PROPOSED KINDERGARTEN Case Studies

CASE STUDY 1

Name of the project - Fuji kindergarten

Location - Tachikawa City, Metropolitan Tokyo, JAPAN.

| ARCHITECTS: | Tezuka Architects |
| CLIENT:     | Educational Foundation Minnanohiroba Fuji Kindergarten |
| TYPE OF SCHOOL: | Kindergarten |
| NUMBER OF STUDENTS: | 620 |
| TYPE OF PROJECT: | New school |
| GROSS SURFACE AREA: | 1304m² |
| YEAR OF COMPLETION: | 2007 |
| CONTEXT: | City |

- No of classes 19
- No of children 620
- Site area: 4791.69 m²
- Building area: 1419.25 m²
- Total floor area: 1304.01
- Structure and scale: steel construction, one floor above ground.
Number of classes and children are as of the end of March 2010. All the other information is for the new building which was completed in 2007.

An oval kindergarten that resembles a doughnut and whose roof is a playground where children can run around

The kindergarten building was built based on the concept that “a kindergarten building is a huge playground for children’s growth, a tool for fostering children.” That there are horizontal and vertical directions of flow for children between the courtyard and the rooftop helps children to build their strength. Open spaces like the lunchroom and the cafeteria can be used for child-raising support, thereby encouraging interaction with the local community.

The reason for taking Fuji Kindergarten as my case study is because Fuji Kindergarten is one of the most outstanding example that is so of educational building. It was selected because as juries said it represented overall best examples of educational environments that meets the needs of students and communities providing stimulating and caring environment for learning and play.
This design is striking, in many ways spectacular, and also playful. It succeeds in combining a clear and legible form while integrating the mature trees into the building.

It is a building where play and learning are intelligently nurtured, where the building is grounded in the earth and linked to the sky.

Designed to facilitate play and child development based around Montessori principles, Fuji Kindergarten is an elegant new school. One of the largest pre-primary facilities in Japan, the kindergarten can accommodate more than 600 children, providing welcome capacity in a city that has a long waiting list for nursery places.

LOOKING BACK AT THE DESIGN OF FUJI KINDERGARTEN

The Fuji Kindergarten takes the form of a 200m-circumference oval-shaped roof space. Woods of Net, 320 cubic meter of timber members are used and there is nothing same among all the 589 members.

The roof top is slanted and because it is slanted, it is perfect space for lying down and sitting down. The roof top also contains skylights which can be used to go the roof top.

Skylights which allow children to look below while playing at roof deck
Skylights which allow children to look below while playing at roof deck.

The oval-shaped building makes full use of the tight urban site. The design maximizes the space available for secure but unconstrained play, with a roof deck running around the entire single-story structure and a large enclosed central courtyard. Three mature zelkova trees have been incorporated into the building, protruding through the roof to form a green canopy that provides welcome shade for part of the roof deck in summer.
The roof deck
The roof deck is an innovative play resource. It slopes towards the inner circumference, which at a height of only 2.1m allows staff at ground level to keep an eye on children playing up above. Railings have been placed at each edge to keep children safe, and the spaces between the balustrades are sufficient to allow children to sit on the roof and swing their legs over the eaves of the roof. With no obvious start and end, children need no encouragement to run about on the roof. Staff calculate that some of the older children cover as much as 5km over the course of a day. Skylights allow children to look down into the rooms below. The three trees embedded in the building also form a play feature. Children can clamber in the branches or play in the nets that are placed around the trunks to prevent anybody falling through to the rooms below.
A comfortable environment with insulating materials and well-ventilated spaces

It’s possible to open or close all the sliding doors of the courtyard and the building, according to the season. Even in summer, there’s little need for air conditioning. The rooms just below the roof tend to get hot in summer, but heat insulation secures comfortable spaces. Children can open and close the sliding door easily and safely, with little exertion. The trunks of trees pass through holes in the kindergarten building, through which wind can pass and at which children can feel at one with nature. (Figure 9; Photos 10, 11)

In keeping with the school’s educational ethos
of non-directed play and discovery, there is no fixed play equipment on the roof or in the courtyard, with the exception of a slide linking the roof to the ground.

Open interiors
The school has been designed to allow children to mix and move around at will. There are no fixed walls between the classrooms, and children can move between class groups. When they have a problem, they can ask any of the staff for help, and they can join a group or play alone as their mood and curiosity dictates.

All furniture can be easily rearranged to accommodate different group sizes and different activities. As well as chairs and desks for the children, there are many wooden boxes that are used to partition smaller areas or to provide additional benches for seating. These boxes are also used to store play items, learning materials and children’s coats and shoes. This provides great flexibility, and the interior space is frequently reconfigured through the year.

Teaching spaces open out onto the courtyard.

Boxes used to store play items, learning materials, children coats and shoes.
There is a handrail that goes along the oval shaped roof top that prevents children from falling. The space between the handrails is the 10 cm which is big enough to stick your legs and arms, but not his or her head.

Another characteristic, the roof is only 2.1 meters in height, so that kindergarteners can be seen easily from ground floor. This is enhanced by the rooftop slanting towards inside
Parents picking their children

Safety of children is guaranteed at the playing roof deck, they are watching other children singing and dancing.

There is a big tree 27 meters in high. It is difficult to keep the tree which is nice and big because if you excavate, you need to make sure what the soil is, so we try to not interfere with the tree, and this is how we went about leaving the tree. It has net around it which protects children from falling while also providing a playful area for kids when falling into the net.
Running around and making their own choices

The distinguishing feature of Fuji kindergarten is how it allows children to run freely in the building. A survey has revealed that the children in this kindergarten take many more steps than the children who are in a kindergarten that incorporates soccer into its daily curriculum. A wide-looped rooftop enables children to move frequently. Children love running around the facilities, which have no ends but are circularly routed. This has created an environment that allows children to play all around the building, with playground equipment made of natural trees and a slide that connects the roof and the yard.

At the playground there are zelkova trees to climb, a large sandbox and other elements for play. Children look around the whole kindergarten from the rooftop and then decide where to play, which fosters their ability to make their own choices. (Photos 1 - 4)
Proposed Kindergarten Case Studies

1. Children freely run around on the rooftop.

2. Tree climbing, and a hammock to play in.

3. Children move around a semi-outdoor terrace that connects to the kindergarten building.

4. Children enjoy a slide that connects the courtyard and the rooftop.
Site plan
Key points adopted in the plan from the revised guidelines:

1. Spaces for child fitness improvement
2. Improving facilities such that they strengthen the ties between schools, families and regions
3. Considering sustainability in terms of the environment

5. The cafeteria and lunchroom, which are open to parents and guardians, can be accessed from a separate entrance.

7. A cafeteria and lunchroom that parents can enter and leave through either the main entrance of the kindergarten or the doorway of the cafeteria and lunchroom.

6. Parents talk in the lunchroom.

8. Parents relax in the cafeteria.
Support for communication between parents and children

In the lunchroom, parents and children have lunch together regularly to enjoy communication. We’ll be happy if the children one day look back and remember enjoying lunch with their parents at our kindergarten, instead of at a restaurant. (Photo 6)

Space for child-raising support

We offer the lunchroom and cafeteria as places for child-raising support. Visitors can enter these facilities without passing through the kindergarten building. They can easily see inside the facilities and then enter without hesitation. At these facilities parents can share their experiences about issues associated with raising children and build a local network of child-raising through communication. These facilities are appreciated by parents and guardians.
CASE STUDY 2

Yotsukaido City, Chiba Prefecture
Yotsukaido Satsuki Kindergarten

Every day is like a school trip day. At this kindergarten, children can enjoy nature and develop their physical strength.

This Kindergarten provides opportunities for “lingering on the grass, making observations at the pond, and growing fruits and vegetables,” “enabling children to enjoy nature in varied environments,” “holding recitals and concerts at open-air stages,” “running around a sandbox, on a hill, and from the kindergarten building to the yard,” and “enjoying facilities and environments that enable children to cultivate their sensitivity and learn about themselves.”

Fureai-no-Mori woods have been developed to enable children to better enjoy nature. It consists of a) a forest area of fruit trees, b) a grassland area with grasshoppers, c) a water area with killifish and d) an agricultural area with a rice field, a flowerbed and a vegetable garden. Eating harvested crops and seeing and touching small living things, children feel the joy of living and they nurture their ability to live. (Photos 1, 2; Figure 3)
Takenoko Hall, available to families and others in the local community

The stage in Takenoko Hall, located on the north side of the kindergarten building, is used as an outdoor and indoor stage. It’s a place for people to enjoy community exchanges, such as those of inviting local community members to recitals. It’s fortunate that parents and guardians help to take care of the kindergarten yard. They enjoy their meetings, eagerly discussing what to do next for the kindergarten. (Figure 4)
Yurinen, which enriches the play environment for children

To capture children's interest, Yurinen has a small hill, nets, ropes, tents, mirrors, lenses, bells, triangle-roofed houses and sandboxes. Children can easily go straight to wherever they want, because Yurinen is built at the end of the large playground that faces the kindergarten building. By playing at Yurinen, children can develop their creativity and improve their strength.

(Photo 5)
Designing environments for diverse life experiences
Facility planning with effective and intensive development of green spaces throughout the premises

1. A kindergarten yard with a wild bamboo grove.

2. Children interact with nature at the binocular observation deck.

3. Funai-so-Mori woods, located to the north of the nurseries

4. Takemoku Hall and the open-air stage are used for concerts, recitals, and exchanges with the community.

5. Children play at Yurinô, on the south side of the kindergarten building.
Access to anywhere encourages children to move actively. Nurseries are surrounded on all four sides by hallways, so that children enjoy running through the whole building, even on rainy days. Fureai no Mori, on the north side of the building, and the kindergarten yard and Yurinen, on the south side of the building, are connected by indoor hallways through which children can pass from the central building with their shoes on. The indoor building has continuous spaces that easily access the yard, providing excellent circular flow. Children run around in the spaces and develop friendships with those of different ages. (the yellow area in Figure 7; Photos 6, 8, 9)
Facilities that consider child support
Each bench on the kindergarten grounds is a good place for parents and guardians to relax together. A crib for diaper-changing is installed in the restroom, as parents are expected to bring pre-kindergarten children. An inviting lounge is used for childcare counseling. Thus, our kindergarten provides not only children but also parents with fun, comfortable places. (Photos 10 - 13)

Space planning
Top priority is given to teacher-children relationships. As a result, the faculty room is located where teachers can closely interact with children. (Fig 7)
In addition to building new rooms, six existing nurseries were aseismically retrofitted, based on a request from the kindergarten to keep some of the existing rooms. We extended the eaves of the reinforced steel frames and made a wooden deck that can serve as a play area. The central corridor connects to the new buildings, offering easy access. (Figure 7)

From the perspective of designing environments for diverse life experiences

The kindergarten secures places for children to have life experience: on the south side of the building, a clay ground and a yard with playground equipment; on the north side of the building, Fureai no Mori, a place to enjoy nature at a biotope and the like.

From the perspective of spaces for child fitness improvement
The building secures access to the outside. Additionally, connections to shortcuts and semi-outdoor spaces encourage children to run freely. Inside the building, each room is effectively surrounded on all sides by hallways so that children can easily go anywhere they want, even on rainy days.

Interior Finishing
Wood is generously used to make the rooms look warm and welcoming. Fall accidents are the most common causes of injuries among children. Floor joists and solid oak moderate the damage from falling. (photo 8)
A facility layout that strengthens ties between the kindergarten, parents and the community.

10. Children and parents enjoy talking while sitting on benches in the kindergarten yard.

11. Benches near main entrance are used for interactions between parents and staff when parents pick up and drop off their children.

12. Restroom with a crib for diaper changing.

13. A comfortable lounge.