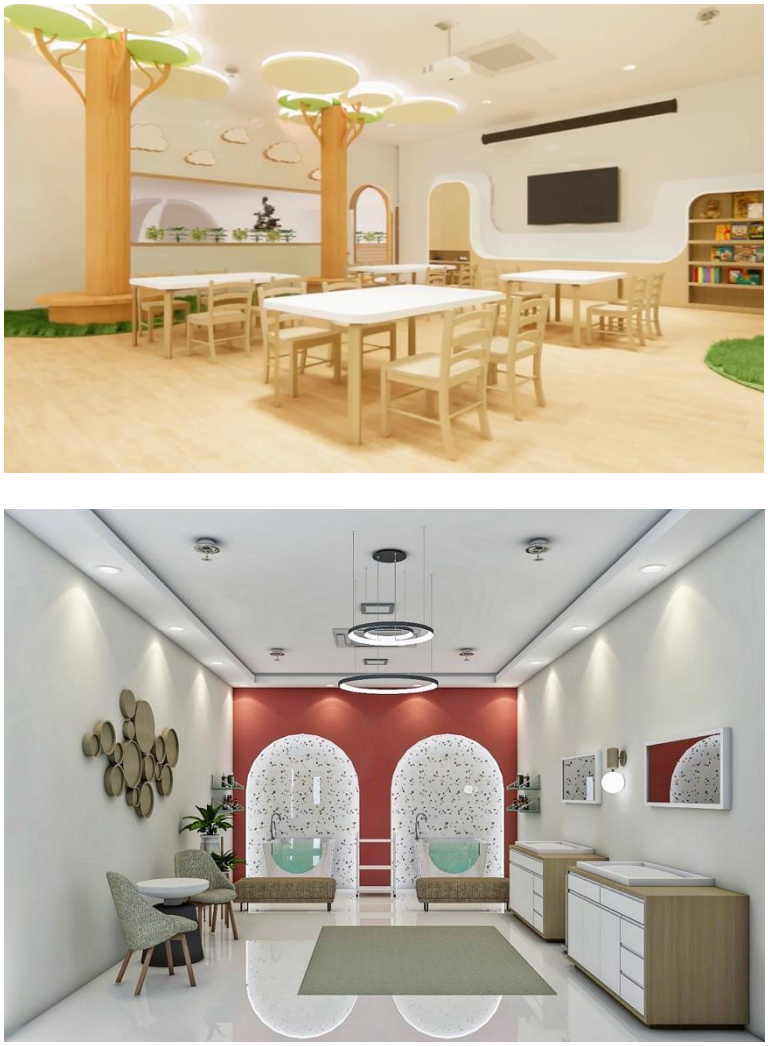

Figure 3. Application of material to the wall
Source: Agnes Putri R. Br. G., 2024

In other room areas, the use of materials is adjusted to suit needs, such as in the lobby area, waiting room, staff room, and even the mini stage area using granite floors. Granite is used because it has advantages in maintenance, is durable, and resistant to scratches. Meanwhile, in other areas, ceramic materials are used.

Figure 4. Mini stage area
Source: Agnes Putri R. Br. G., 2024

To support the biophilic concept, this design uses several types of plants that are able to live indoors. These types of plants include cast-iron, peace lily, pothos betel, spinder plant, English ivy, mother-in-law's tongue (sansevieria), and monstera deliciosa. The plants used are easy to care for, by watering them sufficiently and cutting off wilted leaves. Apart from that, plants also need sunlight, therefore adequate ventilation is very necessary. In the mini stage area, the ceiling design is additionally made with a sky light so that sunlight can enter (Figure 4).

Air circulation in daycare uses 2 types of ventilation, namely natural and artificial. Natural ventilation is supported by openings and ventilation in each room, as well as an open ceiling in the garden (Figure 5). The presence of openings in this garden can improve circulation in the surrounding area and can also help with natural lighting during the day.

Figure 5. Classroom
Source: Agnes Putri R. Br. G., 2024

Most of the furniture used in this design uses wood. Apart from the fact that the wood material has sturdy properties, it also supports a minimalist impression. Some furniture also uses other materials such as HPL, plywood, glass, iron and plastic. The use of HPL in furniture uses wood motifs to support a minimalist impression. The furniture materials used have been confirmed to be suitable for children (Figure 6). The design of this furniture is also made to suit children, such as not having sharp edges. Apart from that, the size of the furniture is adjusted to the child's standards, so that it is comfortable and safe when used. Choosing neutral colours with a predominance of brown can create a warm atmosphere.

CONCLUSION

This daycare was designed with the aim of helping parents who need a place that can be trusted and fulfill their child's needs when entrusted to them. And can become a supporting public facility in the current era. This biophilic minimalist concept can be seen from the use of gardens to support the interior of the daycare. Supporting facilities available at daycare, such as lobby, waiting room, receptionist, classroom, spa room, haircut room, stage area, garden, toilet, staff room and pantry. It is hoped that this project can become a public facility that can be developed now, to meet the needs of parents and children.

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