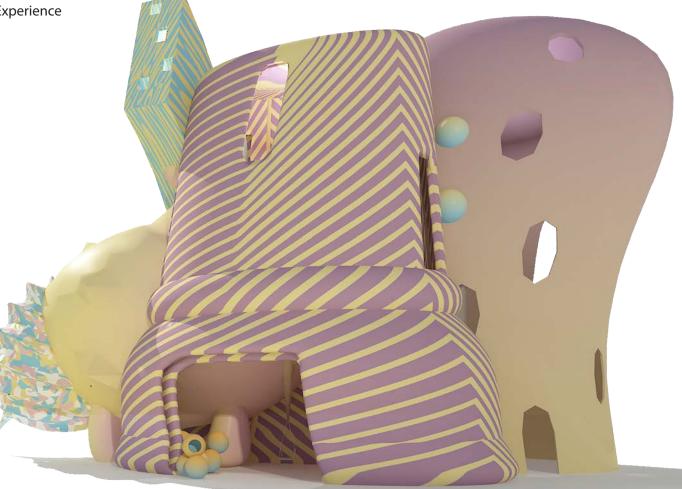
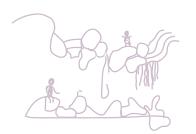


Engaging Children through Fantasy Experience



Ala Felemban Advisor: Brian Newswanger

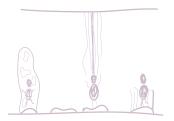
Drexel University Graduate thesis, Winter 2020





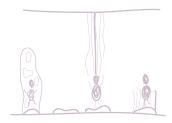




















Engaging Children through FANTASY EXPERIENCE

Ala Felemban Advisor: Brian Newswanger

Drexel University Graduation thesis, Winter 2020

























CONTENTS

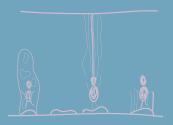
01	Acknowledgment]
02	Introduction	3
03	Literature Review	4
04	Precedent	14
05	Case Study	15
06	Design Strategy: Probe 1 : Materiality Probe 2: Experience	24
07	Programming	27
08	Site: Documentation Analysis	33
09	Process	46
10	Final Design: Final Drawings Materials	50
11	Code Compliance: Egress plan Way finding strategies Sustainability	72
12	Appendices Kids and parents interview Bibliography	76





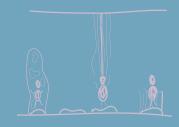




















1 Acknowledgment

The work presented in this book and this thesis could not have been possible without the help and assistance of many people. I would like to express my heartiest and sincere thanks to my thesis advisor Brian Newswanger, president of Atlantes Architects, for his continuous support, patience, and immense knowledge.

To William Mangold, thank you for providing invaluable guidance through the thesis process and during the past three years. Thanks for encouraging me and believing in me.

I owe a special thanks to my mom Karimah, my dad Maher, my sisters Noor and Maryam, and my brother Abdullah. This project won't be completed without my parents' generous support and help; and my siblings' encouragement.

I am indebted to my wonderful husband Almothana, and my beautiful kids Moody and Deem for their unconditional support throughout these three years. Thanks for always encouraging me and believing in me.

Thank you to my friends Kristianne Simeon and Shelly Mascarenhas for always listening to me, helping me, and believing in me. Thanks to all my classmates and studio peers. I'm grateful that Drexel has brought us together. I wish everyone a successful future.

























2 Introduction

This thesis is inspired by Ala's role as a mother which lets her look at design and perceive spaces from different perspectives. Living in Philadelphia for the past three years, Ala had a range of rich, urban experience with her children. And it is while visiting these various play spaces in the city that she observed how today's playgrounds give children fewer opportunities to develop physical and social skills. Playing with her kids and interacting with other children motivated her to create a place that fosters imagination and fantastical thinking.

This thesis combines the concept of abstract playgrounds designed by Aldo Van Eyck and modern studies that prove how fantasy is a successful tool in engaging kids. It aims to spark play through fantasy experience and provides an environment where kids can play in new and exciting ways.

This project is an archetypal of this new idea of fantasy playscapes; where each neighborhood can has its own fantasy, whimsical, and colorful playscape with its own unique identity specifically distilled from the local neighborhood vernacular, so kids would feel a sense of connection attached to their neighborhood's and its playscape.

3 Literature Review

Introduction

The propensity of children to play is often limited by a lack of suitable play places, especially in urban environments. Play is not only crucial for a child's quality of life; it also helps to build a civil and democratic society. Since the late 19th century, designers and activists have created play environments to develop children's skills, provide opportunities for amusement, and improve social relations. As part of this history, fantasy and storytelling have proven effective in engaging children. The following literature review discusses the benefits of play, different approaches to designing for play through history, and how kids can be engaged through play and fantasy. The review supports a thesis that aims to spark play through fantasy experience, encouraging the mental, emotional, and social development of kids.

Benefits of Play

Play provides personal joy and freedom of choice. For children, play promotes physical, mental, and social development. It allows kids to learn to solve problems, cooperate, and it improves their imagination and empathy. Darell Hammond, the founder of KaBOOM!, was motivated to improve neighborhoods in order to meet kid's needs, therefore, KaBOOM! Playgrounds were born, recognizing the importance of play 1. KaBOOM! believes that the well-being of society starts with the well-being of kids, and play is "critical to their ability to thrive," suggesting that playability should be embraced by cities to retain, attract, and support young families 2. Schaefer and Drewes (2013) summarize the social and interpersonal benefits of play in four categories: play facilitates communication, fosters emotional wellness, enhances the social relationships, and increases personal strength.

This thesis is inspired by Ala's role as a mother which lets her look at design and perceive spaces from different perspectives. Living in Philadelphia for the past three years, Ala had a range of rich, urban experience with her children. And it is while visiting these various play spaces in the city that she observed how today playgrounds give children fewer opportunities to develop physical and social skills. Playing with her kids and interacting with other children motivated her to create a place that fosters imagination and fantastical thinking.

This thesis combines the concept of abstract playgrounds designed by Aldo Van Eyck and modern studies that prove how fantasy is a successful tool in engaging kids. It aims to spark play through fantasy experience and provides an environment where kids can play in new and exciting ways.

This project is a mockup sample of this new idea of fantasy playscapes; where each neighborhood would has its own fantasy, whimsical, and colorful playscape with its own unique identity specifically distilled from the local neighborhood vernacular, so kids would feel a sense of connection attached to their neighborhood's and its playscape.

2 Play matters for all kids. (n.d.). Retrieved from https://kaboom.org/.

¹ KaBOOM!, a national non-profit dedicated to ensuring that all kids get a childhood they deserve through great, accessible, and safe places to play.

Physical Development

According to Aquillano, Hawkins, Jackson, and Whiman (2017), physical development is one of the most positive outcomes of play. When children participate in active play, they "strengthen their physical coordination and improve their overall skills." Standard playground equipment improves physical coordination, but extraordinary playscapes3 that include fewer boundaries are more successful in developing physical health; because they would allow kids to run and move freely. Aquillano, Hawkins, Jackson, and Whiman (2017) used data from the National Survey of Children's Health (2007), showing a link between the reduction of engaging in active play and the rise of childhood obesity. The research also shows that only one in four kids and adolescents in the United States get the recommended 60 minutes of active play per day. Playgrounds and community resources have positive impacts on kid's physical health. According to Piaget, kid's intellectual growth is partly based on their physical development (Mooney, 2013, p. 81).

Mental and Emotional Development

In the United States, free play has decreased sharply in the last halfcentury. Recent research declares that over the same period, kids, adolescents, and young adults' feelings of anxiety, depression, helplessness, and narcissism have increased. Studies show that a lack of free play is one of the reasons that led to the increase of narcissism and a reduced sense of personal control. (Aquillano, Hawkins, Jackson, and Whiman, 2017, pg 23-27). According to Blades and Spencer's study (2006), in cities, kids spend most of their time indoors, playing video games, or watching TV. Therefore, free play has decreased, and it has negatively affected kids' mental health. Play facilitates communication through self-expression. It allows kids to express themselves and their feelings. Play is a natural medium for children to express their selves. "Children can project intense feelings and emotions onto the toys in play, thus creating a safe and controlled way for emotional expression (Landreth, 1993)". (Schaefer and Drewes, 2013). Play fosters emotional wellness because it helps kids to d express positive emotions. During play therapy sessions mentioned by Schaefer (2013), various positive emotions were expressed by children during their play therapy. Kids seemed to be feeling happy, delighted, hopeful, excited, peaceful, grateful, proud, ...etc. Kids keep expressing their feelings in direct and indirect ways some kids keep saying, "I am happy" "I always want to come here" "I am proud of what I done." Increasing free play can positively impact kids' mental health.

Social Development

In addition to physical and mental development, play has a significant impact on social development. Between ages three to five, kids tend to play with others. Through play, children learn to cooperate, deal with conflicts, compromise, and be flexible. Studies show that "kids are, on average, happier when they are participating in social experiences and social play with friends than they are in any other situation." (Aquillano, Hawkins, Jackson, and Whiman, 2017, pg 24). Beyond interpersonal social development, Roger Hart (2002), argues that play helps in building democratic and civil society.

Child Development and Experience of Space

Understanding the benefits of play requires looking further at environments designed for play and considering the relationships children develop with places. Interactions between people and places can be discussed in cognitive, emotional, and behavioral terms. Cognitive aspects led people to know the environment and help them to navigate their surroundings. Emotional interactions create an attachment to place. Behavioral aspects of interaction are related to activities and functional

³ Design Museum Foundation defined extraordinary playgrounds as: playgrounds that have unique architecture, "bespoke" play equipment, and thoughtful layout. For example, Balxland Riverside Park, Australia, Clemyjontri, Va, USA... etc (Aquillano, Hawkins, Jackson, and Whiman, 2017, p 28)

relationships between people and the environment (Altman and Low, 1992). Chawla and Hart (1982) argue that people's knowledge about the environment may vary based on: direct personal contact with the surrounding physical environment, and the direct and indirect environmental messages from the society; "these experiences convey values and evoke emotions." Steele (1981) lists the physical factors that affect the sense of place: scale, size, component, texture, color, decoration, odor, noise, diversity, and temperature. He also mentioned that fun, mystery, identity, history, pleasant, security, and memory affect the way people interact with places.

Jean Piaget, a seminal figure in child development, argues that kids' interaction with their environment helps in building their knowledge. Kids learn by giving meaning to things in their world such as places, people, and things. He argues that children learn more by making things themselves and building their own knowledge of what is going on, rather than getting explanations from adults (Mooney, 2013, p. 77-83, 73-74). Play is important for children to learn their physical environment and become self-sufficient. Exploring surrounding environments4 provides many benefits for children from all different backgrounds. It expands kids' view of the world, and it allows them to test boundaries. For example, infants are interested in exploring things that fall in their hands. Piaget and others suggested that these early explorations play an important role in how children build their knowledge and know the environment around them (Blades and Spencer, 2006, p. 13-25). According to Mooney (2013), Piaget believed that kids' curiosity drives their learning. Keeping children curious by providing problem-solving challenges is a better way of teaching than giving them information. Piaget's theory emphasizes the importance of play as a learning tool.

Furthermore, according to Chawla and Hart (1982), environments

that allow kids to be less dependent on outside resources can support democratic interactions and help in developing various qualities such as: problem-solving skills, critical thinking, skills cooperation, environmental and social competence, ecological and social responsibilities.

A Brief History of Play Environments

Throughout history, there has been nearly continual change in the way kids play and the environments in which they play. Johan Huizinga, a Dutch historian, studied the concept of play in 1935. His thesis was the first "serious attempt to analyze play as a culture." He described play as a free interpersonal or group activity (Jackson,1997). The birth of playground movement5 began in the early 19th century. The emphasis on child development through play and the history of playgrounds was rooted in Germany, notably with Frederick Froebel, who created the concept of kindergarten and developed educational toys. John Dewey and G. Stanley Hall, American psychologists, and educators joined Froebel in advocating for playgrounds as an essential tool for child development (Frost, 2012).



4 When kids are actively experiencing things by themselves (Chawla and Hart ,1982) 5 environments created specifically for young children's play

In 1838, Froebel started working on the invention of a "natural" child development playground. Those playgrounds include adventures of climbing trees and mountains, exploring caves and streams, and roaming the forests. He believed that every neighborhood should have its playground (Frost, 2012).

In 1887, Golden Gate Park, the first playground in America, was built in San Francisco. Golden Gate Park included fixed play elements such as a slide, swing, and a carousel. During the last few years of the 19th century, the Special Park Commission (SPC) was organized in Chicago, to create playgrounds in densely populated neighborhoods. In the 1890s, Joseph Lee established a public park in Boston. The park included sports field, small kids' area, garden, and a building for club meetings, basketball, and staff recreation leaders (The History of Play: Part 1, 2018). John Dewey believed that play is as important as work for children, and he laid the groundwork for expanding design and construction of play places.



"Model playgrounds" from the beginning of the 20th century, can be considered a second phase in the history of playground development. New manufacturers started to design and produce playground equipment, including swings, maypoles, and climbing structures. Playgrounds began to appear in towns, small cities, and some schools.



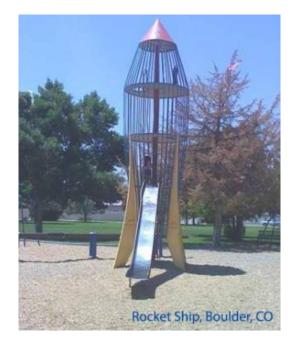
During WWII, metal was used for the war effort, and the production of steel playground equipment slowed. After WWII, "Junk playgrounds" or "Adventure playgrounds" became popular in Europe and the US. The concept behind these playgrounds was to allow kids to use leftover materials and tools in making their own play places and games (The History of Play: Part 1, 2018).



7

During this same period, Aldo Van Eyck made a concerted effort in Amsterdam to improve daily life and incorporate the needs of kids through the design and construction of more than 700 playgrounds, arguing that children are important citizens (Lefaivre & Roode, 2002). Van Eyck was inspired by work such as Sophie Taeuber-Arp's Relief rectangular of 1936. ("Sneak peek: Aldo van Eyck", 2016). In these playgrounds, Van Eyck was dealing with flat landscape of Amsterdam as if the ground were a canvas. He placed stone steps and abstract forms on that canvas to create thoughtful play environments.

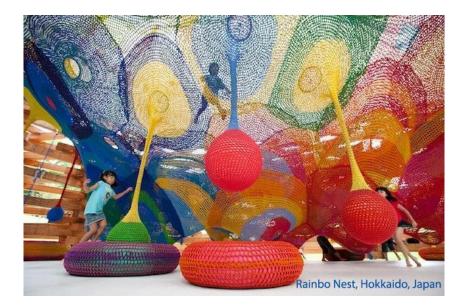
According to Aquillano, Hawkins, Jackson and Whiman (2017, pg 18), the 1950s to the 1970s saw the "Fantasy era" of play emerge. Play equipment that took sculptural forms or animal shapes became widely used. These playgrounds were often divided based on age, and the ground surfaces of these playgrounds was covered with wood bark chips or gravel for safety.



At the end of the 20th century, safety, standards, guidelines, and regulations became the focus of playground designs due to increasing litigation. Standardized play structures often constructed with plastic or composite components became the main elements in most playgrounds (The History of Play: Part 1, 2018). While standardized playgrounds



remain common, since the turn of the 21 st century designers, architects, and artists have worked on designing play environments that are integrated into the daily activities and social interactions of kids. In 2000, Toshiko Horiuchi MacAdam, an artist specialized in creating large textile interactive environments, established her first sculptural playground in Hokkaido. This playground functions as an imaginative exploration of form and colors. The playground encourages kids to challenge themselves while playing freely throughout a whimsical environment with no instructions. In 2010, David Rockwell teamed with play-advocacy group KaBOOM! to create the "Imagination playground," based on oversized foam parts of different shapes that can be manipulated by kids and located in a variety of spaces (Aquillano, Hawkins, Jackson& Whiman, 2017, pg 83-86).





Designing for Play

The literature suggests that playgrounds should be treated as a stage for public performance, and a part of the cultural life, not only a recreation facility. Play should be included in urban buildings, including museums and exhibitions. (Lange, 2019). Children learn more through exploration and experimentation because it allows them to figure things out for themselves. Architect Simon Nicholson envisioned the future of early childhood in which the boundary between education and play would dissolve. He argues that in early childhood, there shouldn't be any distinction between "play and work, art and science, recreation, and education ... education is recreation, and vice versa" (Lange, 2019).

Standard American playgrounds are overly predictable and not challenging to kids. As a result, there is no sense of accomplishment and they give children fewer opportunities to develop personal exploration and social skills. Playgrounds with abstract sculpture and fewer boundaries (Solomon, 2014, pg. 10) have emerged as a contrast. These playgrounds, often designed by artists and architects who are playground advocates can fuel curiosity and physical exploration (Aquillano, Hawkins, Jackson, and Whiman, 2017, pg 45). Kate Tooke, a landscape architect, explains that Smale Riverfront Park Playscape in Cincinnati is more attractive and engaging for kids because it is so different than typical American playgrounds, it is a place that is a bit risky and seems wild. A mother told Tooke that her child gets bored at other playgrounds but at Smale he keeps playing hours and hours (Aquillano, Hawkins, Jackson, and Whiman, 2017, pg 137).



Places for kids can be designed to provide for refuge and expression, away from the adult world. Play areas should be incorporated into urban buildings and landscapes not because kids need to play but because they are part of "what marks a cultured and civilized society" (Hendricks & Barbara, 2001)

Engaging kids through Fantasy and Fiction Art

The idea of play experiences away from the adult world, especially fantasy play, is another common theme in the literature. Wasko (2001), expressed that Disney is successful in engaging kids and adults because of the fantasy experiences they create that are based on imaginary and magical stories away from the real world. According to Fromberg (2012), imagination and fantasy are two powerful components of kids' experience. It allows kids to "frame complex events within an organized structure." Researchers stated that fantasy and Imagination play are powerful, and they help thought development in early childhood (Fromberg, 2012). Wasko (2001) wrote that kids are attracted to fantasy because it allows them to escape "from one's current life or world to another more appealing one." Throughout history, Kids have been engaged through fantasy, as shown in Century of the Child Growing by Design 1900-2000. Comics, fantasy toys, and fantasy art play an essential role in engaging kids in the past and present (MOMA, 2012).

Conclusion

Peter Gray argues in his series Value of Play that we live in a world that is poorly designed for children. Gray suggests that bringing play back should be a priority for every nation, city, state, and family (2008), which is also reflected in the United Nations "Child Friendly Cities" initiative ("Child Friendly Cities Initiative UNICEF"). The significant benefits of play have led psychologists, designers, architects, and artists throughout history to develop playscapes in order to improve the lifestyle of children and their families. As is evident from the literature, fantasy and storytelling have been effective in engaging children as part of the play experience. This thesis aims to spark play through fantasy experience, encouraging the physical, mental, and social development of children.

















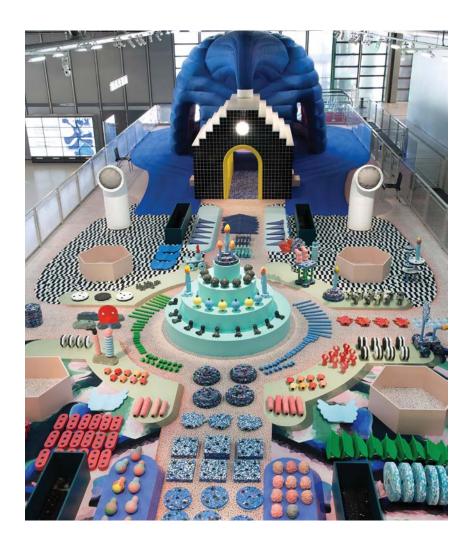












Studio GGSV: Galerie Party

GGSV, Paris-based studio, has designed an interactive installation for children to celebrate the Centre Pompidou's 40th anniversary. Gaëlle Gabillet and Stéphane Villard, Studio GGSV, reported that before designing the installation, they had the idea of a home "both welcoming and extravagant, a metaphor for the Centre and its history." The design invites kids to "reconstruct and remix" in a fantastical garden that introduces kids to four decades of art and design forms. The fictional story behind this installation is based on two little characters who have lived in the Centre Pompidou's pipes. These characters know the place by heart; they play with artists and observe visitors and artwork that they may not understand. They have taken the liberty of playing and experimenting with materials, textures, and forms to create their world. The center of the installation is a big sculpture that looks like a birthday cake, a strange house, an oversized inflatable structure, and various forms displayed in the garden. Floors are covered with graphics and patterns. Some forms and patterns are inspired by the museum collection, such as René Magritte, Ettore Sottsass, Sol LeWitt, Giuseppe Penone, Franz West, Karel Appel, and Salvador Dali ("Galerie Party" installation by Studio GGSV at Centre Pompidou, 2018) The Galerie Party is a place full of forms that could be combined and assembled. These abstract and symbolic forms allow kids to build vessels, construction, machines, and other things. Kids are free to move anything and make their own creations. The installation is inspired by visual art, architecture,

nature, design, and everyday life (Yalcinkaya,

2017).

There are three categories for designing things for kids: making a miniature object of objects from the adult world, abstract shapes, and infantilization of shapes- where a house could be round. According to GGSV they created this installation by mixing these three categories. They didn't design familiar

elements for kids to play with; instead, they created little sculptures and forms for kids so they could use them to design their own world. The forms are functional, figurative, and symbolic. The main principle is to create a game where no one can lose (Studio GGSV: Galerie Party, 2017)



Instead of teaching kids about art history, the installation invites them to "take culture into their own hands and go wild." The installation gives kids the chance to experience art and experiment with the process of creative art-making that artist experience while making art. According to GGSV "Art is culture, but it is also a heritage that children can transform and react to in their own way." (CASTELLA, 2019)



























5 Case Study



Please Touch Museum

Please Touch Museum captures the essence of this thesis project because its program focuses on creativity, collaboration, communication, and critical thinking as core elements.

Location

4231 Avenue of the Republic, Philadelphia, PA 19131

Building History

-Memorial Hall is the only major surviving building constructed for Philadelphia's Centennial Exposition in honor of the 100th birthday of America in 1876.

- Designer: Hermann J. Schwarzmann
- Was the city's first art museum
- Served as a police station for quite sometime. 2008: Please Touch Museum





About

-Our interactive exhibits, programs and special events are designed to focus on creativity, collaboration, communication and critical

thinking as core elements.

- Public space area: 67,000 sq ft
- -Maximum number of visitors at the same time:

7,000 visitor

-Age: 0-6

-Annual visitors: 503,834

Floor Plans

Main Level



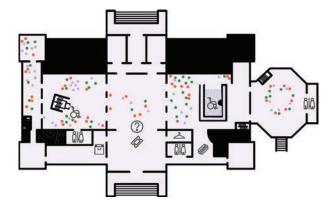








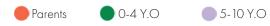
Observation Plans



Main Level, Saturday 11:30 am

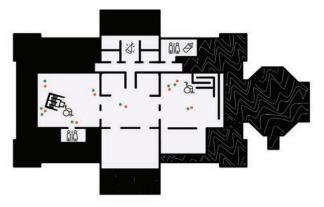


Main Level, Wednesday 2:00 pm

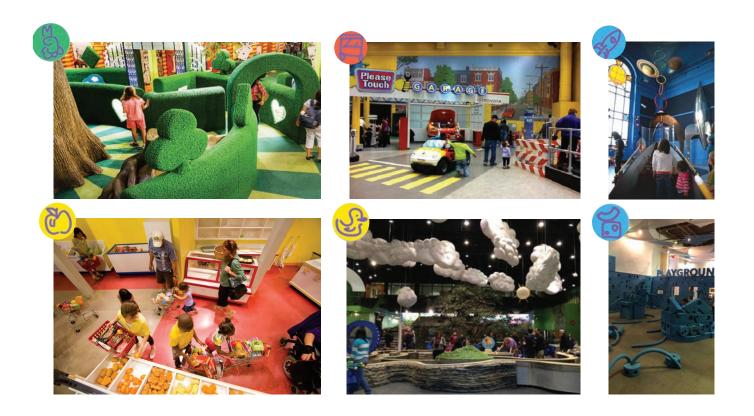




Lower Level, Saturday 12:05 am



Lower Level, Wednesday 2:35 pm



Key information Interview

Interview Charles McGhee Hassrick, director of exhibits at Please Touch Museum.

What is the main goal/ purpose of your facility? (are there annual reports, pamphlets, etc. available)?

Please Touch Museum's mission is to "Change a child's life as they discover the power of learning through play." Our Museum is where lifelong learning begins, curiosity is encouraged, and every child is always welcome. Please Touch Museum will continue to be inclusive, open and accessible to all communities.

Our interactive exhibits, programs and special events are designed to focus on creativity, collaboration, communication and critical thinking as core elements. With this, children discover, learn and play and as a result develop the intellectual and social skills they need to succeed in school and life."

How would you describe your organization culture?

Non-profit organization. There are 18 people in the managing board: -CEO

-CFO

-Chief Director Offices

Culture:

Income is based on selling tickets, membership, donations, chief growth officer, selling facility growth

What is the square footage of your facility and how many occupants does that accommodate?

Public space is 67,000 sq ft. Not sure, but the maximum was last year, 7000 visitor at the same time.

How does the design of your facility differ from other similar facilities? How is it the same?

Other Children Museums build their buildings from scratch. Our building is a historic building that mix intimacy and grander. We can't have exhibits in some areas like the main entrance hall, so there are a lot of regulations and restrictions.

What is the average age/ability range of theoccupants?

Now we are targeting kids from 6m to 6 years. We are working on adding more facilities for bigger kids 7-12

What are the different departments within your facility? What do they do?

- Executive office: manage the board
- Finance: budget, expenses, promotion, marketing
- Human Resource: manage people, training
- Education: museum experience, they help in designing the program
- Facilities and operation: run facilities
- Exhibits: manage all exhibits, new exhibits, maintenance, daily cleaning.

Number of staff? How many at facility at a time?

76. 2-4 staff members at facility every day.7-12 staff members from the education department

How do departments interact? Are there any special adjacencies?

All departments interact through emails, meetings and phone calls. Departments are not closed to each other as seen in the following diagram. Departments are spread in the back of the building some of them are connected through long corridors or through exhibits encouraging workers to interact and observe visitors. The following diagram shows physical adjacency.

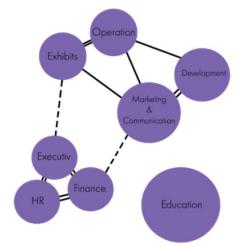
What type of workspaces does the staff require?

Offices, meeting rooms, some departments like exhibit department have a shop and storage.

What are the circulation paths of public, staff?

Public: could access all exhibits and bathrooms. Bathroom corridors also connect departments.

Staff: staff are encouraged to move from one department to another through exhibits.



Are there any special equipment, plumbing, lighting, technology, or ventilation requirements?

Yes! Ceiling height is 50 ft so we use special equipment to change them. Most companies use softwares to organize and enhance cooperative work, we don't use these types of programs but I wish if we do.

What are the main safety issues?

Kids fall a lot, for safety all edges are round, soft surfaces, and we rearrange some exhibits for kids safety. Flood, flooding in basement is common because of the age of the building.

Power outage.

Are there special workplace issues that will affect program and space planning?

We need more meeting rooms, but if we added meeting rooms we'll have to take from exhibit area.

Are there special finishes or furniture?

- Low VOC paint, environmentally sustainable paint
- We use plastic a lot because it's easy to clean and it lasts so long.
- We are introducing some recycled plastic furniture
- Stainless steel

- Fabrics
- Fiberglass
- Wood

How often do furniture/exhibits get maintained?

Furniture get maintained daily. Exhibitions get maintained daily but sometimes changing equipment take few days or weeks.

Is there any special attention to acoustics?

Yes, there are various acoustic elements in each exhibit. Some are on the ceilings but most of them are partitions and wall decorative elements or flooring.

Do occupants ask for more equipment and facilities? What are they? Yes, more outdoor playing

If money were no object, what would this facility be like? Would you change the occupancy age range?

We would change outdoor access and the approach to the building. The building is far for the center of the city and all tourist attractions. Neighborhoods around us are not safe and kids can't walk to our building. I would change the location of the museum to the center of the city. We would add more outdoor activities and exhibits. We are trying to connect our facility to the nearby playground.

Would you add outdoor facilities? Why?

Yes, connecting kids to nature is so important.

What are the most and least successful exhibits?

Alice and wonderland is always full of kids. Kids love this fantasy environment. This exhibit didn't change since it was built. Kids also love the Rocket ship exhibit. Younger kids love the duck pond. The market is popular but it's more popular in other kids museums. Other museums close the market for few minutes during open hours to clean the place. Here we don't do that. The least successful exhibit is the Centennial Exploration exhibit, maybe because the place is dark and there isn't a lot going there. Now, we are working on new exhibits to replace the Centennial Exploration with a making space for kids.

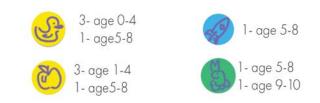
What are your design advices for anyone designing for kids?

When designing for kids it's good to design parents seating area in the center so they could watch their kids. In the basement our exhibits "the market, stores and hospital" are next to each other and there are a lot of corridors and openings, a lot of parents lost their kids for few minutes in this area. We are thinking of redesigning this area to make a garden in the center, where parents could sit, and all other shops will be visible from the garden.

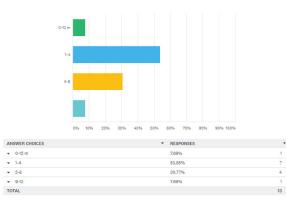
When designing for kids, height of objects should be considered. In our roadside exhibit there is a car with an exposed battery, to allow kids to explore how car battery works. The car is 3 steps above floor level. Some kids go over the car and fell down. We decided to put the car on the floor to prevent kids from falling.

Case Study Survey

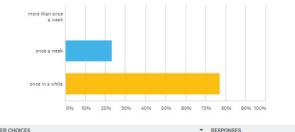
Participants Favorite Exhibits



How old is your child?

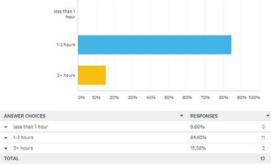


How often do you go to Please Touch Museum?

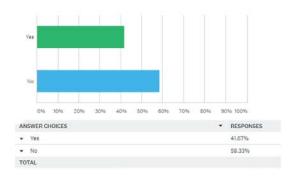


ANSWER CHOICES	 RESPONSES 	*
 more than once a week 	0.00%	0
 once a week 	23.08%	3
 once in a white 	76.92%	10
TOTAL		13

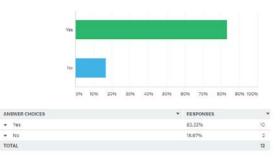
How long do you stay at Please Touch Museum?



Do you communicate with other parents while other children are playing?



Does your child communicate and interact with other kids while playing at Please Touch Museum?



6 Design Strategy

Probe 1: Materiality Probe 2: Experience

Design Strategy- Materiality

An experimental exercise, exploring various materials that may be used in this project and using them in a playful way.



Materials: Recycled rubber Sponge. Cloth. Plastic flooring Silicon. Cork. Recycled plastic. Magnetics covered with fabric

Design Strategy- Experience



Fantasy:

Storytelling.

Whimsical.

Playful.

Interactive.

7 Programming

Project Description

An intentional indoor/ outdoor play space designed to foster kids imagination and fantastical thinking. The design allows kids to access play in a different way.

This playscape is a place where neighborhood society could connect and enjoy their time through the year. The design contains various play elements that focus on physical and mental development. Play elements are challenging, and they encourage kids to use their critical thinking and physical skills to traverse the space and motivate them to reimagine their experience each-time they visit the playscape.

Program Summery

Programming calculations are based on playlots and playground calculations from "Time Saver Standards for Building Types" book, and different case studies.

	ACTIVE PLAY	TODDLER'S ACTIVE PLAY	CONSTRUCTIVE PLAY	DRAMATIC	INTERACTIVE	
SQ/FT	7,000	2,000	3,000	600	700	
CAPACITY	115 CH	45 CH	50 CH	20 CH	15 CH	

	QUIET SPOT	SOCIAL AREA	SUPPORT AREAS	CIRCULATION AND LANDSCAPE	TOTAL	
SQ/FT	100	1,500	1,040	7,000	22,940	
CAPACITY	4 CH	50 FA	-	-	340 CH	

Program List

	List of Spaces:	(sqft)	Capacity
A CAR	-Active play Obstacles Climbing structure Swinging elements Spinning structures Bouncy hills Immersive Sliding Fantastical open space (free play)	7,000 1,000 1,300 600 800 960 940 1,400	115 2 15 5 10 15 20 30
	-Toddler play Low swinging elements Obstacles Fantasy play landscape Jumping universe	2,000 640 360 500 500	45 10 30 10 15
p R R	-Constructive play Kinetic sand pit Building forms Water play	3,000 400 1,100 1,500	50 20 40 20
	-Dramatic play Music installation	600	20
	-Interactive installation	n 7 00	15

-Children quit spot	100	4
-Social area Central social gathering Outdoor gathering landscape Sunken communal benches	1,500	
-Circulation & landscape	7,000	
-Support areas: Coat room Baby nursing Toilets Drinking fountain	660 150 45 450 15	
-Storage -Mechanical	200	
-Offices Facility manager Security	180 100 80	

Adjacency Matrix

Primary Adjacency – Secondary Adjacency	Main gate	Member's entrance	Constructive play	Dramatic play	Active play	T Active play	Interactive installation	Social area	Quiet space	Water play	Coat room	Diaper / nursing	Toilets	Storage	Offices	Security
Main gate			\bigcirc	\bigcirc	\bigcirc		\bigcirc									
Member's entrance				\bigcirc							\bigcirc					\bigcirc
Constructive play						\bigcirc			\bigcirc				\bigcirc			\bigcirc
Dramatic play						\bigcirc	\bigcirc			\bigcirc			\bigcirc			\bigcirc
Active play						\bigcirc					\bigcirc	\bigcirc		\bigcirc	\bigcirc	
T Active play							\bigcirc				\bigcirc		\bigcirc			
Interactive installation																
Social area												\bigcirc		\bigcirc		
Quiet space										\bigcirc						
Water play																
Coat room																
Diaper / nursing																
Toilets																
Storage																
Offices																\bigcirc
Security																

Bubble Diagram

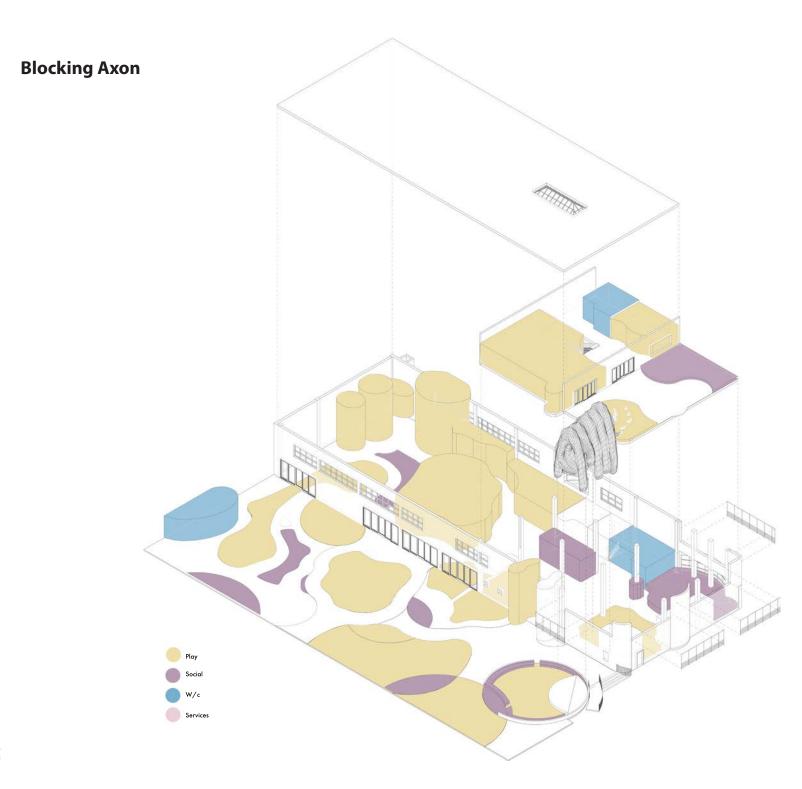
DRAMATIC PLAY

CONSTRUCTIVE PLAY

DRAMATIC PLAY

SOCIAL

constructive Play



8 Site

Site

Documentation Analysis







In the middle of a residential neighborhood

Natural light

Walkable distance for families with children

Walkable distance from elementary and preschools









401 Lombard St, Philadelphia, PA 19147 Society Hill neighborhood

About the neighborhood: Society Hill is an upscale residential area of cobblestone streets and 18th- and early 19th-century homes, near Independence Hall and the Liberty Bell. Picturesque Washington Square has tree-lined paths and green spaces. On Sundays, Head-house Square draw locals and visitors to the city's oldest farmers market (May–Dec). Hip crowds head to Dock Street for its posh restaurants and buzzy bars.

About the location:

- 2 Schools (less than 5min walking distance)

- Kids under 14 population 599 Kid

- One of Philadelphia's most sought-after neighborhoods

- Mostly residential, but the community also includes a comfortable combination of restaurants, historic attractions and shops that meet the needs of residents.

- Near 2 buss stops



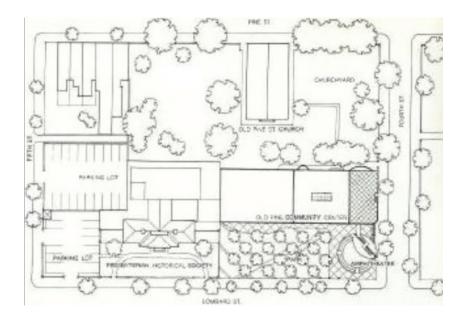


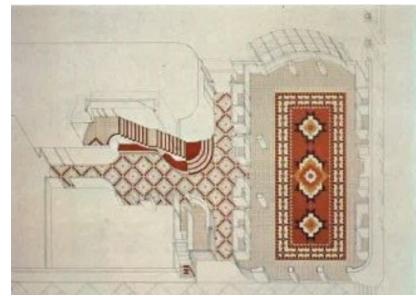
- 401 Lombard St, Philadelphia, PA 19147
- Opened in the Fall of 1977
- By: Friday Architects
 - Size: 2 story structure + a basement
 - Area:

First Floor: 11,457' Second Floor: 6,580'

-The building design combined aspects of postmodern design, Victorian-era design, and practicality to make the Community Center one of the most interesting buildings in the neighborhood.

Building Description





About the building:

- Opened in the Fall of 1977
- Size: 2 story structure + a basement

Area:

First Floor: 11,457'

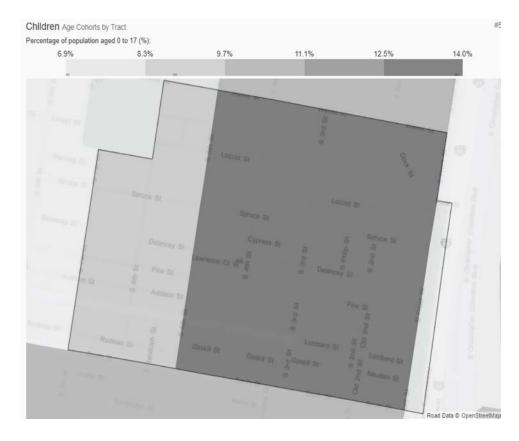
Second Floor: 6,580'

- "The building design combined aspects of postmodern design, Victorian-era design, and practicality to make the Community Center one of the most interesting buildings in the neighborhood. In fact, the Center was so unique it was featured in Progressive Architecture Magazine, one of the leading authorities on modern design."

Of course, back in 1976, not everyone in Society Hill liked his idea of ordinary. "City Planner Edmund Bacon was appalled by Friday's style mash-up and denounced the design as "ugly" when it was presented to the Redevelopment Authority's Design Review committee. Others worried that the community center's deep setback from the corner of Fourth and Lombard was un-Philadelphian, anti-urbanist, and a violation of the street grid. After an intense and ideological debate, Friday's design was finally approved. It ended up being praised in Progressive Architecture magazine, the bible of modern design."

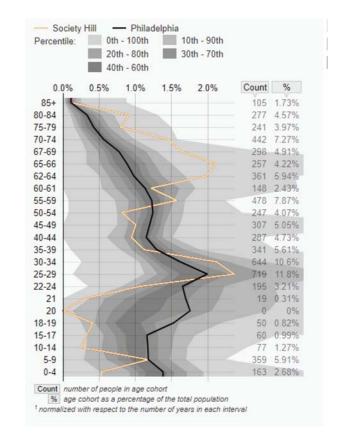
Demographics

Children Age Cohorts by Tract



Age structure:

Percentage in each age cohort per year of age



Sun Study

- Great daylight during the year

- The building's orientation affords extended shades in the morning as well as into the late afternoon in the summer







Fall Sunrise





















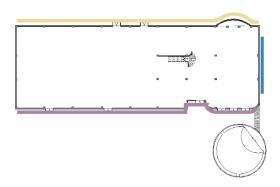






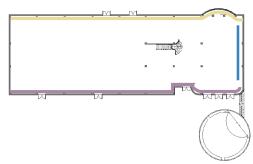
Site analysis- street views



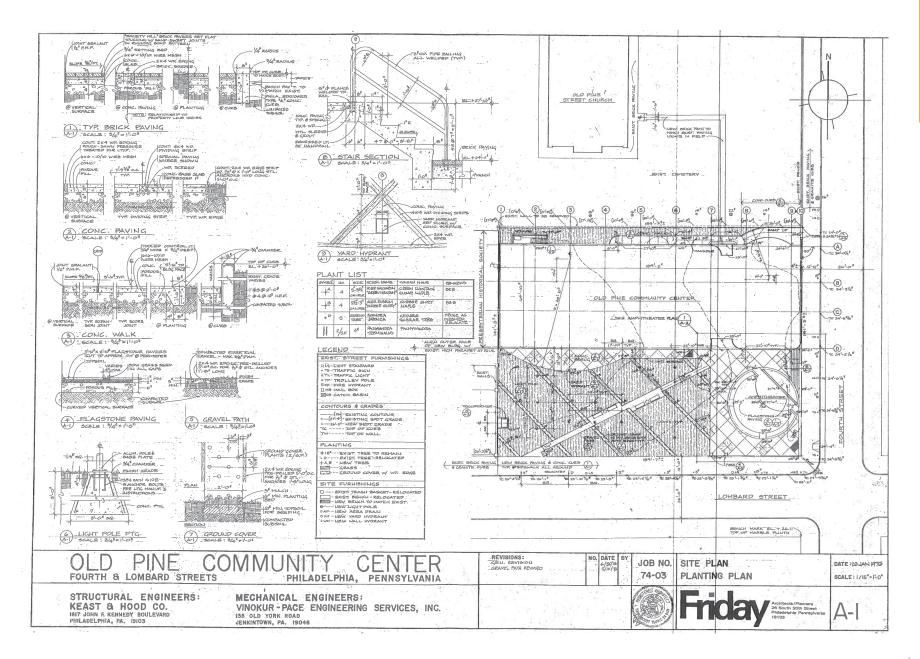


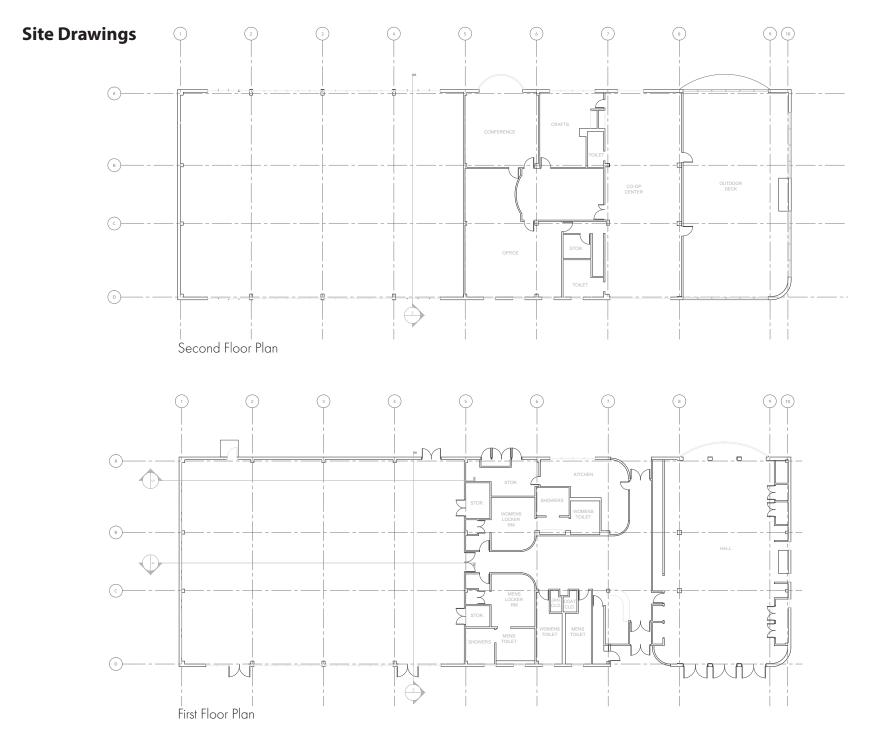
Site analysis- Interior views





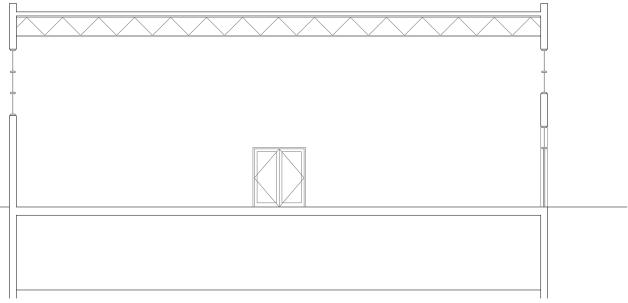
Site Drawings





Site Drawings

Building Section Longitudinal



Building Section Transverse

PProcess

Iteration Boards

The following process boards represent the experimental journey of creating playful forms that would support my thesis, "Engaging Children through Fantasy Experience."

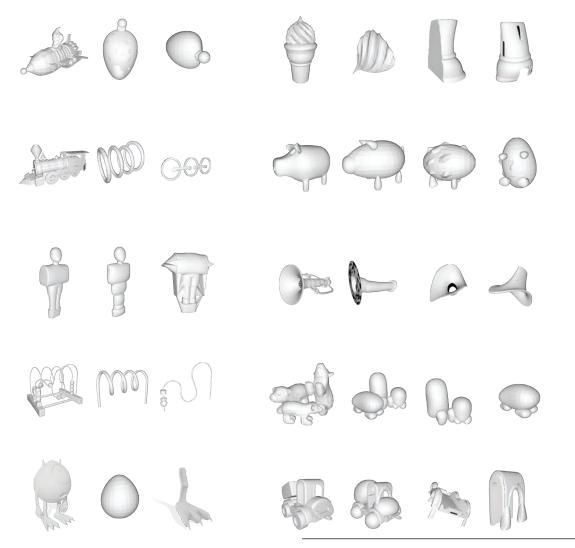
Wasko (2001) wrote that kids are attracted to fantasy because it allows them to escape "from one's current life or world to another more appealing one." Throughout history, Kids have been engaged through fantasy, as shown in Century of the Child Growing by Design 1900-2000.

Playful compositions are created by transforming familiar playful objects, that kids love and interact with, to abstract forms.

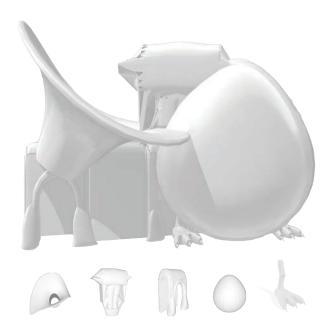
Richard Serra's "Verblist" is the primary reference for transition strategies followed to create fantasy structures and playful compositions(Serra, 2016).

This board shows process, composition samples, and human interactions with different scales of the same composition.

I got inspirations from: toys and things that kids love, kids drawings*, objects kids love and the neighborhood I chose (Society Hill)



^{*} For more information see appendix. (Kids drawings and Interviews)









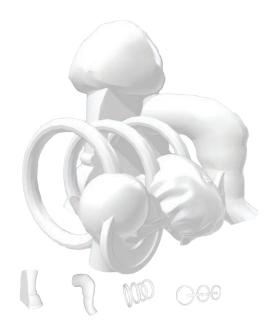




Large Scale" comp H is around 20'

Medium Scale" comp H is around 8'

Small Scale" comp H is around 6'













Large Scale" comp H is around 20'

Medium Scale" comp H is around 8'

Small Scale" comp H is around 6'

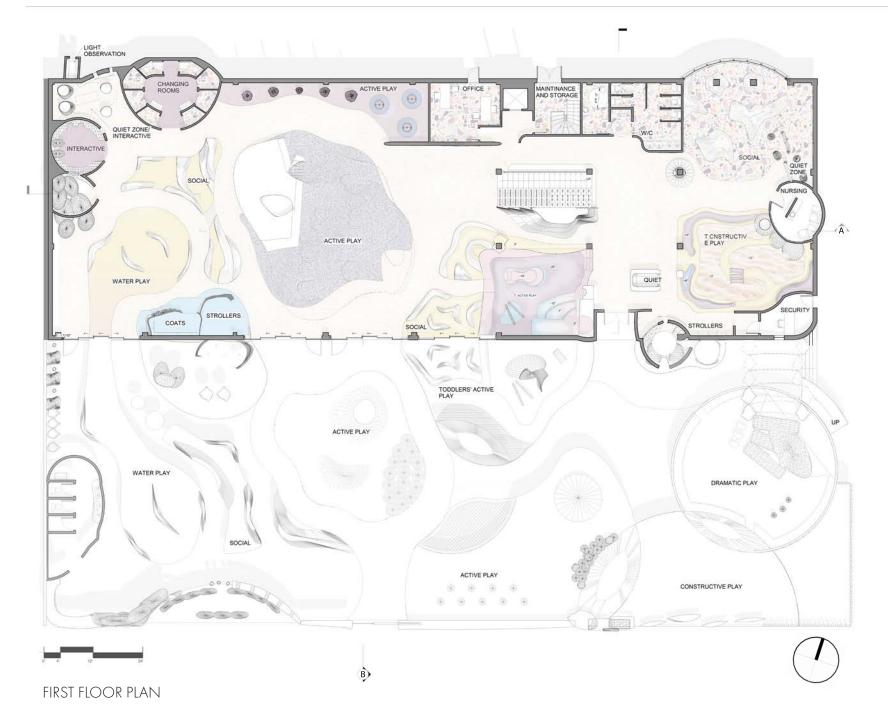


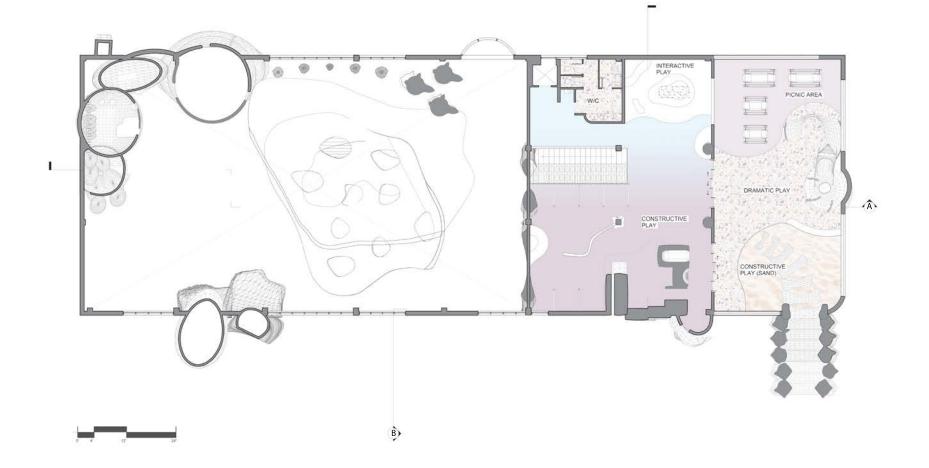
10 Final Design



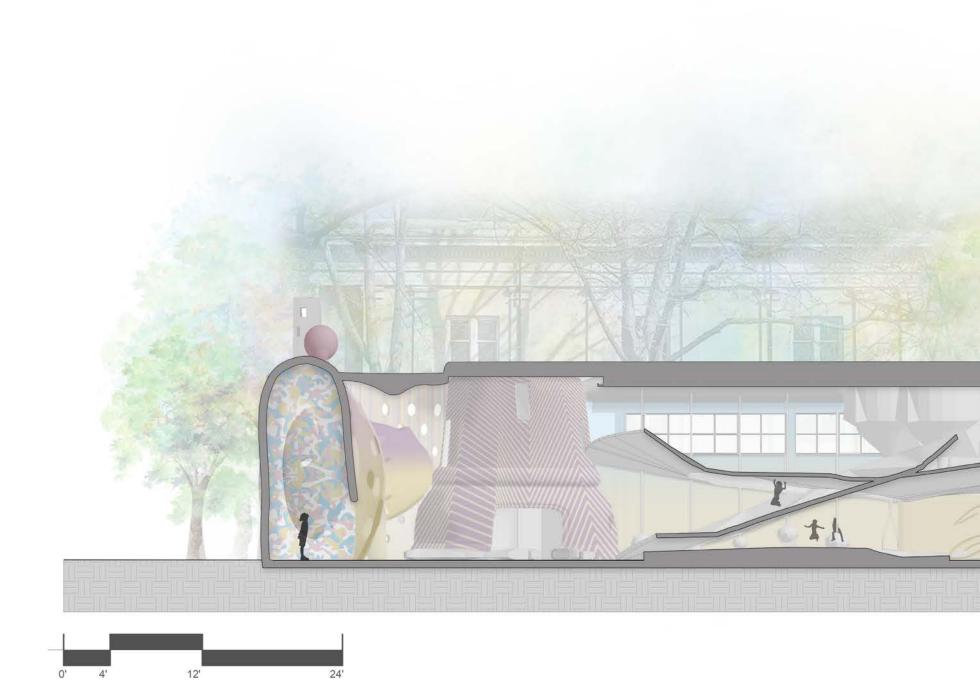
Engaging Children through Fantasy Experience







SECOND FLOOR PLAN



SECTION A

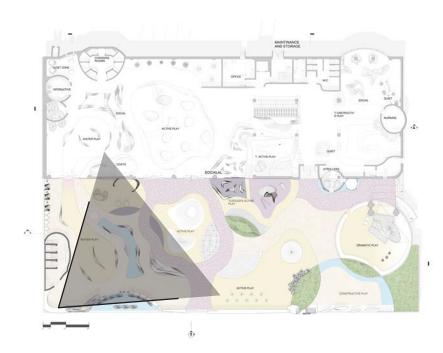








LANDSCAPE



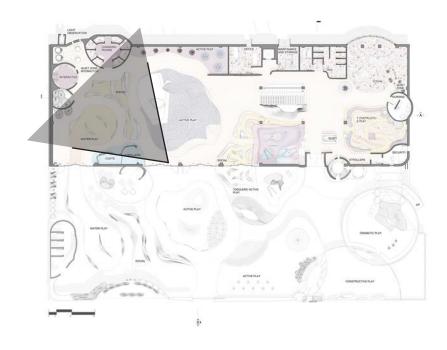
Fantasy environment is created by fantasy structure growing from the façade of the building. Fantasy structure also grow from the side of the landscape creating the boundary or the fence.

Studies proved that kids love to run and move in circles. Because of that the landscape has a lot of circular paths.

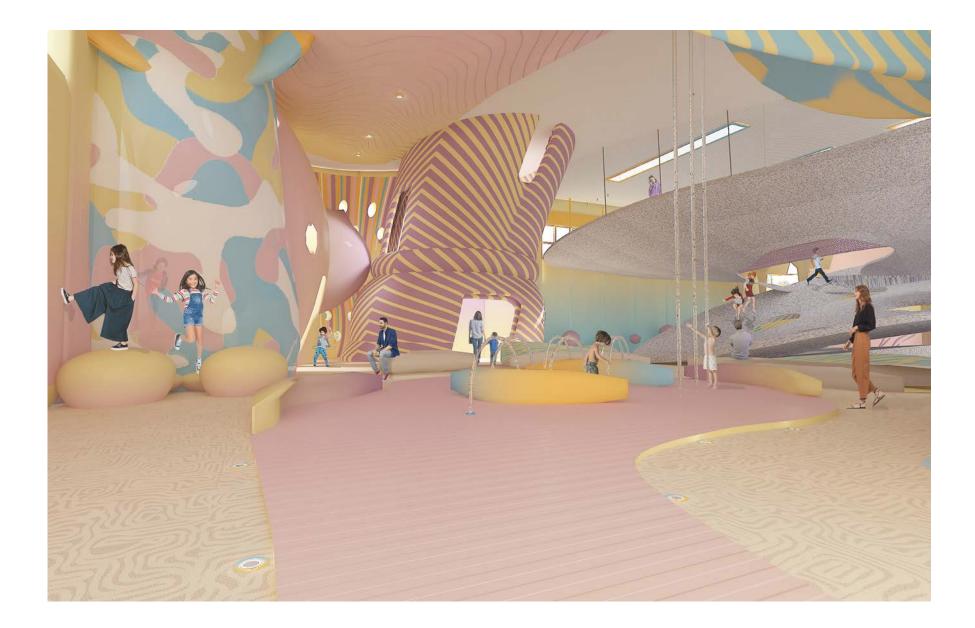
There are no boundaries between different spaces in the landscape. Instead patterns and different flooring materials divide the space visually which allows kids to run freely in all these open spaces.

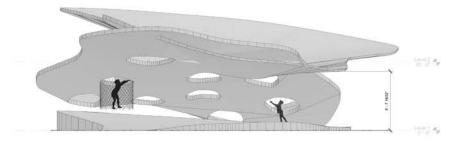
There are two main entrances. Neighborhood member will have an access card and will enter from any entrance. New neighborhood members and visitors will have to enter from the 4th st entrance security guy will let them in.

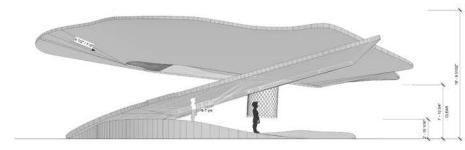




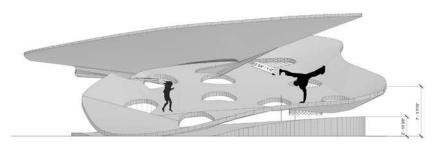
In the interior there are a lot of enormous structure that have various forms. However, these structures also have various small pods and openings inside them so kids would be mesmerized by the structure's grandeur and scale while still maintaining a sense of security and confidence in exploring its simpler elements.





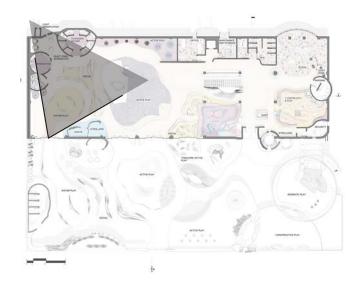


(2) East 1/4" = 1'-0" (4) South 1/4* = 1'-0*





(5) West 1/4* = 1'-0* (3) North 1/4* = 1'-0*







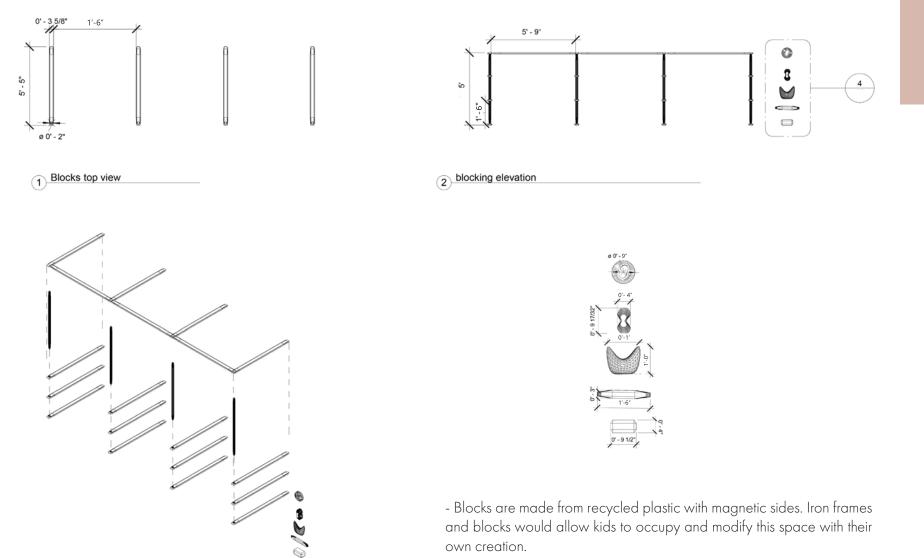
TODDLER'S ACTIVE PLAY



SOCIAL AREA



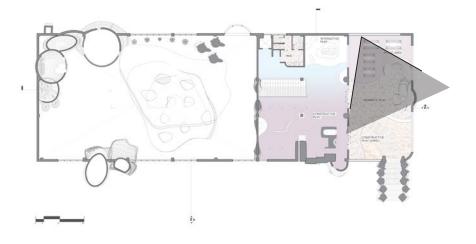
CONSTRUCTIVE PLAY- BLOCKS





3 Block area Axon

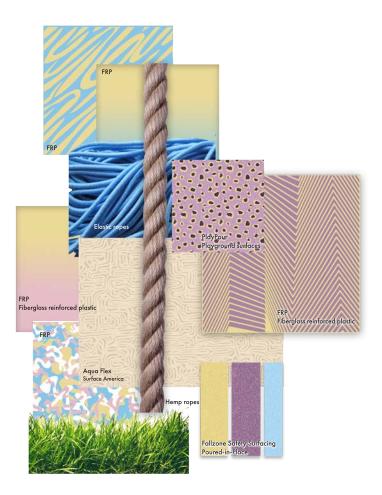




Picnic tables are made from Polyethylene (sugarcane-base). Patterns are inspired by Sol LeWitt and Karel Appel's paintings.

Materials and patterns boards





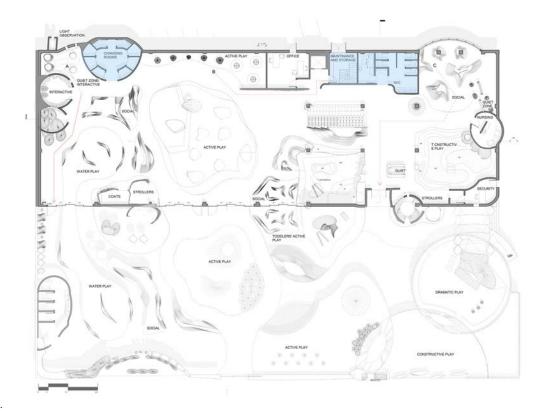
	Surface America AquaFlex	Formglas FRP	PlayPour Rubber playground	Fallzone Safety Surfacing Pourd-in-place	Sherwin- Williams Exterior Acrylic Latex	Zandur Sustain Cork Rubber	Fallzone Safety Surfacing Splash Pads	Porcelanosa L'antic colonial	Cesarstone Quartz surface s
MATERIAL NAME	Adones		surface s	1 olid-in-piace	Exercit Activity to the	Sosialin Colk Robber	opusitious	coloniar	sonaces
LEED POINTS	•	•	•	•			•	•	
3RD PARTY CERTIFICATIONS	•	•	•	•	•	•	•		
FIRE OR SAFETY RATING	•	•	•	•	•	•	•	•	•
LOW VOC	•		•	•	•		•		•
NO ADHESIVES					•	•	•	•	
AIR QUALITY			•						•
NATURAL CONTENT				•					
RECYCLED CONTENT	•		•	•		•			
NO SPECIAL MAINTENCE		•		•	•	•	•	•	

Green Polyethylene is the first renewable polyethylene to be produced on an industrial scale. (Brazillian companies ,Bracken and Tramontina)

11 Code Compliance

- Egress plan
- Way finding strategies
- Sustainability

Code Compliance



OCCUPANCY | A-3.

First floor (Sprinklered) = 11,408sf-737sf (Bathrooms and maintenance)/30 gross = 380 Person Second Floor= 3,217sf/50 gross = 64.34 Person

PLUMBING REQUIREMENTS:

Water closets (unisex) 1/75= 444/75= 6 Lavatories 1/150= 444/150= 3

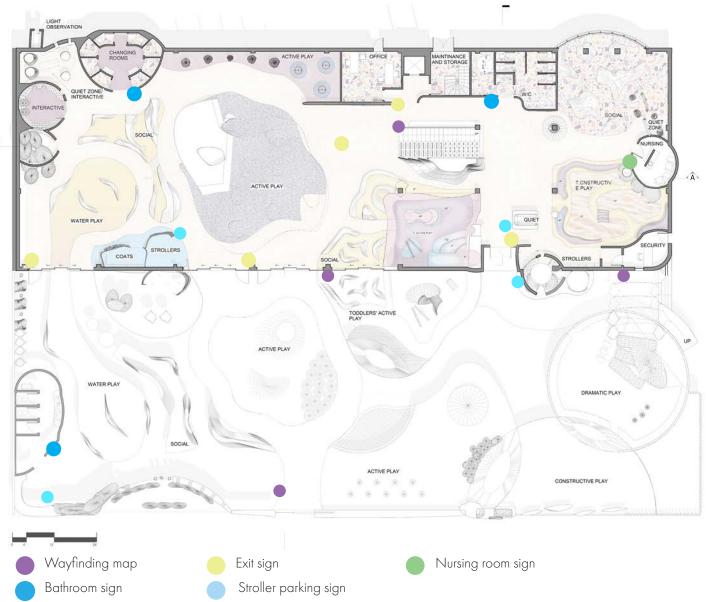
Minimum Exit travel distance:	A=11'-10"	B=11'-10"	C=25'-5"
Common path of travel distance:	A=47'-10"	B=56'-0'	C=52'-1"
Total travel distance:	A=59'-7"	B=67'-10'	C=77'-6"

Wayfinding Strategy

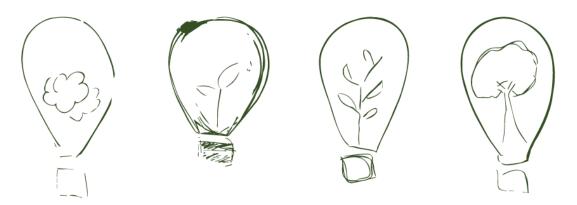
SCALE: Play structures are designed in different heights and scales, for example, Water play could be seen from far point because water falls from the ceiling to the floor. Active play structure has various levels and it could be seen from any point in the interior.

MAPS AND SIGNS:

Wayfinding Maps and signs are provided as shown in the plan



Sustainability Efforts



Materials:

Green Polyethylene is plastic produced from sugarcane, a renewable raw material. Polyethylene uses fossil sourced raw materials such as natural gas or oil. On the other hand, green polyethylene captures and "fixes CO2 from the atmosphere during its production, helping to reduce greenhouse gases emission." (Interatividade Digital, 2020)

"Also, the care with sustainability is present in the relationship with Braskem ethanol suppliers. Since the planting of sugarcane to the production of ethanol, suppliers must meet the principles of sustainable development present in the "Responsible Ethanol Sourcing" developed and implemented by Braskem, which covers aspects such as respect for biodiversity and good environmental practices." (Interatividade Digital, 2020)

Ventilation:

The ability to open the building to enhance air flow, ventilation, and conditioning. especially on moderate days, spring, early summer, fall and early winter

Water feature also have a minor cooling effect on the interior air temp in that area of the building.

12 Appendices

- Interviews

- Bibliography

Interviews

The Following questionnaire will help me to develop my thesis project "Engaging Children through Fantasy Experience." Through this project we are designing a prototype playscape that helps in developing children's skills, providing opportunities for amusement, and improving social relations. This project aims to spark play through fantasy experience, encouraging the mental, emotional, and social development of kids.

Interview 1:

Noussaiba

1. I am the (Mother, father, teacher, child)

2. I am/ my child is years old (optional)

My child is 5 years old

3. How often do your kids/ you go to Play in Playground/ Museums? Every day as long as the weather permits

4. What Primary time of the day do you go to the playground? Depends on season, but if it's during the summer we go from around 4 pm to sunset.

5. What is the nature of play that you/your child prefer? (mental, physical, fantasy, pretend). why?

Physical

6. Name the top three play components that you would like to see included in future playscapes:

- I would like to see more handicap accessible playscapes, such as more swings that can be ridden by a parent and a physically disabled child

- Better slides, since that's my son's favorite part

- More group playthings such as the wheel that more than one person can ride on.

7.What is your/your child's favorite playscape? What is their/your favorite part?

My son's favorite things are the slides and swings.

8. If you could change anything about the playscape what would you change and why?

just more handicap accessible

9. Do you see the playground as an important feature in the neighborhood? (as a meeting point for families). Why? Definitely, it's the meet up spot for all parents whose children are sick of being home and have too much energy and need to release it.

Interview 2:

Noura

1. I am the (Mother, father, teacher, child)

2. I am/ my child is 12 years old (optional)

I am 35 years old

3. How often do your kids/ you go to Play in Playground/ Museums? Often especially during the summer

4. What Primary time of the day do you go to the playground? Afternoon.

5.What is the nature of play that you/your child prefer? (mental, physical, fantasy, pretend). why?

Physical. Outdoor play for children is usually associated with physical activities and my children like to go outside and get out their energy. 6.Name the top three play components that you would like to see included in future playscapes:

 \cdot Sand boxes

· Monkey bars

· mazes

7. What is your/your child's favorite playscape? What is their/your favorite part?

Sandbox. It is fun and soothing for kids to build shapes in the sand and be able to play with other children and be creative.

8. If you could change anything about the playscape what would you change and why?

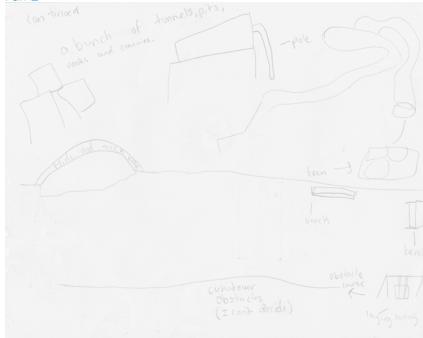
Make it suitable for different ages by adding challenging or age

appropriate sections especially for kids above 10 years old, because playgrounds usually don't fit the needs of sufficient physical activity for ages above 10.

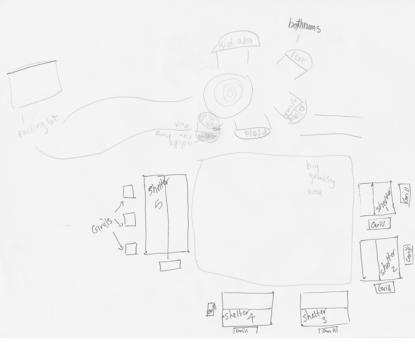
9.Do you see the playground as an important feature in the neighborhood? (as a meeting point for families). Why? Yes. It is convenient for families and their children to meet friends for social events and playdates as well as use it as a meeting point for the community.

When designing for Play, who better to ask for design advice than the kids who are going to be playing there. We are asking YOU, the expert playground designer, to draw a picture or tell us about your dream playground! Your ideas will be reviewed by the Designer and may be included in the final design: Drawing description: a big play place where all family members would have fun activities to do. Bassema divided her dream play place where all family members would have fun activities to do. Bassema divided her dream play place to 4 sections. Section 1 is the BBQ area where older members could enjoy their time and eat while little ones play. Section 2 is a hide and seek area full of obstacles and tunnels. Section 3 is the fantasy playhouse are. Section 4 is where kids and adults could play together.

Part 2



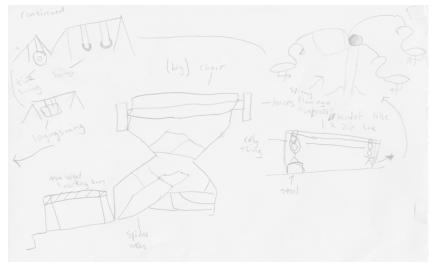




Part 3



Part 4



Interview 3:

Marie

1.1 am the (Mothe , father, teacher, child)

2.1 am/ my children are 4,6,7, and 11 years old (optional)

3.How often do your kids/ you go to Play in Playground/ Museums? Twice a week

4.What Primary time of the day do you go to the playground? Between 2- 5 pm

5.What is the nature of play that you/your child prefer? (mental, physical, fantasy, pretend). why?

My boys prefer physical play, like playing football with our neighbors. They also like pretend play such (being superheroes). However, my daughter prefers pretend, and fantasy play. She loves to take different roles and share responsibilities such as pretending to be a teacher, mother, or a sister to her dolls and sometimes with her brothers. My kids play together 'mummies and daddies', shopping, dress-ups, and teaparties. They play 'as if' something or someone is real.

6. Name the top three play components that you would like to see included in future playscapes:

Climbers, playhouses, and trampolines

7. What is your / your child's favorite playscape? What is their / your favorite part?

The favorite part is playing, engaging and interacting with other kids and neighbors.

8. If you could change anything about the playscape what would you change and why?

I like if we have indoor and outdoor playground or playscape at the same time to face any challenging weather. if we have both, our kids still can play outside with their friends even if we have raining, snowing or windy weather. I like also to have some components that are good and useful for all ages such as babies and big kids age 11 and more. 9.Do you see the playground as an important feature in the neighborhood? (as a meeting point for families). Why? Sure, it is very important. kids need spaces to play, engage and interact with the world around them. building new relationship/ or strengthen their friendship, developing their imagination, creativity, physical and cognitive ability. At the same time families can meet together and have fun.

I like to have a playground surrounded by glass that can help kids play whatever the weather is. Kids can explore, discover, and see the natural around them even in the bad weather. They will keep playing with their friends and be more active and creative. I like to have a playground that is safe for kids has a door and security to safe kids from any kidnap. Also, I like to have play components that are useful for all ages. Moreover, I like to have a place for 'mummies and daddies' so they can watch their children and have fun at the same time. For example, provides comfortable seats, desks with chairs, or provides some adult fitness all in the same area to help adult enjoy their time, do their work while their children having fun.



Interview 4:

Moody

1. I am the (Mother, father, teacher, child)

2. I am 6 years old (optional)

3. How often do your kids/ you go to Play in Playground/ Museums? Everyday after school during summer and spring. I go to Please touch museum once a week

4. What Primary time of the day do you go to the playground? Around 3:30. Around 10am during the weekend

5. What is the nature of play that you/your child prefer? (mental, physical, fantasy, pretend). why?

Mental, Physical and Fantasy. At home: I prefer mental play and pretend/fantasy play. Mental Play is my favorite some times. I like to play Cards and board games. I also love to play superheroes and protect my sister from the imaginary super villains.

6. Name the top three play components that you would like to see included in future playscapes:

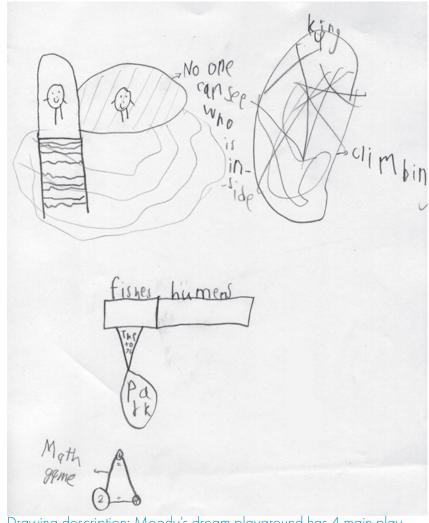
- Board games
- Slide
- Climbing

7. What is your/your child's favorite playscape? What is their/your favorite part?

Please touch museum. I love the rocket ship room because it is magical. I like the room and the sound of the rocket ship take off.8. If you could change anything about the playscape what would you

change and why? Add more swings, water places, add more trampolines and superheroes costume.

9. Do you see the playground as an important feature in the neighborhood? (as a meeting point for families). Why? Yes, I meet my friends at the playground



Drawing description: Moody's dream playground has 4 main play elements: a place where kids could hide, a huge climbing web " whoever could rach the top would be the king of the playground," a wet play area where kids could play and see a big fish tank, and an interactive math game.

Interview 5:

Abdul

1. I am the (Mother, father, teacher, child)

2. I am 14 years old (optional)

3. How often do your kids/ you go to Play in Playground/ Museums? Not very often

4. What Primary time of the day do you go to the playground? Between 3 and 4 pm

5. What is the nature of play that you/your child prefer? (mental, physical, fantasy, pretend). why?

Physical. I love sports and I workout

6. Name the top three play components that you would like to see included in future playscapes:

- Obstacles
- Workout machines
- Open spaces to run and play sports

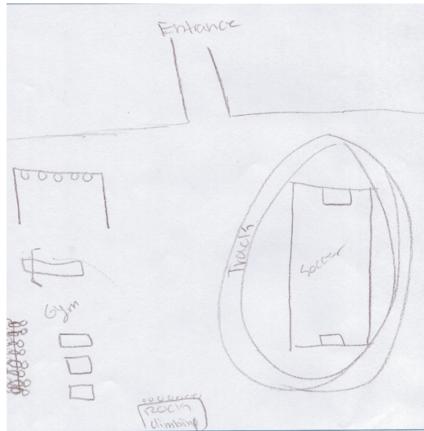
7. What is your/your child's favorite playscape? What is their/your favorite part?

I don't have a favorite play place. All playgrounds I went to are for younger kids.

8. If you could change anything about the playscape what would you change and why?

Add spaces for teenagers like obstacles, climbing walls and challenging equipment.

9. Do you see the playground as an important feature in the neighborhood? (as a meeting point for families). Why? No, because playground is for playing



Interview 6:

Jolo

- 1. I am the (Mother, father, teacher, child)
- 2. I am 9 years old (optional)
- 3. How often do your kids/ you go to Play in Playground/ Museums?

3 times a week

4. What Primary time of the day do you go to the playground? Afternoon

5.What is the nature of play that you/your child prefer? (mental, physical, fantasy, pretend). why?

Physical. I like the swing and I like to run and climb on things

6. Name the top three play components that you would like to see included in future playscapes:

- Seesaw
- The thing that spins fast
- A double swing

4. What is your/your child's favorite playscape? What is their/your favorite part?

Lego Land. The verity of activities and the characters that are made out of legoes

5. If you could change anything about the playscape what would you change and why?

Adding more creative things and changing the boring playground colors.

6. Do you see the playground as an important feature in the neighborhood? (as a meeting point for families). Why? Yes, because people can play and be active away from screens and technology.



Interview 6:

Faisal

1. I am the (Mother, father, teacher, child)

2. I am 8 years old (optional)

3. How often do your kids/ you go to Play in Playground/ Museums?

2 times a week

4. What Primary time of the day do you go to the playground?

Afternoon

5. What is the nature of play that you/your child prefer? (mental, physical, fantasy, pretend). why?

Physical and pretend play. Because I like to clime things and I love to play Beblades with my friends

6. Name the top three play components that you would like to see included in future playscapes:

- Monkey bars
- Climbing walls
- The web

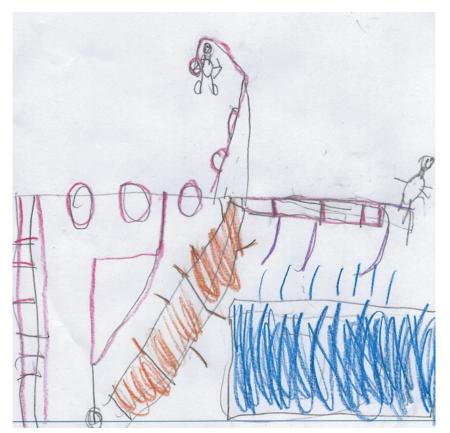
7. What is your/your child's favorite playscape? What is their/your favorite part?

Our neighborhood's playground. My favorite part is climbing walls.

8. If you could change anything about the playscape what would you change and why?

Adding more monkey bars that are more challenging. Adding more web and ropes for us to climb.

9. Do you see the playground as an important feature in the neighborhood? (as a meeting point for families). Why? Mmmm, I don't know



Drawing description: Faisal's dream playscape is full of obstacles, monkey-bars and climbing walls.

Bibliography

Aquillano, S., Hawkins, A., Jackson, J., & Whiman, M. (2017). Design & play: imagination needs places tothrive. (pp. 16-19,23-27, 137) Boston: Design Museum Press.

Altman, I., & Low, S. M. (1992). Place attachment. New York: Springer.

Blades, M., & Spencer, C. (2006). Children and their environments : learning, using, and designing spaces. (pp. 73-74, 77-83) Cambridge, UK ;: Cambridge University Press.

Castella (2019). Designing For Kids. Place of publication not identified: ROUTLEDGE.

Child Friendly Cities Initiative UNICEF. (n.d.). Retrieved from https://childfriendlycities.org/.

Exley, S., & Exley, P. (2007). Design for kids. Mulgrave: Images Publishing.

Fromberg, D. P. (2012). Play from Birth to Twelve. doi: 10.4324/9780203622650

Frost, J. (2012). Evolution of American Playgrounds. Scholarpedia, 7(12), 30423. doi: 10.4249/scholarpedia.30423

"Galerie Party" installation by Studio GGSV at Centre Pompidou. (2018, April 1). Retrieved from https://www.bmiaa.com/galerie-party-installation-by-studio-ggsvat-centre- pompidou/#more-21461. Gray, P. (n.d.). The Value of Play I: The Definition of Play Gives Insights. Retrieved from https://www.psychologytoday.com/us/blog/freedomlearn/200811/the-value-play-i-thedefinition-play-gives-insights.

Hart, R. (2002). Containing children: some lessons on planning for play from New York City. Environment and Urbanization

Hart, R., & Chawla, L. (1982). The Development of Children's Concern for the Environment.

Hendricks, Barbara E. Designing for Play . Aldershot, England ;: Ashgate, 2001. Print. Jackson, J. (1997). The Places We Play. The Wilson Quarterly, 21 (3).

Interatividade Digital. (n.d.). I'm green. Retrieved 2020, from http://plasticoverde.braskem.com.br/site.aspx/Im-greenTM-Polyethylene

Lange, A. (2019). Design Of Childhood: how the material world shapes independent kids.

Lefaivre, L., & Roode, I. de. (2002). Aldo van Eyck the playgrounds and the city. Rotterdam: NAi Uitgevers.

Mooney, C. G. (2013). Theories of childhood: an introduction to Dewey, Montessori, Erikson, Piaget, and Vygotsky.

Play matters for all kids. (n.d.). Retrieved from https://kaboom.org/.

Schaefer, C. E., & Drewes, A. A. (2013). The therapeutic powers of play : 20 core agents of change.

Steele, F. (1981). The Sense of Place. Boston: CBI Publishing Company.

Studio GGSV: Galerie Party. (2017, August 1). Retrieved from https://www.domusweb.it/en/architecture/2017/08/01/studio_ ggsv_galerie_party.html.

Sneak peek: Aldo van Eyck. (2016, September 19). Retrieved from http://blog.yalebooks.com/2015/01/16/sneak-peek-aldo-van-eyck/.

Solomon, S. G. (2014). The science of play : How to build playgrounds that enhance children's development.

The History of Play: Part 1. (2018, June 22). Retrieved from https://designmuseumfoundation.org/blog/2017/06/01/history-play-part-1/.

Yalcinkaya, G. (2017, October 22). Centre Pompidou's kids' installation mixes pattern, colour and inflatables. Retrieved from https://www.dezeen.com/2017/10/22/ studio-ggsv-kidsimmersive-installation-centre-pompidou-40th-anniversary-parisfrance/.

Wasko, J. (2001). Understanding Disney: the manufacture of fantasy. S.I.: POLITY PRESS.