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RESEARCH ARTICLE

FACILITIES NEEDED FOR PLAYGROUNDS IN SHOPPING MALLS: A SOCIAL-DESIGN STUDY.

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Abstract

This paper aims to discover further knowledge for building sustainable areas - specifically for children, that can be applied in future practice. Playgrounds are one of the most common area that's been used over the years by younger generations to play around and socialize. It holds a special role in the community by assisting formation of children's growth and development. Unfortunately, there's not much information or even a specific guideline of what's needed around a playground. By looking at modern societies, especially in Indonesia, playgrounds are mostly placed inside shopping malls. Its efficiency makes an indoor playground one of the modern areas that's needed to be sustained well for a bigger potential. For this purpose, a social-design study is required. This is done by firstly observing nearby playgrounds and making comparisons on facilities that they have in common and also by looking at their differences. Then we arrange it into a new chart in order for us to see the best social effect of the most well-structured facilities up and around the playground. Finally, we conclude by discussing the learning outcomes of analyzing such tools, in order to reflect on the future of our research applied to modern communities.

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Introduction:

Relevance to Social Practice – This paper presents required information regarding designs for indoor playgrounds that could maximize its role of efficiency in both adult and children by also bringing an impact through Sustainable Design, which practices mindfulness and responsibility for future society to the extent of bringing a social change.

¹Children's play area or also known as playground is a place specifically designed so that children can play there. Conny R. Semiawan (2008: 19-20) revealed that the game is a variety of activities that are actually designed with the intention that children can improve some certain abilities based on learning experiences. Games are a tool for children to explore their world from what the child does not know to what the child knows and from what he cannot do until he is able to do it. Play is an important activity for children. Learning activities for children are carried out through play activities. ²Games for children are a very fun activity, cause excitement and as a place to express what children feel. (Andang Ismail, 2009: 5) Games are an absolute part of a child's life and are an integral part of the process of forming the child's personality. That is, with and from the game children learn to live. Based on the description above it can be emphasized that play is a fun activity for children who are able to develop all aspects of child development. Games for children are games that contain educational value because through these games children learn to develop all aspects. Entering an increasingly advanced era, the area where children play is now experiencing social demands to be increasingly more specific in the role of character formation of children while in

their growth and development. The world now also limits the space for children in the midst of the bustle of modern humans. Children's play areas that used to be generally in open spaces, are now starting to shift into indoors (indoor playground). This type of play area is easily found inside the mall. Therefore, further research is needed that is able to examine the basic needs of children's play areas (playgrounds) specifically in this mall that hopes to be able to be one of the environmental considerations of development in the future.

Playgrounds in General

³Regarding the term playground in English is 'playground'. Furthermore, the playground is explained by Sapora and Mitchell (1961 - 368) as follows "The playground is a special area for playing in the environment around a certain size of residence, and is designed to increase the extent of the playground. Playground is usually determined in an environment with physical characteristics, population density, or the same service factors that are needed in a neighborhood.

Meanwhile, ⁴according to the United Health, Physical Education, Recreation, and Sports Association (1979 - 157) the playground was stated as follows "The environment where the playground is a specific area or area planned for recreation. Specified primarily to serve children under the age of 14 but have additional characteristics to pay attention to teens and adults.

From these two explanations, it can be concluded that the playing environment is an environment or location that is specifically provided for the activities of children who are aged 14 years and under but still sets certain size limits and other special characteristics. This playground is usually placed in a densely populated area, to serve residents of the surrounding environment who have many elementary school age children.

Current Standardization: Outdoor Playground

In order for the playground provided to precisely reach the expected goals for children, of course parents, the community, employers, or the government in providing a playground for children should pay attention to the minimum size limits and characteristics as a special standard place for children to play. Specific features or playground standards as determined by the National Recreation, the California Committee on Planning for Recreation, the Park Area and Facilities, the Chicago Recreation Commission, and several other local planning agencies, and Recreation leaders, were presented by Sapora and Mitchell (1961-370), as follows:

1. The location of the playground must be placed in a residential center or in a part of the housing environment that cannot be reached or affected by the wider recreational environment center
2. Be in every 400m radius
3. Can serve children ranging from 1000-4000 people
4. The area is between 8000 and 16,000 meters
5. Especially for preschoolers, an isolated area is needed so that they can play safely without interference or other environmental interferences.
6. Installed a fence so that children or equipment are not easy to get outside the area
7. Adjacent to a shelter

Facilities for Outdoor Playgrounds

There are several provisions that must be considered in preparing a playground for children as stated by Sapora (196-375) as follows:

1. The area of the playing environment must be equipped with adequate space and equipment for playing, and equipment for sports. (In this case it takes a space that can accommodate all the tools that are adjusted to the amount of capacity of children).
2. The play area must be sufficient to meet the requirements for fun and comfort for children and parents. (Comfort in the play area can create a pleasant atmosphere for visitors).
3. Shade (shade) Playground for children must be shady, by giving shadows for example from trees or plants made for fences.
4. Fencing Children's playground must be fenced, this is for safety, protecting children from outside disturbances such as traffic, or adults who enter or other interference that can interfere with comfort. Besides fencing can also facilitate supervision of children's activities.
5. Grading (level) The playground must be leveled or leveled, so there are no climbs, incline or increments.

6. Surfacing (surface) The surface needed for a playground for children is a smooth, flat, sturdy / tight surface, comfortable stepped on, not dusty and gravel, dry, no standing water, not slippery and not hard. Outdoor surfaces are usually with good quality grass.
7. Lighting If the playground is widely used at night, sufficient lighting must be provided to prevent collisions and provide comfort and convenience for supervision.
8. Winter Usage (season use)

The playground according to the America Alliance Health Physical Education, Recreation, and Dance Institute (1979-157) is stated as follows:

1. Safe location. This can be placed in a separate location that is free from interference from other activities that enter the playground area.
2. Close to a break room or other shade. In addition to a place of rest for children to protect themselves from rain or large winds
3. Mobile fence. This is intended to secure and facilitate parental supervision and prevent children and play equipment such as balls from leaving the game area, as well as to prevent the entry of adults

Service zones for each playground are provided more or less between ¼ Miles (400 meters) or no more than 1.5 Miles (2.5 KM) and normally at least 5 (five) acres (200,000 m²). This provision depends on the state of nature, residential area, space, location.

The standard space for children to play is based on the standard index of space for each child by referring to the standard provisions issued in America, as explained by Harsuki in a paper workshop Sports Facilities, Directorate General Outside the School of Youth and Sports (1979: 58) as follows.

The recommended standard for playing fields and open fields for small towns is 100 people per acre (1 acre = 4046.72 m²). This means that the index for one person is 40m² more. Modifications of the predetermined general standards for large population-dense quotas are as follows: a. 1 acre for 200 people (minimum 20 m² for one person) for a city of up to 500,000 people. b. 1 acre for 300 people (minimum 14 m² for one person) for a city of up to 1,000,000 people.

Outdoor playgrounds should provide opportunities for children to actively develop broad and small muscles. In this case, tools or equipment must be selected that contain elements of the development of creativity, challenges, in accordance with the abilities of children. Therefore, outdoor play areas must provide:

1. Broad muscle activity to improve all components of child development, namely locomotor, manipulative, and stability
2. Experience with various tools or media such as: art, materials made of wood, soil / mud, sand and water.
3. A separate or isolated playground and fun activities such as making tunnels, cubes, etc.
4. Gives the opportunity to observe nature such as: animals, gardens, plants and shrubs.
5. Give an opportunity to experience in real life drama such as: playhouse, cars, or ships.
6. From the experts' explanation regarding the standards and conditions of children's playgrounds, children's playgrounds can be grouped as follows: Indoor Playground and Outdoor Playground
7. Both playgrounds which are centered on the development of motion basically have the same characteristics differing only in the area of space, surface, climate and atmosphere.

As for the characteristics, the standards and conditions of the playground both indoors and outdoors are as follows.

1. Playground for children must be provided specifically, localized in a separate place.
2. Not close to public activities that are busy, dirty or smelly.
3. Comfortable and no interference from the outside environment and safe from all acts of crime
4. The outdoor playground must be equipped with trees around it as a shadow for the shade must also be equipped with a building (shelter), a place of rest, shelter, and shelter.
5. Playground indoors are given a base such as carpet or mat, while for the outdoors is to provide well-maintained grass.
6. The equipment used must be really strong and sturdy
7. The tools used must be in accordance with the condition of the child's body (such as bat)
8. As for the playing field, children can be categorized as places where they (children) feel comfortable and happy to express themselves (play) in the situation of their chosen play area.

Gallahue (1982: 360) gives an explanation of the outdoor play center which is centered on motion as follows:

1. The center of motion outside the room easily incorporated into the playground as a whole. There must be plenty of room for children to move freely. Ideally there is a large grassy area and slopes for running, jumping, sliding, rolling and climbing.
2. There is a rough surface for the travel of toy wheels and activities with the ball. Trees must become an integral part of the center of motion, not only to provide shade, but to encourage children to climb.
3. Various kinds of equipment that can encourage rough motion must be placed inside the outdoor play area. This equipment in addition can be used as used in the center of motion in the room climbing equipment, hitting, and balance must be an integral part of the outdoor area.

Children playground that will be given in this design is a play area that can accommodate the wishes of children, according to the type of playing field they want. For educational games based on their placement, they can be grouped into two groups, namely indoor (outdoor) or outdoor (open space) educational toys. For indoor educational games, manipulative APE type, which means APE that can be played by children on the table, can be disassembled, carried. Examples of this type of APE include puzzles, blocks, post boxes, dolls, etc. Because the target of this Child Educative Recreation Facility is 6-12 years old, various types of games are deliberately provided to be adjusted to the character's age and interests of the child, or it can also be games such as puzzles / blocks adjusted for the level of complexity.

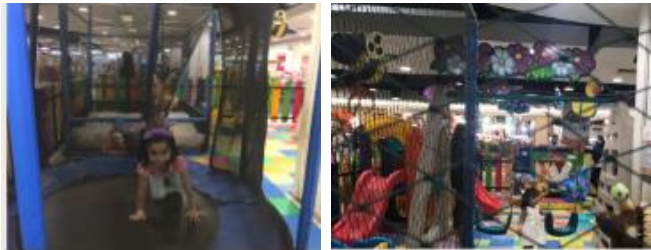
Observation: Indoor Playgrounds at Surabaya, Indonesia

In Indonesia, playgrounds are mostly placed inside shopping malls. It has a significant role in forming children's growth and development, as well as helping adults doing multiple chores at once in the same place altogether keeping an eye on the little one. Its efficiency makes an indoor playground one of the modern areas that's needed to be sustained well for a bigger potential.

Observation 1:

Open Playground - Tunjungan Plaza 3

Table 1:- Internal Facilities of Open Playground – Tunjungan Plaza 3

	Area	Figure
1.	Trampoline	<p>Figure 1:- Trampoline</p> 
2.	Ball-pit and slides	<p>Figure 2:- Ball-pit and slides (a) Ball-pool (b) Slides</p> 







3.	Swings	<p>Figure 3:- Swings</p> 
4.	Moving Vehicles	 <p>Figure 4:- Moving Vehicles</p>

Table 2:- External Facilities of Open Playground – Tunjungan Plaza 3

	Area	Figure
1.	ATM Center - Money Changer	 <p>Figure 5:- ATM Center – Money Changer</p>
2.	Food Stands	 <p>Figure 6. Food Stands</p>
3.	Daiso: Convenience Store	 <p>Figure 7:- Daiso: Convenience Store</p>

4.	Clothes Bazaar	 <p>Figure 8:- Clothes Bazaar</p>
5.	Dining Places	 <p>Figure 9:- Dining Places</p>


Observation 2: KidZoona – Tunjungan Plaza 6

KidZoona is located in Tunjungan Plaza 6, 4th Floor. Its location is quite strategic, which is in the middle of Tunjungan Plaza 6, on the right side there is an escalator and elevator, in front of it there is a kind of void that allows visitors to look into the lower and upper floor area, then on the left side Next to the nail salon.

Table 3:- Internal Facilities of KidZoona – Tunjungan Plaza 6

	Area	Figure
1	Ball-pit	 <p>Figure 10:- Ball-pit</p>
2	Interactive Area	 <p>Figure 11:- Interactive Area</p>

Table 4:- External Facilities of KidZoona – Tunjungan Plaza

Facilities	Name	 <p>Figure</p>
Dining Places	Raa Cha Suki	 <p>Figure 12:- Raa Cha Suki</p>
	Itoya Donburi	 <p>Figure 13:- Itoya Donburi</p>
Beauty Treatments & Health Care	Meiso Reflexology	 <p>Figure 14:- Meiso Reflexology</p>
	The NailPlus	 <p>Figure 15:- The NailPlus</p>
	Watsons	 <p>Figure 16:- Watsons</p>


	Guardian	
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Figure 17:- Guardian

Observation 3: Miniapolis – Pakuwon Mall

Miniapolis, a children's playground that always prioritizes cleanliness, safety and comfort of the family will now soon be present in the city of Surabaya precisely at Pakuwon Mall Floor 2. The provider of children's playgrounds and growth provides a new concept in Surabaya where Miniapolis Kids Club will also be present, Miniapolis Kids Salon and Miniapolis Baby Spa complete in one location. Miniapolis provides practicality for families with this new concept. Miniapolis Kids Club is a monthly class program accompanied by teachers who are loaded with educational elements for children for a full hour. The program for children under 8 years is designed with a schedule full of interesting activities every day. Classes are divided into age groups so that the child's growth and development process is more optimal. Miniapolis Kids Salon in collaboration with KiddyCuts will also be present to help parents easily get exciting experiences when their baby is cut hair. There is also a Miniapolis Baby Spa where Miniapolis collaborates with Mom n Jo Baby Spa who already has experience in providing massage therapy for children from infancy to 11 years. Massage therapy with experienced therapists has proven to be effective in relaxing children and improving children's health. Miniapolis at Pakuwon Mall Surabaya has a variety of game attractions for children over 4 years of age which are more active and can coordinate the hands and eyes of operating a mini ball-carrying truck and love challenges such as gliding on bouncy castle sliders and playing up and down stairs in a park full of parks ball. For children under 4 years, Miniapolis prioritizes games that optimize children's imagination by playing role play at Crick's Playhouse, a large ball pool, as well as a variety of soft play games available to train fine motorbike and gross motoric children. Miniapolis always provides the best for young Indonesian families, cleanliness, safety and comfort of each visitor is always preferred

Internal Facilities at Miniapolis – Pakuwon Mall



Figure 18:- Carousel



Figure 19:- Excavator



Figure 20:- Bouncy



Figure 21:- Art Space



Figure 22:- Baby Spa



Figure 23:- Kids Saloon



Figure 24:- Kids Club

External Facilities at Miniapolis – Pakuwon Mall









 <p>KOI The Wiyung Kafe</p> <p>Pakuwon Mall, Lantai 2 Jl. Puncak Indah Lontar No. 2, Wiyung, Surabaya</p> <p>Di bawah Rp. 50.000 /orang</p>	 <p>Nyonya Peranakan Cuisine Wiyung Malaysia</p> <p>Pakuwon Mall, Lantai 2 Jl. Puncak Indah Lontar No. 2, Wiyung, Surabaya</p> <p>Rp. 50.000 - Rp. 100.000 /orang</p>
 <p>Pancious Wiyung Italia</p> <p>Pakuwon Mall, Lantai 2, Food Society Jl. Puncak Indah Lontar No. 2, Wiyung, Surabaya</p> <p>Rp. 100.000 - Rp. 200.000 /orang</p>	 <p>Marugame Udon Wiyung Jepang</p> <p>Pakuwon Mall, Lantai B1 Jl. Puncak Indah Lontar No. 2, Wiyung, Surabaya</p> <p>Rp. 50.000 - Rp. 100.000 /orang</p>
 <p>Common Grounds Wiyung Kafe</p> <p>Pakuwon Mall, Lantai 2, Food Society Jl. Puncak Indah Lontar No. 2, Wiyung, Surabaya</p> <p>Rp. 100.000 - Rp. 200.000 /orang</p>	 <p>Jack & John Wiyung Indonesia</p> <p>Pakuwon Mall, Lantai 2M, Little Tokyo Pakuwon Mall Jl. Puncak Indah Lontar No. 2, Wiyung, Surabaya</p> <p>Rp. 50.000 - Rp. 100.000 /orang</p>
 <p>Crunchaus Salads Wiyung</p> <p>Pakuwon Mall, Lantai B1 Jl. Puncak Indah Lontar No. 2, Wiyung, Surabaya</p> <p>Rp. 50.000 - Rp. 100.000 /orang</p>	 <p>Teppan House Wiyung Jepang</p> <p>Pakuwon Mall, Lantai 2M, Little Tokyo Pakuwon Mall Jl. Puncak Indah Lontar No. 2, Wiyung, Surabaya</p> <p>Rp. 50.000 - Rp. 100.000 /orang</p>

Figure 25:- Dining Places

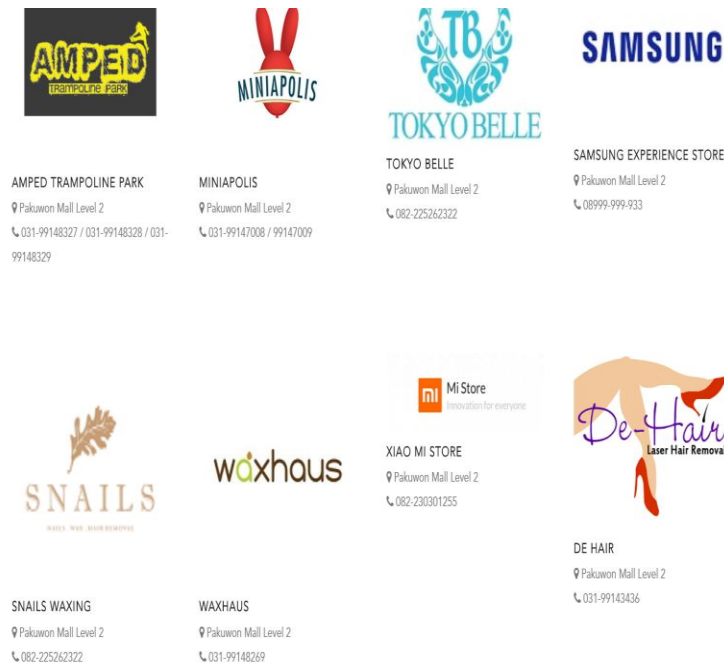


Figure 26:- Beauty Saloon, Electronics Store and entertainment places

Observation 4: KidZilla – BG Junction

There are various kinds of games in KidZilla. Starting from role playing (roleplay), bouncy castle, slide, swing, trampoline, bathing ball, toy cars, bicycles, and others. To play the role, the child can choose whether to become a bakery owner, bank teller, pizza seller, mechanic etc.



Figure 27: Internal Facilities of KidZilla – BG Junction

Observation 5:-

KidZone – BG Junction

Kidzone is one of the playgrounds in Indonesia that has more or less 5 places in the Surabaya city area. In addition to the city of Surabaya Kidzone also its name is often heard among parents who have small children in Indonesia. Therefore, it is not surprising that there is a playground called Kidzone in Indonesia. One of Kidzone in the city of Surabaya is inside the Bg Junction mall, where the name of the mall is familiar to the citizens of Surabaya. Kidzone in the Bg Junction mall is located on the 2nd floor and lobby level (LL). The Kidzone area inside the Bg Junction mall is quite extensive and there are many arena games to choose from. Kidzone has several games so that children can feel happy while in the area playing Kidzone.

Kidzone not only provides facilities for children to play, but also provides facilities for watchmen who are playing at Kidzone. This waiting area for escort at Kidzone Bg Junction is practically comfortable. For companions can wait and relax in the waiting area that has been provided with a large sofa. In addition to the sofa seating provided, Kidzone also provides a place to buy food and drinks. The waiting area facilities are made as comfortable as possible so that the waiting companions also feel comfortable when their children are playing at Kidzone.

Table 5:- Internal Facilities of KidZone – BG Junction

Area	Figure
Lego Arena	<p>Figure 28:- Lego Arena</p> 
Coloring Area	<p>Figure 29:- Coloring Area</p> 
PlayStation Area	<p>Figure 30:- PlayStation Area</p> 
Movie Area	<p>Figure 31:- Movie Area</p> 

Trampoline	<p>Figure 32:- Trampoline</p> 
Ball-pit	<p>Figure 33:- Ball-pit</p> 
Swings	<p>Figure 34:- Swings</p> 
Toys Arena	<p>Figure 35:- Toys Arena</p> 

Discussion:-

In order for us to compare between the playgrounds and find what's good on one playground and what's good on another, we made a comparison so that we could see the difference and common facilities among them.

Data Analysis

Table 6:- The comparison of facilities of playgrounds in shopping mall

	Variables	OP	K	MP	KZ	KO
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Internal Facilities					
1. Trampoline	✓ <input type="checkbox"/>			✓ <input type="checkbox"/>	✓ <input type="checkbox"/>
2. Ball-Pit	✓ <input type="checkbox"/>	✓ <input type="checkbox"/>	✓ <input type="checkbox"/>	✓ <input type="checkbox"/>	✓ <input type="checkbox"/>
3. Slides	✓ <input type="checkbox"/>	✓ <input type="checkbox"/>	✓ <input type="checkbox"/>	✓ <input type="checkbox"/>	✓ <input type="checkbox"/>
4. Moving Vehicles	✓ <input type="checkbox"/>	✓ <input type="checkbox"/>	✓ <input type="checkbox"/>	✓ <input type="checkbox"/>	✓ <input type="checkbox"/>
5. Carousel			✓ <input type="checkbox"/>		
6. Excavator			✓ <input type="checkbox"/>		
7. Bouncy Castle			✓ <input type="checkbox"/>		
8. Creative & Interactive Area		✓ <input type="checkbox"/>	✓ <input type="checkbox"/>	✓ <input type="checkbox"/>	✓ <input type="checkbox"/>
9. Baby Spa			✓ <input type="checkbox"/>		
10. Kids Saloon			✓ <input type="checkbox"/>		
11. Kids Club			✓ <input type="checkbox"/>		
12. Roleplay				✓ <input type="checkbox"/>	
13. Swings	✓ <input type="checkbox"/>		✓ <input type="checkbox"/>	✓ <input type="checkbox"/>	✓ <input type="checkbox"/>
14. Lego Area					✓ <input type="checkbox"/>
15. Digital Area					✓ <input type="checkbox"/>
External Facilities					
1. ATM Center	✓ <input type="checkbox"/>				
2. Dining Places	✓ <input type="checkbox"/>	✓ <input type="checkbox"/>	✓ <input type="checkbox"/>	✓ <input type="checkbox"/>	✓ <input type="checkbox"/>
3. Beauty Treatments & Health Care		✓ <input type="checkbox"/>	✓ <input type="checkbox"/>		
4. Electronics Store			✓ <input type="checkbox"/>		
5. Entertainment Places			✓ <input type="checkbox"/>		
6. Convenience Store	✓ <input type="checkbox"/>	✓ <input type="checkbox"/>			
7. Clothing Store	✓ <input type="checkbox"/>				

From the table that has been presented above, it can be seen that the majority of Internal Facilities in the playground have a ball-pit, slides and moving vehicles. In addition, the majority of external facilities on the playground are dining places.

It could be estimated that that the internal facilities mostly needed, as stated above (a ball-pit, slides and moving vehicles) are likely to be children's favorite, as it is highly interactive for their growth and development. As well as external facilities that are highly considered by parents who will bring their children to play on the playground is a place to eat. It is very common for kids to eat right after they play since there's so much energy that's been drained. They will choose to stop playing and rest instead. By the time their parents come to pick them up, it's the exact time for them to dine together.

Conclusion:-

Facilities needed for indoor playgrounds, especially inside shopping malls would most likely to be ball-pits, slides and moving vehicles, and also dining places. Further research related to this paper will be needed to conduct sustainability for the specific purpose of bringing an impactful change to the near future.

Acknowledgments:-

Though the work reported is the result of a collaborate effort to finish our final assignment, we recognize the need to address author's contributions separately. This research was undertaken during our 5th semester at Interior Design Department – Sepuluh Nopember Institute of Technology, under the supervision of Prof. Susy Budi Astuti from Laboratory of Social Behavior and Mrs. Lea Kristiani Anggraeni from Laboratory of Design Aesthetics. Special thanks to shopping mall management officers in Surabaya, Indonesia that helped us provide information needed for our research. Further thanks to all the participants that contributed to these studies.

Endnotes:

1. Children's play area or also known as playground is a place specifically designed so that children can play there Conny R. Semiawan (2008: 19-20) revealed that the game is a variety of activities that are actually designed with the intention that children can improve some certain abilities based on learning experiences.
2. Games for children are a very fun activity, cause excitement and as a place to express what children feel. (Andang Ismail, 2009: 5)
3. Regarding the term playground in English is 'playground'. Furthermore, the playground is explained by Sapora and Mitchell (1961 - 368) as follows "The playground is a special area for playing in the environment around a certain size of residence, and is designed to increase the extent of the playground.
4. According to the United Health, Physical Education, Recreation, and Sports Association (1979 - 157) the playground was stated as follows "The environment where the playground is is a specific area or area planned for recreation. Specified primarily to serve children under the age of 14 but have additional characteristics to pay attention to teens and adults.

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