



program
Chapter 4

Fig 4.1: Children of Ring Ting Pre-primary. [Facebook.com, 2016]

“The social and cultural obstacles to good community design are closely related to the barriers that keep children from experiencing nature first-hand.”
(Kellert, 2008: 207)

4.1 Introduction

As a result of the theoretical investigation, as well as looking at the key informants on site, the program aims to synthesize the research objectives into a unified whole: The lost space along the Walkerspruit, neglected and forgotten, with one of the key informants on site being the large amount of Pre-schools in the area with children mostly aged from 3-6 years; and lastly the investigation of the benefits of biophilic design in children's spaces. The culminating element is an approach first introduced in Italy after the second world war called Reggio Emilia Early Childhood Development. It is an approach similar to Montessori schooling but the primary focus revolves around the physical environment becoming a third teacher in the child's development.

It is proposed that the 50 children attending Grade R in the adjacent Ring Ting Pre-primary School as well as 100 additional children from the surrounding high density apartments, be relocated to new classrooms which introduces a new approach to early Childhood Development: Reggio Emilia. This approach will incorporate the landscape as the third teacher.

As a model, the Little Saints Pre-primary School at St Mary's School in Waverley, Johannesburg (www.stmarysschool.co.za) serves as a guide to understanding the facilities of the school itself.

The site is very large, and in the context of Sunnyside requires multiple functions working cumulatively towards a common goal: The dissertation's intentions. In response to the issues raised in Chapter 3 as well as analysis in terms of the didactic landscape, an occupational therapy centre as well as a sports and cultural centre and cafe will support the Reggio classrooms. In addition, a vegetable garden and water garden that will support and rehabilitate the existing landscape is proposed.

Considering the size of the overall scheme, it has been decided, for the purposes of the dissertation, that only the classrooms be designed to a detailed level, with all other facilities proposed in terms of location and relationship to the rest of the site.

4.2 Children's Spaces

When designing for children, the scale of the environment around them should be kept in mind. Refer to Figure 4.2. For example large open spaces may seem large in an adult's eyes will look intimidating to a small child. A one meter wall can be perceived as low for an adult, yet a small child might not be able to see over it.

According to researchers Wendy Titman (1994: 49,59), small little nooks and crannies hidden under tree canopies as well high positions such as tree houses are attractive to children.

Figure 4.3 discusses the anthropometric design guidelines for children. Furniture and the design should correspond to these guidelines to a point but also create spaces that can be used by both children and adults alike and should therefore be as inclusive as possible.

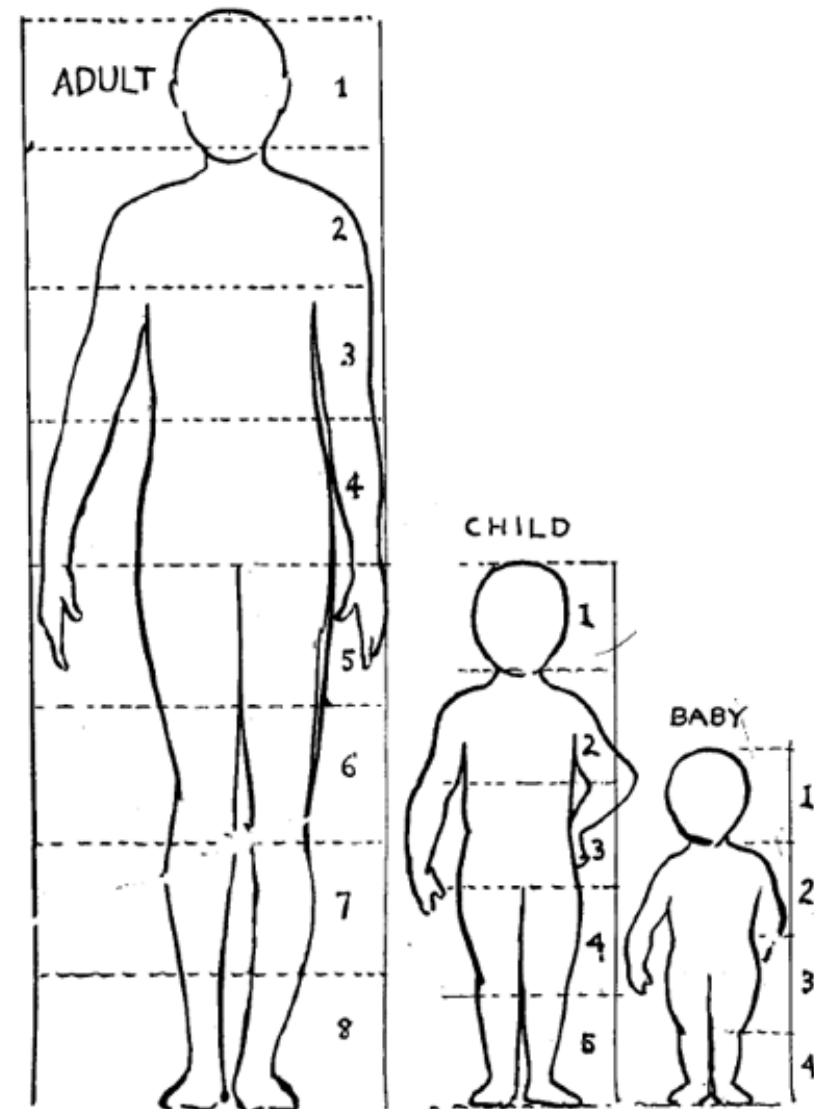


Figure 4.2 Scale differences between child and adult. (drawinghowtodraw.com)

Anthropometrics For Children

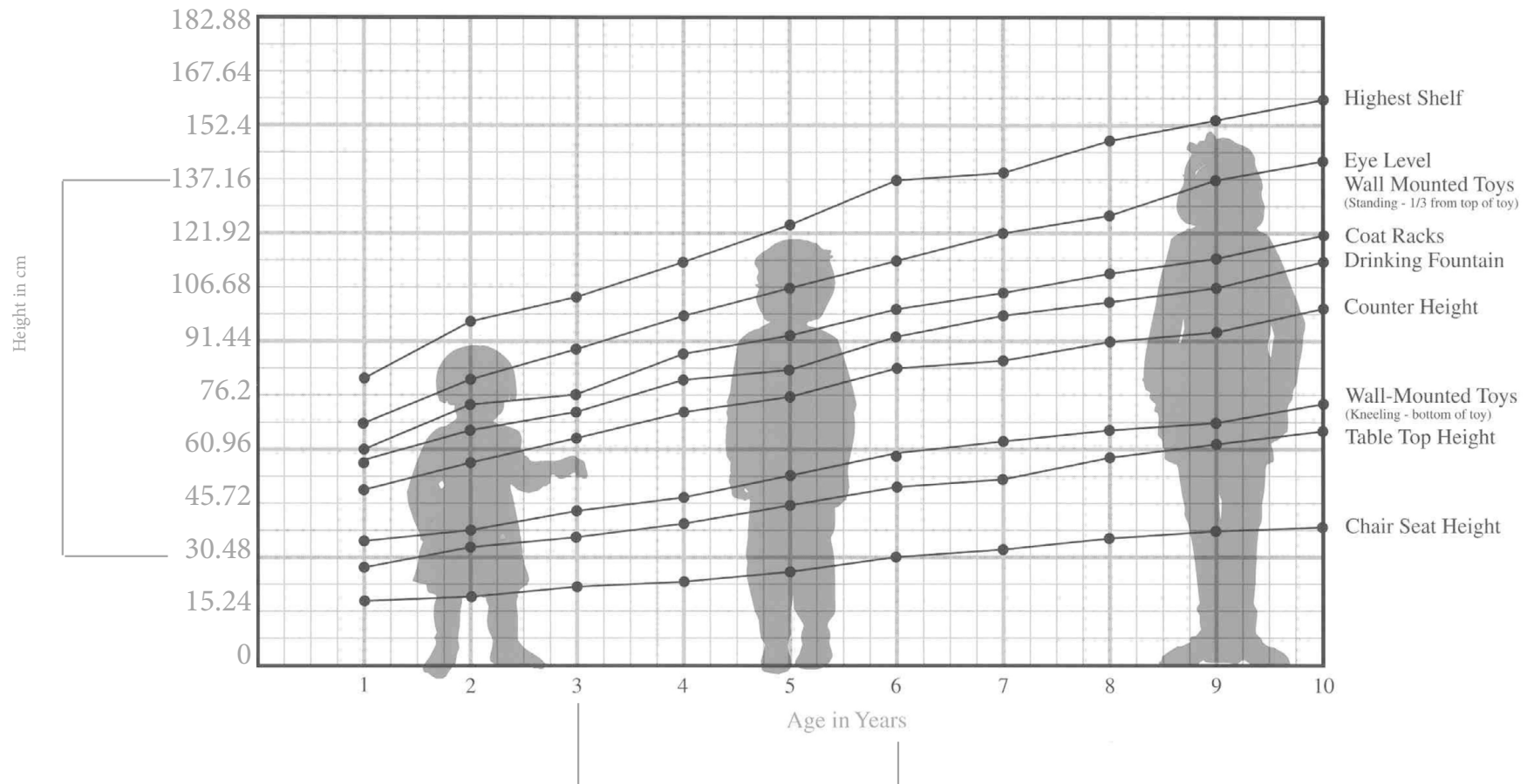


Fig 4.3 anthropometrics of a child (playscapes.com)



Fig 4.4 Needs of children in their cognitive, physical and emotional development. (Author, 2016, adapted from Berry, 2001)

4.3 Children's Developmental Needs

Figure 4.4 above discusses the developmental needs of children at different ages. These needs affect the design of spaces, for example, open space size, the physical qualities of the space and placement of objects. According to notable early childhood development theorists, the developmental needs of children are split up into three primary categories: Cognitive, Physical and Emotional development.

This also relates to the three different kinds of learners: visual (images), auditory (listening) learners and Kinesthetic (doing, touching) learners. This is the VAK model of early childhood development which uses the three main sensory receivers: Visual, Auditory, and Kinesthetic (movement) to determine the dominant learning style for each child. A child will learn more effectively through the dominant auditory receiver.

Another facet of children's development is through experiential and imaginative play. In this dissertation, learning through a didactic landscape, that stimulates children's biophilia resulting in positive cognitive development and well-being is the primary focus, however, one for one of the design approaches, experiential play is addressed as a resolution to finding the architectural language.

Experiential play is key in children's development because much of the child's development takes place outside the classroom. This can be also be interpreted as outdoor learning activities (Weaver, 2000: 12). Play allows children to learn things that nobody can teach them, discovering their place in the world, in relation to people, buildings and the course of time. Play is process-oriented, pleasurable, exploratory, self-initiated, and constitutes activities that are pursued for their own sake (Weaver, 2000: 12). Children aged from three to six years who take part in physical gross motor skill development activities surrounded by natural elements (such as trees, rocks, and large grass areas) develop these skills faster than children who learn in traditional playgrounds and indoors as discovered by architect and psychologist Nancy Wells (2000: 781).

According to child psychologists Kaduson and Schaefer (2006), the stimulation of the imagination through play has many benefits, where they can learn about suitable outcomes to real-life situations that they may have experienced. Abstract spaces can stimulate the child's imagination during play where the child will use archetypal elements to act out or process their emotion (Linden, 2003: 246). Landscape archetypes, such as a forest, river, or mountain, offers a non-prescriptive platform for the acting out of these stories, supporting and encouraging imaginative play in a natural setting.

Fig 4.5 Ring Ting Pre-primary School does not use the adjacent natural site to its full potential. (Google Earth, 2016)



4.4 The School Building vs. The Third Teacher

Most school children grow up in institutions and almost three-quarters of preschool children with working parents spend many hours of each weekday in some form of childcare institution (Capizzano et al, 2000: 6-7).

Young children are spending the majority of their time with a different kind of family structure: biologically unrelated adults with similarly aged children in new, non-residential building forms (Kellert, 2008: 161). This is not necessarily a bad thing for child development as research has identified positive benefits (Palacio-Quintin 2000). The childcare centre may be regarded as a new form of community care. However, with exceptions, typically little attention is given to the learning potential of the physical environment—be it the actual spaces within the building's interior or the outdoor landscape (Kellert, 2008: 161).

Early childhood architecture, including landscape architecture, has extraordinary potential for igniting a lifelong positive engagement between the child and the environment. And yet, childcare centres not only ignore the advantages of this potential but barely meet basic functional requirements such as providing floor level windows, interior daylight penetration, and ample transitional threshold spaces between indoors and outdoors (Kellert, 2008: 161).

Outdoors, traditional playground equipment is typically provided rather than a dynamic, natural learning environment, which through play processes could offer new experiences each day instead of the repetition of static settings (Kellert, 2008: 161)

According to Kellert, (2008:167) green building design in schools needs to include another dimension, that is not only designing a sustainable school but a school that fully activates sustainable development practise as an educator especially in child care institutions where children can not only learn about the natural world and its conservation but also in and through its natural processes.

These dynamic settings where children interact with the natural environment via all their senses can stimulate not only increased cognitive development but develop new biophilic relations between children and nature. The Reggio approach to learning sees the physical environment as the third teacher in the child's education. Creating a Reggio centred learning environment will aim to resolve the issues faced in the current environment on site where the Ring Ting Pre-primary, specifically, does not involve the natural site alongside as potential for learning and playing in the natural environment (Figure 4,5). Therefore it is seen as an appropriate response to the biophilic theories, site-related issues and the issues of child development centres.

4.5 The Reggio Child

*“The child
 is made of one hundred.
 The child has
 a hundred languages
 a hundred hands
 a hundred thoughts
 a hundred ways of thinking
 of playing, of speaking.
 A hundred always a hundred...”*

Extract from the poem “No way. The hundred is there.” (Edwards et al., 1998: 3)

The hundred languages remind us that there are multiple ways of teaching and multiple ways of learning. Loris Malaguzzi was the founder of the Reggio Emilia approach to child development. The Reggio Emilia Approach is an innovative approach to early childhood education which values the child as *strong, capable and resilient*; rich with wonder and knowledge.

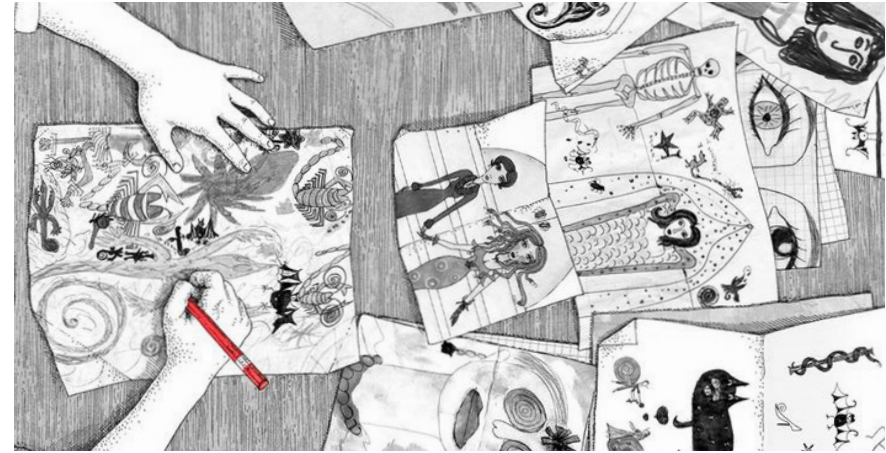


Fig 4.6 My Childhood - Sveta Dorosheva.(kireei.com. 2016)

The Reggio Emilia Approach originated in the town (and surrounding areas) of Reggio Emilia in Italy out of a movement towards progressive and cooperative early childhood education.

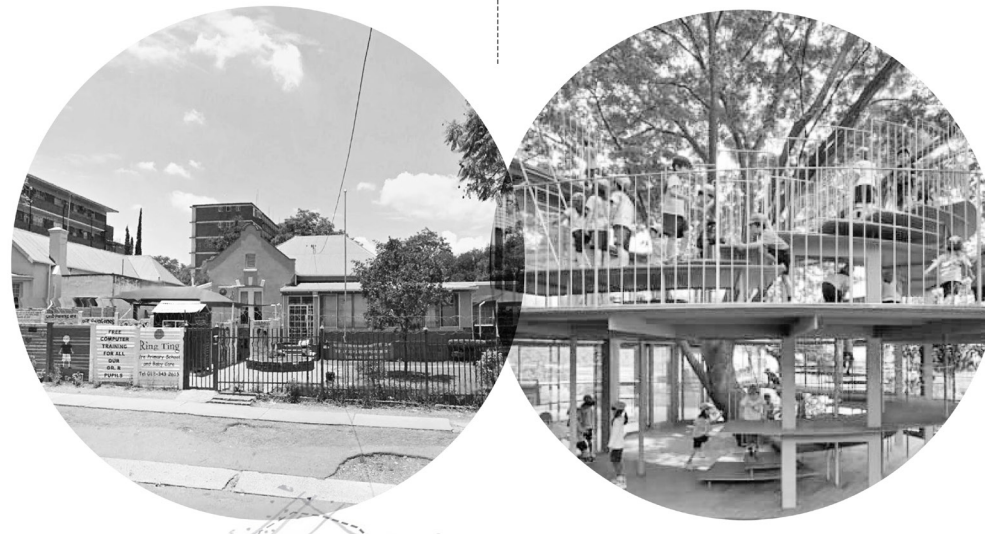
It is not a method but rather an approach. All schools and preschools (and home schools) are Reggio-inspired, using an adaptation of the approach specific to the needs of their community. No two Reggio-inspired communities should look the same, as the needs and interests of the children within each community will be different. The VAK method will be Reggio-inspired so all children can learn freely through their dominant sensory receivers.

The Fundamental Principles of the Reggio approach

Children are capable of constructing their own learning; they are driven by their interests to understand and know more;

Children form an understanding of themselves and their place in the world through social interactions with others.

The teacher or adult is not the giver of knowledge but rather children search out the knowledge through their own investigations;



Children are communicators where the communication is a process, asking questions, and using language as play. Rather than the child asking a question and the adult offering the answers, the search is undertaken together.

The next principle of Reggio is that the environment is the third teacher. The environment is recognised for its potential to inspire children. An environment filled with natural light, order and beauty. Open spaces free from clutter, where every material is considered for its purpose, every corner is ever-evolving to encourage children to delve deeper and deeper into their interests. The space encourages collaboration, communication and exploration. The space respects children as capable by providing them with authentic materials & tools. The space is cared for by the children and the adults. The adult is a mentor and guide.

In Reggio-inspired environments, an emphasis is put on carefully displaying and documenting children's thoughts and progression of thinking; making their thoughts visible in many different ways: photographs, transcripts of children's thoughts and explanations, visual representations (drawings, sculptures etc.), all designed to show the child's learning process.

Another aspect of the Reggio-inspired approach is use of the atelier. The atelier is a studio/workshop filled with a varied of art materials. The space provides a means for children to explore and express their thoughts through the language of visual media. Experiences within the school atelier and the mini-atelier's in each classroom are provided and facilitated by the Atelierista (studio teacher with specialized training in expressive arts).

Lastly, children use many different ways to show their understanding and express their thoughts and creativity. The Reggio Emilia Approach emphasises hands-on discovery learning that allows the child to use all their senses and all their languages to learn. This includes, visual, auditory, smell, taste and kinaesthetic which refers to tactile, physical and emotional triggers to effective cognitive development (Cadwell, 2003:4-6). The two images above (Fig 4.7 and 4.8) respectively compare the differences between the mainstream classroom and a Reggio classroom.

Fig 4.7 Ring Ting Pre-School with little connection to the outdoors and sensory stimulation (Facebook, 2012)

Fig 4.8 A classroom connected to natural elements where the tree forms part of the child's education (tezuka-arch.com, 2016)

4.6 The need for community space

Due to the macro vision explored in Chapter 3, it is necessary to look at how the community of Sunnyside can make use of the space after-school hours as well as the children. Because of the analysis as well as the requirements of Reggio-inspired approach to learning, a multifunctional community intervention is proposed.

According to researchers, it has been found that natural green strips and parks in urban areas contribute a great deal towards residents' sense of community and social interaction with others (Kim & Kaplan, 2004; Kuo et al, 1998; Bixler & Floyd, 1997). Fostering a sense of community is vital as it will create a defensible space and a friendlier, safer environment, especially for children. This is true in a suburb such as Sunnyside where safety is a huge problem, where children live in isolated apartment flats and have no green space to play in.

The trees on site are sparse and the site itself is neglected. This fosters no sense of community in the area. Creating a space filled with natural trees and grass, together with benches and facilities that facilitate social engagement between residents is crucial in creating a sense of community in the suburb of Sunnyside. This will be carried out by creating a courtyard space that can be used by the community for sports and cultural events. Framing the courtyard, additional classrooms will be designed to be used by the community for events such as these. Access to the roof of these classrooms will be used for spectator seating areas. A cafeteria used by the school will be used by the community at these events to stimulate social engagement and a sense of community in a space designed for their children's positive development.

4.7 Program Resolution

In Figure 4.9 the three developmental needs as well as the three kinds of learners (Visual, Auditory and Kinesthetic), in conjunction with the investigations on the environment as a third teacher as well the Reggio Emilia approach are addressed through the resolution of three primary programs on site.

1. The Reggio Classrooms which will be the home base classrooms for the children
2. Kinetic Classrooms and outdoor play court, that deals with physical development
3. Occupational Therapy which deals with socio-emotional and development disabilities in children, preventing them from progressing in their education.

All three programs also address issues raised in Chapter 3 and Chapter 2 with regards to the community needs of Sunnyside as well as the developmental needs of the children in the many surrounding schools in the area.

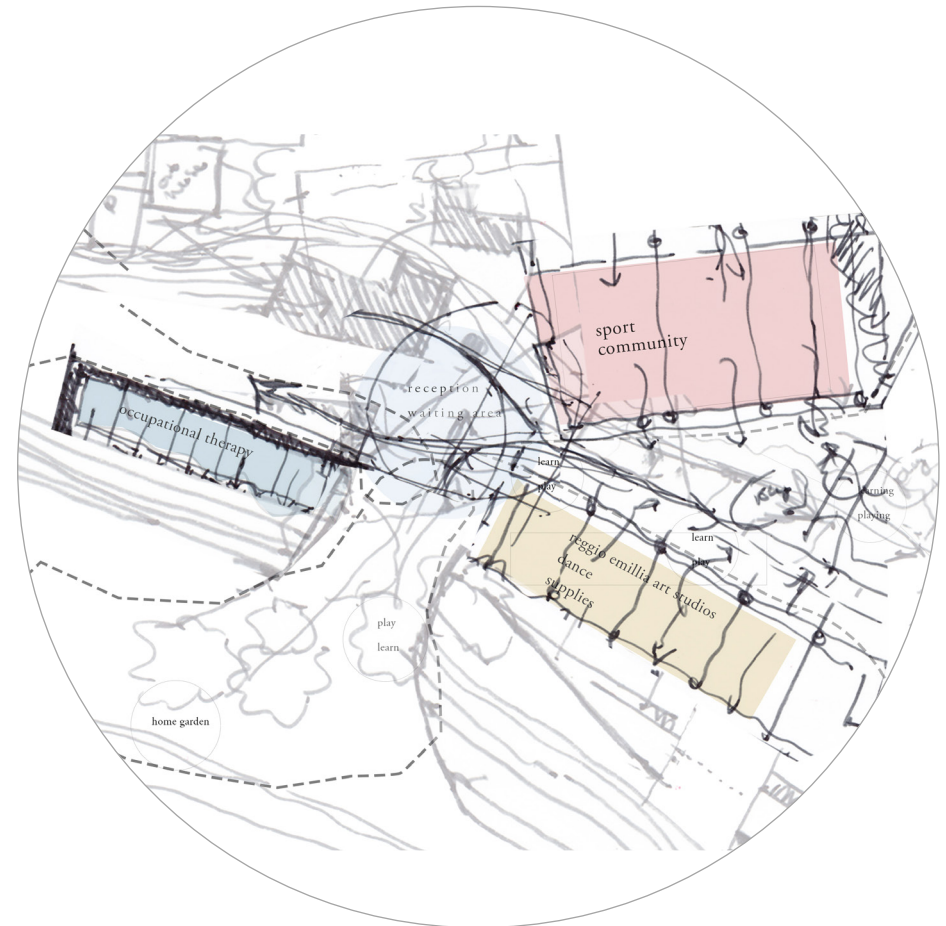


Fig 4.9 Initial Program layout on site, contain three primary programs (Author, 2016)

The Resolution of three primary programs on site.



socio-emotional

occupational therapy

deals with developmental setbacks in didactic community
addresses issues in today's culture where outdoor play is limited



cognitive

reggio emillia home-baseclassrooms

the environment as third teacher
approach to learning from nature
biophilic in its nature



physical

kinetic classrooms and play court

addresses gross motor skills development in
environment connected to nature

Fig 4.10 Needs of children in their cognitive, physical and emotional development (Author, 2016, adapted from Berry, 2001)



4.8 Cognitive: Reggio Emilia Classrooms and Administration

Classroom Users: Staff and 150 children

The Classrooms will accommodate 6 teachers and three assistants. The Classrooms will cater for 150 6 year old children (Visual, auditory and kinesthetic learners) . There will be 6 classrooms with around 25 children per classroom. The 150 children will consist of the 50 children already attending Grade R, as the existing Grade R at Ring Ting Pre-primary. The younger children at Ring Ting will remain in their existing classrooms. The existing Grade R classroom will be demolished to make way for the new classroom design as well create space for better linkages between the old and new school. The administration, staff members, cleaners, security and principal will be housed in an administration building connected to the classrooms on the north west corner. There will be 5 cleaners/maintenance workers, 3 admin staff, 1 secretary, 4 cooking staff, 3 security guards, and 1 principle and as well as staff lounge and kitchen accommodating for 9 teachers in total plus three admin staff and principle (6 teachers in these classrooms and 3 assistants). (Altogether 26 Staff excluding Occupational Therapists)

Fig 4.11 Central Piazza (Tarr, 2001: 35)

Classroom Function: Spaces and Requirements

All spaces are to be passively lit and ventilated as effectively as possible. Climate control should also be passive where applicable and all systems and services in the space will be didactically shown as far as possible in order to create a dynamic, didactic space where the children can learn from their environment. Specific Room Requirements are as follows:

Design Requirements

The classrooms are generally filled with indoor plants and vines, and awash with natural light. Classrooms open to a central piazza, kitchens are open to view, and access to the surrounding community is assured through wall-size windows, courtyards, and doors to the outside in each classroom. Entries capture the attention of both children and adults through the use of mirrors (on the walls, floors, and ceilings), photographs, and children's work accompanied by transcriptions of their discussions. These same features characterize classroom interiors, where displays of project work are interspersed with arrays of found objects and classroom materials. In each case, the environment informs and engages the viewer (Tarr, 2001: 33-35).

Entrance Lobby and Reception

The lobby should orientate and provide a datum point for the child and adult in relation to the school as a whole. A visitor should be introduced to the reception desk and orientated from there. The waiting area will include seating for 10 people, accommodating parents at the beginning of the year who are waiting to enrol their children. Two entrances will be provided.

Cafeteria

The cafeteria will accommodate about 50 children per seating. There will be two sit ins per day in order to feed the total 200 children in the school for lunch (150 children in the main classroom building and 50 in the existing Ring Ting). The kitchen will be visible from the seating area and some of the preparation of the food will be done by the children themselves in order for each process to become didactic. The kitchen will be staffed by four cooks and two cleaners. The cafeteria will be used after school hours by the community for sport and cultural events.

Administration and storage

There will two administration offices and one principle's office with a safe, teacher's lounge with attached kitchen, ablutions for 13 staff members and one sick room. These spaces will be accessed by staff only and will be situated on the first storey. There will be one toy library, two cleaner's storage room, one garden maintenance room, ablutions for 10 maintenance workers/cleaners and cleaner's lounge on the ground floor.

Classrooms:

Indoor Space: Indoor play area after cupboards and other furniture has been taken into account: 2m² per baby and 1.5m² per toddler

The minimum total classroom area to accommodate 30 children will be 1.5m² x 30 = 45m². However, because the approach to Reggio Emilia requires free space for movement, the size of each classroom will be 9m x12m with a 3m high ceiling. (South Africa. Department of Social Development, 2006:45-47)

Each Classroom is to be accessed by an outdoor circulation route from a central courtyard or "piazza" space. Each will contain a central private space of 9m² used for private meetings between teacher and child or more focused group activities that need constant supervision or attention. Each will contain a mini-atelier to facilitate expressive learning through art. This will be carried out through the inclusion of shelving throughout the space to store the vast amount of materials needed. Shelving and furniture should be sized accordingly. (Refer to figure 4.3)

The activities that take place indoors will be dry activities that aren't relatively dirty. The schedule on page 80 will specify which activity will take place where. Activities that occur in this space include art related group activities, reading, fantasy play, exploration of nature, nap spaces and group meetings with the teacher. Therefore the classrooms each need a quiet space for napping and reading, and a louder space with chair and table clusters as well as sufficient shelving to accommodate for small scale group and art activities.



4.9 Physical Development: Kinetic Classrooms

In order to address the developmental needs of the child with regards to gross motor skills and hand-eye coordination, three additional classrooms are proposed that attach to the administration building. These classrooms will primarily accommodate for physical gross motor skill activity. The intention is that this building is multifunctional and can either serve as three additional classrooms for gross motor activities or can open up to form an under cover assembly room. The classes can be used for after-school sports classes for young children in the area who attend neighbouring schools.

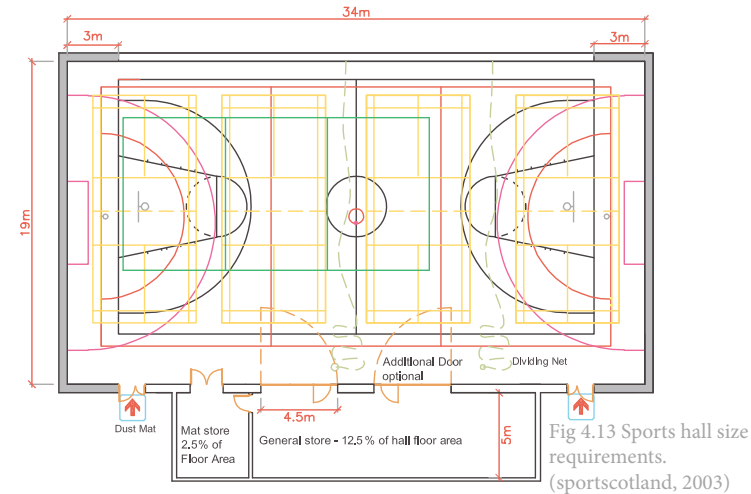
Fig 4.12 Design development perspective of kinetic play spaces (Author, 2016)

Kinetic Classrooms Users:

Three classrooms will accommodate 25 children each, therefore 75 children will be accommodated in this building at one time. After-school classes of 75 children from neighbouring schools may use these facilities for extramural play gym activities.

Kinetic Classrooms: Spaces and Requirements

The classrooms will satisfy the Department of Social Development regulations for daycare centres where a minimum of 1.5m² per child is required. Each classroom is to be accessed by an outdoor courtyard space or “piazza”. Each will contain a smaller private space of 9m² used for private meetings between teacher and child as required. The size of each classroom will be 96m². Activities that occur in this space include gross motor group activities and any other activities that involve physical movement as well as short instructive meetings with the teacher. Therefore the classrooms each need open space with sprung floors to accommodate for the heavy movement that will occur in these classes.



4.10 School Atelier and Art and culture workshops and Play Court

On the northern boundary of the site, framing the play court, there will be three rooms designated as the school's atelier. These accommodate dirty or wet art related activities that cannot occur in the Reggio classrooms or kinetic. The activities will involve activities such as pottery, ceramic art and large scale painting. During after school hours, these can accommodate for cultural or art related activities, related to the community's needs at the given point in time.

The rooms will also be used on parent-child days to sell plants and fruits and vegetables grown on site. The nature of the spaces need to be easy to clean out with a hosepipe, for example and multifunctional and connected to the central play court.

The play court will be used by the children during formal recess. The school program allows for a free curriculum that the children regulate through their own discoveries, however, the court will be used for break times where they will eat their lunch in the cafeteria and sit outside and play in the court thereafter. Gross motor activities that require large spaces can spill out of the kinesthetic classrooms into the play court if required.

Play Court Users:

The play court will be used by the community after school hours for sport and cultural events. If required, larger activities carried out by the 75 children in the kinetic classrooms can spill out into the play court as well as after school classes.

Play Court: Spaces and Requirements

The play court will be sized according to the regulations regarding school sports halls where various forms of sports can be played. This is to accommodate for community sports events for specific types of sports namely: volleyball, basketball, 5-a-side, netball and badminton (Refer to Fig 4.13).

The surface of the court should be adaptable according to the various sports and activities that will occur upon it. Shading along a portion of the court is necessary as it will be used for lunchtime eating and resting areas.

4.11 Guidelines for the design of Early Childcare Facilities

In terms of the Department of Education guidelines relate to schools of children older than six years. The Department of Social Development, together with UNICEF have developed a set of design guidelines in terms of designing a pre-school for children of six years and younger.

Minimum Standards:

“-The building must be clean and safe and protect young children from physical, social and emotional harm from themselves or others.

-All precautions must be taken to protect children and-teachers from fire or any other hazards

-The inside and outside spaces must be clean and safe. Each child must have at least 1,5m² of indoor space and 2m² of outdoor space.

-All equipment used must be clean and safe and appropriate in terms of the children’s development needs. The premises and equipment must be safe for young children, clean and well maintained. Children must have enough space to move around freely and explore the environment in safety. The premises should be bright and welcoming to children. Premises should be accessible to children with disabilities.

-The structure must be safe, weatherproof and well ventilated.

-The floor should be covered with material that is suitable for children to play and sit on. Walls and floors should be easy to clean.” (South Africa. Department of Social Development, 2006:45-47)

-There must be windows that give adequate light and, if possible, allow the children to see the outside world with a recommended lux level of 400 lux (South Africa. Department of Social Development, 2006:45-47).

“There should be separate areas that consist of an area for play activities, an area for taking care of sick children, and an area for food preparation. Fresh drinking water must be available for the children.

The play area for the children should be at least 1,5 m² per child.

Children with disabilities must have access to as many of the activities as possible.

- Where more than 50 children are enrolled for a full day, a separate office must be provided.

The office should be large enough to accommodate a sickbay for at least two children.

- Where more than 50 children are enrolled for a full day, provision must be made for a separate area where staff are able to rest and lock up their personal possessions.

- Where food is prepared on the premises, there must be an area for preparation, cooking and washing up” (South Africa. Department of Social Development, 2006:45-47).

Outdoor Space Requirements

- “-The outdoor area must be fenced with a gate that children cannot open.
- Children should not be able to leave the premises alone.
- Strangers should not be able to enter the premises without the knowledge of the staff .
- Children need space to move and exercise to develop their gross motor skills. They need space to run freely and play with outdoor equipment.
- The outside area can consist of lawn, sand pits, shady areas and hard surfaces.
- Outside play equipment must be provided. This must be safe and not have sharp edges or pieces. No poisonous or harmful plants may be grown on the premises”
(South Africa. Department of Social Development, 2006:45-47).

Furniture requirements

- “-All furniture and equipment must be safe and in good repair.
This means that, for example:
- Seating and working surfaces must be available.
- There must be enough age appropriate indoor as well as outdoor play equipment and toys, books and print material and other materials.
- There must be adequate storage space for indoor and outdoor equipment.
- Play apparatus must be safe so that children cannot be injured.
- Sufficient safe, clean and appropriate eating utensils must be provided.
- If there is a sand pit, it should be covered overnight so that animals cannot dirty it.
- If there is a swimming pool on the premises, the requirements of the local authority must be met.
- The swimming pool must be covered by a net and have a surrounding fence of sufficient height of no less than 1,2m and a lockable, self-latching gate”
(South Africa. Department of Social Development, 2006:45-47).

Cafeteria requirements:

“Children must be protected from the dangers of hot liquids and food and from fire and other cooking fuels such as paraffin.

The kitchen area or separate kitchen must also:

- Be safe and clean;
- Have adequate washing up facilities and clean, drinkable water;
- Have hand washing facilities for staff ;
- Have adequate storage space;
- Have adequate lighting and ventilation;
- Have cooling facilities for the storage of perishable food;
- Have an adequate number of waste bins with tightly fitting lids;
- Have an adequate supply of water and cleaning agents for the cleaning of equipment and eating utensils.
- Cleaning agents must be kept in their original containers and out of the reach of children” (South Africa. Department of Social Development, 2006:45-47).

Toilet requirements

“Toilet facilities that are safe for children must be available.

- Toilet facilities must always be clean and safe.
- There must be somewhere for children to wash their hands.
- For older children (ages three to six years) one toilet and one hand washing facility must be provided for every 20 children, irrespective of gender.
- Doors on the children’s toilet facilities should not have locks.
- Facilities for the washing of children must be provided.
- Separate adult toilet and hand washing facilities must be provided for the staff in terms of the National Building Regulations.
- Provision must be made for the safe storage of anything that could harm children.
- Medicines, cleaning materials, cooking fluids (paraffin), sharp knives and kitchen utensils must be stored out of reach of children. Medicines and cleaning materials must be kept away from food”(South Africa. Department of Social Development, 2006:45-47).

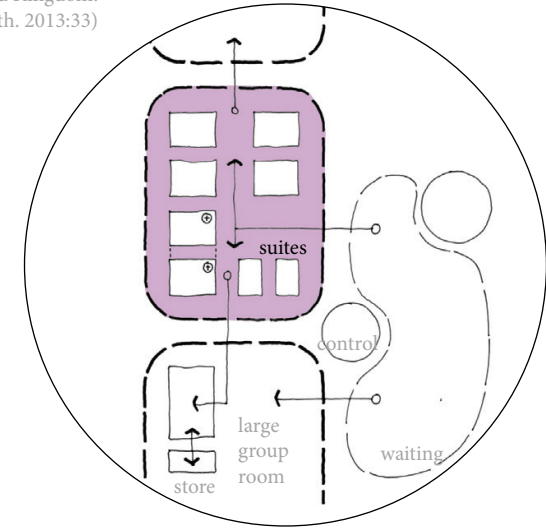
Activities taking place in each classroom

3-6 years

Open-8:00	Free Choice/Morning Group Welcome home-base classrooms) Children choose activities, multi-age collaboration
8:00-9:15	Outdoor Play/Gross Motor (4K begins @ 8:30 am) (outdoors and kinetic classrooms) Children select activities, explore nature
9:15-9:45	Breakfast, Bathroom (bathrooms, cafeteria, play court)
9:45-10:00	Morning Meeting and Group Time (home-base classrooms) Calendar, Share time, Stories, music
10:00-10:20	SMART Time (home-base and kinetic classrooms according to learners) Whole body development, fine and gross motor
10:20-11:20	Choice time (home-base classrooms) Activities may include centres, small group, etc. Active exploration and discovery
11:20-11:45	Story Time (4K ends – pick up at 11:40am) (home-base classrooms)
11:45-12:30	Lunch, Bathroom (bathrooms, cafeteria, play court)
12:30-1:30	Outdoor Play/Gross Motor (outdoors, kinetic classrooms, dirty classrooms) Children select activities, explore nature
1:30-2:00	Learning Activities (home-base classrooms) Various educational activities, story, group discussion
2:00-2:30	Rest/Quiet Activities (home-base classrooms) Children select fun quiet activities such as drawing, writing, books, etc. Time to calm our bodies
2:30-3:00	Snack, Bathroom (bathrooms, cafeteria, play court)
3:00-4:30	Free choice (home-base, kinetic, outdoors, dirty classrooms) Children select activities, discovery, exploration
4:30-5:00	Outdoor Play/Gross Motor (outdoors, kinetic classrooms, dirty classrooms) Children select activities, explore nature, join playhouse group
5:00-Close	End of Day Closings (home-base classrooms) Stories, quiet activities, multi-age collaboration

Fig 4.14 Schedule for reggio-inspired child development, adapted from University Child Learning and Care Center (uwsp.edu. 2016).

Fig 4.15 Example of occupational therapy suite. (United Kingdom. Department of Health. 2013:33)



4.12 Supporting Function: Occupational Therapy (Socio-emotional)

Because of the nature of the site, as mentioned in Chapter 3, children are restricted to their home environment and parents are not able to supervise their children, when playing outdoors, from the apartment (Coley et al, 1997: 469).

This environment is factored together with the fact that many children are falling behind in their cognitive and conceptual development, as mentioned in Chapter 2, due to, firstly, an increase in video game culture and a decrease of experiential play immersed in nature (Crace, 2006).

Therefore, as a result of these issues, there is an increasing need among South African children for occupational therapy (timeslive. 2016). Seeing as the site contains such a great number of childcare facilities, the growing need for occupational therapy becomes even more crucial. As a supporting program to the existing Ring Ting Pre-primary, the new Reggio classrooms, as well as the neighbouring preschools, an occupational therapy suite that caters for 80 children in need of therapy will be introduced. The most western corner of the site was chosen as a good position for the occupational therapy suites as it was identified as the most private space on site (refer to Chapter 3) and at the same time, links to the neighbouring schools in the area.

Occupational Therapy Suites users:

80 children and 5 occupational therapists. The 80 child capacity will accommodate for a percentage of children of Ring Ting, the 150 children in the new Reggio classrooms as well as children from neighbouring schools in need of therapy. Sessions will be staggered and therefore a maximum of 30 children can be accommodated in the building at one time.

Occupational Therapy Function: Spaces and Requirements

Occupational therapists, require access to a range of different room types to enable them to see patients/ clients individually and/or in groups. Activity may be couch- or desk-based, or may require access to equipment (portable and fixed) and/ or open spaces. Interview rooms, with a clinical wash-hand basin, should be in a quiet location; group rooms for group discussions/counselling. Equipment will be brought into the room from an adjacent store for session use of the room. Small store for consumables and portable equipment and toys must be provided. According to Figure 4.9, deemed to satisfy standards for a cluster of occupational therapy suites suggest 8m² for storage; 16m² for group consulting and 8m² for private interviews.

4.13 Supporting Functions: Vegetable Garden, Wetland, Water Tanks

Other supporting functions include a vegetable garden, water garden and water tanks. The aim of these functions is to strengthen the didactic essence of the primary learning gardens while reacting appropriately to the context

The first of these is the garden of reuse, situated in the old playground of the Ring Ting pre-primary school. A vegetable garden that grows food to feed the new and existing school's children will be implemented into this space as well as small spaces to allow for the sorting of recycled materials used in the school. These will be attached to the existing school to emphasise that the existing school playground will be reused in a didactic way.

The second function is the water garden. The Water garden to establish a connection with the Walkerspruit and the identity of water on the site, however, the Spruit is unsafe for children because of the water's purity and the steep slopes of the channel. Therefore it was decided to incorporate a separate natural water system using water collected from rain water harvesting and clean it through passive methods, including a wetland and bio-pool. The garden will teach the children how water supports a multitude of ecosystems including plants and climate.

The third function, is the water tanks which will be suspended in two structural towers placed on either side of the entrance to the school. This not only creates an awareness of the supply of water amongst the staff and children but also creates an identity of the new school as a landmark in the community. The towers also resolve the large scale imbalance on the site between the high rise apartment bocks and the flat park space.

4.13 Summary

The overall programme for the scheme is large and multifaceted, but each part has a specific didactic purpose in the reconnection and rehabilitation of the site, as they contribute to each other's functions as well.

The placement of the programs were according to which parts of the site were more appropriate for the public and private nature of each of the programs. The western side of the site was most private and therefore proved appropriate for the occupational therapy, the northern east of the site had a semi-private nature to it and the southern part of the site had a semi-private nature to it. However, because the connection to water was identified as having highly didactic potential, the classrooms were placed alongside the river and the community elements were placed on the northern side, connecting to the street park condition with parking on the most eastern boundary, to the north.



Fig 4.16 Physical nature of site according to public and private spaces, and organic and urban nature of the site (Author, 2016)

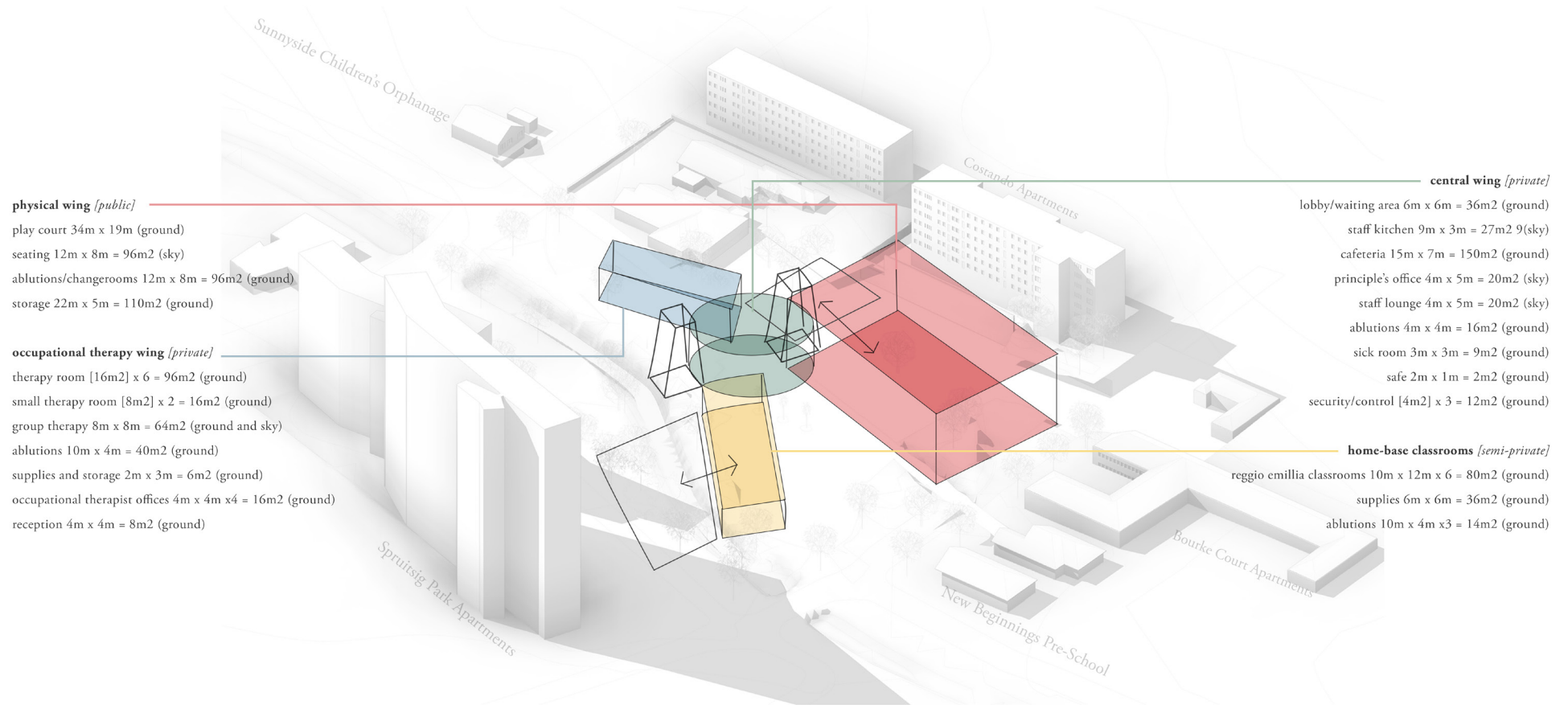


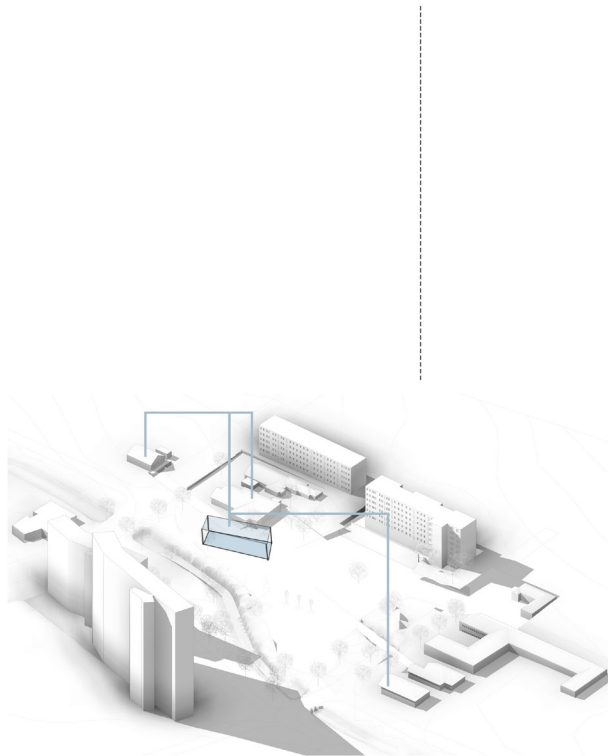
Fig 4.17 Program layout in context. (Author, 2016)

occupational therapy

deals with developmental setbacks in didactic community
addresses issues in today's culture where outdoor play is
limited

Users:

(During and after hours):Sunnyside Orphanage
Surrounding Residential Apartments
New Beginnings Pre-School
Ring Ting Pre-School

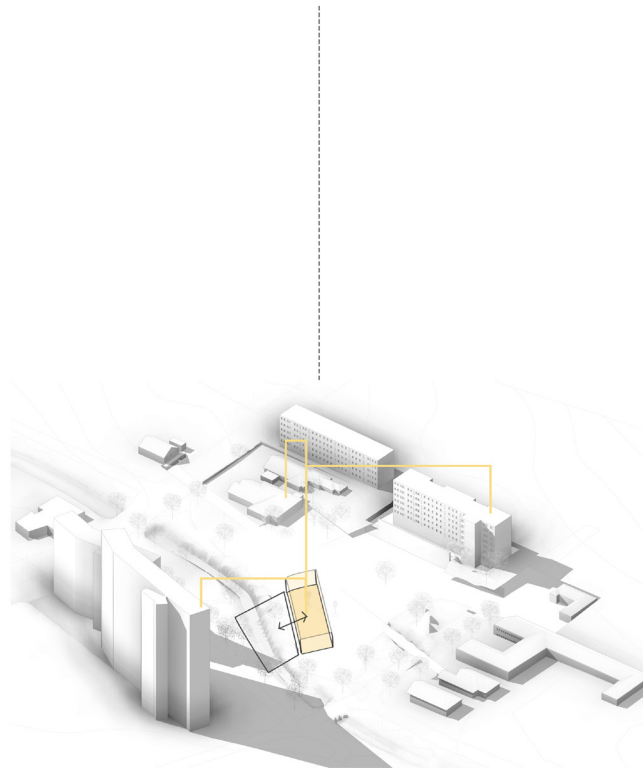


reggio emillia home-baseclassrooms

the environment as third teacher
approach to learning from nature
biophilic in its nature

Users:

(School Hours):
100 New Children from surrounding
residential apartments
50 Ring Ting Pre-School Grade R
students



kinetic classrooms and play court

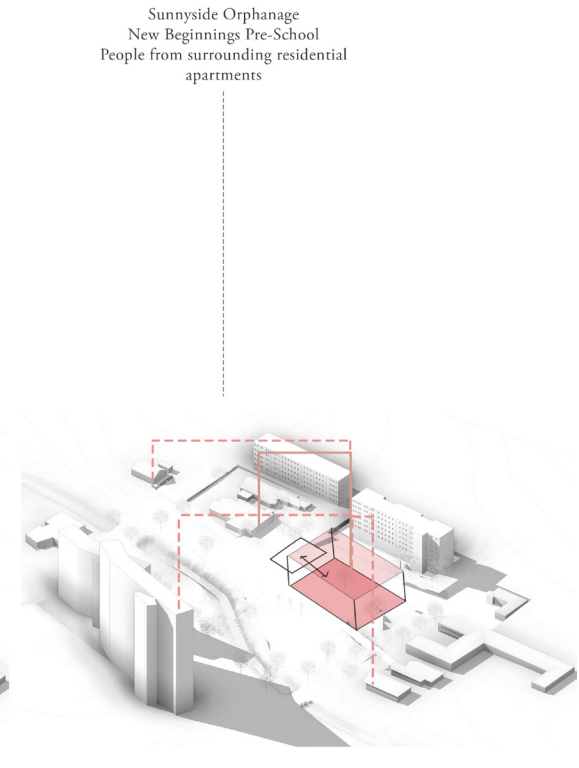
addresses gross motor skills development in
environment connected to nature

Users:

(School Hours):
50 Ring Ting Pre-School Grade R students
and 100 new children from surrounding
residential apartments

(After Hours):

Sunnyside Orphanage
New Beginnings Pre-School
People from surrounding residential
apartments



———— During School Hours
- - - - - After School Hours

Fig 4.18 Program allocation. (Author, 2016)