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Implementation of Children's Architectural Design Principles in Child-Friendly School Buildings (Case Study: Fuji Kindergarten, Japan & Farming Kindergarten, Vietnam)

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ABSTRACT

Architecture for children should receive higher priority to achieve adequate educational facilities for the next generation of the nation. Creativity is crucial in the development of fine and gross motor skills in children. Research on child-friendly architecture has yet to explore its architectural manifestations. This study aims to develop important indicators for the architectural aspects of child-friendly schools. The benefits include guiding practitioners in designing child-friendly schools and enriching the theory of child-friendly schools. The operational steps include: (1) Reviewing Sarah Scott's theory on child-friendly schools; (2) Implementing indicators of child-friendly schools in Fuji Kindergarten and Farming Kindergarten buildings, both of which embody child-friendly concepts; (3) Analyzing the compatibility of Sarah Scott's theory with these two school buildings as case studies; (4) Developing guidelines and implementation of designs for child-friendly schools based on these case studies.

Introduction

Children at an early age is one of the topics that has long been an important topic to prepare a good individual from the beginning (Herlina, 2023). Early childhood or childhood is commonly known as the golden age, which is the golden period. In this golden period, there are more than 100 billion brain cells that are continuously developing and supporting children's capabilities that can be maximally improved (Dewi, 2017). This crucial period for children cannot be repeated. Therefore, this period is very important to pay attention to the quality of the development and growth of children along with all their potential (Amrullah, Angela, Kusumawardhana, & Hikmah, 2022). Children's development takes place very quickly, including in the central system, namely the brain. Children's brains in their packaging period can develop by 80% in the early age period. The percentage that can be called very large in development is because it is the part that almost reaches perfect growth in a very short period. At this age, the words and actions

of an individual child are formed and become the basis for the development of the child's nature, behavior, and intellectual level (Azijah, Adawiyah, & Hashanah, 2022).

One of the needs of things that can support and accommodate children's growth is the facilities and infrastructure of the environment where they are active. Most early childhood children carry out many of their activities at home and in the school environment, where they provide education. It is important as a perception for children, perception is produced by stimuli from the surrounding environment that are received by the five senses. Architecture is an object that can directly provide a real spatial experience through human visual senses. Physical elements and visual characteristics have an important role in the formation of children's perceptions (Yuwono, 2019). Therefore, children's architecture is important to be discussed and developed theoretically and practically. Places and environments that have good situations and circumstances can stimulate more optimal growth of children. In child growth and development, there is an age limit called the golden age of children that should be used optimally for the formation of individuals who are physically and emotionally good in the future. Many studies have found that children's brain growth takes place very quickly and reaches the greatest proportion at a very early age.

The subjective perception of schools in Indonesia is mostly that schools for early childhood must be architecturally child-friendly, but there is a contradiction with the situation on the ground (Mu'in, 2011). Because there are still many schools that claim to be child-friendly schools but have not met the architectural parameters for children. This contradiction occurred because, in previous research, it was suspected that the level of knowledge and perception architecturally in the resource persons was inadequate. As a result, respondents rated higher than the standard they should have (Susanti, 2023).

Many cases in architectural built environments, both macro, and micro, do not pay attention to essential elements for children optimally, for example, accessibility that hinders, lack of safe open space, building design that is not child-friendly, and so on (Syahputra, 2024). The needs of children should be considered for the sake of a better quality of generation for the future in the long term. A high-quality generation is determined by the younger generation of the nation's successors (Yulianti, 2021). This is the main item that arises in the field of architecture for children. Given the high level of crucial architecture intended for children, children's schools for early childhood are a typology that is important to pay attention to in quality, not only in terms of materials and curriculum but as a fostered environment where they spend the most time in the early childhood period.

Tezuka Architects is one of the pioneers who spread anxiety and also developed towards children's architecture. Tezuka Architects is an architectural agency from Japan that has been led since 1994 by a couple named Takaharu Tezuka and Yui Tezuka. Tezuka Architects claims that they are an architectural agency that has a special focus on children. One of Tezuka Architects' works is Fuji Kindergarten which is located in Tachikawa City, Japan. Fuji Kindergarten has been named the best school architecture in the world by the OECD (Organization for Economic Co-operation and Development) and UNESCO.

Tezuka Architects has also received many awards for its architectural works, such as the Architectural Institution of Japan Prize, the Good Design Award Gold Prize, The Japan Institute of Architects Prize, and the Children's Environment Association Prize (Hill, 2021).

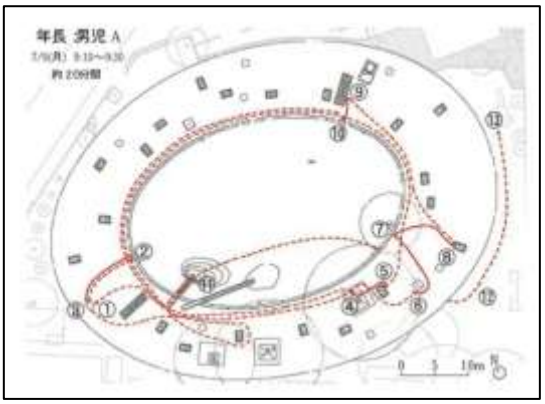


Figure 1. Fuji Kindergarten Child Movement Diagram
(Source: (Barbara D'Aloisio, 2015))

The picture above is a diagram of a boy's movements in 20 minutes (9:10 - 9:30) with a building circumference of 183 meters. As a result, the total movement carried out was 600 meters long in the morning. After further research, the movement of children in Fuji Kindergarten was recorded to be much higher than that of children in other schools and made the children in Fuji Kindergarten much more athletic and had better academic performance than other school children in the area in general (Amasuomo, 2021).

As for the Farming Kindergarten in Vietnam, the country has historically been an agricultural nation. However, rapid economic changes in recent decades have driven the youth from rural areas to cities, creating increasingly polluted ecosystems. To address this situation through education, this kindergarten integrates farming into its teaching program and architectural design. Classrooms and service areas are arranged in narrow strips that can be penetrated from both sides, forming three rings in a single spiral line, with sections elevated from or buried in the ground. The result is an uninterrupted roof that can be accessed directly from the ground and is covered with vegetation. The green roof of the Farming Kindergarten is not only a literal expression of the building's function but also serves as a laboratory for students to learn ancient skills, as well as a playground. Coupled with facades also planted with greenery, this green roof provides excellent thermal and acoustic insulation for the educational facilities below, integrating panels to capture sunlight and store water for recycling. The result is a building whose energy consumption is minimized as much as possible (Arquitectura Viva, 2024).

Technically and according to Architecture for Children, Fuji Kindergarten has met the requirements for the existence of primary and secondary facilities for child-friendly architecture. The architectural form also greatly supports the movement space for children to become more active as a channel of kinesthetic energy. Every aspect of the guide design is also well-fulfilled and planned. According to Augustin Sally, the development of children's creativity has a great influence on the surrounding environment, both tangible

and intangible, including social and natural. Therefore, the environment where he learns is a significant thing to pay attention to in his design for the sake of creating children who have high creativity. In addition, this intelligence and creativity can be triggered by the implementation of sensory and psychological experiences related to the 5 human senses, namely sight, taste, touch, hearing, and smell. This not only triggers intellectual intelligence but also triggers children's intelligence emotionally and motorically (Augustin, Frankel, & Coleman, 2009).

Tezuka Architects is known to the world not only for its creativity and courage in designing but also for the awareness that they always uphold and spread to the needs of children in the built environment. Starting from the design principle that they term 'humanist', design that focuses on and is based on the needs of daily human activities. This has developed into an inclusive need for children that is often not paid attention to in detail. Therefore, this research has the following main objectives:

1. Knowing children's architectural design and built environments for children
2. Formulate design principles applied in children's architectural works
3. Knowing the results of the analysis of the attachment of design principles applied to the object of study with the concept of architecture for children in general

In the realm of architecture for children, Sarah Scott is one of the initiators of the theory of approaches related to design features for child-friendly architecture. In his book entitled Architecture for Children, there are points on the aspects of design application that are described related to his research on children's architecture. Designers can learn a lot from early learning teaching methods that say the importance of the environment for children in their growth and development. This means that designing a building as an object that is used specifically for children begins with understanding the child's character and the child's connection to his environment. In principle, the natural approach is quite important to be an aspect of the role of the environment in which they operate. Maintaining the quality of the child's environment is the best effort to support the development and growth of the child (Scott & Australian Council for Educational Research., 2010).

There are design aspects that have been formulated as parameters to achieve child-friendly architecture. In order to realize a form of architecture for children, 16 aspects must exist in a children's service center environment, these aspects are then categorized into 4 major groups, namely landscape, spatial programs, spatial elements, and complimentary. This is what is used as a study criterion. The 16 aspects include; context, the great outdoors, regulations, community, inclusions, and the spaces in between, space, art room, bathrooms, eat-in kitchen, storage, offices, outreach, transparency and nature, detail texture color, and ceilings, scale, interaction, and furniture.

Research Methods

The research method used in this study is bibliographic descriptive. This research aims to investigate the principles and implementation of architectural design in building design for children because it is believed that this has an impact on their growth and

development process. This research was conducted through a combination approach between observational analysis of architectural objects as a case study and literature study to better understand the features of design principles in early childhood architecture. The purpose of this study is to find out that the connection of the physical environment can be designed in such a way to meet the needs by considering the child's perspective. The following are the steps of the stages carried out in this research method:

Stage 1: Literature Collection and Analysis

The initial stage of the research involves collecting bibliographies about related research, resulting in the formulation of information about children's architecture and the object of the study case.

Stage 2: Information Synthesis

The next stage is continued by synthesizing and selecting related information according to the needs and context of the research.

Stage 3: Case Study

The third stage is the discussion of the points that have been collected in the previous stage, to analyze the object of study in more depth at the next stage.

Stage 4: Data Analysis

The fourth stage is a more detailed reformulation of aspects from the results of the case study, resulting in a table of children's architectural aspects to be implemented in architectural design for children.

Stage 5: Interpretation and Conclusion

The fifth stage is the last stage of concluding the research, which answers the problems and objectives of writing this journal.

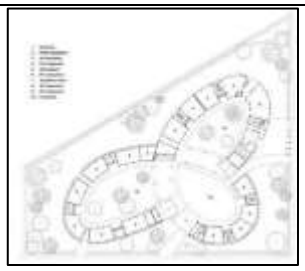
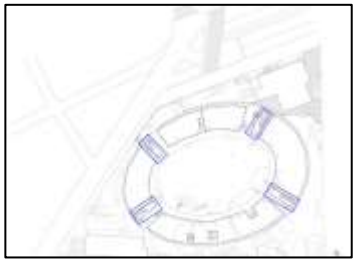
Results and Discussion

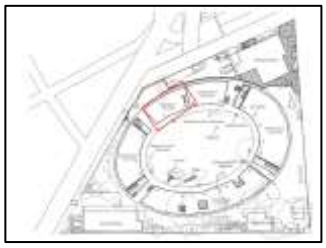
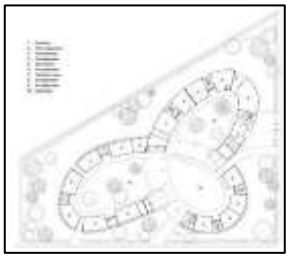
In these results and discussions, emphasis is placed on the urgency of development in the field of architecture centered on children. This is considering the importance of optimal educational facilities for future generations and beyond in the long term. Fuji Kindergarten has become a major case study because it has successfully implemented excellent design and has a special specialization in the field of children's architecture, the resulting design considers the technical needs and development of children comprehensively. The approach adopted by Tezuka Architects at Fuji Kindergarten can also be a guideline for formulating child-friendly design standards. In addition, Farming Kindergarten designed by VTN Architects also provides additional insights as a comparison of various strategies to formulate an environment that supports child development. At the synthesis and analysis stage, the instrument used is the main theory, namely Architecture for Children by Sarah Scott which will be matched with the results of the design of these two objects of architectural study. The following is an explanation of the implementation of architectural parameters for children in the conditions of Fuji Kindergarten and Farming Kindergarten:

Table 3
Comparative Analysis Formulation According to Children's Architecture Aspects

Analysis based on Category Parameters	Fuji Kindergarten-Japan	Farming Kindergarten-Vietnam
1. Context		
The obvious thing that is applied as a fit-in-context building design is the design of Fuji Kindergarten which still respects the trees and natural elements in its design. Open space is made dominant and integrated with nature, other natural elements such as trees are not eliminated at all in the design trees are made into elements that are integrated into the building so that it has the impression of its existence that is indeed in the right place. The application is more or less the same as Farming Kindergarten by retaining the natural elements of the original site before being designed into a school architecture.		
	Figure 1. Context in Fuji Kindergarten (Source: (Scott & Australian Council for Educational Research., 2010))	*Figure 2. Context in Farming Kindergarten (Source: https://lyquynhblog.wordpress.com/wp-content/uploads/2016/03/08-copy.jpg*
2. Open Space		
Open space looks to be the main thing in the design process at Fuji Kindergarten. The element of open space is the dominating aspect of this school. The classrooms are made around the open space itself and also the rooftop/roof of the building is an open space used for children's activity facilities. In Farming Kindergarten, the open space is almost the same as that in Fuji Kindergarten, but the location of the open space is more dynamic and varied in sequence and division. Due to its threaded shape, different parts of		

Analysis based on Category Parameters	Fuji Kindergarten-Japan	Farming Kindergarten-Vietnam
the garden can be used in general in different areas at the same time.	*Figure 3. Open Space in Fuji Kindergarten (Source: http://www.tezuka-arch.com/english/works/education/fujiyochien/)*	*Figure 4. Open Space in Farming Kindergarten (Source: Arch Daily VTN Architect)*
3. Community: Inclusive, Spaces Between		
There is a space for community for children who are inclusive and have space between them. Visually, the organization of a centralized, open space without barriers, and generally the same facilities, such as an open space in the middle which is a facility for all existing students, gives the impression of inclusiveness to the space. Community and inclusivity at Farming Kindergarten are created from various parks provided for children to play and interact with their friends. Although there is a divided park, with open facilities like this children are wanted to interact and explore more.		
	Figure 5. Community in Fuji Kindergarten (Source: (Scott & Australian Council for Educational Research., 2010))	*Figure 6. Community in Farming Kindergarten (Source: https://vtnarchitects.net/farming-kindergarten-pe178.html)*
4. Children's Space		
The space created specifically for children has a reach according to the study carried out. The large circle shape is also the choice of the shape of this architecture because of the very large and repetitive space for children's movement. This principle is applied to the state of the outdoor space and the indoor space of the building to support the movement space of the children who are active in it.		
	Figure 7. Space in Fuji Kindergarten (Source: https://fujikids.jp/en/facilities/)	*Figure 8. Space in Pada Farming Kindergarten (Source: Arch Daily VTN Architect)*
5. Art Room		

Analysis based on Category Parameters	Fuji Kindergarten-Japan	Farming Kindergarten-Vietnam
There is a hall that is used as an art facility at Fuji Kindergarten. It is usually filled with children's creativity and practice activities as well as parent meetings, as well as events involving students' parents. There is an Art Room and Art Workshop when viewed from the ground floor plan of Farming Kindergarten. This also makes Farming Kindergarten meet this design aspect and has paid attention to the facilities of the art space aspect to develop children's creativity.	 *Figure 9. Hall performance Fuji Kindergarten (Source: (Scott & Australian Council for Educational Research., 2010))*	 *Figure 10. Ground Floor Plan of Farming Kindergarten (Source: https://lyquynhblog.wordpress.com/2016/03/13/farming-kindergarten-vo-trong-nghia-architects/)*
6. Bathrooms		
At Fuji Kindergarten and Farming Kindergarten, of course, there are bathroom sanitation facilities for its users. The bathrooms at Fuji Kindergarten can be seen in a plan of 4 spread out according to the needs related to the radius of the building which is quite wide in terms of achievements. Similar to Farming Kindergarten, the bathroom is spread out according to the radius of achievement. The sanitation facilities on both objects are also claimed to have been adjusted to the needs of children, in terms of hygiene and ergonomics.	 *Figure 11. Floor Plan of Fuji Kindergarten (Source:* (architecture for early childhood, 2012))	 *Figure 12. Floor Plan of Farming Kindergarten (Source: https://lyquynhblog.wordpress.com/2016/03/13/farming-kindergarten-vo-trong-nghia-architects/)*
7. Storage		
There is a storage area in each classroom. The storage area for children's facilities is generally used to store children's luggage and shoes. The storage area is also partially used as a barrier to internal spaces that tend to be open.	 *Figure 13. Storage in Fuji Kindergarten (Source:* (architecture for early childhood, 2012))	-

<table>
<tr><th>Analysis based on Category Parameters</th><th>Fuji Kindergarten-Japan</th><th>Farming Kindergarten-Vietnam</th></tr>
<tr><td colspan="3">8. Administration Room</td></tr>
<tr><td rowspan="2">Seen on the ground floor plan of the existing space, there is an office space for staff and teachers at Fuji Kindergarten, placed separately from the children's classroom but still has a point of view that can monitor the entire state of the space in the school.</td><td>  </td><td>  </td></tr>
<tr><td>Figure 14. Ground Floor Plan of Fuji Kindergarten (Source: https://visuallexicon.wordpress.com /2017/10/03/hiroshima-peace-memorial-museum/)</td><td>Figure 15. Ground Floor Plan of Farming Kindergarten (Source: https://lyquynhblog.wordpress.com/ 2016/03/13/farming-kindergarten-vo-trong-nghia-architects/)</td></tr>
<tr><td colspan="3">9. Other Supporting Facilities</td></tr>
<tr><td rowspan="2">Supporting facilities are also available in the design of Fuji Kindergarten. As well as the open space itself is flexible and can be used as a space for various activities, such as gardening and interacting with animals. In addition, there is a playground with the concept of a tree house in the building, which aims to encourage children's motor and psychomotor creativity.
Farming Kindergarten, as the name implies, is a school with the concept of teaching children to be close to nature and one of its efforts is to want children to learn from the surrounding environment with gardening activities. With this, children can take care of themselves and have lessons about nature every day as their long-term habits.</td><td>  </td><td>  </td></tr>
<tr><td>Figure 16. Supporting Facilities in Fuji Kindergarten (Source: https://fujikids.jp/en/facilities/)</td><td>Figure 17. Supporting Facilities in Farming Kindergarten (Source: https://vtnarchitects.net/farming-kindergarten-pe178.html)</td></tr>
</table>

Analysis based on Category Parameters	Fuji Kindergarten-Japan	Farming Kindergarten-Vietnam
10. Transparency and Nature		
The spatial extension is found in building designs that have materials that tend to be transparent in the relationship between the outer and inner spaces. Between the inner spaces as previously explained in the community aspect, the inner space is inclusive because of its open design and requires transparency between classes. Transparency and natural elements are already present in Farming Kindergarten, but the implementation still uses walls and windows that are by standards. This is different from Fuji Kindergarten which opens all parts as if the inner and outer spaces are integrated. This is the reason for each design according to needs because if Fuji Kindergarten attaches great importance to transparency and connection with nature, Farming Kindergarten by VTN Architect has more thoughts that teaching and learning activities also need to be prioritized. So making it too transparent will interfere with the child's concentration if they have activities that are different from other rooms. This design is also adjusted to the context of the school itself in terms of curriculum, schedule of teaching and learning activities, children's habits, etc.	 *Figure 18. Transparency and Nature in Fuji Kindergarten (Source: https://land8.com/fuji-kindergarten-an-exploration-of-space-and-learning-for-children/)*	 *Figure 19. Transparency and Nature in Farming Kindergarten (Source: https://vtnarchitects.net/farming-kindergarten-pe178.html)*

Analysis based on Category Parameters	Fuji Kindergarten-Japan	Farming Kindergarten-Vietnam
11. Detail, Texture, Color, and Ceiling		
There are many texture details in this Fuji Kindergarten. The selected colors are also colors that are rarely used for a kindergarten, but according to the source, Fuji Kindergarten chose neutral colors because of its integrated concept in nature. In addition, the colors on the interior were also created so that they have a neutral and calm impression in the hope of maintaining stability in children's psychology so that there are no striking colors that dominate. Color lessons related to creativity and stimulating children's brains are likely emphasized in the learning process and learning properties. In addition, the ceiling is made very interactive for children according to its scale; the ceiling has lights that can be operated directly by children according to their needs and desires.		-
	Figure 20. Detail, Texture, Color, and Ceiling in Fuji Kindergarten (Source: (Scott & Australian Council for Educational Research., 2010))	
12. Scale		
The scale of interior and exterior spaces is proportional to the dominant users of the building, namely children. The proportion of the height of the space and all its elements is designed according to the proportions of children so that the impression of the space becomes like a 'home' and not unfamiliar or too imposing for children's perspectives. The scale observed at Farming Kindergarten already meets space standards, but when compared to the distance between the ceiling and		
	Figure 21. Scale in Fuji Kindergarten (Source: https://id.pinterest.com/pin/168814686022227821/)	*Figure 22. Scale in Farming Kindergarten (Source: https://www.youtube.com/watch?v=ZBrcg1x-1HI)*

Analysis based on Category Parameters	Fuji Kindergarten-Japan	Farming Kindergarten-Vietnam
classroom floors at Fuji Kindergarten, Fuji Kindergarten has distances that are more comfortable for children because they are adjusted to the scale of children.		
13. Interaction		
Interaction between outdoor and indoor spaces exists within the building, as well as differences in elevation. Spatial interaction remains significant on a large scale, not just confined to small-scale open interior spaces. This spatial interaction encourages outdoor activities together and creates a strong inclusivity for all its users. At Farming Kindergarten, inclusive interaction spaces are found in semi-open transitional spaces. These areas often host communal events that involve the participation of the kindergarten's children.	 *Figure 23. Interaction in Arsitektur Fuji Kindergarten (Source: https://www.linkedin.com/pulse/teaching-change-2-japan-tezuka-architects-fuji-max-borka/)*	 *Figure 24. Interaction in Farming Kindergarten (Source: YouTube VTN Architect)*
14. Furniture		
The furniture used in the planning is specifically designed for children, ranging from sinks, tables, and chairs, to toilet facilities. This aims to encourage children to become more independent in carrying out their activities according to their needs.	 *Figure 25. Furniture in Fuji Kindergarten (Source: (Scott & Australian Council for Educational Research., 2010))*	 *Figure 26. Furniture in pada Farming Kindergarten (Source: https://vtnarchitects.net/farming-kindergarten-pe178.html)*

After discussing every aspect of children's architecture in the case study of Fuji Kindergarten and Farming Kindergarten, the following are the results of the formulation as a comparative analysis by the material that has been described:

Table 4
Results of Comparative Analysis Formulation according to Children's Architecture Aspects

No	Parameter	Conformity		Information
		Fuji Kind.	Farming Kind.	
1	*Context /*	v	v	The context has been adjusted to the environmental conditions and the site where the two objects stand.
2	*The Great Outdoor /*	v	v	Open spaces can be in the form of parks and also play areas. Both objects chose a large open garden and also a rooftop which is used as a place for children's exploration. This is to want children to foster a sense of belonging and explore their environment thoroughly.
3	*Community , Inclusion, and the Spaces in Between /* Community : Inclusive, Space Between	v	v	There are many implementations to create an inclusive community. In this case, both have applied this aspect, but the architectural form of Fuji Kindergarten is more likely to involve the entire community in implementation, because of The implementation, of Farming.
4	*Space /* Children's Room	v	v	The implementation of both objects is emphasized in a large garden. The difference is only in the division of areas. Farming Kindergarten has a garden area that is separated into several parts because it adjusts its threaded architectural shape. Meanwhile, Fuji Kindergarten has 1 large garden in the middle of its elliptical building.
5	*Art Room /* Art Facilities	v	v	Space for art is already well provided by both objects with different implementations. Farming Kindergarten relies more on space sharing, while Fuji Kindergarten provides a large space that is flexible and versatile as a performance room or exhibition, as well as a workshop area.
6	*Bathrooms*	v	v	The bathroom has been provided well according to the capacity and radius needed. It's a good idea that the details of the sanitary equipment

No	Parameter	Conformity		Information
		Fuji Kind.	Farming Kind.	
				are also equipped with an empathetic design that ergonomically adjusts to the needs of the child.
7	*Storage*	v	x	At Fuji Kindergarten, it can be seen that storage is provided for equipment and also children's lockers for storing their personal belongings. This is important to foster a sense of ownership in children. In Farming Kindergarten, this aspect has not been applied.
8	*Offices*	v	v	Administrative offices are already present in both architectures. It is located separately and is provided specifically but remains within a wide range of views to monitor the overall condition of the school which has a large area.
9	*Outreach /*	v	v	There are different implementations due to the concepts of the two architectures being different. On Fuji Kindergarten, a supporting facility in the form of a very large park, wants children to do activities as needed, including interacting with nature and existing pets. In addition, a tree house is also provided for children to explore while interacting with their friends. However, in Farming Kindergarten, the concept of this architecture is a nature-based school implemented with a curriculum of farming, gardening, and materials to care for nature. Both are very good and it would be better if these activities were included in the curriculum so that the consistency of material delivery is maintained in the long term.
10	*Transparency and Nature /*	v	v	Transparency and aspects of nature are applied in different ways. Fuji Kindergarten relies more on space flexibility, making the best use of the open space concept in the design.

No	Parameter	Conformity		Information
		Fuji Kind.	Farming Kind.	
				Meanwhile, Farming Kindergarten relies more on the division of space that can separate private areas to adjust the play chart and also learn so that the child's focus is not disturbed. Both of these implementations have their advantages and disadvantages, depending on the priorities to be achieved. Fuji Kindergarten (+) Space flexibility (-) There must be anticipation of differences in learning and playing graphics because the room is very open Farming Kindergarten (+) The learning atmosphere is more focused and there is no confusion in the division of private and non-private zones (-) Less flexible spaces are used for inclusive activities that involve large capacities. The classroom will be permanently a classroom.
11	*Detail, Texture, Colour and Ceilings /*	v	x	The implementation of design details such as texture, color, and ceiling should be used to stimulate children's senses directly or indirectly. Fuji Kindergarten has implemented different textures and colors in children's architectural design elements.
12	*Scale /*	v	v	Both objects have implemented a standard scale that is comfortable according to the needs of children, but Fuji Kindergarten is seen implementing a scale using a child's vision measurement point so that the distance between the ceiling and the floor is shorter than in Farming Kindergarten. However, Farming Kindergarten uses this scale because the classroom is closed, if the ceiling distance tends to be short, it will

No	Parameter	Conformity		Information
		Fuji Kind.	Farming Kind.	
				give rise to a depressed perception for children.
13	*Interaction*	v	v	Interaction for children is emphasized by both objects with areas that are widely used together. Fuji Kindergarten and Farming Kindergarten provide a very large garden area from the ground floor and open space in the roof area. In addition, some stairs can be used as an area to interact together. Fuji Kindergarten also added a treehouse facility that acts as a shared playground.
14	*Furniture*	v	v	Both study objects have provided furniture that supports children's ergonomics in learning and playing activities.

In general, Fuji Kindergarten and Farming Kindergarten are enough to meet the children's architecture which according to theory is considered an ideal form of school for early childhood. However, in terms of fulfilling the list of architectural aspects for children, Fuji Kindergarten has a better fulfillment in quantity. In some aspects, Farming Kindergarten has different design features in its implementation from Fuji Kindergarten and can be applied to design to make it more comprehensive.

Conclusion

Fuji Kindergarten and Farming Kindergarten have won many awards in the field of architecture not without reason. By the initial hypothesis, these two case studies have implemented design aspects that prioritize the needs of children for their growth and development. By the results of the list of children's architectural parameters, Fuji Kindergarten is more complete in implementing and striving for a design that empathizes with children's needs in more detail, but Farming Kindergarten has additional design features that can be applied to children's architectural design.

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