



AMERICAN UNIVERSITY OF BEIRUT

PLAY EDUCATION FOR  
UNDERPRIVILEGED COMMUNITIES

by  
RAWAN HASAN KOUSSAN

An Undergraduate Architecture Design Thesis  
submitted in partial fulfillment of the requirements  
for the degree of Bachelor of Architecture  
to the Department of Architecture and Design  
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at the American University of Beirut

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MAY 2021

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Approved by: Karim najjar



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[KARIM NAJJAR, ASSOCIATE PROFESSOR]  
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Thesis Advisor

Date of project presentation: [MAY 11, 2021]

# AMERICAN UNIVERSITY OF BEIRUT

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## ACKNOWLEDGEMENTS

Thank you for all who stood beside me from family and friends specially my parents. I would also like to sincerely thank my advisor Karim Najjar for his guidance and support throughout my thesis.

## ABSTRACT

Title: PLAY EDUCATION FOR UNDERPRIVILEGED COMMUNITIES

*“All human beings are active seekers of knowledge and PLAY is an integral facet of this ongoing quest” - a quote by Doris Leanna Bergen.*

from here I'd like to introduce my topic that started by engaging the act of play to learning environments and from here looking into many factors and conditions that help in this engaging method. Let alone, questioning the typologies and the factors of schools that I seek to improve.

When thinking about learning or education one usually imagines a school or a classroom, this is an unfortunate misguided judgment that learning just occurs in these environments. These traditional environments currently lack the capacity for free play and imagination to facilitate learning. The activity of playing can be a catalyst to a much richer and meaningful knowledge. This thesis asks whether imagination and play can be leveraged to design new learning spaces and also offer all children with different conditions or social backgrounds to benefit from learning and education through the act of PLAY.

So my thesis asks whether play can be leveraged to design new learning spaces and also offer all children with different conditions or social backgrounds to benefit from learning and education through the act of PLAY.

My thesis question is how can we apply in underprivileged communities informal learning strategies and look into design strategies to optimize learning effectiveness for future generation and underprivileged communities?

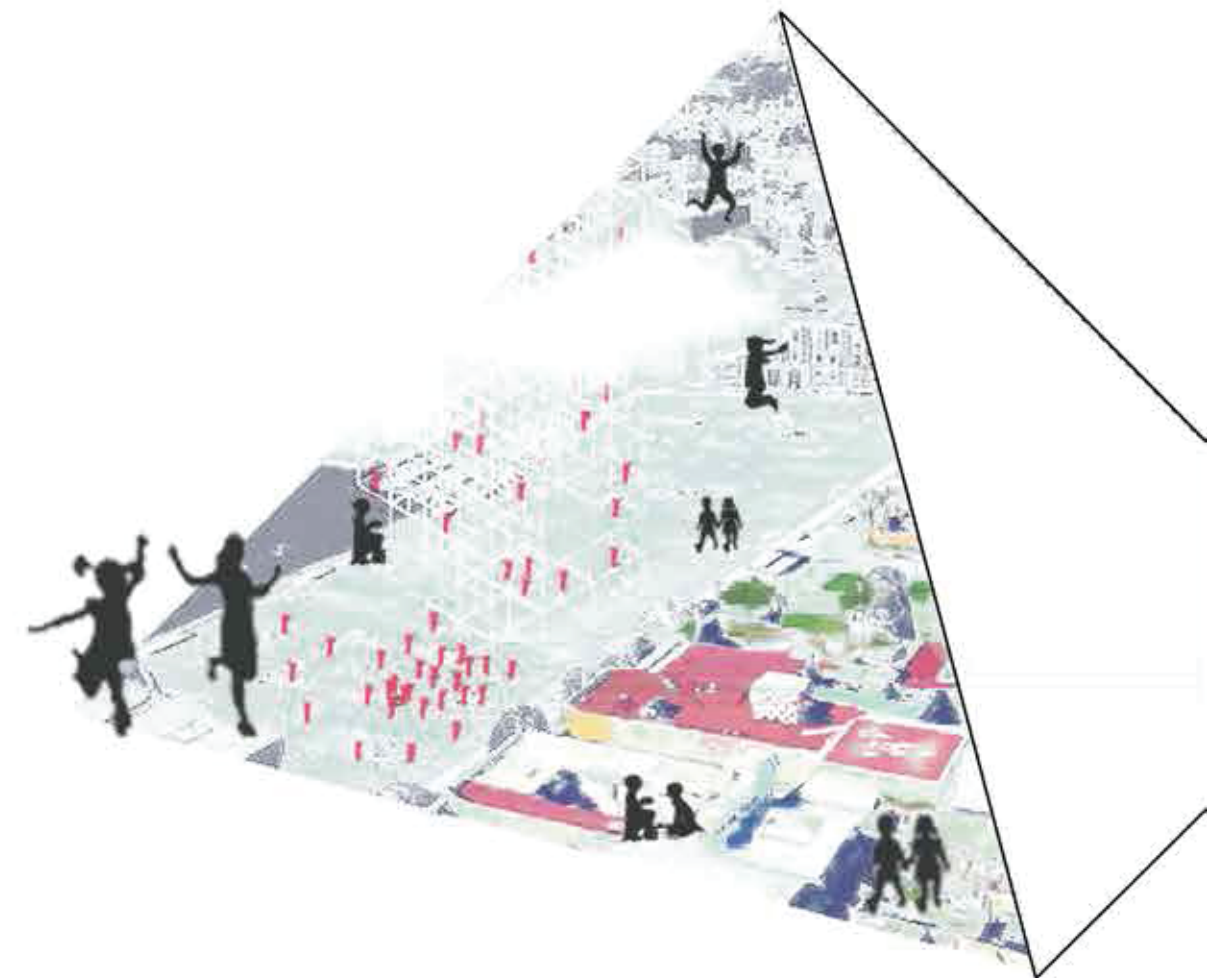
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This thesis is dedicated to my parents my mom and my dad, for their endless support and encouragement.

PlayEducation

Play shaping the architecture of learning



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ABSTRACT:

When thinking about learning or education, one usually imagines a school or a classroom. This is an unfortunate misguided judgment: learning just occurs in these environments. These traditional environments currently lack the capacity for free play and imagination to facilitate learning. The activity of playing can be a catalyst to a much richer and meaningful knowledge. The Re-imagine of learning aims to redefine learning environment through imagination and play.

This thesis asks whether play can be leveraged to design new learning spaces and also offer all children with different conditions or social backgrounds to benefit from learning and education through the act of PLAY

THESIS STATEMENT:

Challenging the long standing bias on what PLAY is and more importantly what is it we gain from play as a learning experience resulting in questioning new learning spaces, specially for underprivileged communities

THESIS QUESTION:

How can education be incorporated through the act of play? how can we apply in underprivileged communities informal learning strategies and look into design strategies to optimize learning effectiveness for future generation and underprivileged communities?



All human beings are active seekers of knowledge and

**PLAY** is an integral facet of this ongoing quest"

-Doris Leanna Bergen



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PHILOSOPHY OF PLAY


Play may seem simple, yet it is profound to a child's development. It is a vital component of the social life and well-being of both children and adults, and it is an integral factor in supporting and promoting children's social and emotional development.

The word PLAY has been defined and redefined for centuries, but the challenging question of why children perform the act of play still persists for researchers and theorists and based on a book I read called 'The philosophy of PLAY', many different definitions were gathered from different theorists about their thoughts and definition of Play. It has been identified as an essential link in learning, growth and development.

In this section, I'll be tackling the theory and philosophy of play by going through the importance of play, spaces where play is found, and finally types of play according to different age groups. Reaching a point to challenge the long standing bias on what play is and more importantly what is it we gain from play as a learning experience. I would like to emphasize that this is an architectural phenomena that must be addressed.


Spencer  
1875

Play is the result of surplus energy that exists because the young are freed from the business of self-preservation through the activities of their parents. Energy finds its release in the aimless exuberant activities of play




Groos  
1898

Play is the necessary practice for behaviors that are essential to later survival. The playful fighting of animals or the rough and tumble play of children are essentially the practice of skills that will later aid their survival




Wundt  
1913

Play is seen not as an activity that develops future instinctual skills, but rather, that it serves to rid the organism of primitive and unnecessary instinctual skills carried over by hereditary




Patrick  
1916

Play replenishes energy for as yet unfamiliar cognitive activities of the child and reflects deep-rooted race habits - phylogenetically acquired behaviors that are not therefore new to the organism




Anna Freud  
1937

Play represents not merely wish-fulfilling tendencies but also mastery -- an attempt through repetition to cope with overwhelming anxiety-provoking situations. Play is defensive as well as adaptive in dealing with anxiety



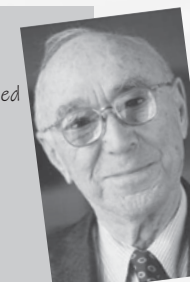
Piaget  
1962

Play is derived from the child's working out of two fundamental characteristics of his mode of experience and development. These are accommodation and assimilation -- the attempts to integrate new experiences into the relatively limited number of motor and cognitive skills available at each age




Jerome Bruner  
1976

Play reduces stress and he also viewed play as a form of problem solving which required self-initiation



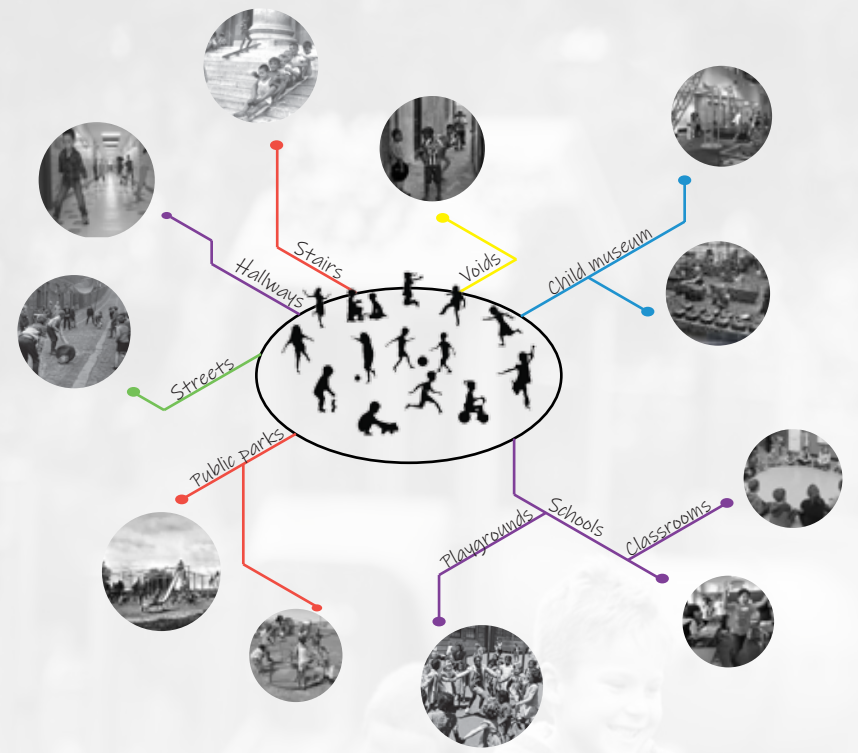
Levin

Play occurs because the cognitive life space of the child is still unstructured, resulting in failure to discriminate between real and unreal. The child passes into a region of playful unreality where things are changeable and arbitrary





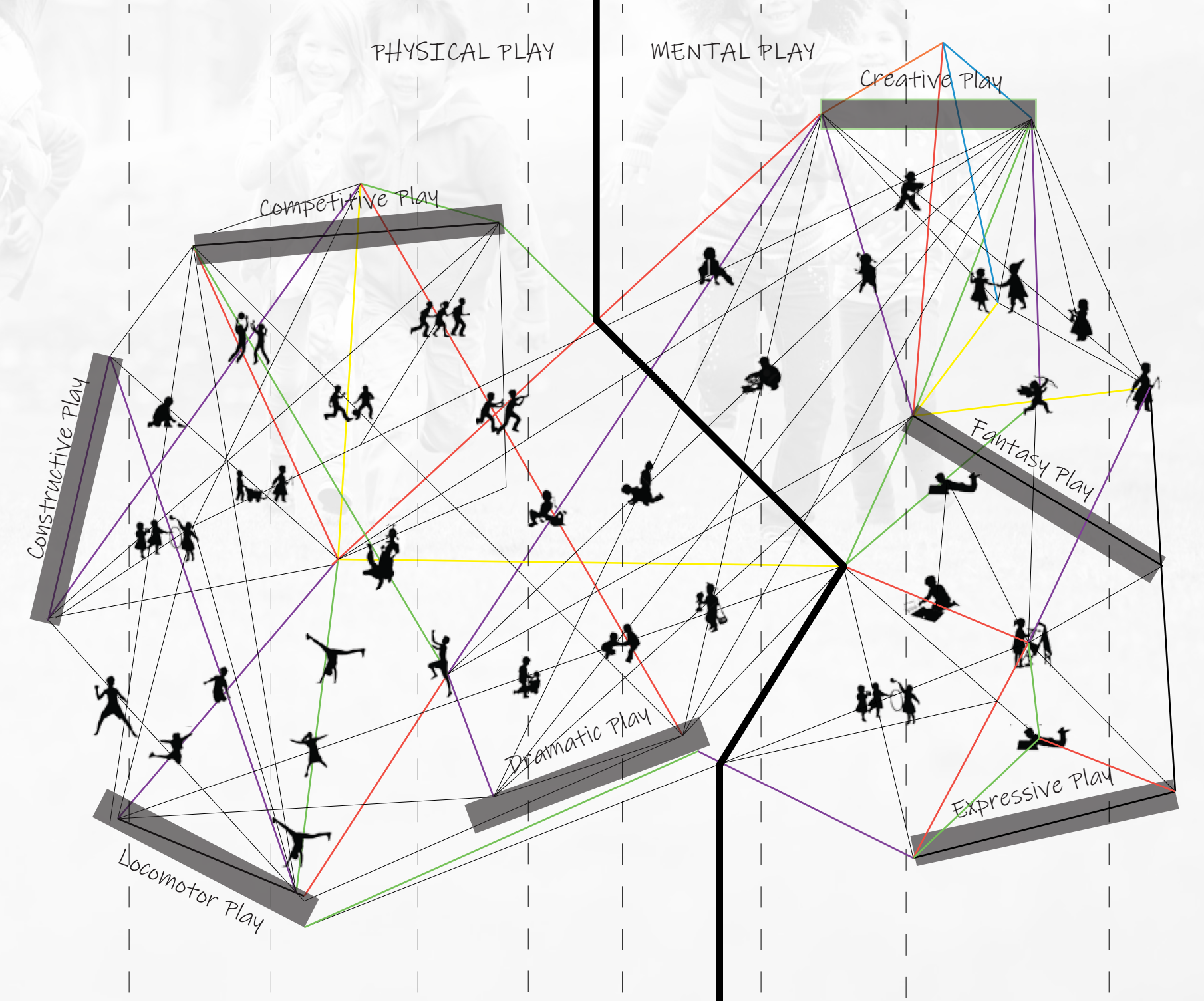

PLACE OF PLAY



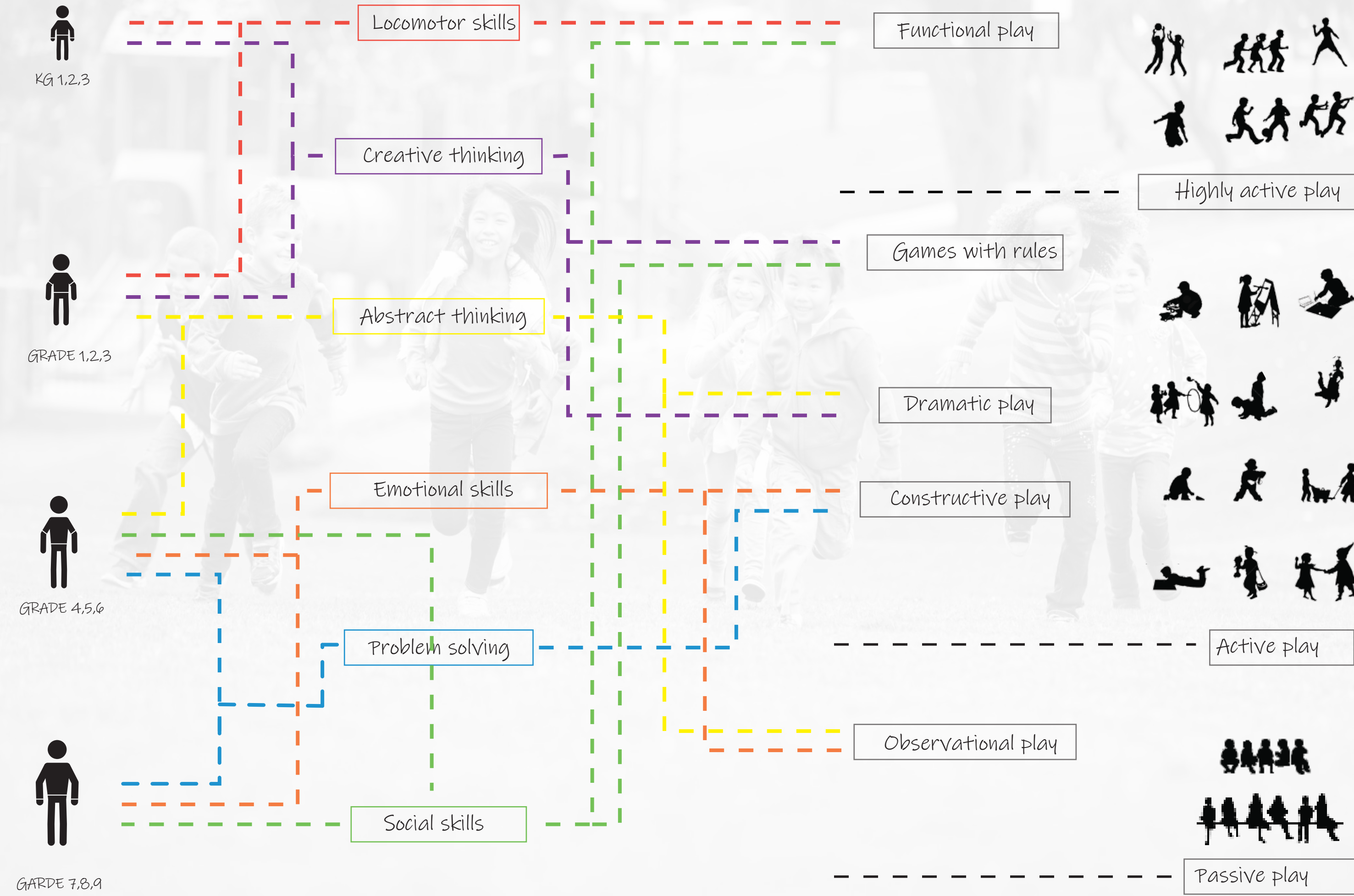
Children often use every open or closed space to practice their own type of play. Play is found in spaces such as stairs, hallways, streets, parks, schools and children museums.

TYPES OF PLAY

Play is classified through different categories. Physical and mental play each branches to a specific type that has its own definition and encounters different outcomes. In the physical play we find the competitive, constructive, dramatic and locomotor play. These types are based on movement, exploring new objects, and acting out loud. All these help the child to move from a self-centered world to understanding the importance of social interactions. While the mental play that branches to creative, expressive and fantasy play allow children to explore, try new ideas and most importantly using their imaginations and expressing their own emotions and feelings.



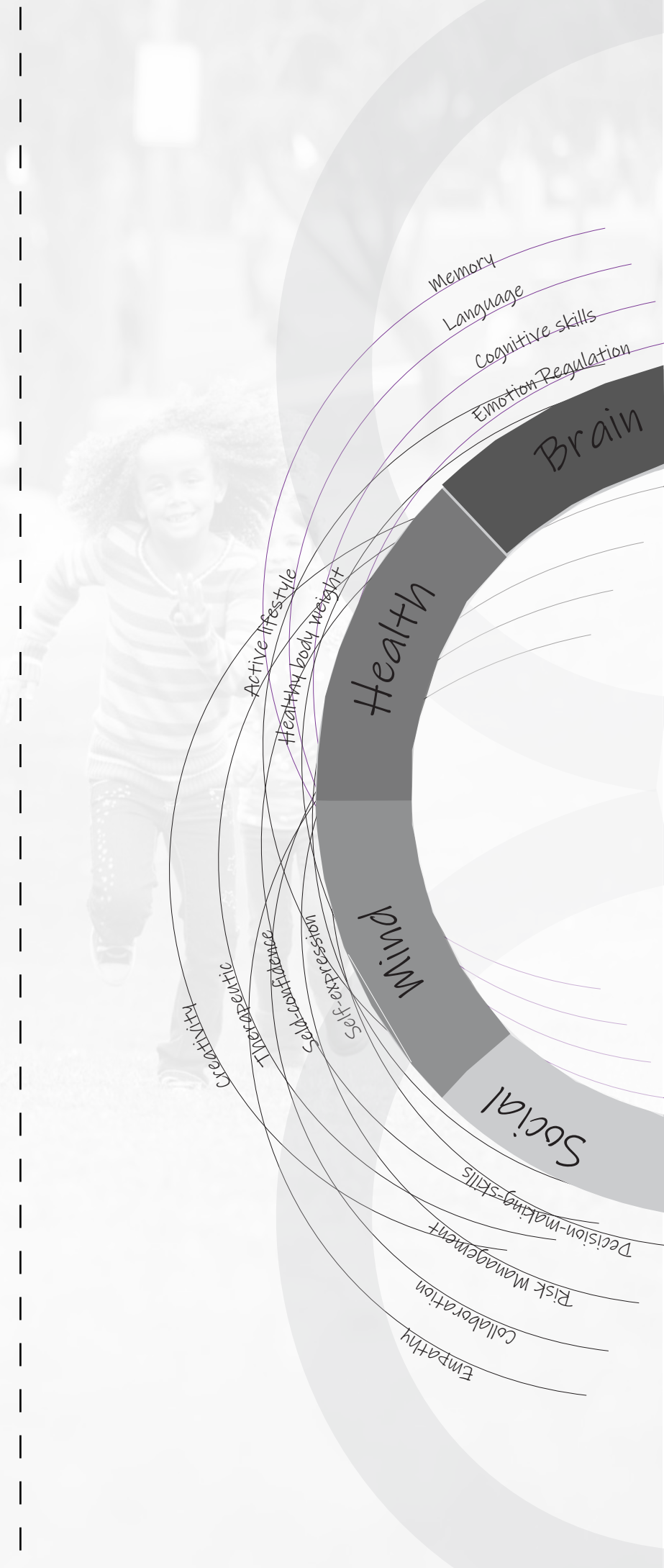
AGE GROUPS

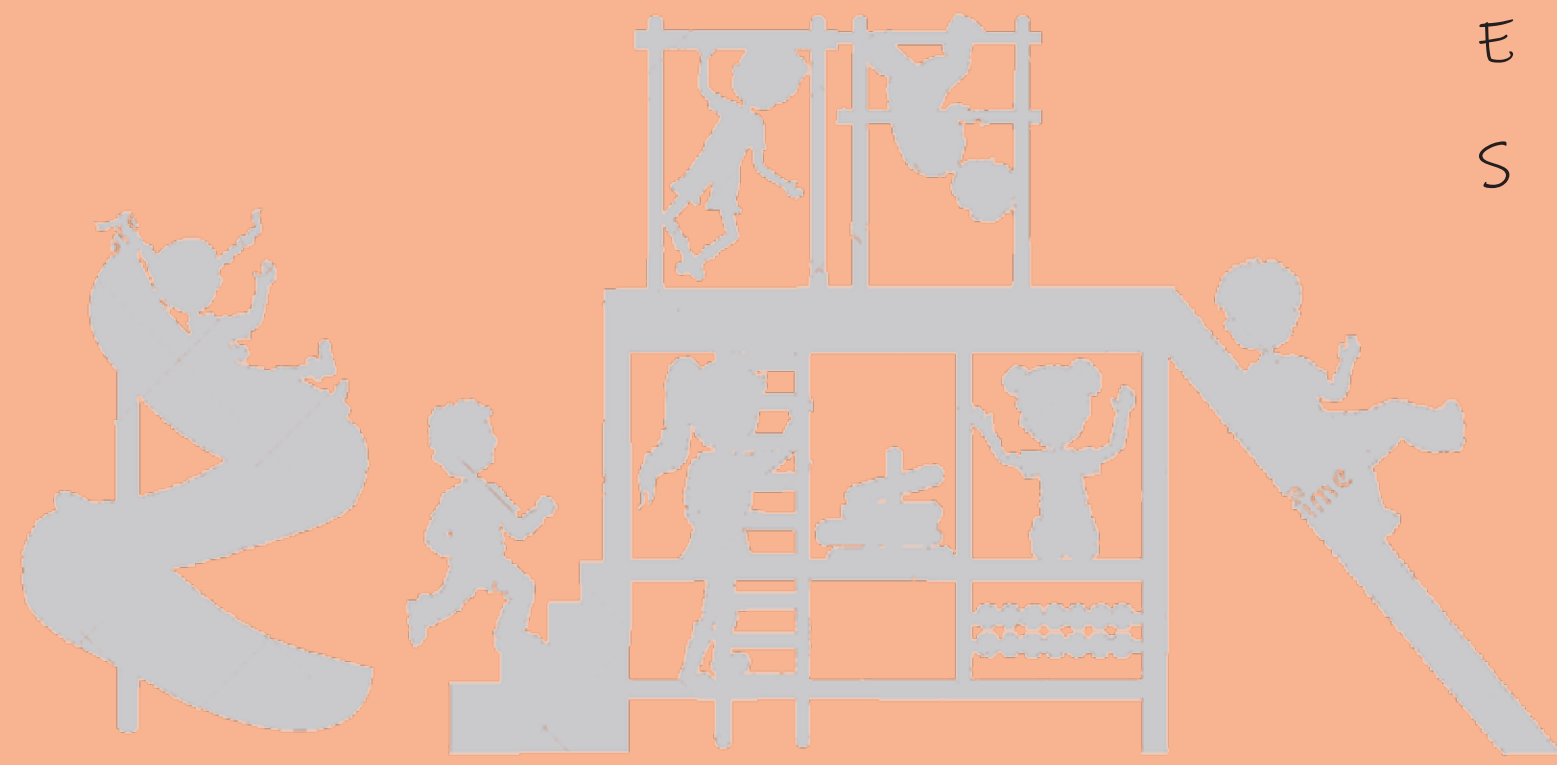




Decades of research has documented that play has a crucial role on the optimal growth, learning and development of children from infancy through adolescence. Yet, the need is being challenged and children's right to play must be defined by all adults especially educators and parents. Physicians and researchers have discovered that play is linked to brain development, healthy bodies and decision making skills while the lack of play can lead to increase in overweight depression and chronically illness in children. The child is able to gain self-confidence, creativity, self expression and overall happiness. Additionally, play positively impacts decision making skills, collaboration compromise, risk management, communication empathy, problem solving and language. On the other hand, the lack of play has impact on social development which can lead to lack of empathy, poor decision, making skills and inability to develop social skills altogether. These combined can significantly increase the risk of depression and the overall feelings of helplessness. For this purpose, the thesis focuses on researching the social aspects of play.

IMPORTANCE OF PLAY



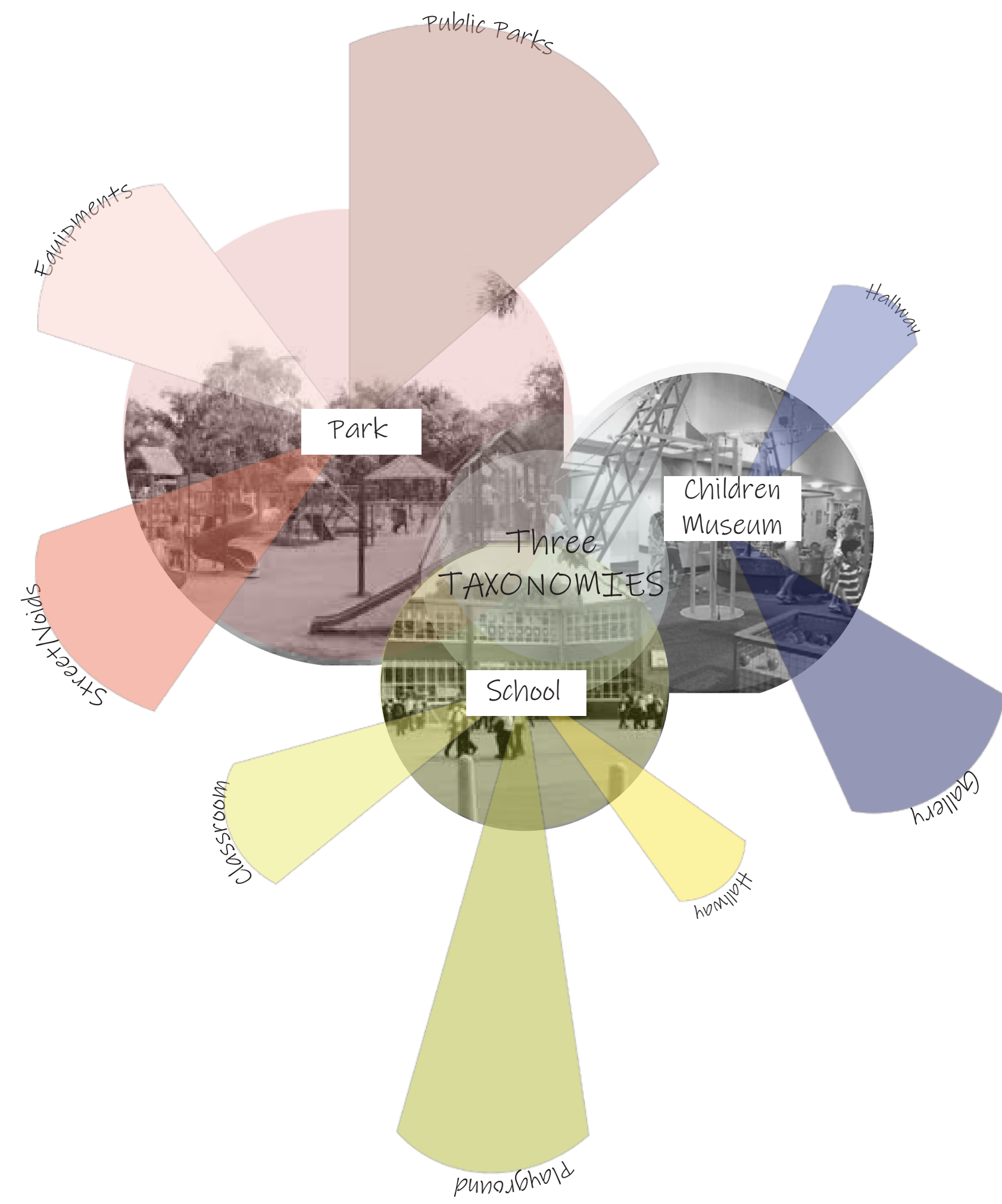


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TAXONOMIES

This part aims to analyze and categorize typologies of play and environment that encourages learning through play. The fundamental research will be rooted in questioning both educational and architectural theory.

The research began by creating taxonomies of learning environment. Through this research, I was investigating the movements within an environment and understanding how play could be encouraged through space. The taxonomies are used to evaluate the spatial qualities, context, and characteristic of the act of play found in these different taxonomies.





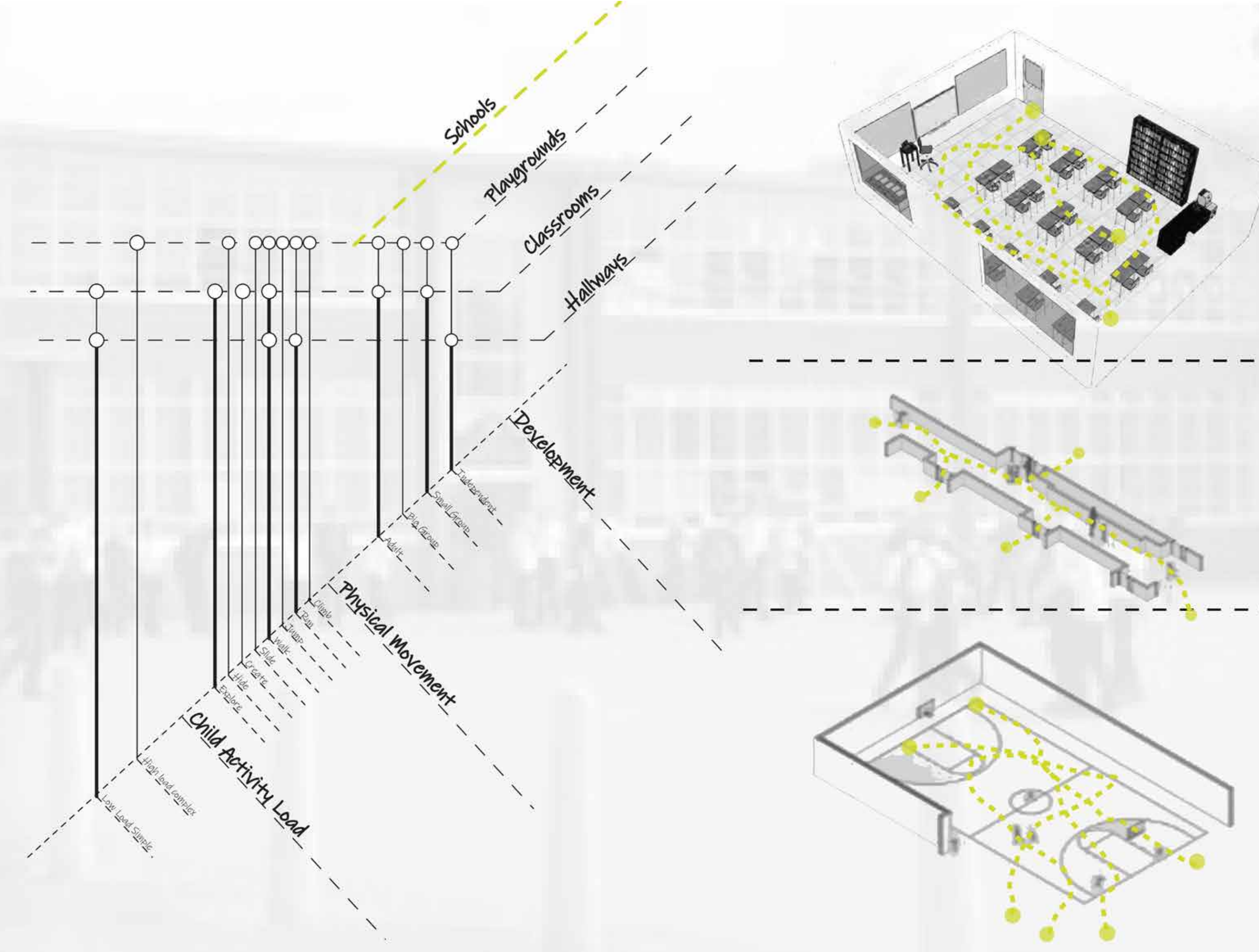
SPATIAL RESEARCH

The first taxonomy is a traditional school environment. The spaces explored were a traditional classroom, hallway and a playground. These spaces were investigated because the daily routine of a child is spent in a large amount within these spaces.

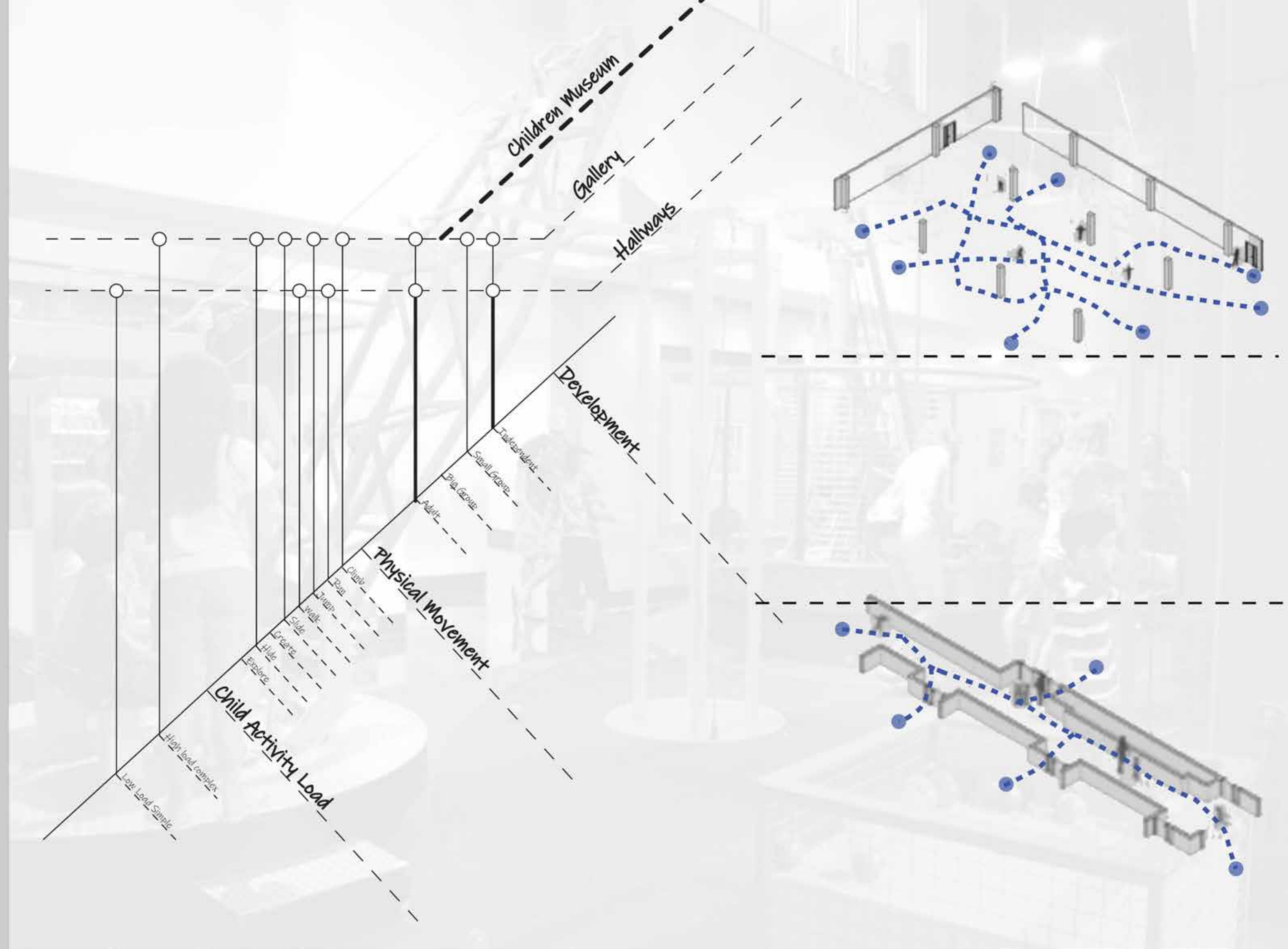
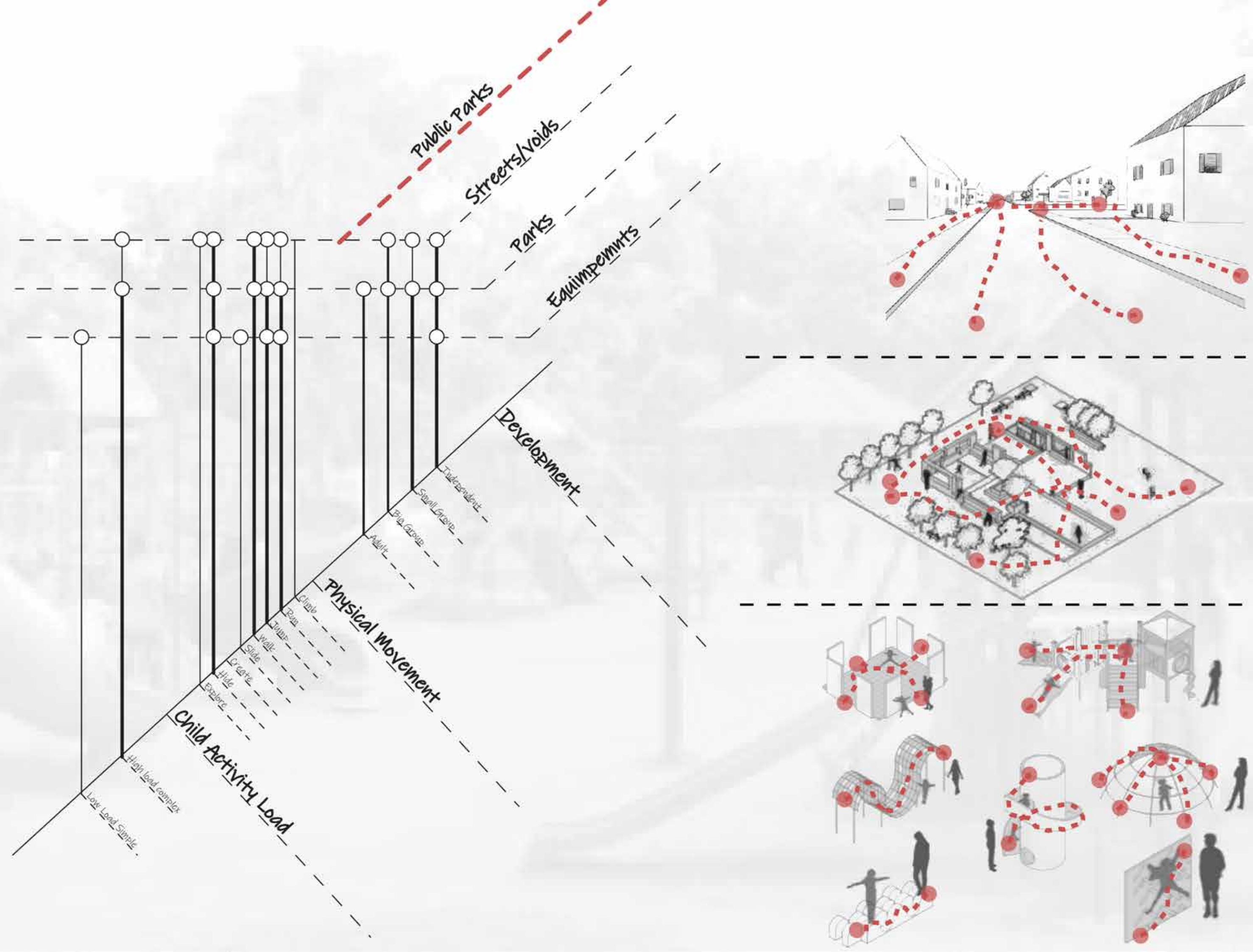
The taxonomy of the park explored different open spaces such as the public park itself, the streets and voids around it and the equipments found in the public park. The park environment offers a unique experience for a child to take change of their agency within the environment.

The museum taxonomy explored various spaces that occur within a museum. The spaces explored were an open small gallery and a hallway. The movement of a child within a museum can be very dramatic, and these spaces help to open the investigation.

The taxonomies are organized by the path of movement, social development, and activity load of a child. The activity is characterized as loads which are the amount of information received from an environment rated in low or high quality. The taxonomies are organized by three learning spaces: School, Museum, and Public Park.











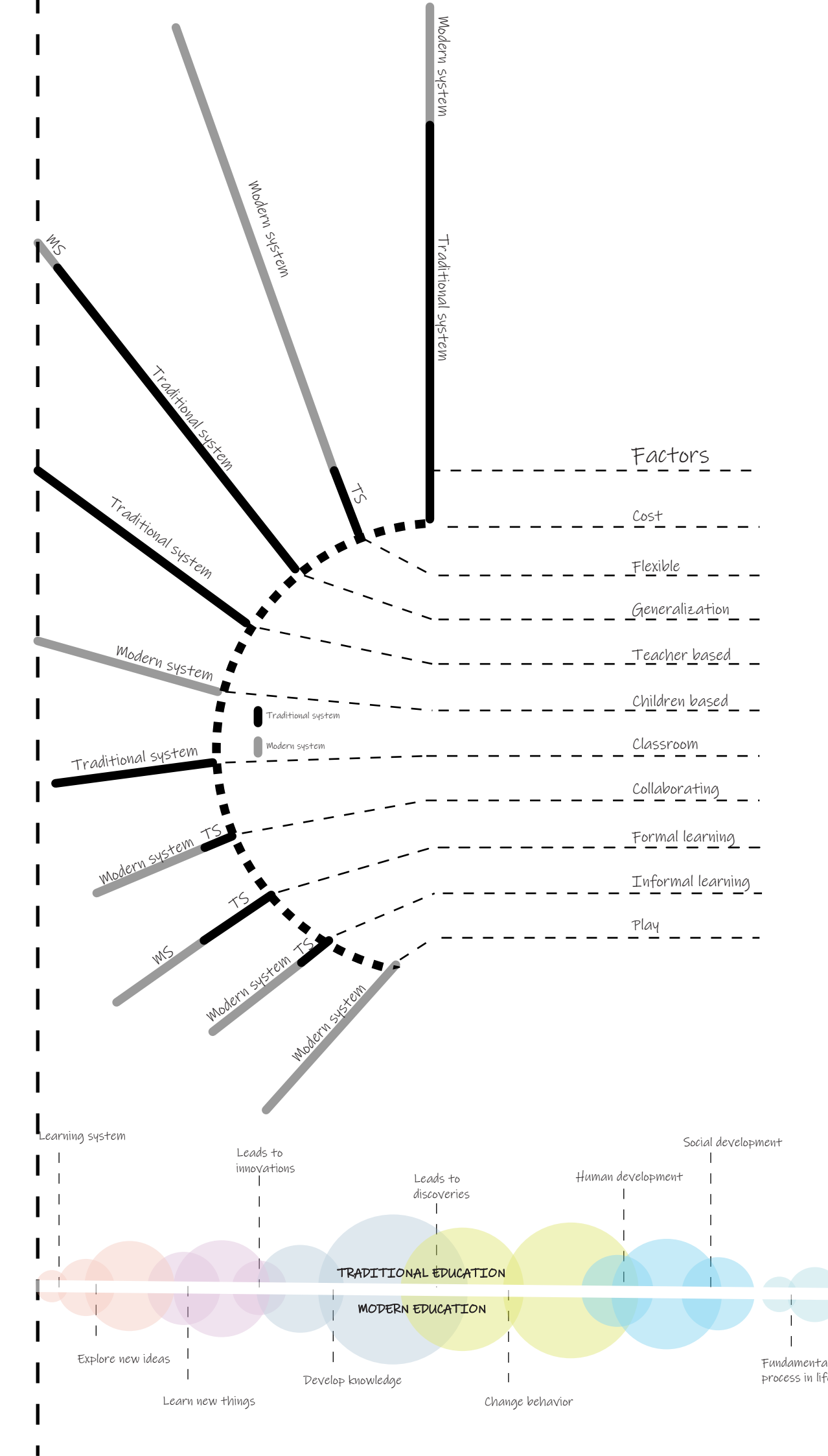
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EDUCATIONAL SYSTEMS



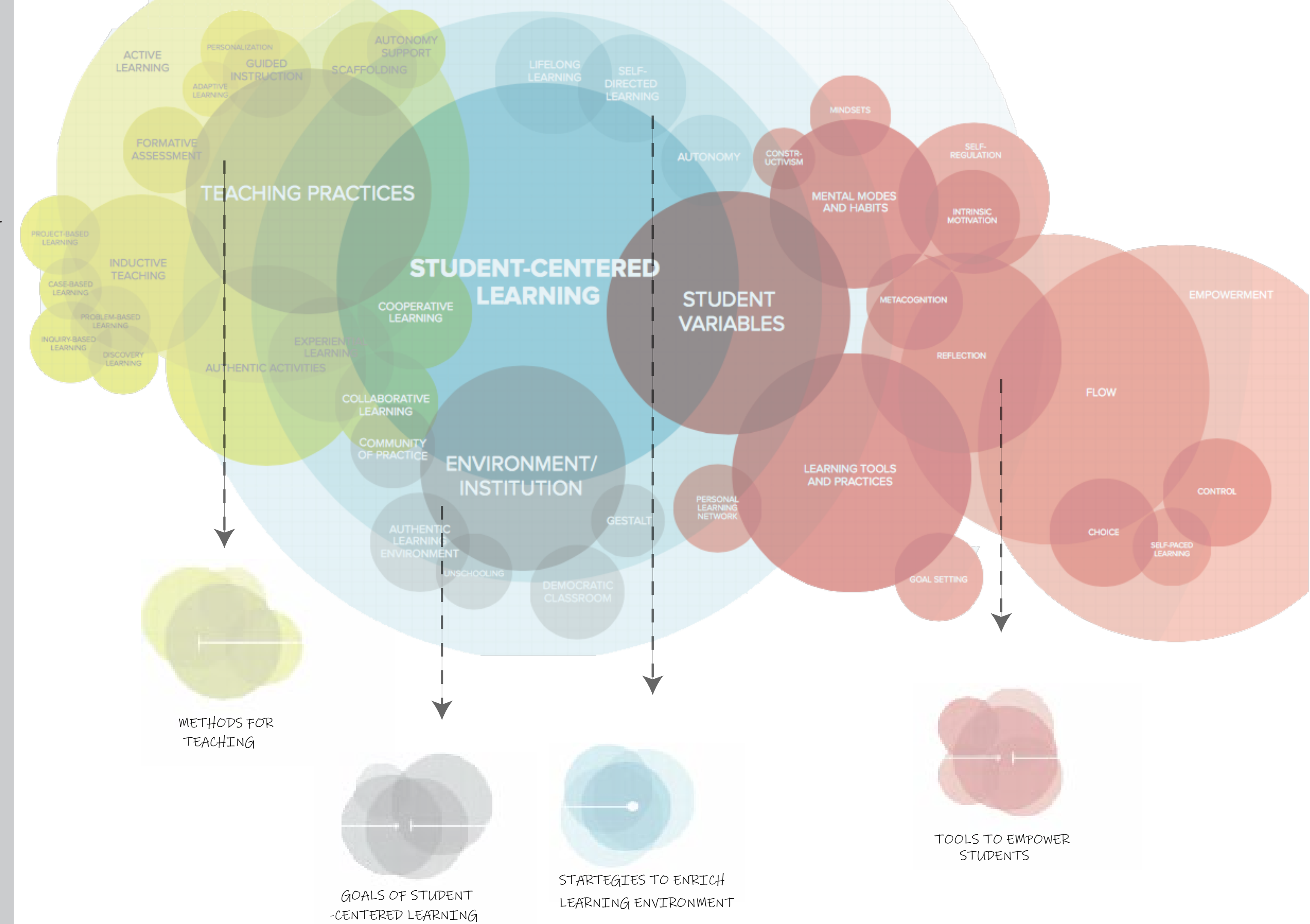
In traditional education, students are gathered under a roof at a specific time and specific place. The teaching style of traditional education is teacher-driven. The learners discuss with the peers to clear their doubts or interact with the instructor after the class to do the same. The knowledge attained by the learner depends on the knowledge of the instructor.

Modern education is mainly online. The online learning favours independent learning methods. Online learners must be self-directed towards achieving their academic goals and should be self-motivated. It mainly relies on the visual way of learning. The modern education is based on student-centered learning, and it focuses on what the child need to learn.

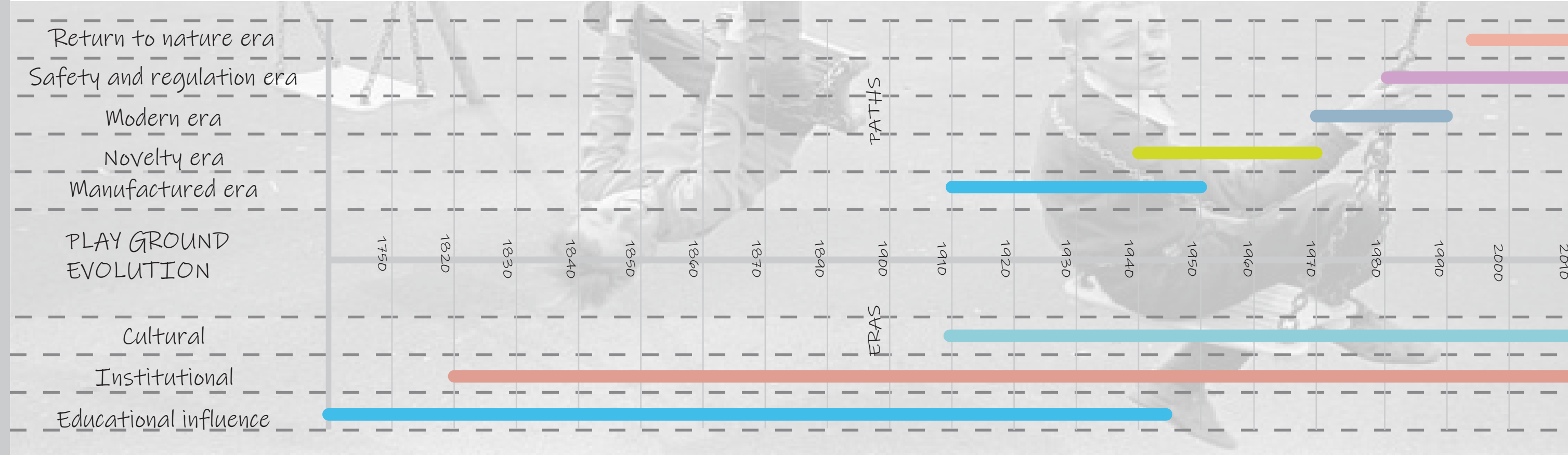


Teachers can transform the way students look at learning while improving outcomes and increasing engagements by incorporating practices. Student-centered learning is fundamentally about changing our understanding of how teachers and students work together so that eventually every student becomes a confident capable self directed learner to adapt to the challenges of the modern world. Student center learning is not a light switch we turn on or off, rather, by changing small things, incorporating different activities or even talking about learning in new ways we can help students become autonomous lifelong learners.

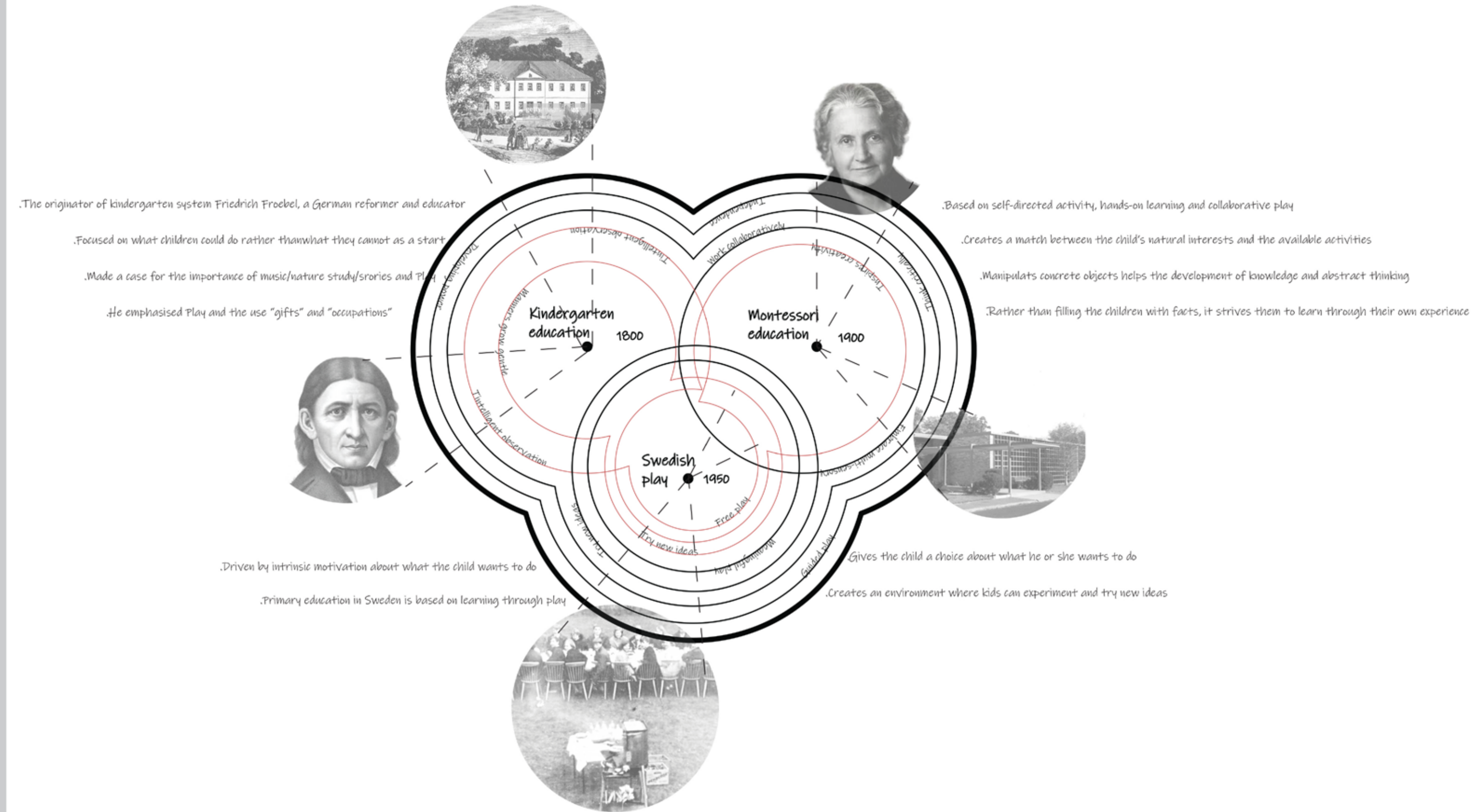
TEACHING TO STUDENT-CENTERED-LEARNING



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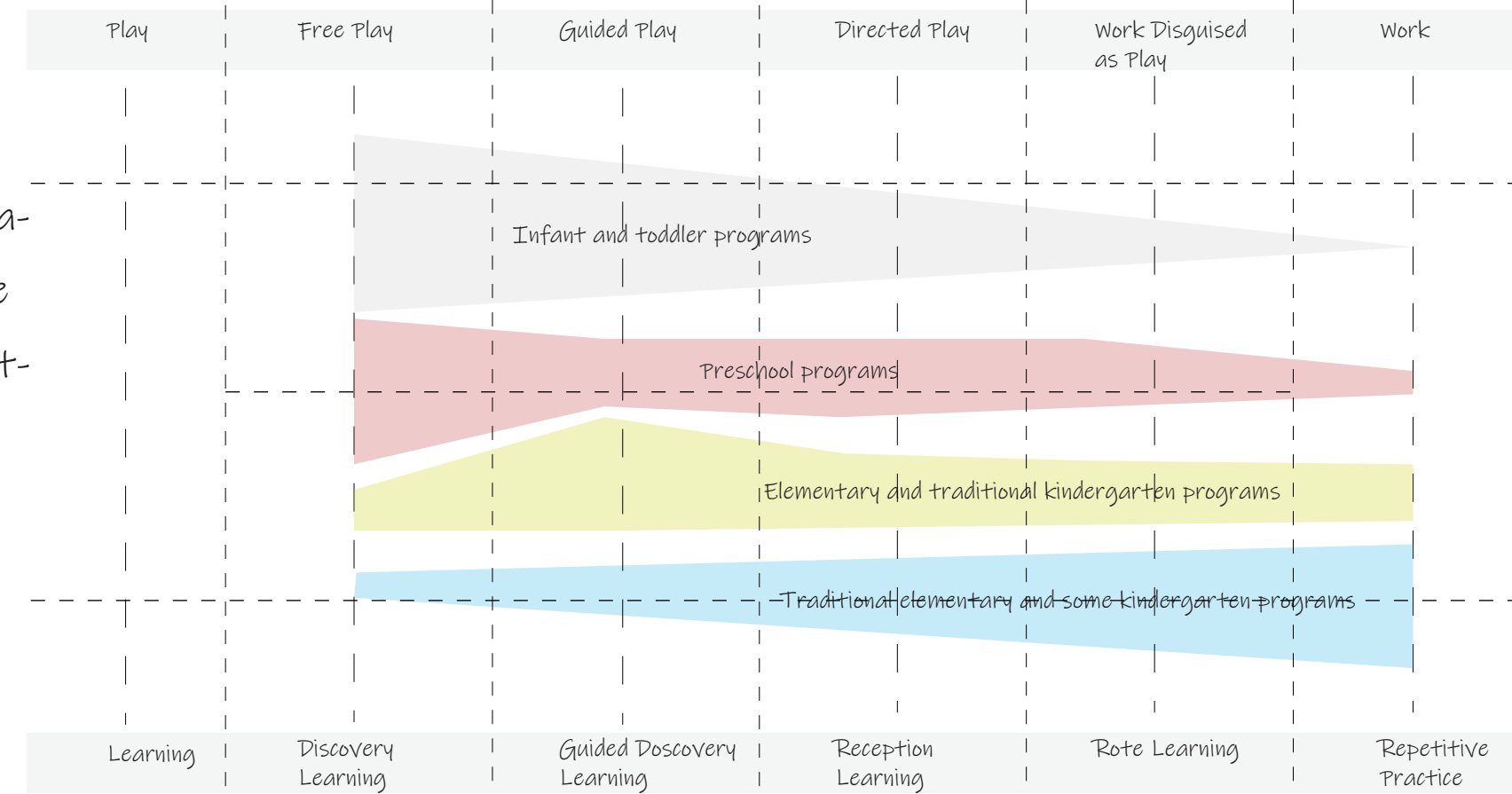


RELATIONSHIP BETWEEN PLAY AND LEARNING

From infancy and preschool to traditional elementary, play is a learning method that declines throughout education. Consider preschool and kindergarten sections, there is a shift in the activity of play. Free play has the greatest influence in preschool programs then kindergarten transitions to guided play. Guided play requires the role of the adult. The adult plays an integral part in the learning experience but is also challenged not to disrupt the child's self-driven free play.

Free Play: has the greatest degree of internal control, reality and motivation.

Discovery learning: occurs through some spontaneous manipulation of the object and physical environment and through informal social interaction with an adult and peers. Knowledge grows as these interactions are mentally organized.

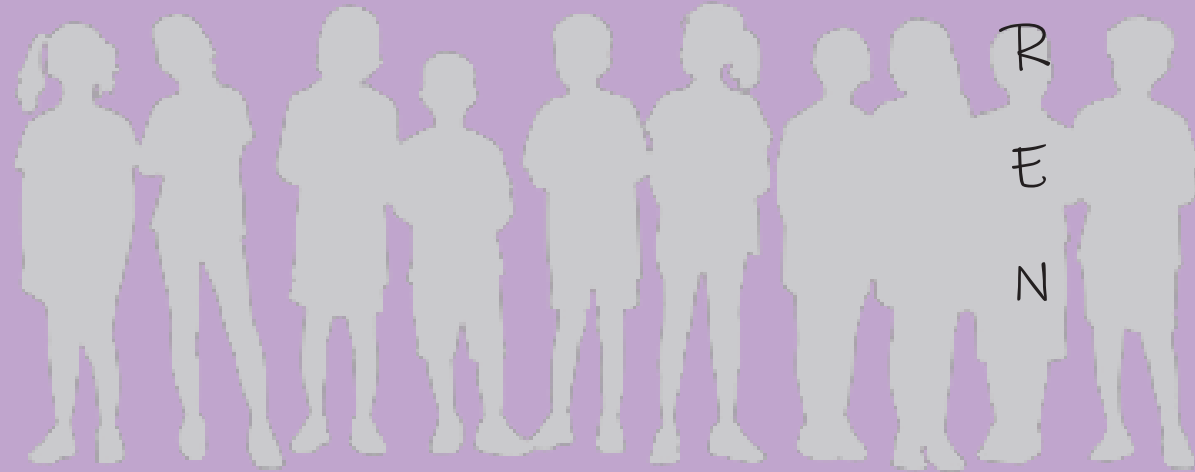


Guided Play: occurs within a loosely defined framework of social rules, requiring children to give some attention to externally imposed control reality and motivation.

Guided discovery learning :has many elements of discovery, but the experiences are currently structured so that certain discoveries are more likely to occur.

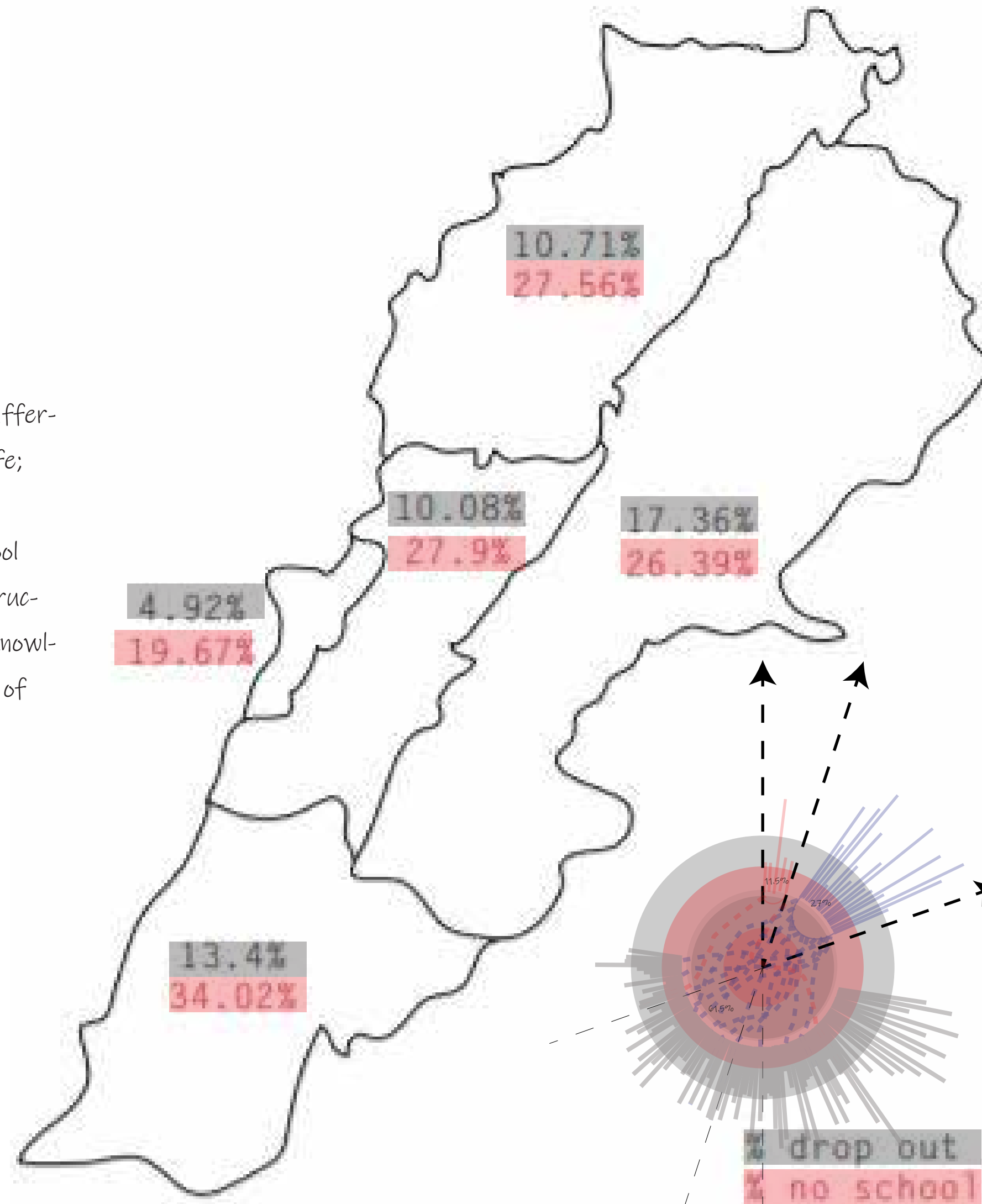


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PERCENTAGES

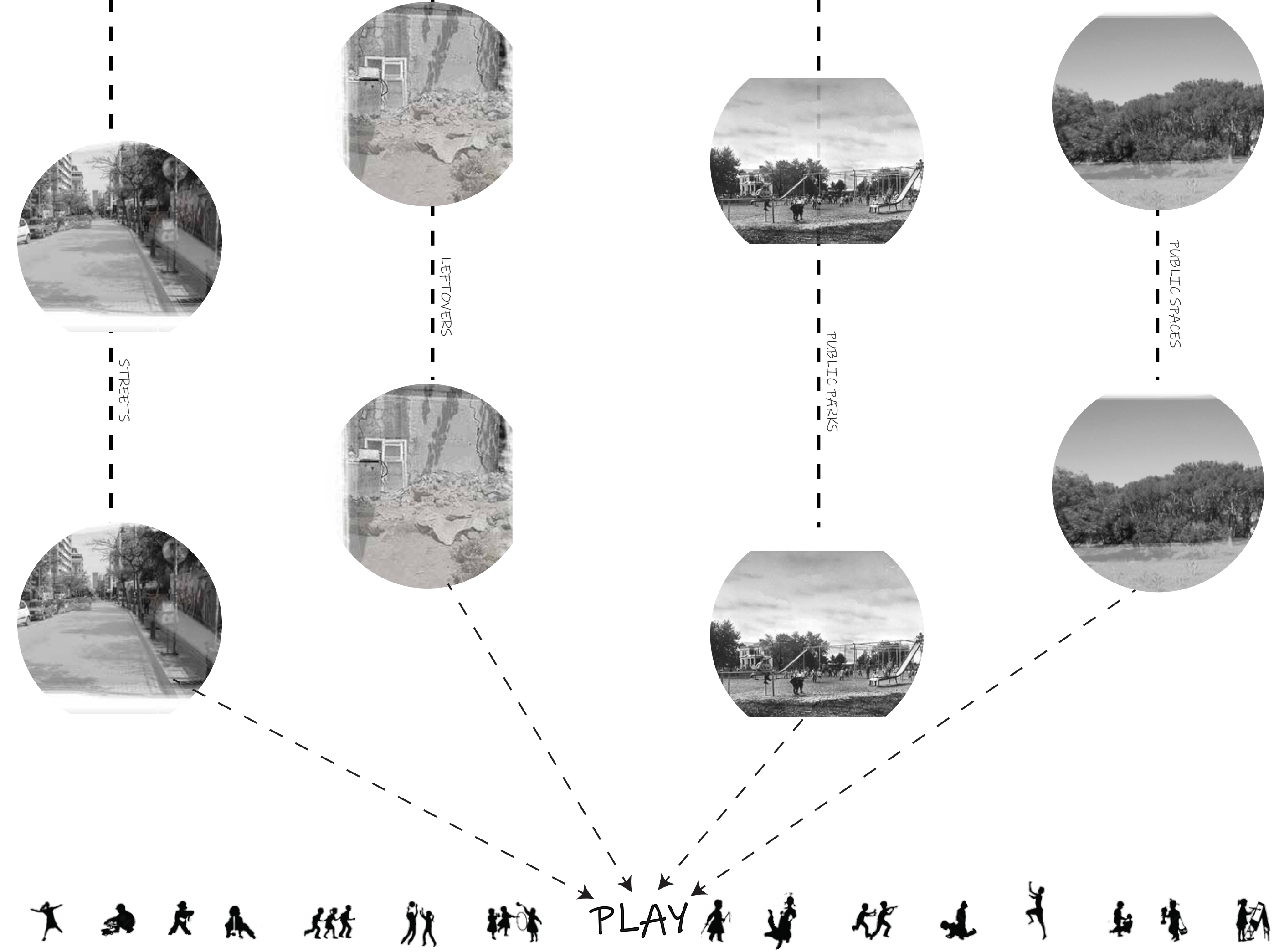
The users tackled in this thesis are children with different age groups and different conditions and social life; trying to offer all children the basic needs any child should have access to. That's why beside from school children, street children has an important role in structuring my outcome since they lack the privilege of knowledge and education due to the harsh circumstances of their reality.



Being on the streets, all what is offered for these children are the left over spaces, the open streets and the public parks that can be used and experimented to offer the act of play because of this I will be questioning how typologies of school can be more inviting for this specific type of children.



ACCESSIBILITY





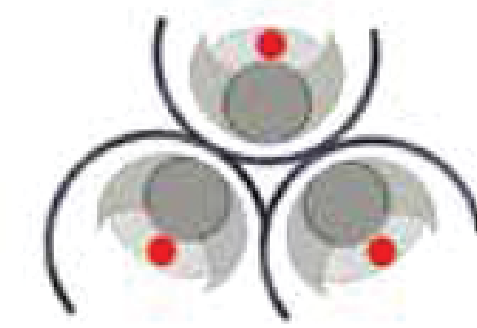


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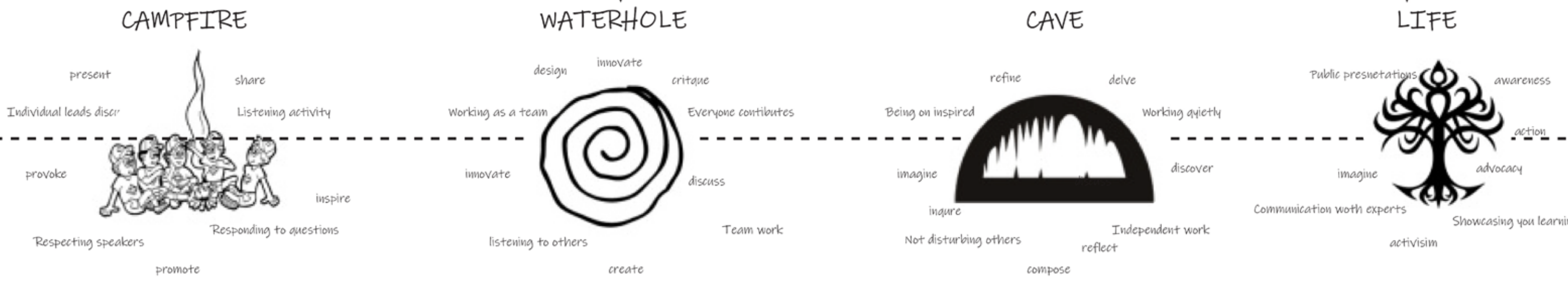
LEARNING METAPHORS



Watering hole: A place 'where we learn from our peers ... each participant at the watering hole



Life: The application of knowledge is an essential component of the learning process we learn something in anticipation of its immediate use

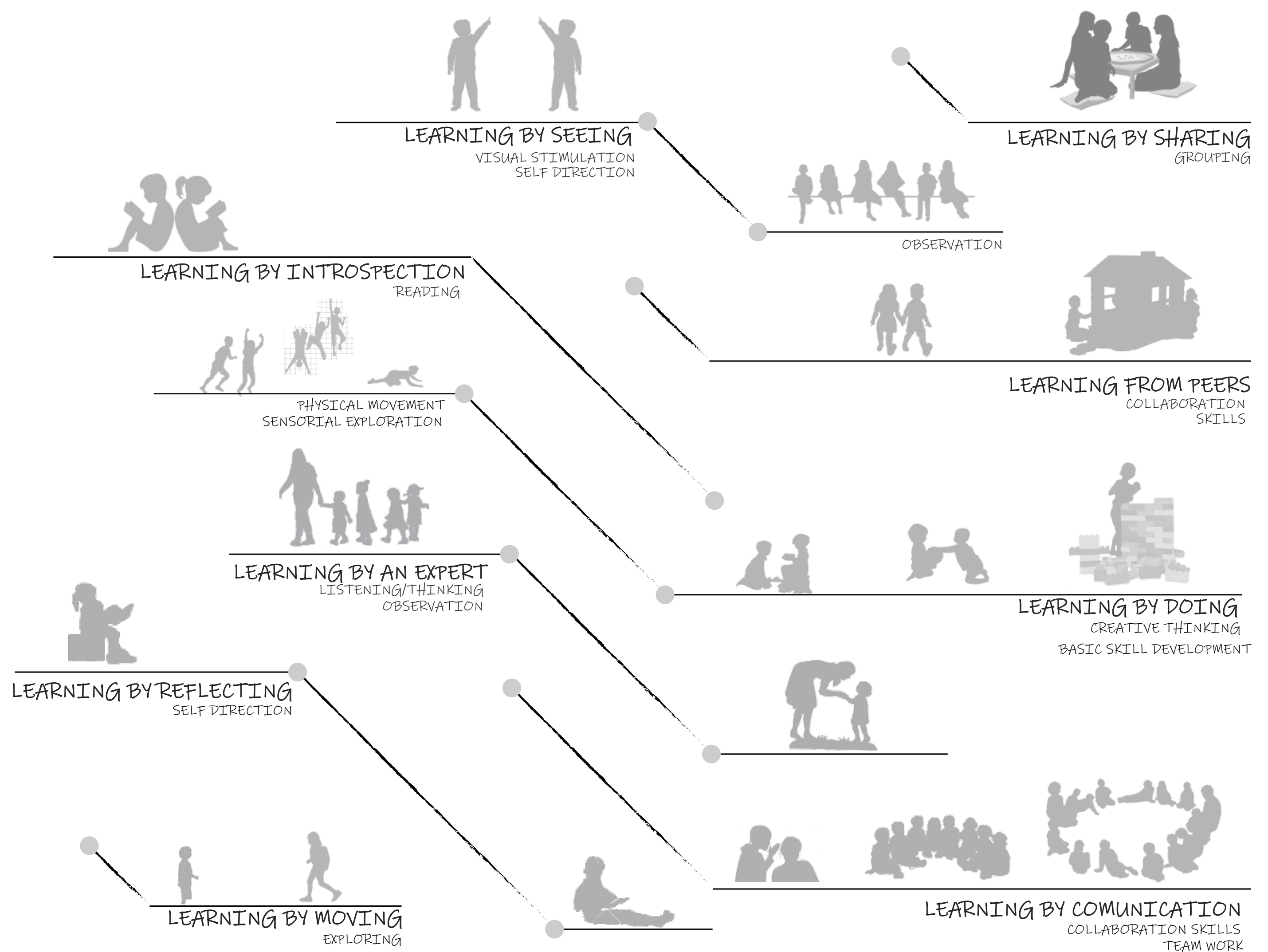


Campfire: A place 'where the storyteller ... shared wisdom with students who, in their turn, become storytellers to the next generation

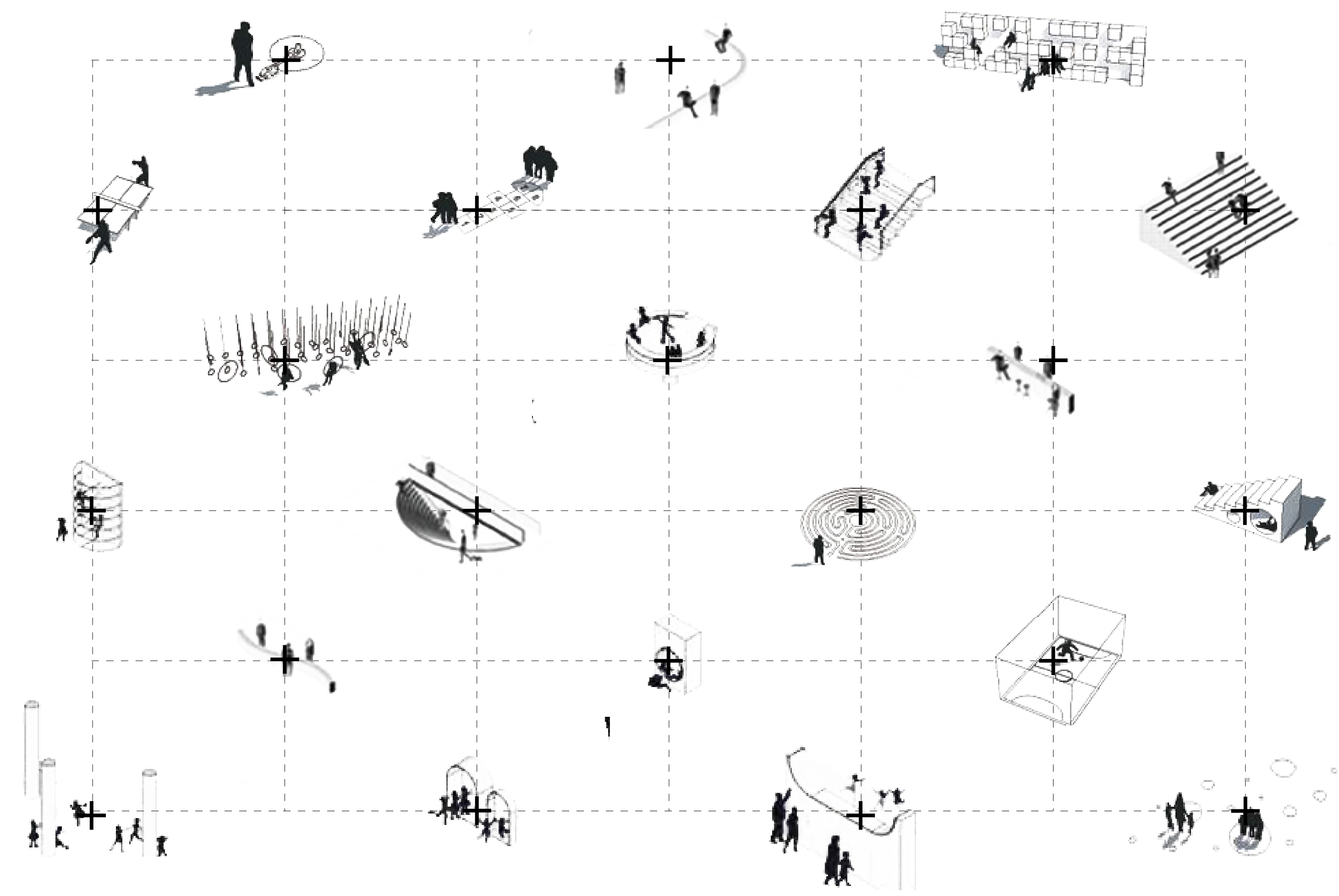


Cave: A place where learners isolate themselves from others in order to gain special insights





HYBRIDS

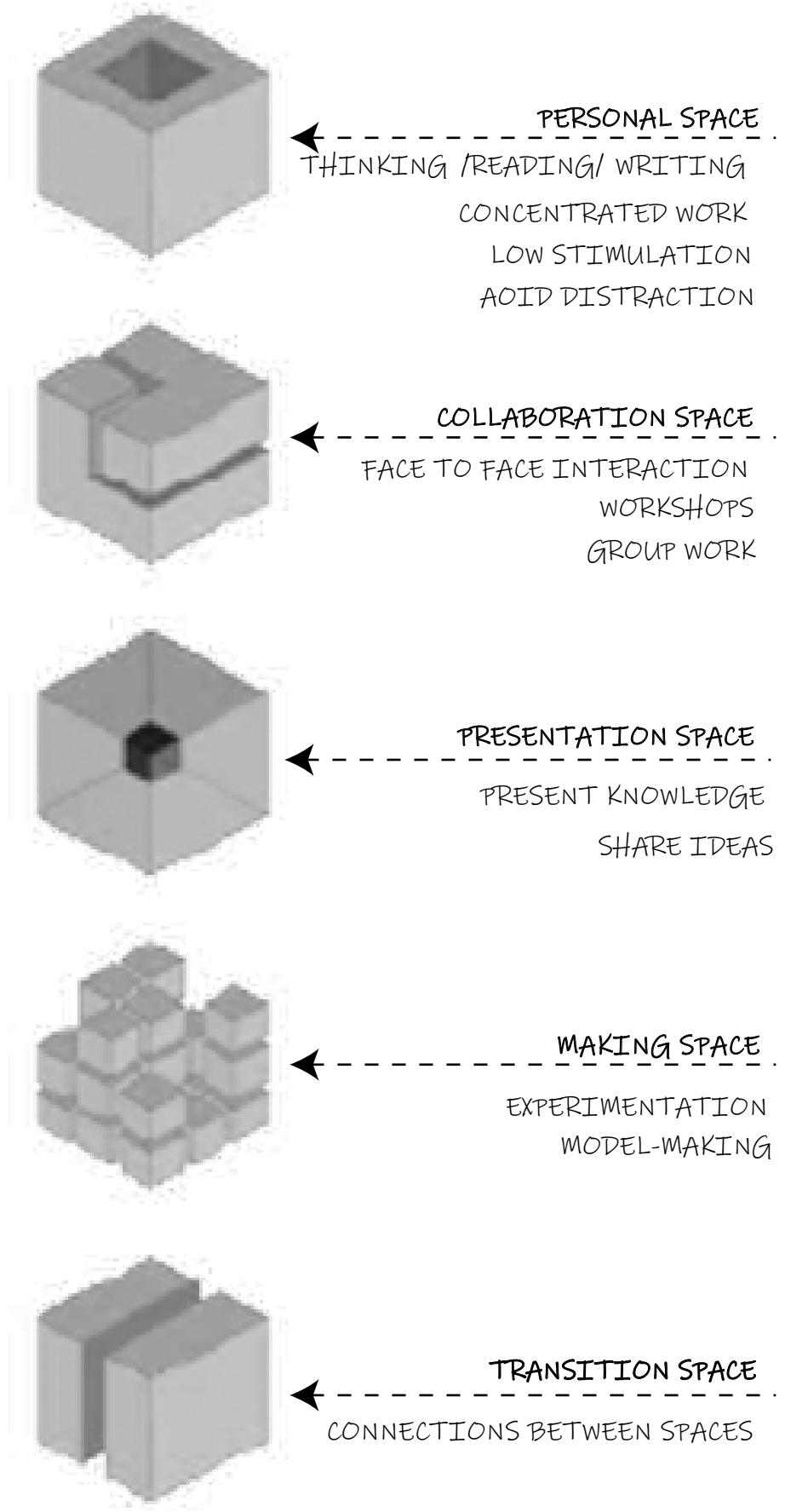




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SPATIAL QUALITIES

SPACE TYPE



**PERSONAL SPACE**  
THINKING /READING/ WRITING  
CONCENTRATED WORK  
LOW STIMULATION  
AOID DISTRACTION

**COLLABORATION SPACE**  
FACE TO FACE INTERACTION  
WORKSHOPS  
GROUP WORK

**PRESENTATION SPACE**  
PRESENT KNOWLEDGE  
SHARE IDEAS

**MAKING SPACE**  
EXPERIMENTATION  
MODEL-MAKING

**TRANSITION SPACE**  
CONNECTIONS BETWEEN SPACES

PEDAGOGICAL ACTIVITIES

PRINCIPLE	PEDAGOGICAL ACTIVITY	PEDAGOGICAL ATTRIBUTE	SPATIAL ICON
The learning environment is supportive and productive	DELIVERING 	Formal presentation Paasive learning Instructor controls	
The learning environment promotes independence, interdependence and selo motivation	APPLYING 	Controlled observation One to One Informal Active learning	
Students are challenged and supported to develop deep levels of thiking and application	CREATING 	Multiple disciplines leaderless Privacy Active learning	
Students' needs, back-grounds,perspective and inter-ests are reflected n the learn-ing program Assessment practices are an integrak part of teaching and learning	COMMUNICATING 	Impromptu delivery Casual Active learning	
Learning connects strongly with communities and oreactice beyond the classroom	DECISION MAKING 	Information is shared Knowledge is dispersed Semi-formal to formal Passive/active learning	

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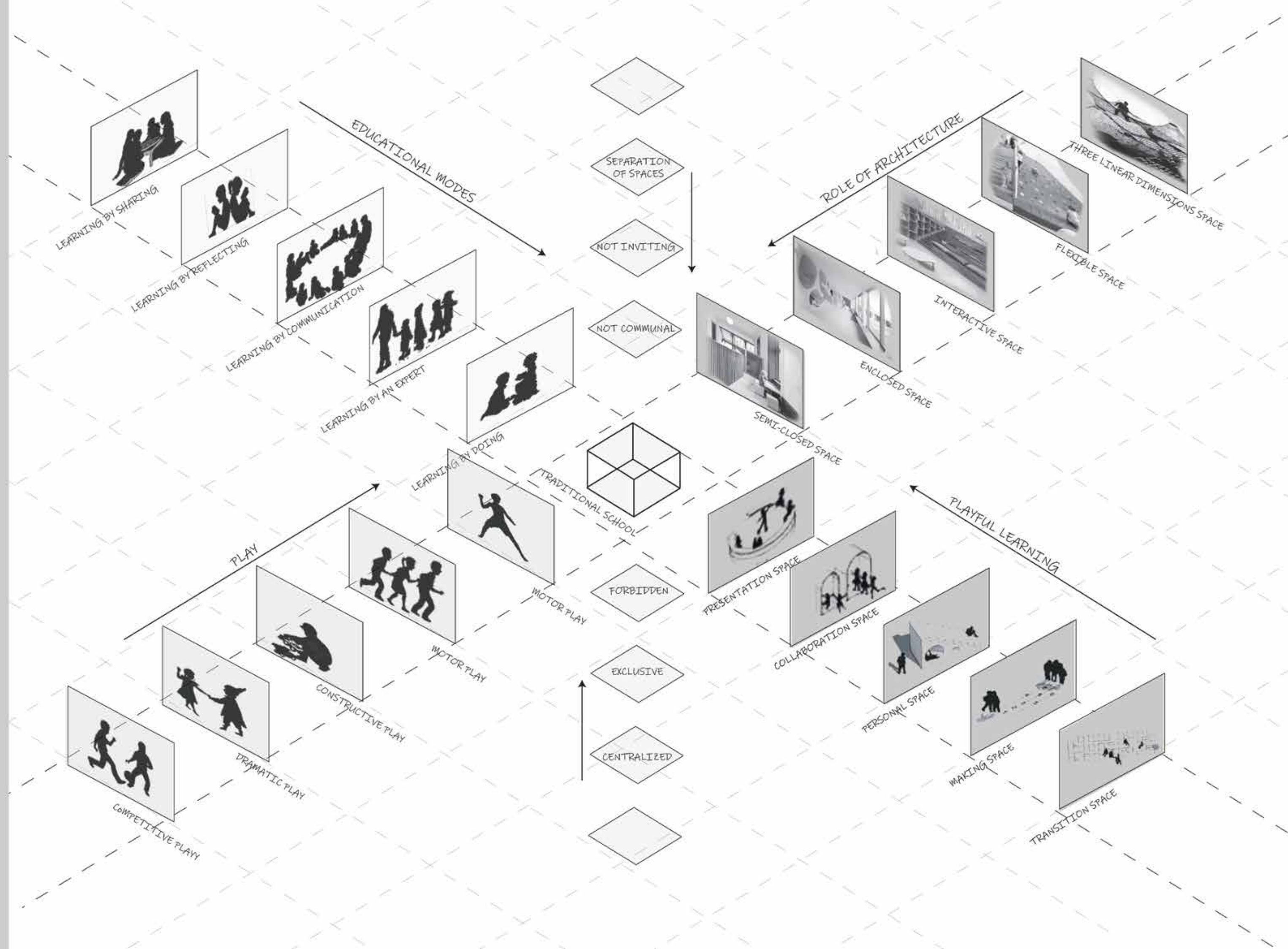
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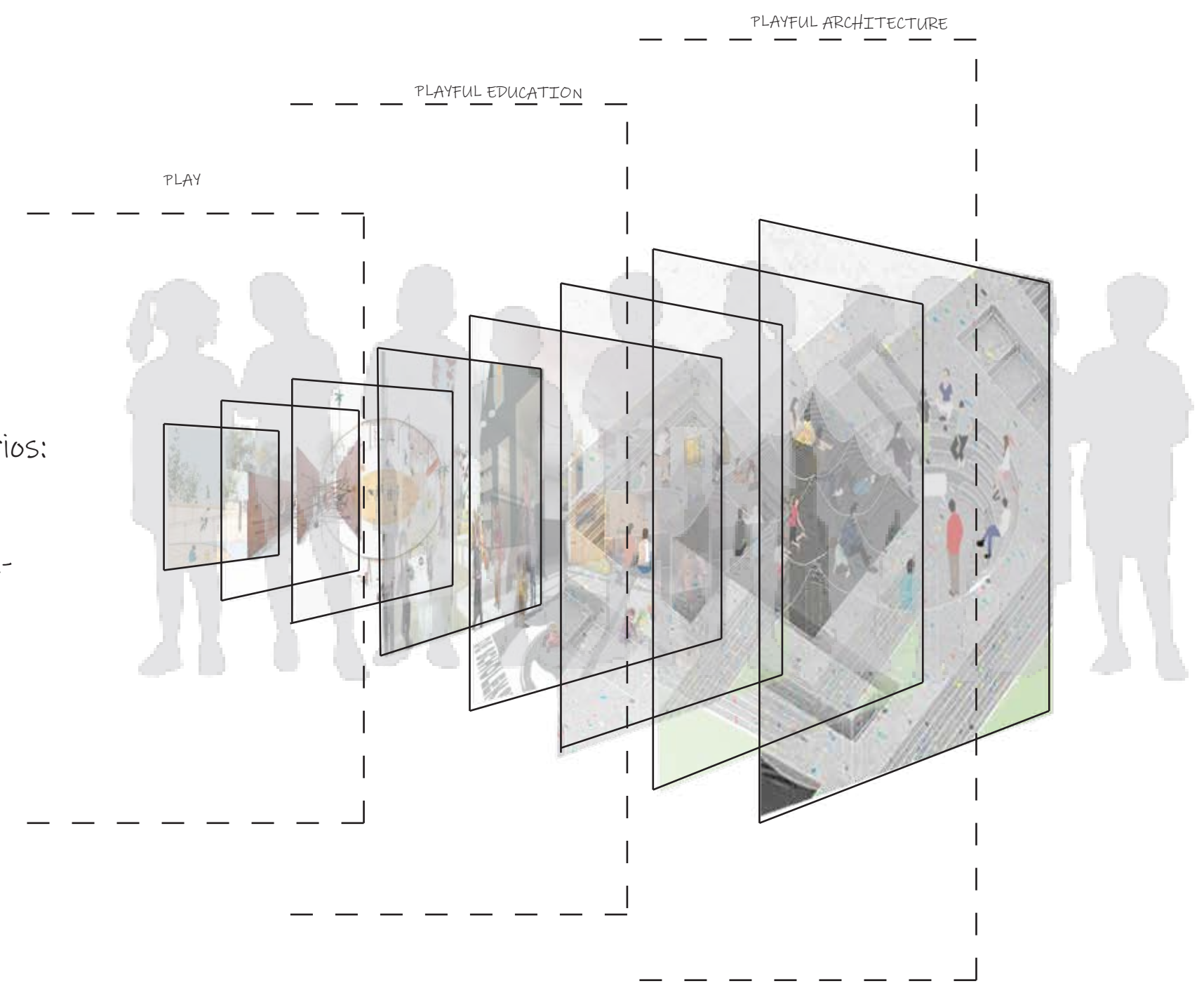
Based on my extensive research in education and into the interplay, I looked into different taxonomies of play, informal and formal formats of teaching and learning environments and also street children deprivation. I thought that there is something missing in schooling or education typologies. The fact that it is centralized, exclusive and forbidden and most importantly not being engaged enough within the community especially with the street children. At the same time it is separating the playground from the classroom where the classroom is considered to be a neutral industrial space.

Therefore, I'm seeking to re-question this typology to change it into being more decentralized and making it more engaging with the outer community so that all children can benefit equally. Also, the role of architecture that can allow optimizing. Instead of remaining a neutral background, it could be more active and interactive especially when the child is capable to create his own space in playful manners. Hence, it is not only re-questioning the typologies and engaging with street but also the role of architecture to achieve this method.



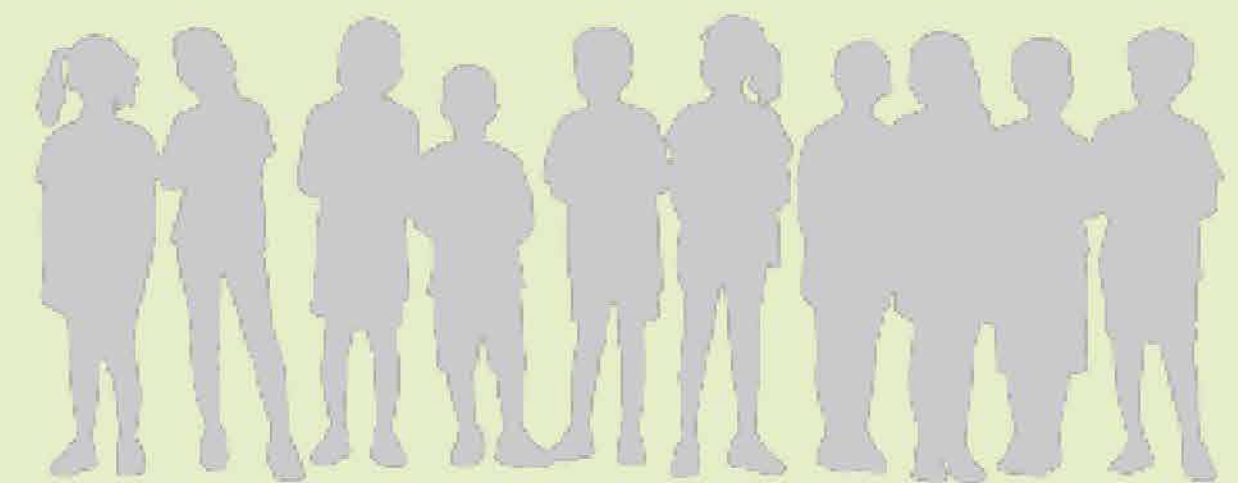


My second step will be combining and merging these trios: Playful architecture/ Playful education/ Act of play. Bringing all these trios together to fragment an inclusive, inviting, open and engaging school.



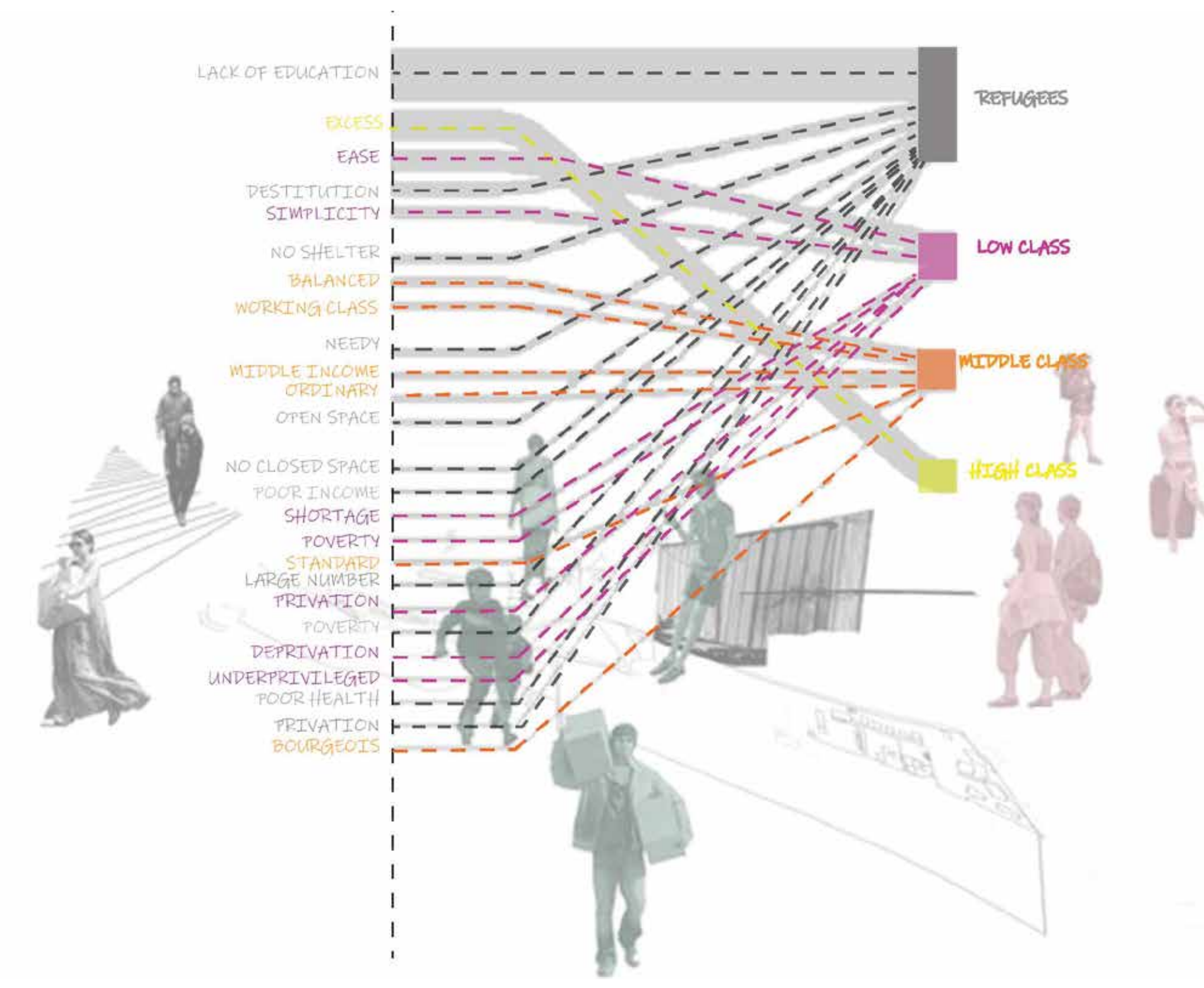


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The users tackled are children with different age group and different conditions and social life; trying to offer all children their basic needs any child should gain. That's why beside from school children I explored more into underprivileged children that lack the privilege of knowledge and education due to the harsh circumstances of their reality

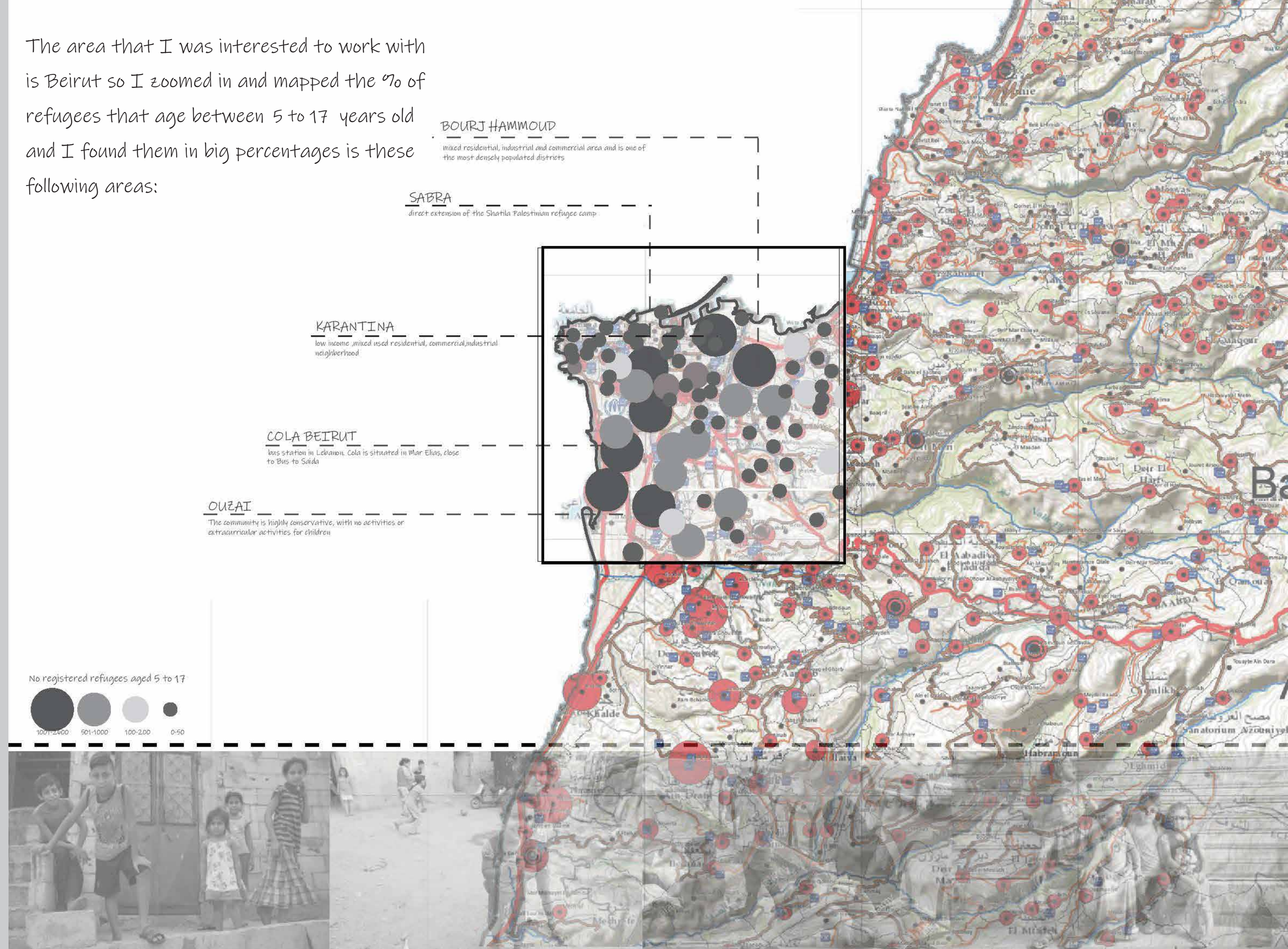
Based on this ,I classifies the different classes in Lebanon where refugees/low-middle-high classes are found and listed all their needs and deprivation and the class I'll be working on are both refugees and low income class since they lack a lot of rights





The area that I was interested to work with is Beirut so I zoomed in and mapped the % of refugees that age between 5 to 17 years old and I found them in big percentages is these following areas:

Mapping areas of underprivileged kids

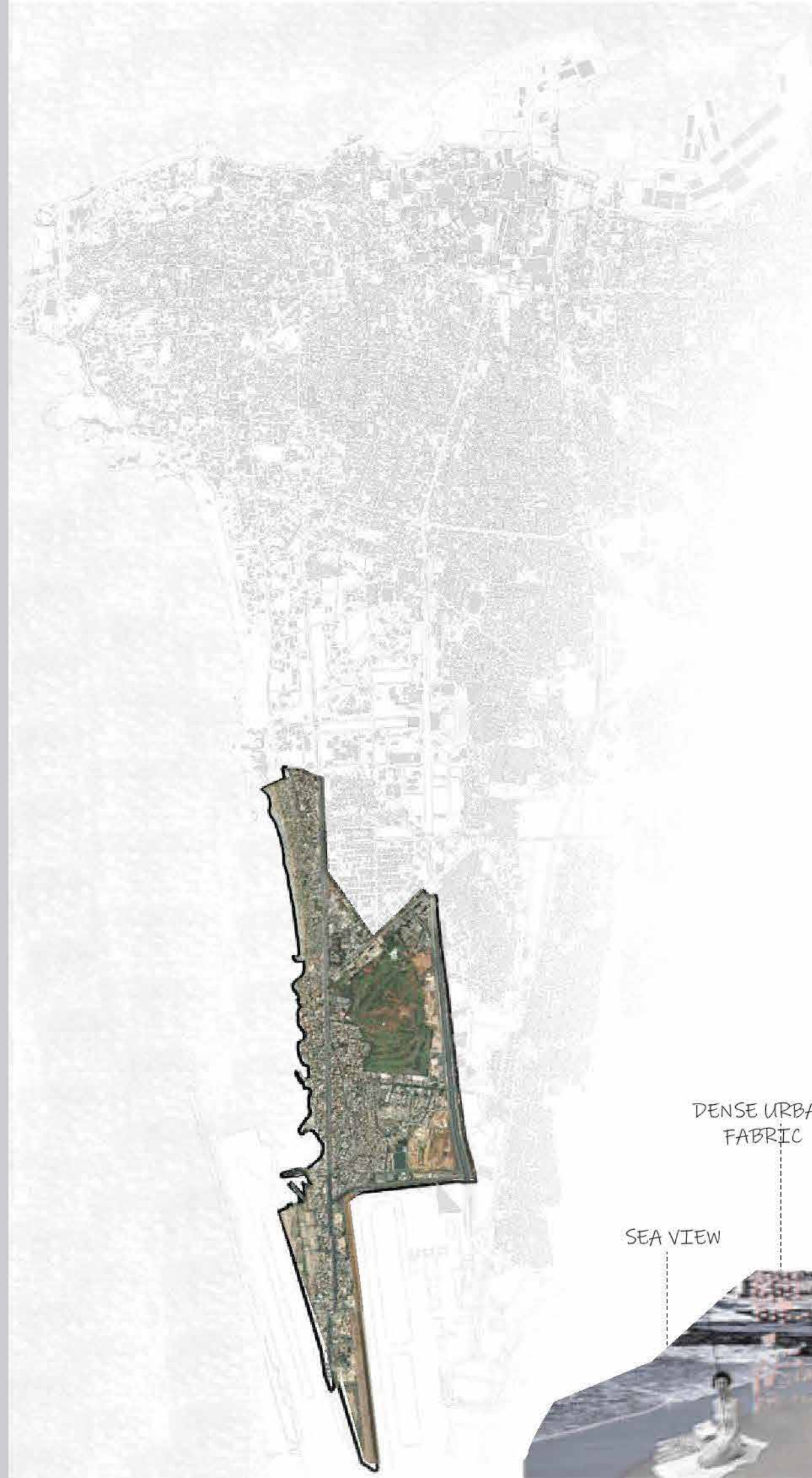




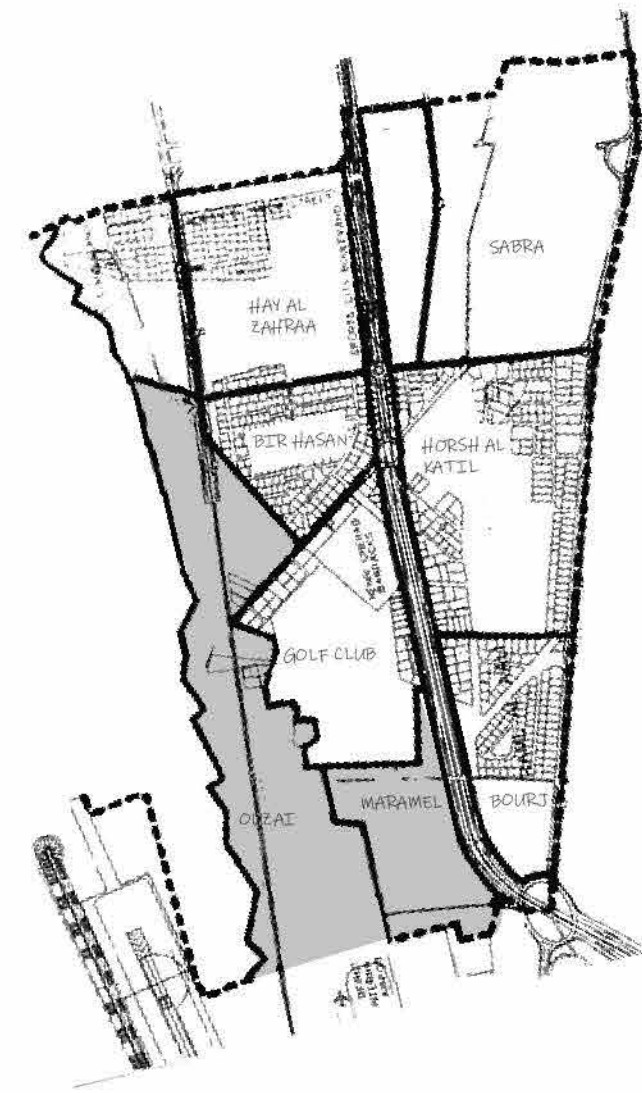
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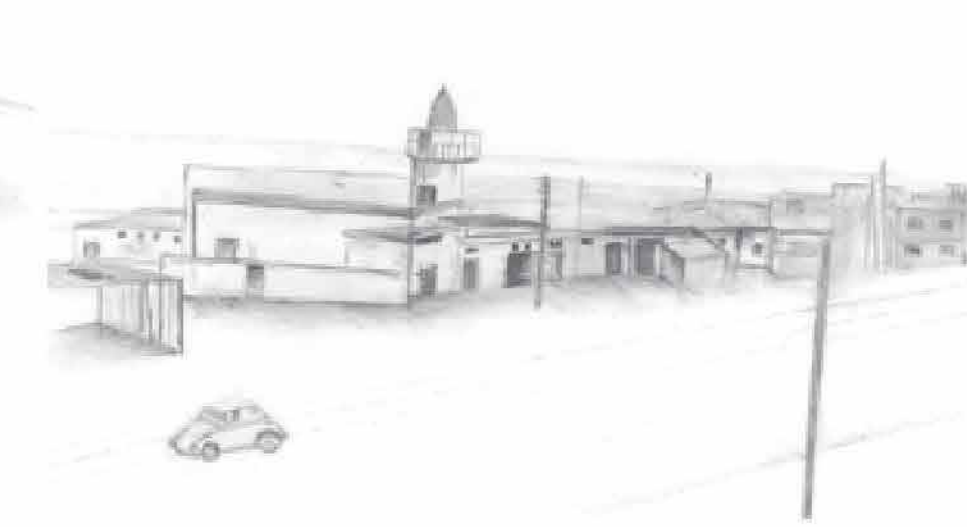




The Jnah /Ouzai informal settlement is located on the Southern coast-line of the capital Beirut. Although the sea in that area is considered a public space, the settlement is obstructing any public accessibility to the beach due to its stigmatization by the rest of the city. In that sense, and for logistics the research consider Janh / Ouzai "sea edge" as an interesting site for investigation; it is a sea edge that is blocked, not by neoliberal projects, but rather by an ' illegal settlement .The Ouzai neighborhood residents that are mostly 19,600 has more than internal migrants from the Bekaa valley and south Lebanon who fled their villages during Civil war to seek job opportunities. The dominant age groups Ouzai is now a .40-21 and 20-10 range between commercial and economic hub for residents ) The main street that crosses the neighborhood has shops (mainly furniture shops) on both sides. The community is highly conservative, with no activities or extra-curricular activities for children



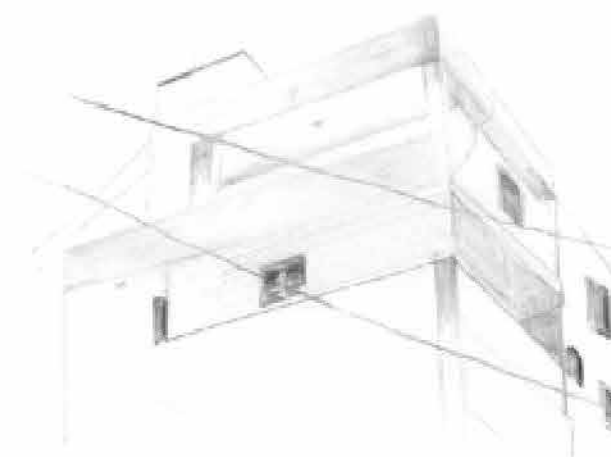
Airport on the south of Ouzai



Fisrt inhabitants were all rural lebanese



Fasal Yahfoufi founded the Nasser school



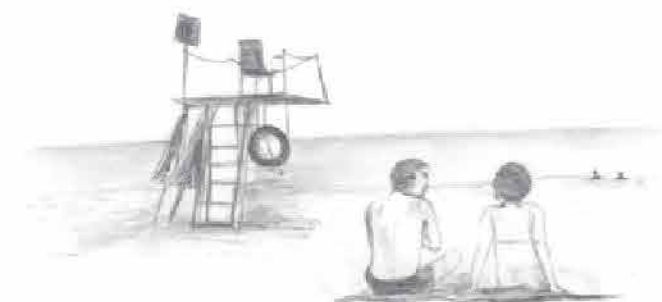
House of Salah Nasser



The name of sunni iman and influential syrian scholar

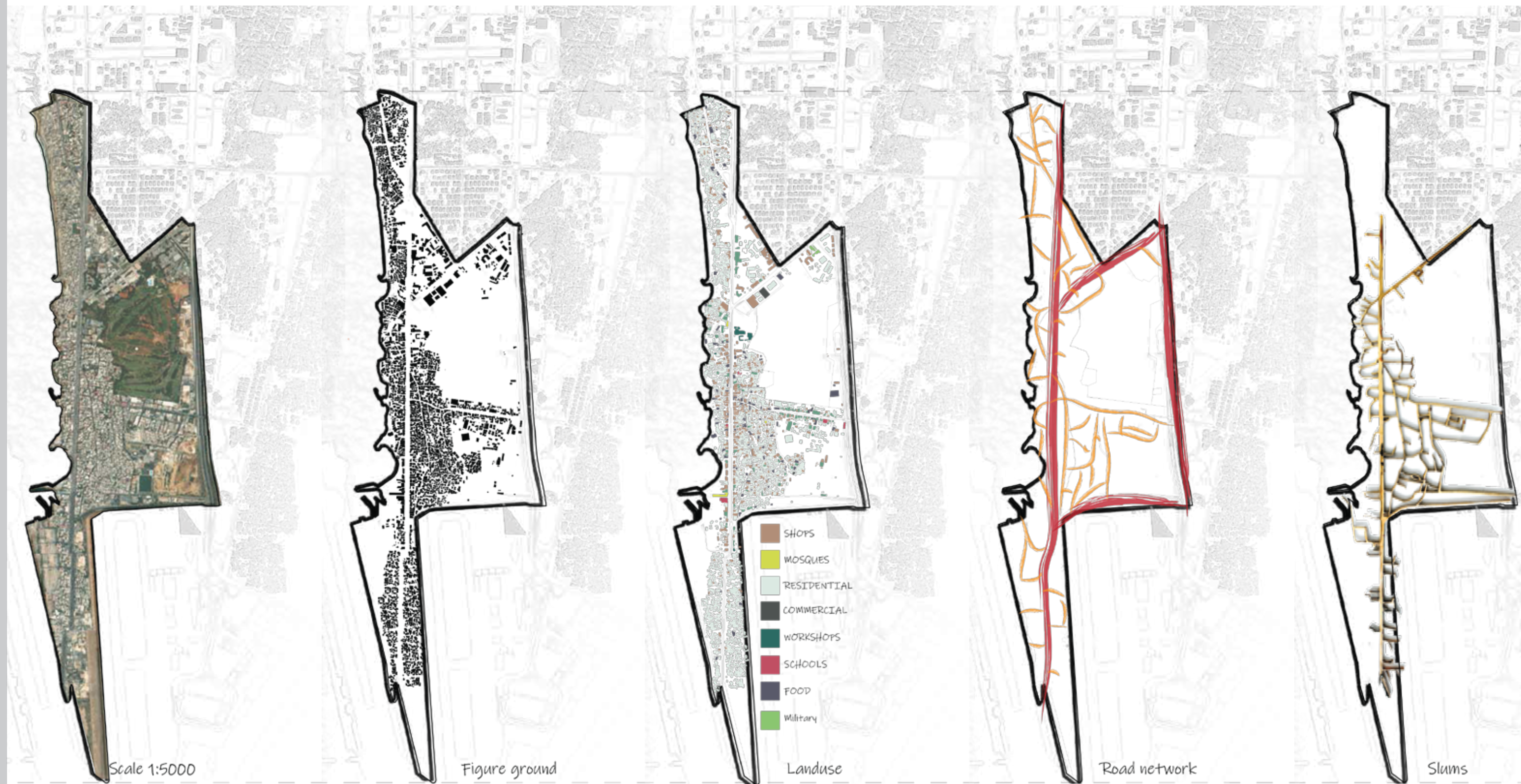


Miami beach

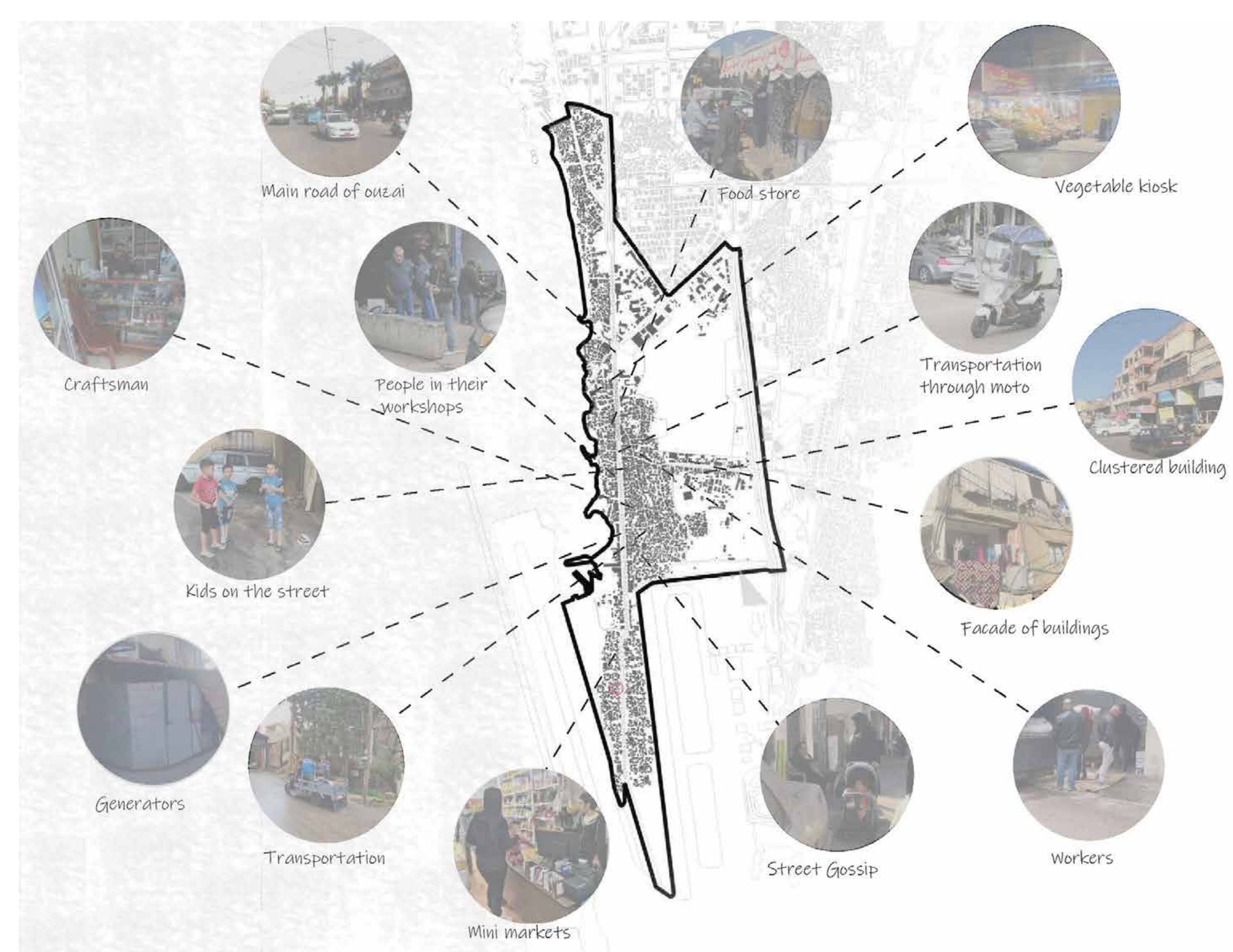


Back then there were public beaches



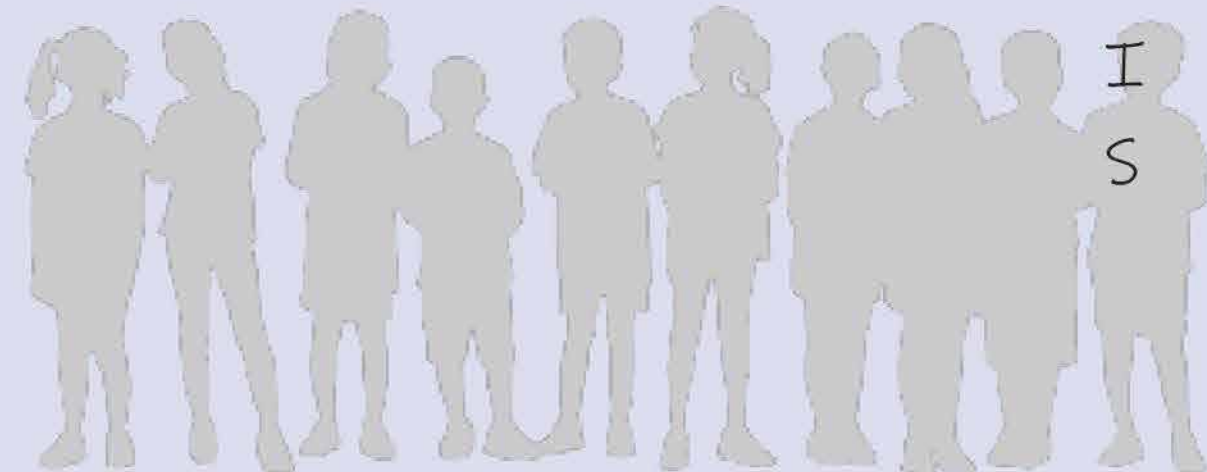


Site analysis showing Ouzais groundfloor, landuse map, road network map and ouzai's slums, also a diagram showing the social conditions and daily rituals that are found and done in ouzai by its inhabitants

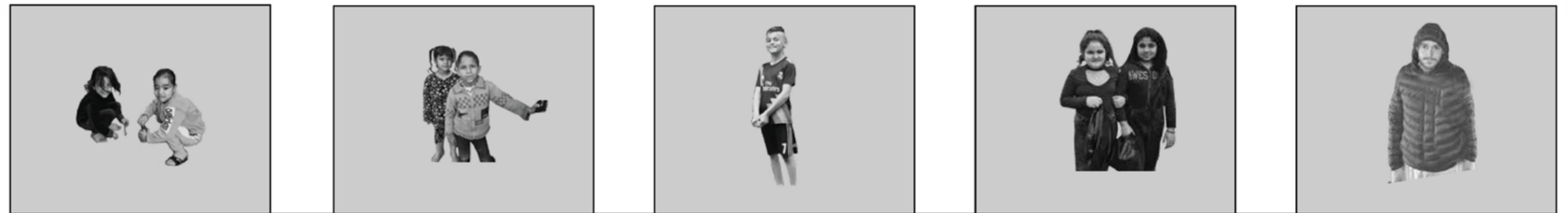
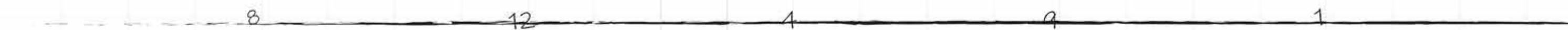
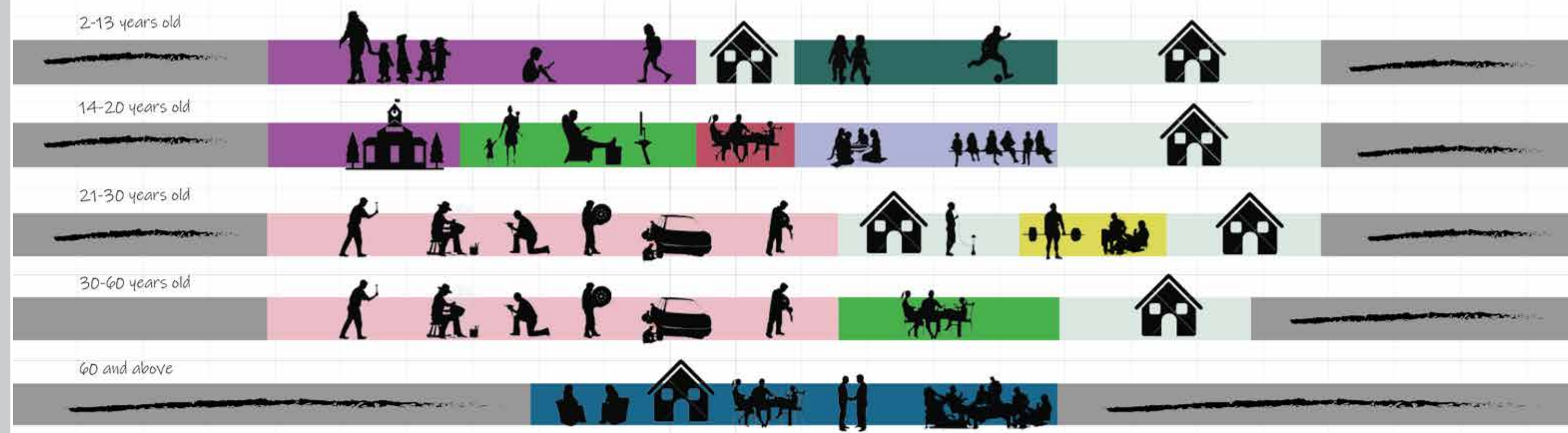



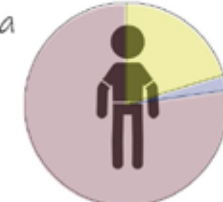


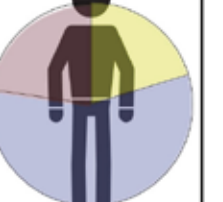


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### DAILY RITUALS OF INHABITANTS



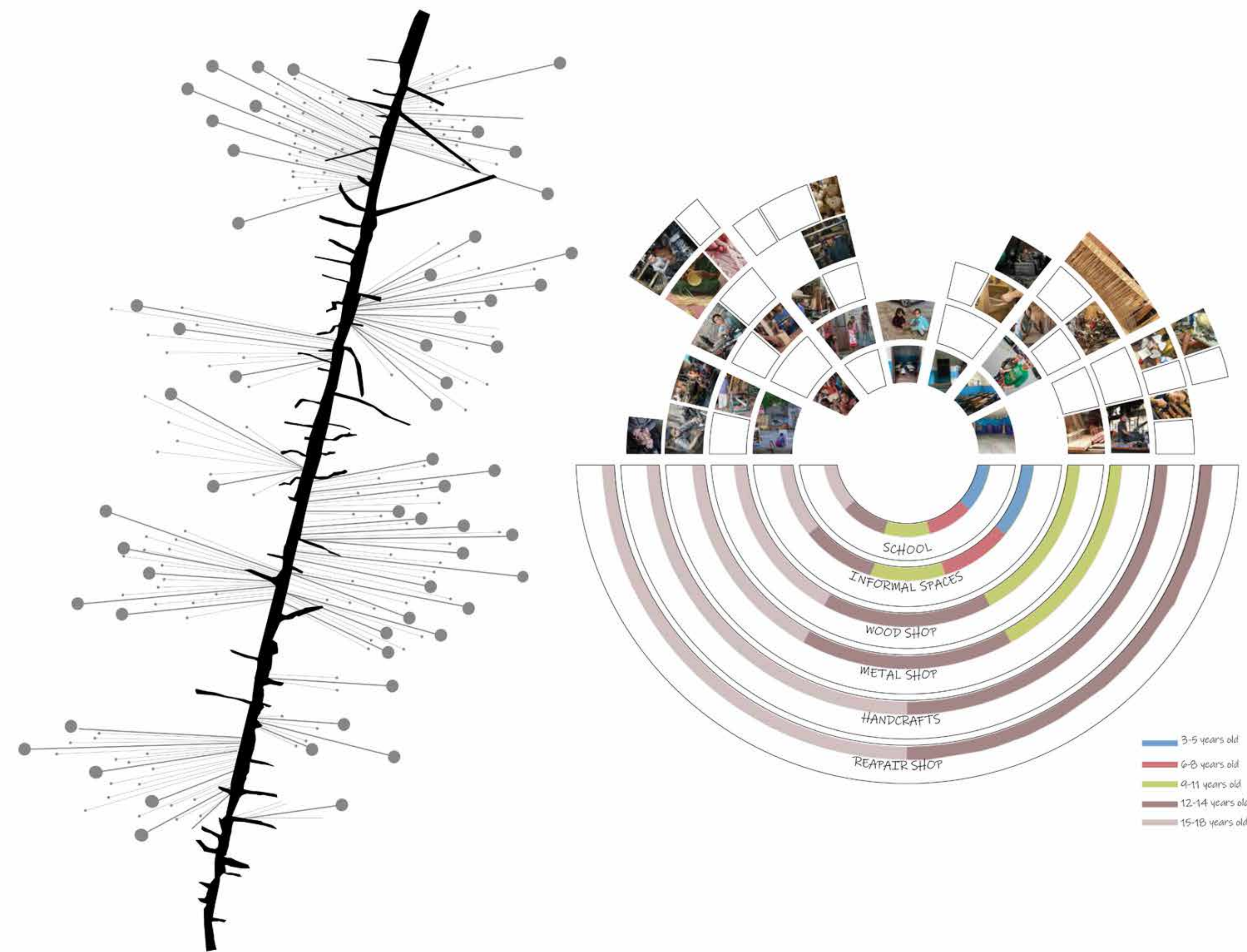
3-5 years old	6-8 years old	9-11 years old	12-14 years old	15-18 years old
<p>Zahraa - Lamar 3 years old</p>  <ul style="list-style-type: none"> <li>-No school</li> <li>- Playing in outside spaces with rocks, sand or hide and seek</li> </ul>	<p>Sami and Roukaya 7 years old</p>  <ul style="list-style-type: none"> <li>-Syrian Refugees</li> <li>-Deprived from school-education</li> <li>-Sami works in a mini market with minimum wage in order to help his parents</li> <li>-Roukaya plays on the street with other kids</li> </ul>	<p>Mahmoud 9 years old</p>  <ul style="list-style-type: none"> <li>-Lebanese kid</li> <li>-Enrolled in public school</li> <li>- After school they play on the street between the cars or under buildings</li> <li>-They have no public spaces to gather and play</li> </ul>	<p>Reem and Zeinab 13 years old</p>  <ul style="list-style-type: none"> <li>-Lebanese inhabitants</li> <li>-Enrolled to a public schools</li> <li>-They only go outside to the market to bring their sweets as they said its not save to play on streets</li> </ul>	<p>Hussein 17 years old</p>  <ul style="list-style-type: none"> <li>-Lebanese kid</li> <li>-Works in an car electric workshop to help his parents</li> <li>-He didnt learn it , he is learning it through working</li> </ul>



Reaching my final point of research and investigating , since my users are based on kids I interviewed some and asked them some questions to understands more their atmosphere and their routine in the day and through my interview I categorized them into 5 age groups to understand these groups best and try to know the type of program they experience in ouzai, were I found that ages 8 to 18 some children starts working and education is fixed for a certain group class

Reaching a point that helped me understand the reality of these children that vary between school/play and work

WORK OF KIDS





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PROGRAM





Based on the previous research on kids rituals and different age group daily routine, I identified my program to be more based on the reality of the ouzai kids, my program will enhance, contribute to the actuality of these kids

That's why it is a VOCATIONAL, SCHOOL, COMMUNITY CENTER. Where kids who actually go to school can benefit from it, also kids that are obliged due to their circumstances to work can also benefit while being productive but also learning from the school that can enhance their work during the day

The school will be composed of classrooms , playgrounds designed based on different learning modes ,also training spaces, workshop and studios for the vocational part and for community use, enhancing play , social and informal spaces

SITE SURROUNDING

HAIRDRESSER

SCHOOL

WOOD WORKSHOP

CAR REPAIR SHOP

CAFE

HANDCRAFTS SHOP

MARKET

BERROS SCHOOL/ EMPTY LAND BEHIND IT

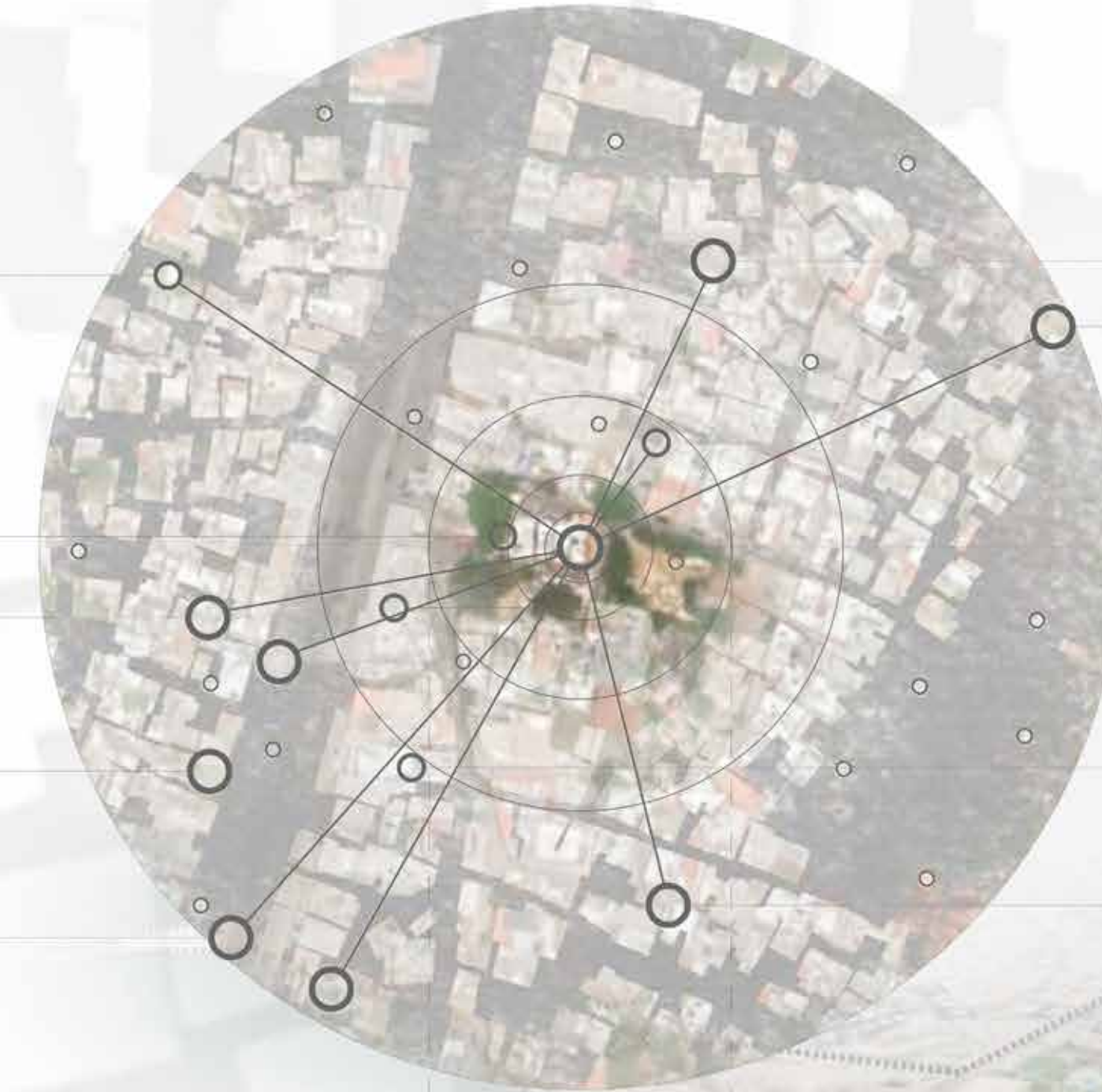
AREA TOTAL: 1150 sqm

AREA BUILT: 500 sqm

CELL REPAIRING

CAR REPAIR SHOP

METAL WORKSHOP





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Since there is an existing school, I listed the problems of this school with a master plan that shows the spaces it contains, and highlighted what is missing and what needs to be fixed.

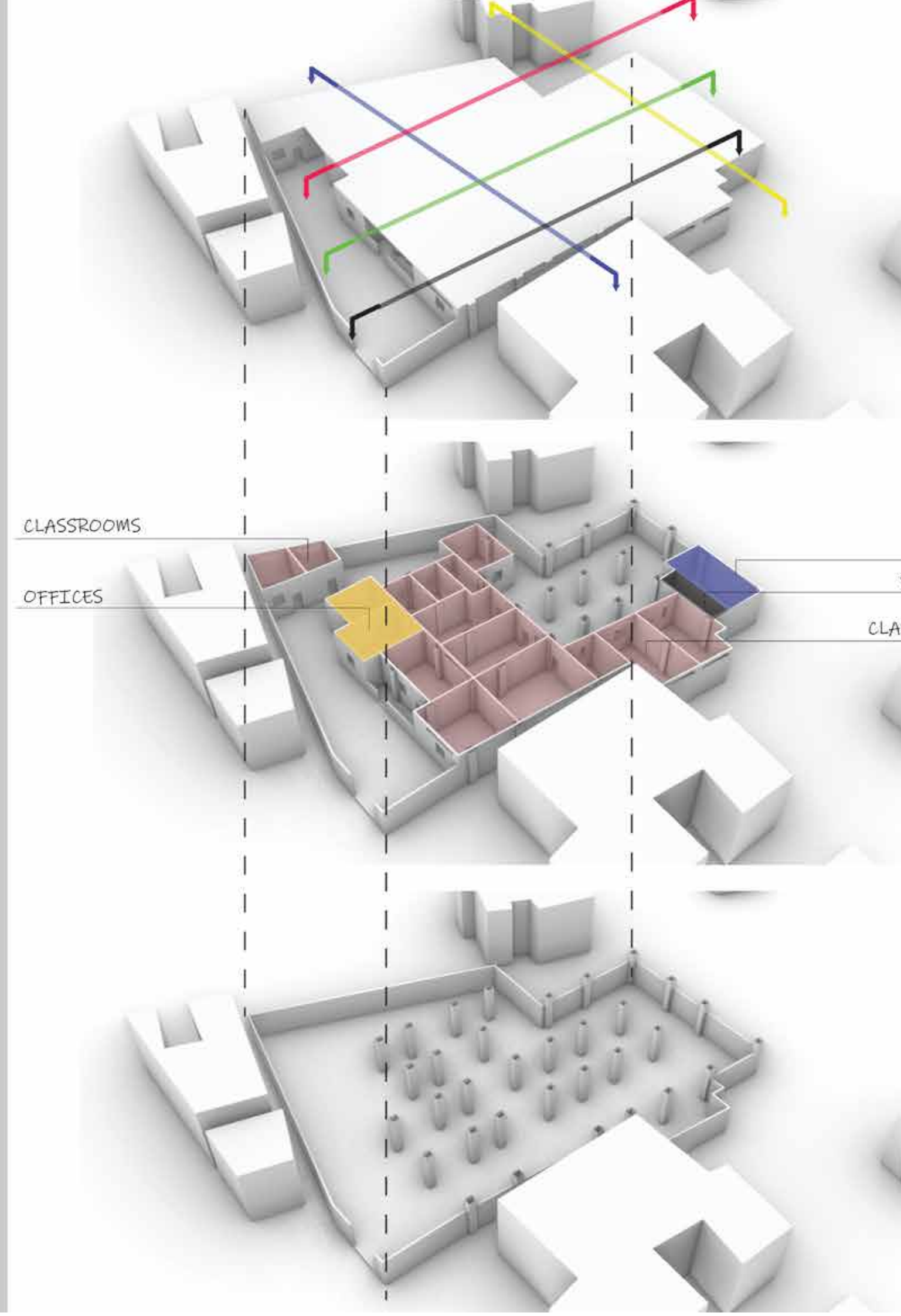
It is school that consists of 14 classrooms with no play spaces / no natural elements involved/ no provision of a diversity of spaces/ no integration between exterior and interior spaces/no versatile nature of learning spaces what a seek to fix making it

1. Being more Decentralized learner-centered supporting formal and informal learning
2. Developmentally and age appropriate taking into account the level of physical, social, emotional, and intellectual development of students as individuals, in small groups or in large groups.
3. Being more Safe
4. Comfortable
5. Flexible to accommodate a variety of purposes allowing day-to-day changes as well adaptability to future change.
6. Open to community use outside the school timetable.
7. Sustainable in order to optimize investments and ensure long term and optimal use of the facility.
8. More playful

EXISTING SCHOOL







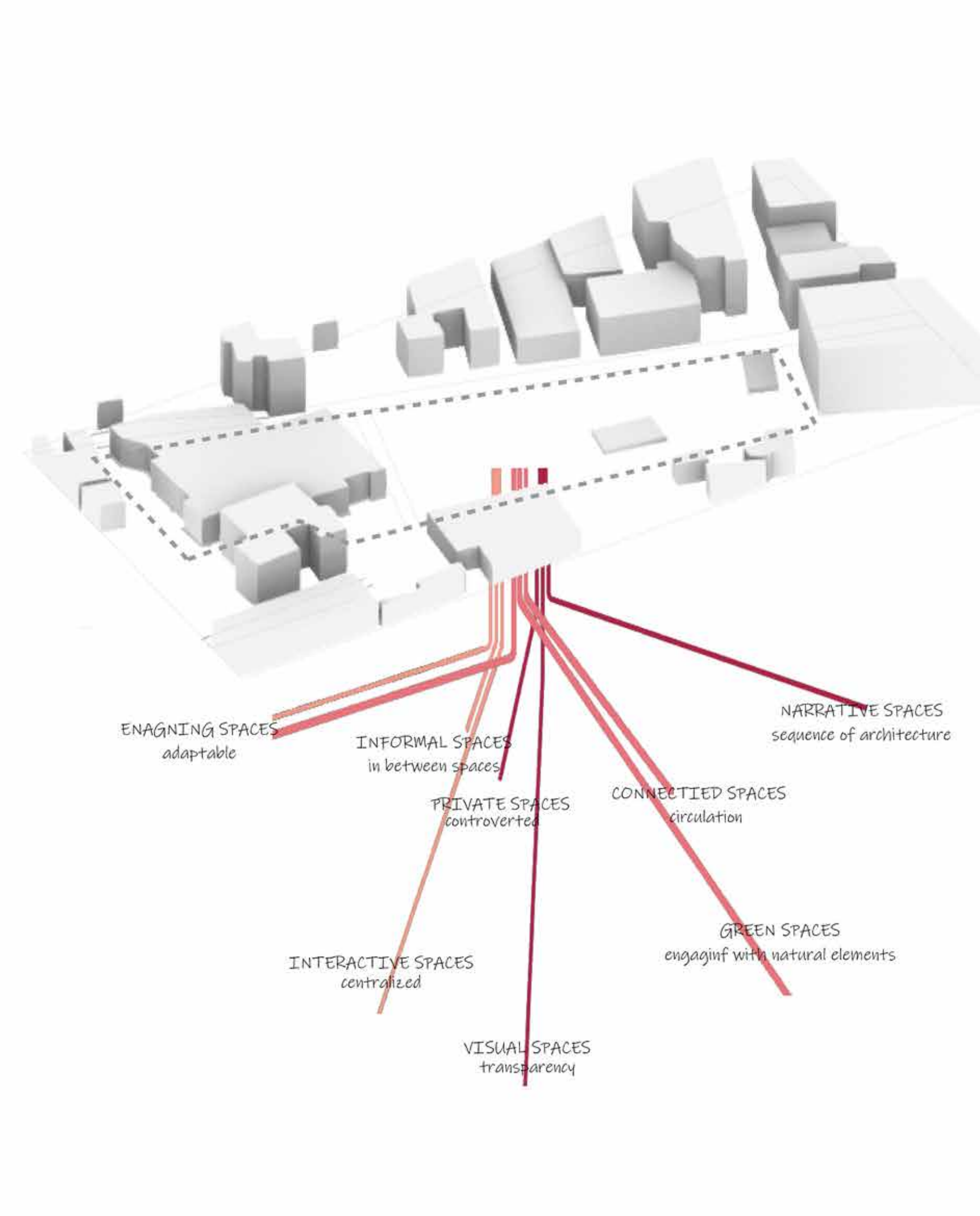
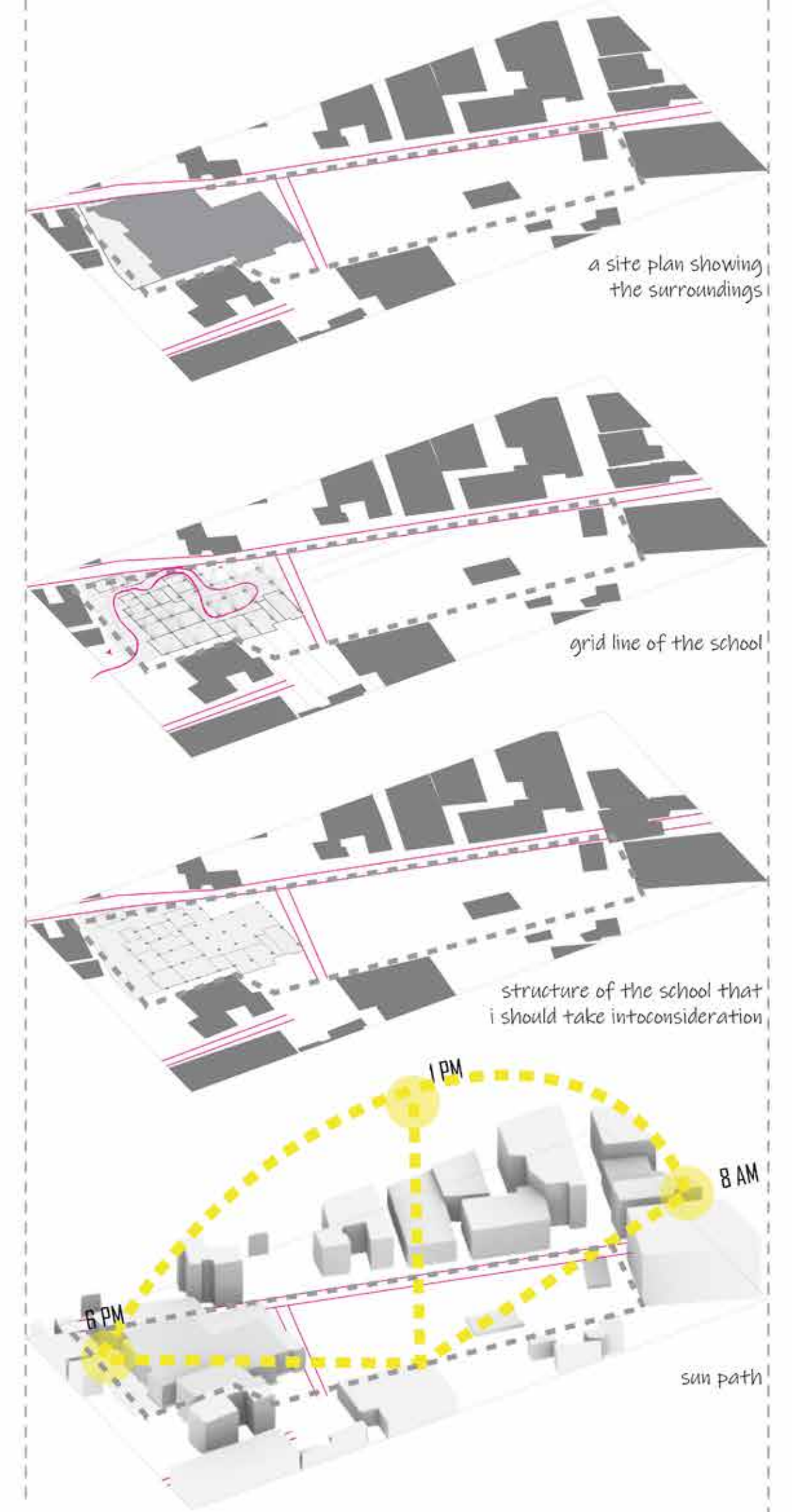
SCHOOL INTERIOR AND EXTERIOR





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DIAGNOSIS OF THE SITE





Diagrams showing a program scheme of how the three programs can be located in relation to the site (access-program-spaces)

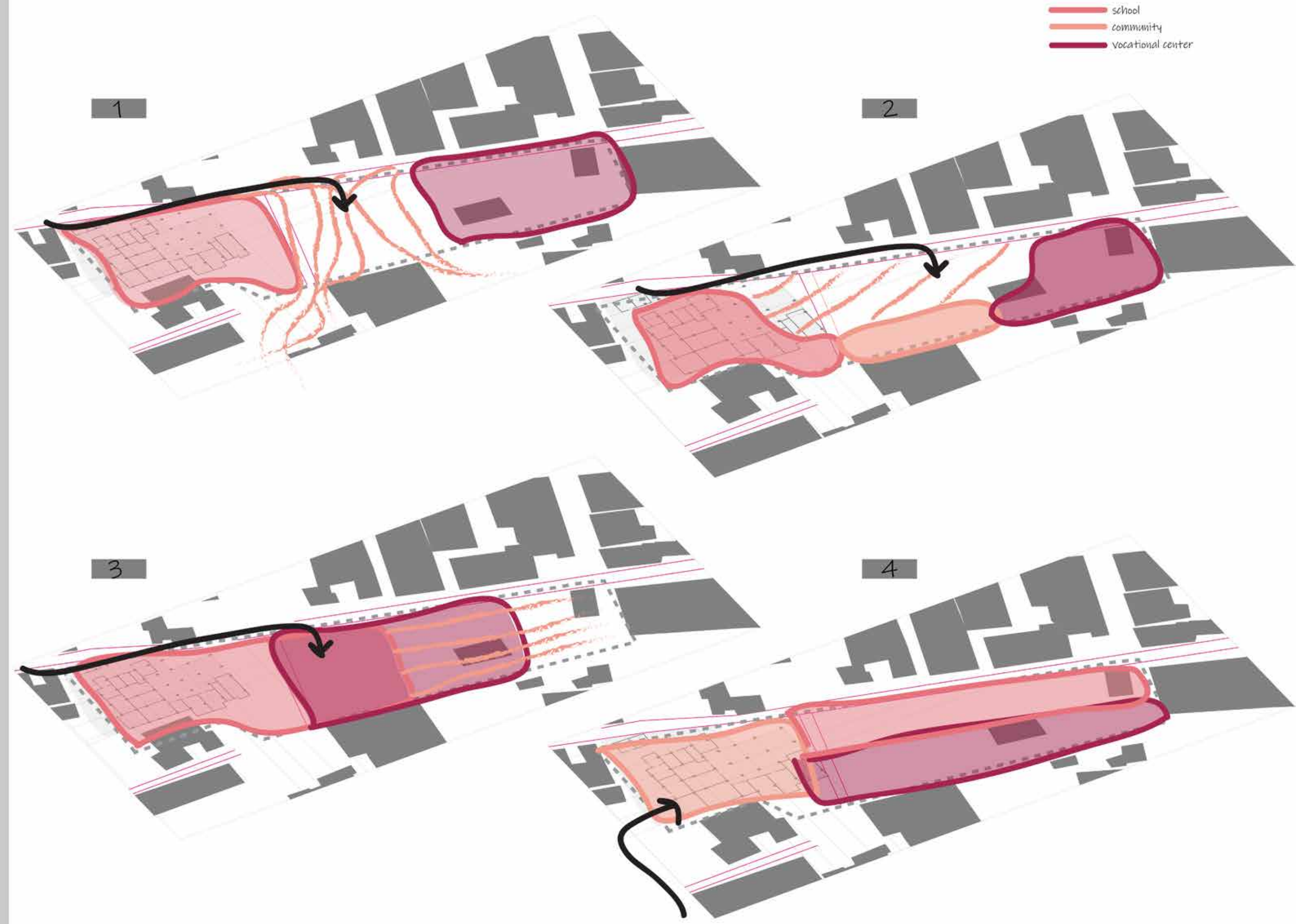
Scenario 1 : each of vocational and school are located of the boundaries of the site and the community space between them

Scenario 2: community is a spatial factor that combined both school and the vocational center

Scenario 3: overlapping of the both programs

Scenario 4: relocating the entrance of the site where community space is an entrance for both the school and the vocational center.

PROGRAM SKETCH

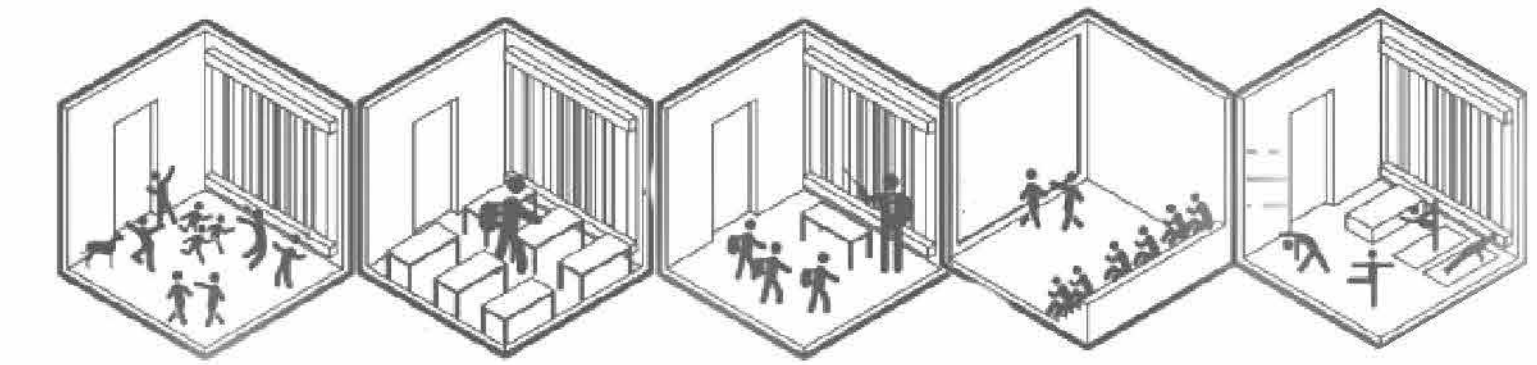




Spaces to encounter in the architecture

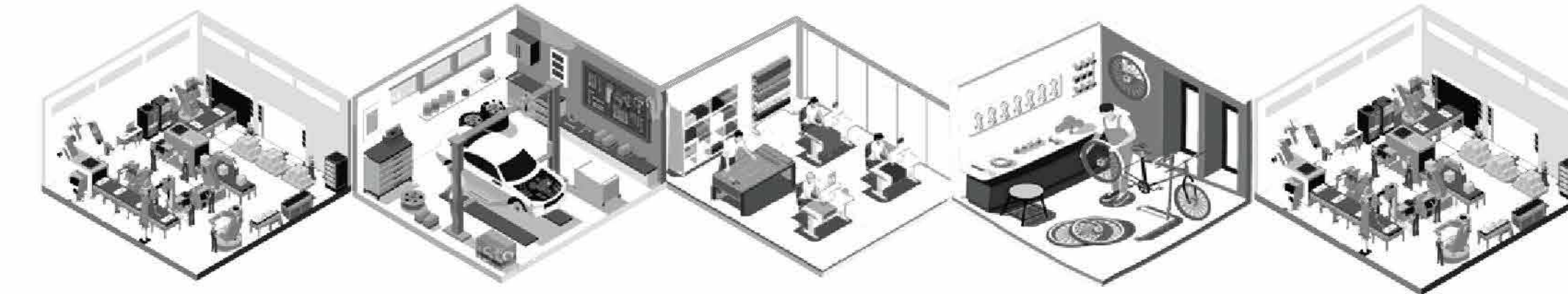
SPACES TO INCLUDE

### SCHOOL SPACES



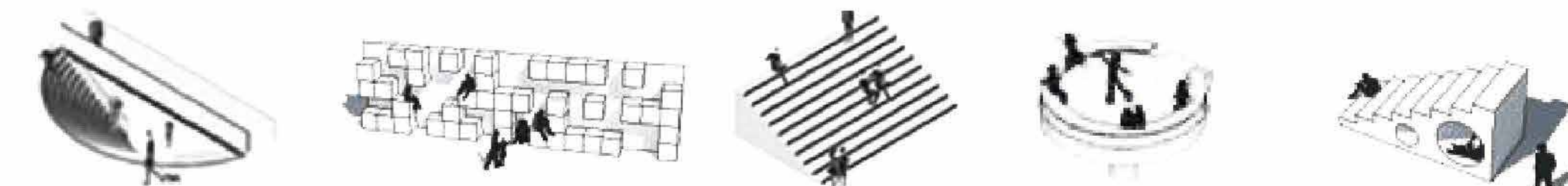
classrooms - lecture hall - presentation hall - indoor play spaces

### PRODUCTIVE SPACES



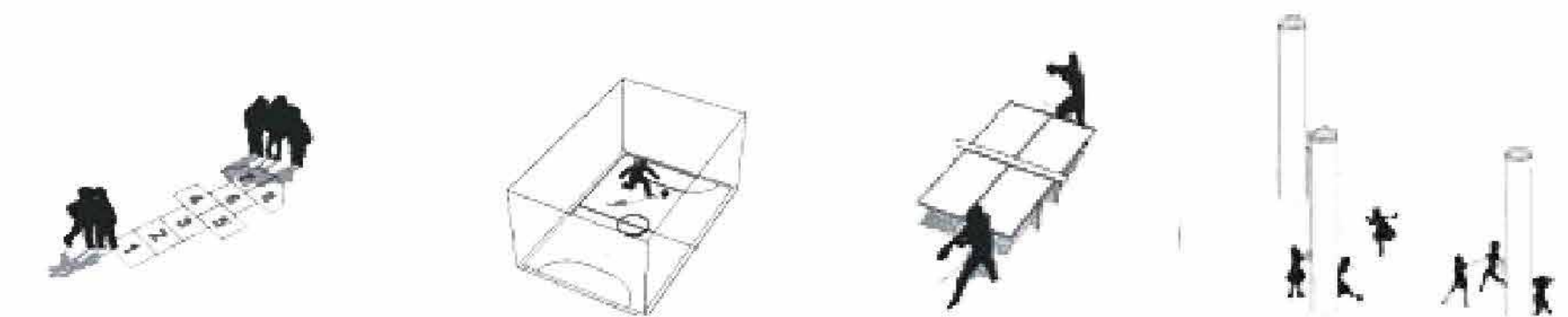
workshops- repairing workshops- wood workshops-sewing workshops

### INFORMAL SPACES



hybrids of seating areas - collective spaces - cafes - open spaces that help people sit together and communicate

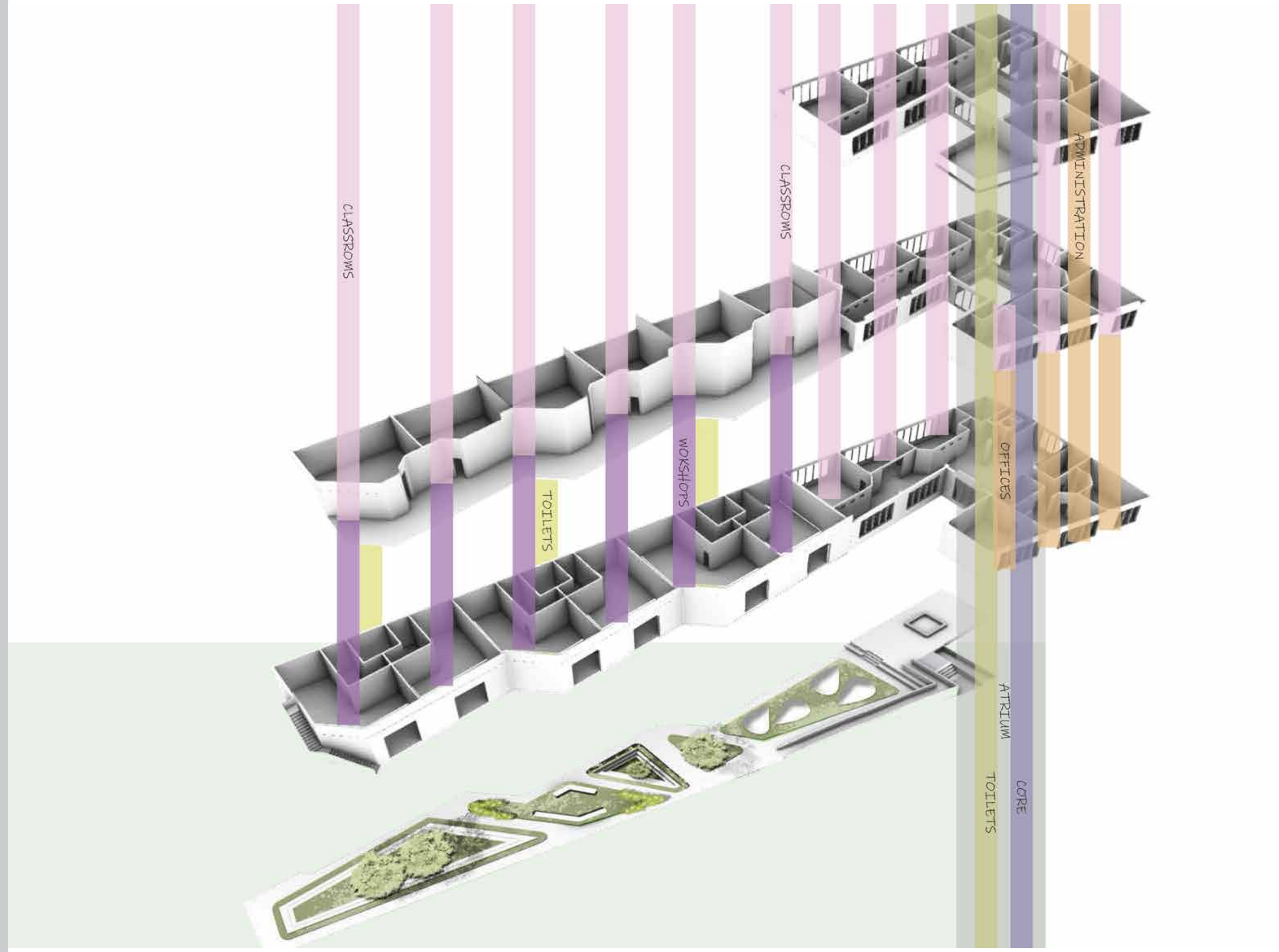
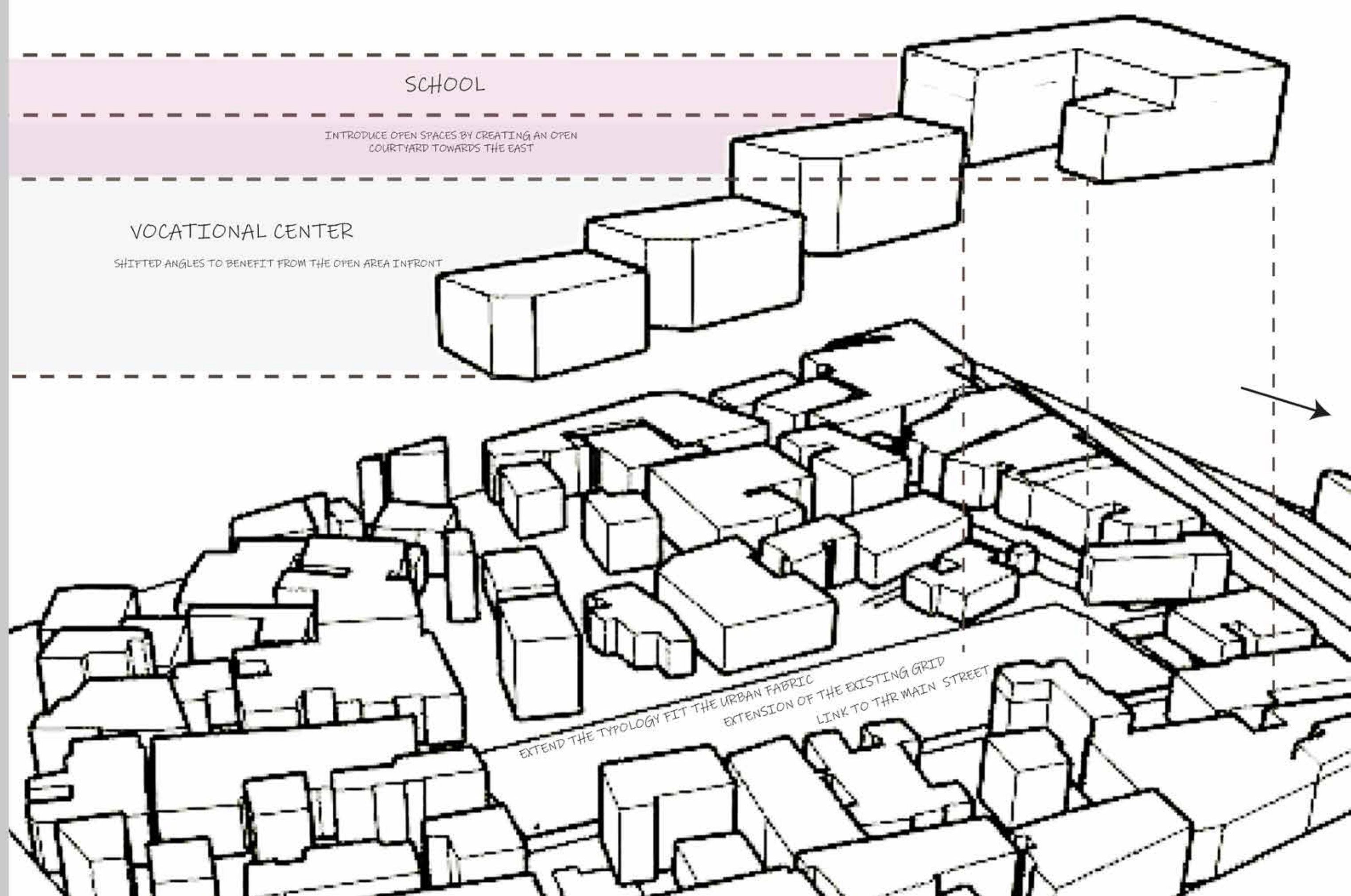
### PLAY SPACES



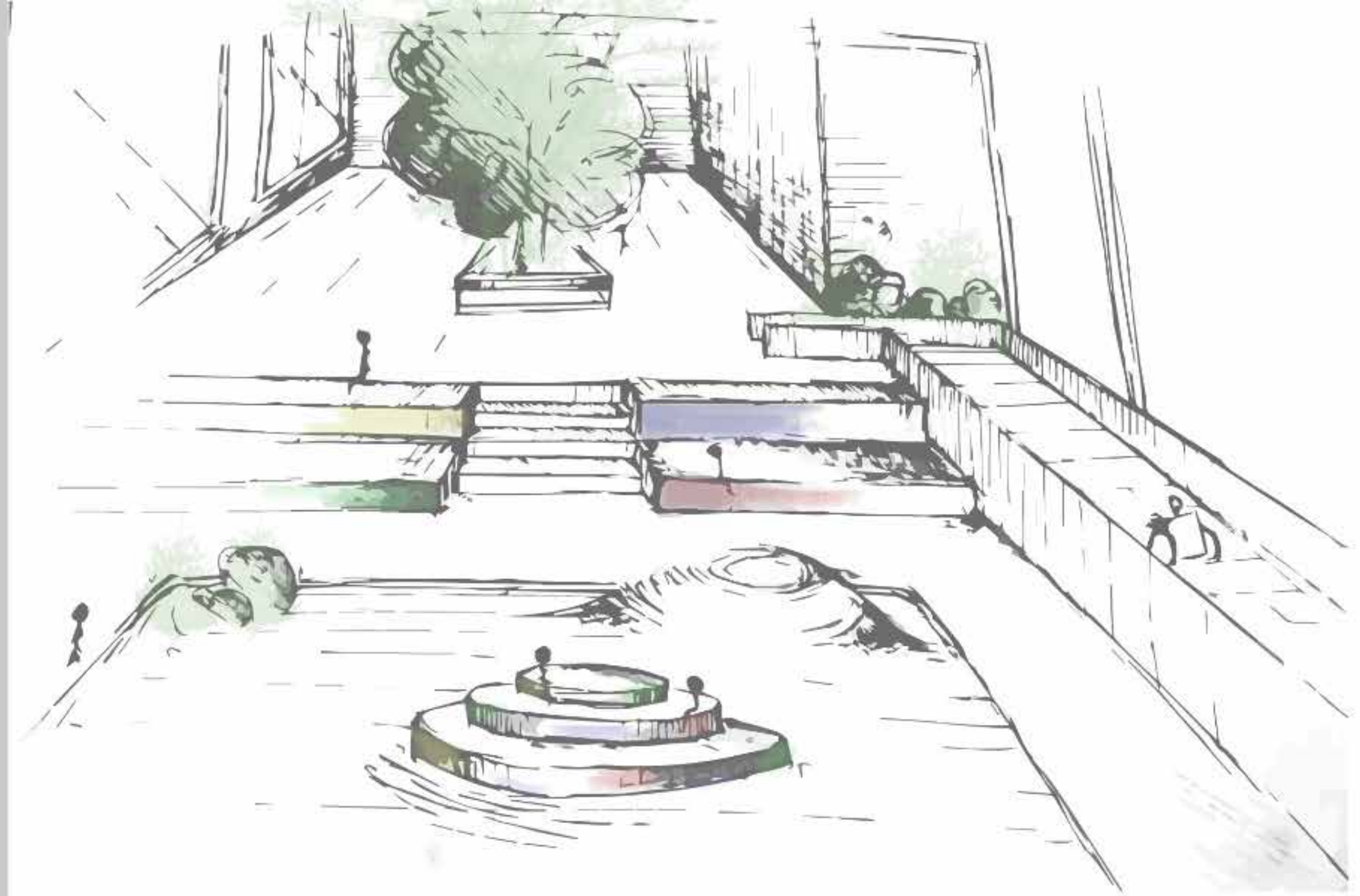
nodes of play areas for kids to achieve the learning modes studied



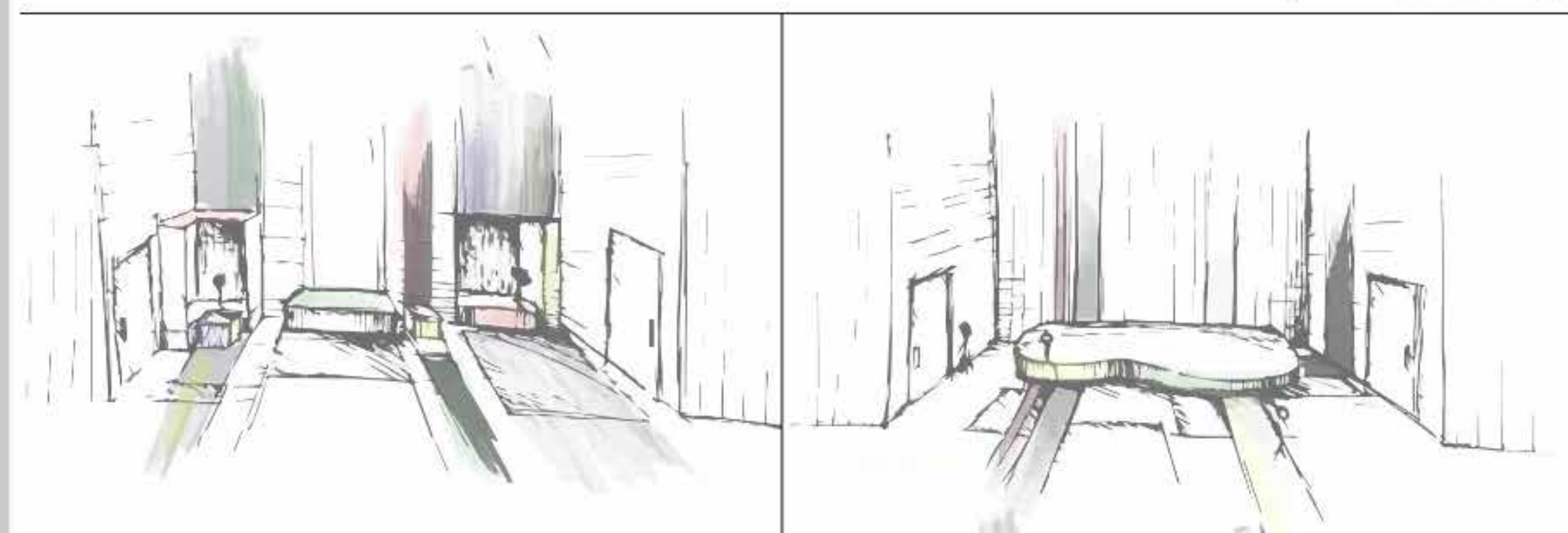
APPROACH



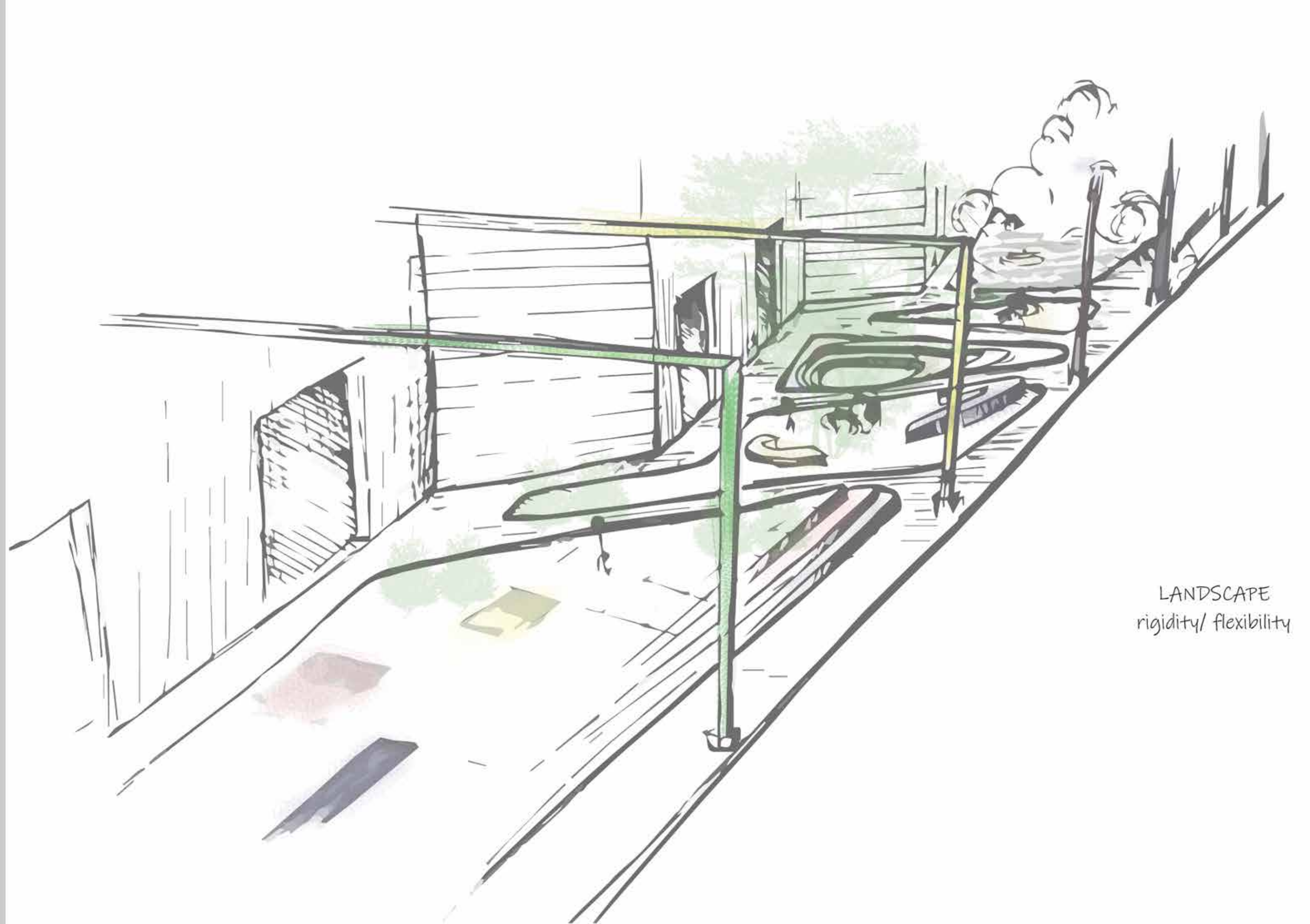




SCHOOL ENTRANCE



CLASSROOM HALLWAYS

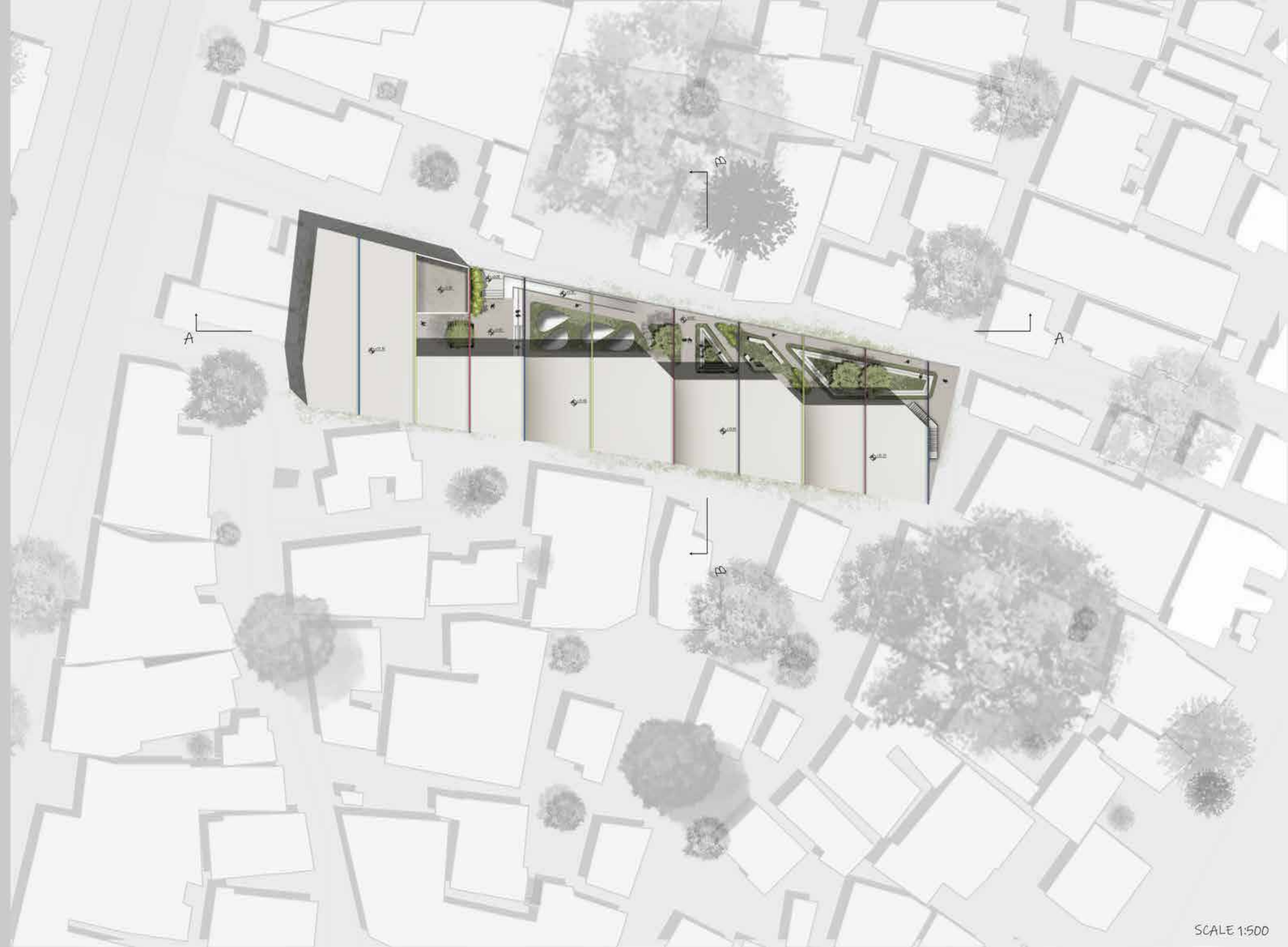


LANDSCAPE  
rigidity/ flexibility

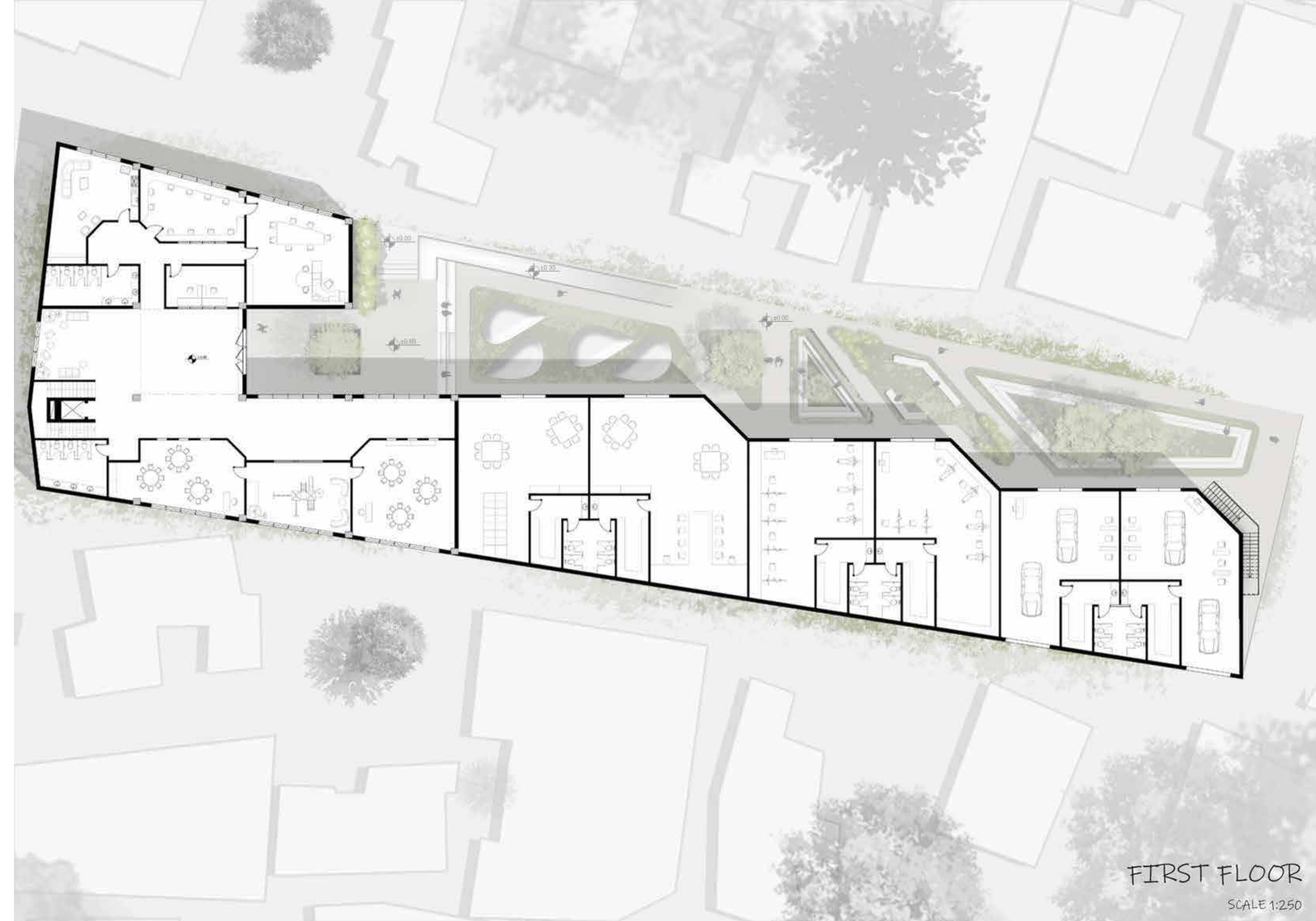


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TOP VIEW



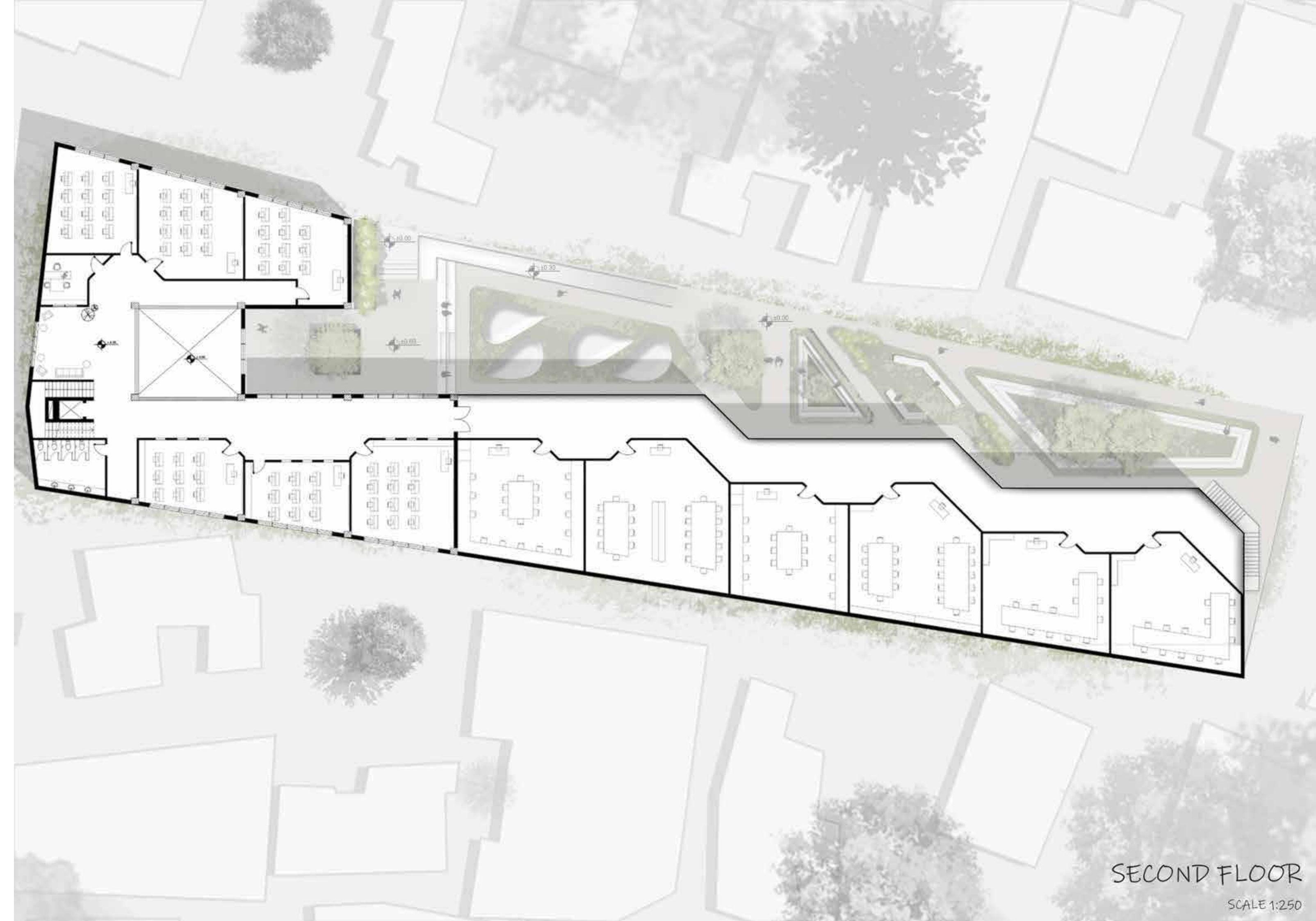
SCALE 1:500



FIRST FLOOR

SCALE 1:250





SECOND FLOOR

SCALE 1:250





THIRD FLOOR

SCALE 1:250





SECTION AA  
SCALE 1:250



SECTION BB  
SCALE 1:250



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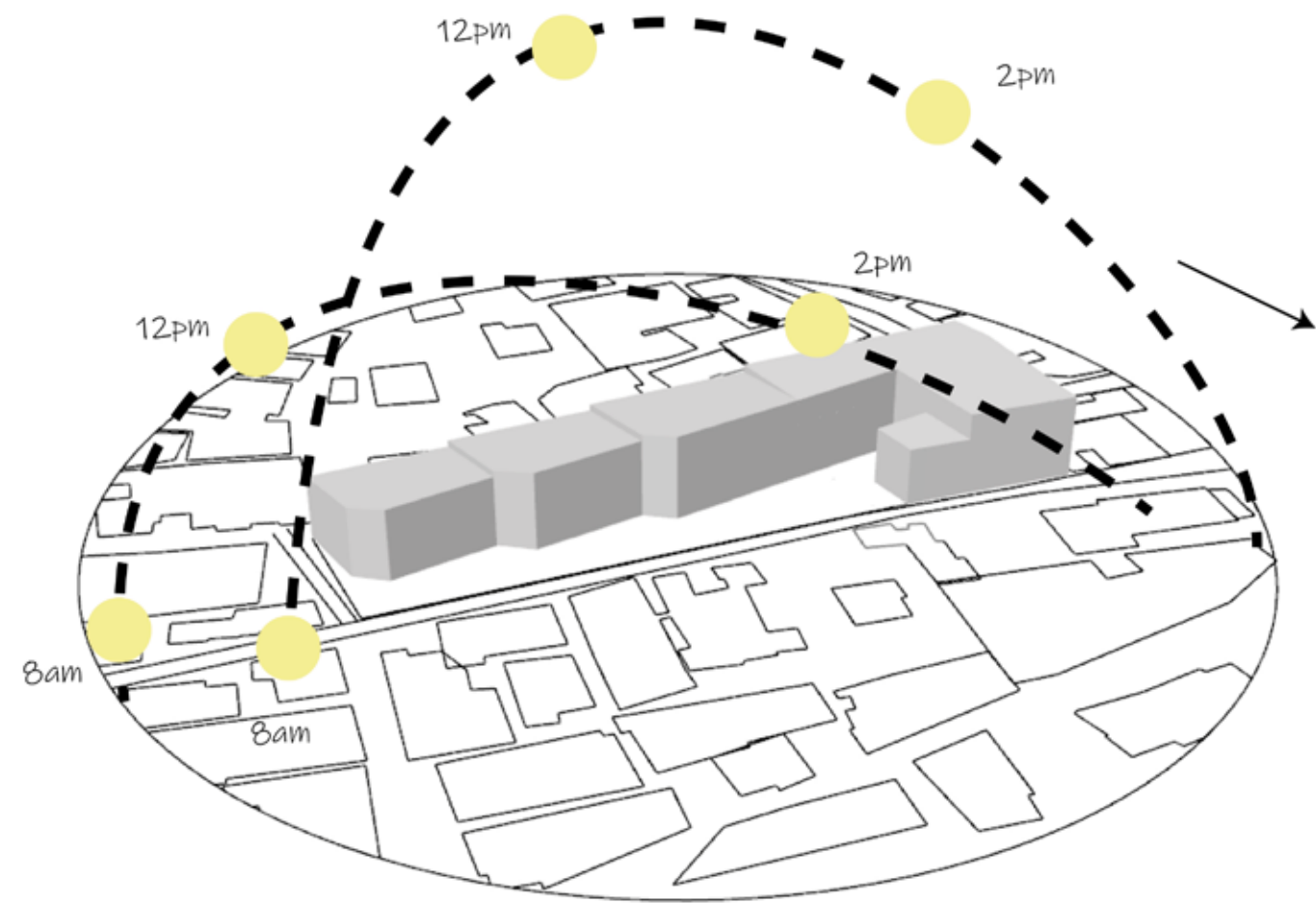
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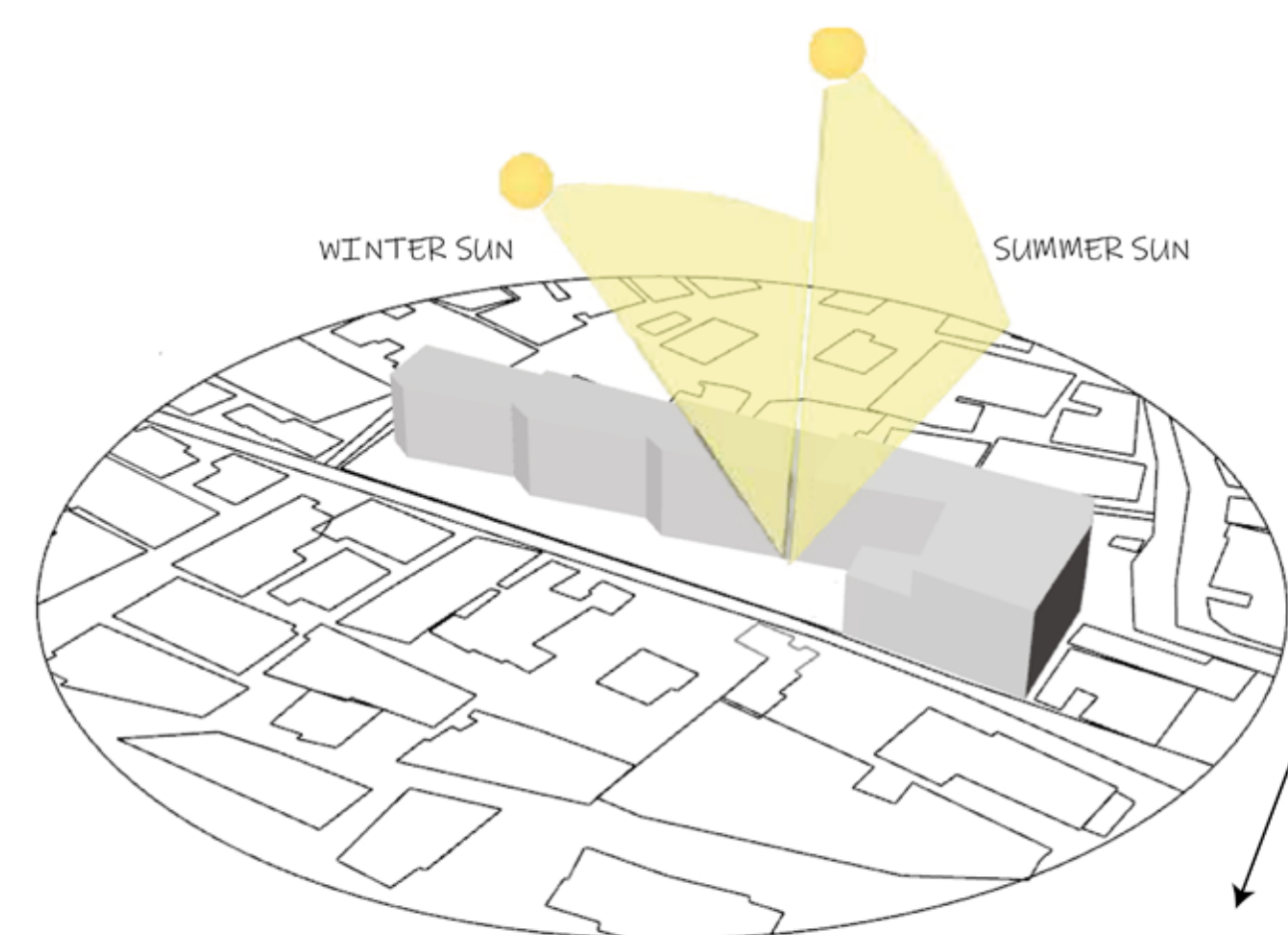
E

*Climate strategies and facade systems*

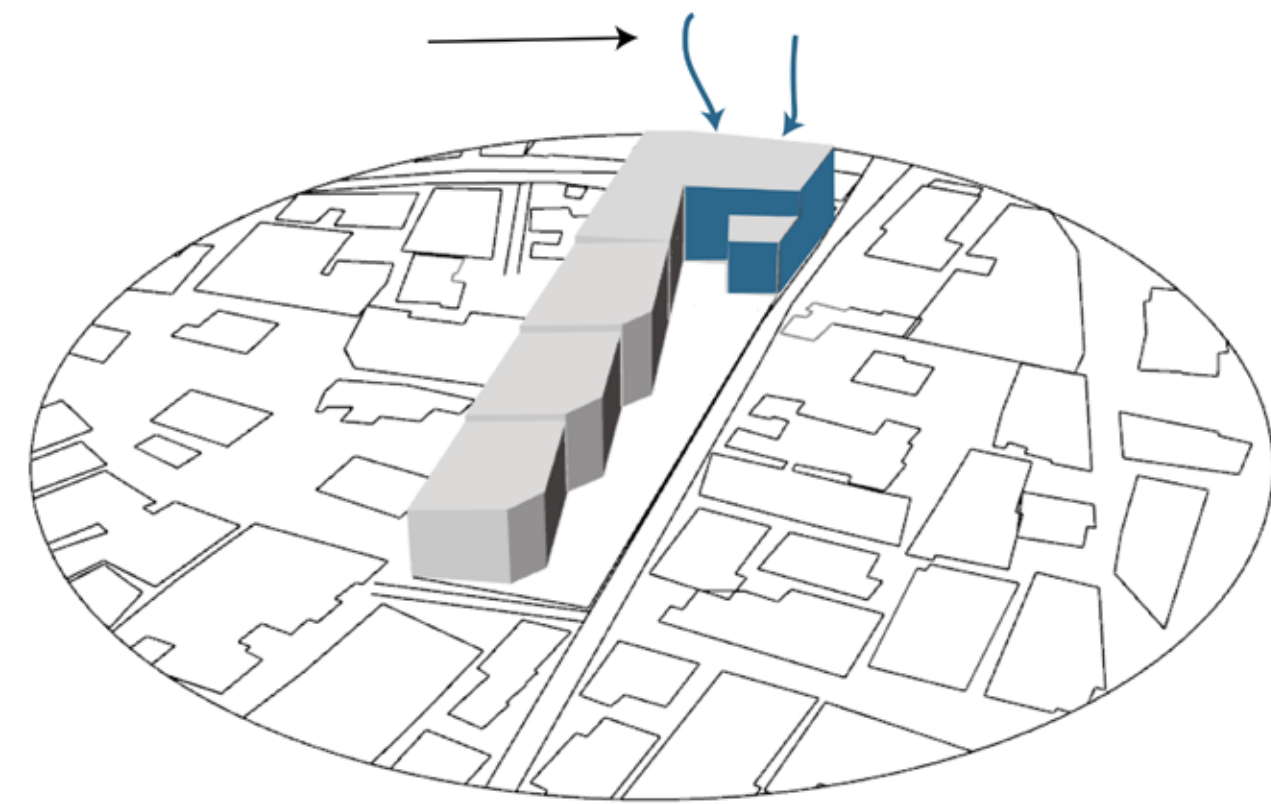




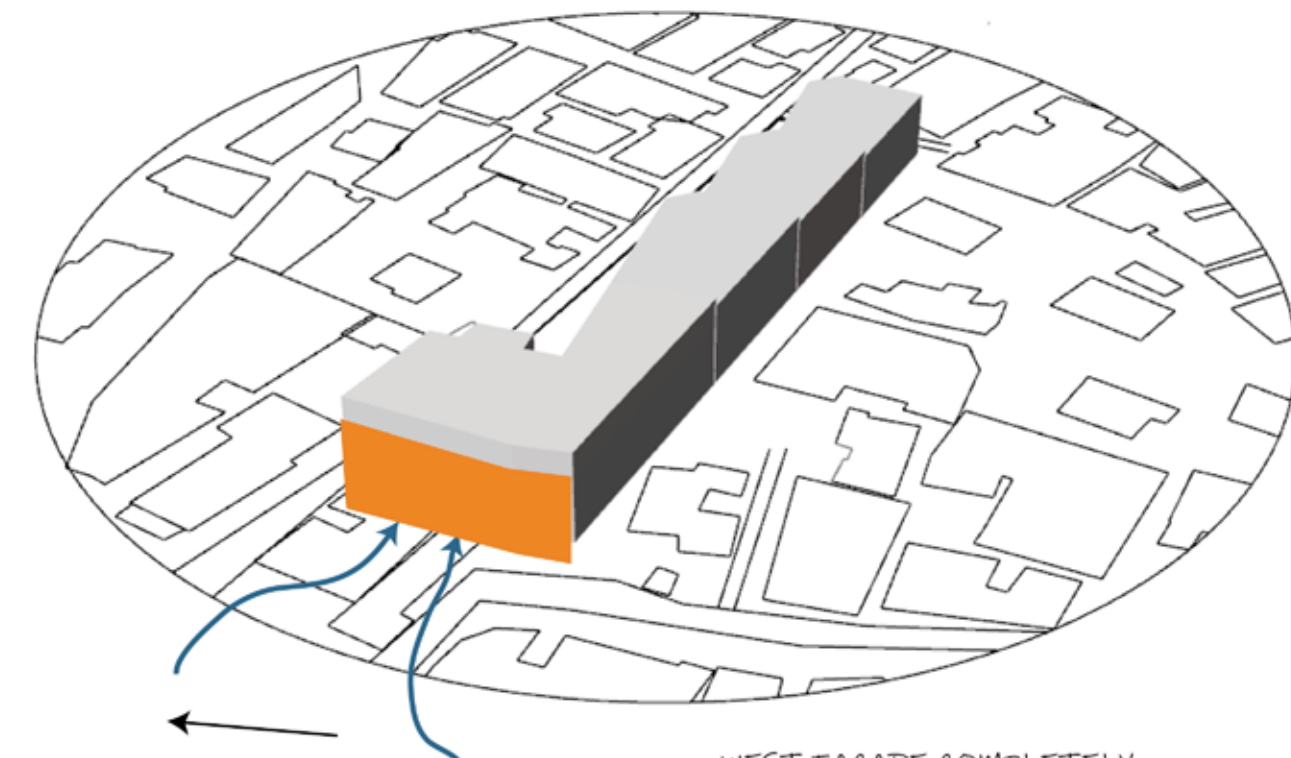
SUN ANGLES DURING DIFFERENT HOURS OF THE DAY



SUN ANGLES DURING DIFFERENT SEASONS

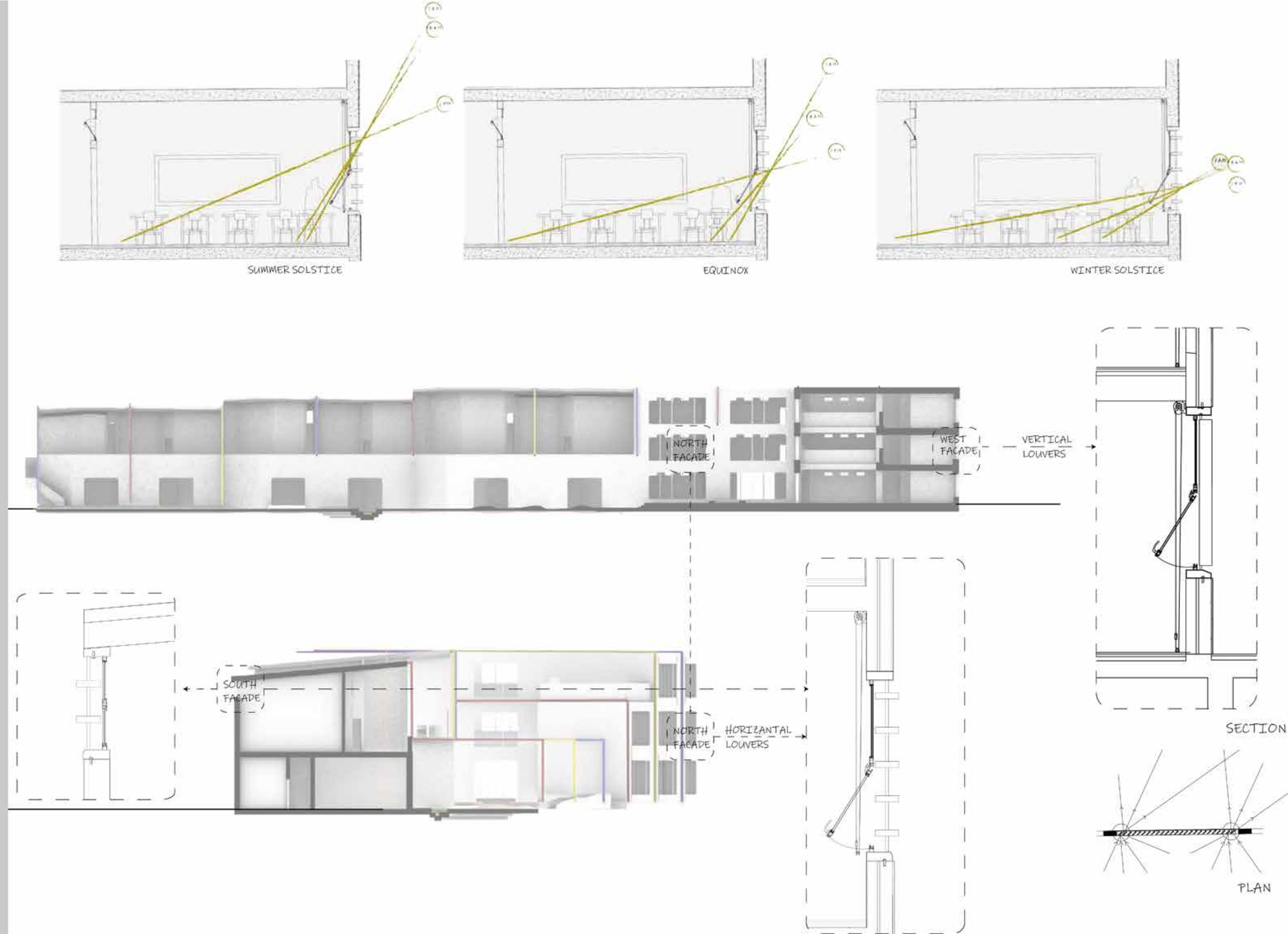


SOUTH WEST STRONG WIND  
SOUTH EAST DIRECT SUNLIGHT



WEST FACADE COMPLETELY CLOSED ONLY SOME OPENINGS FOR SUMMER

FACADE SYSTEM





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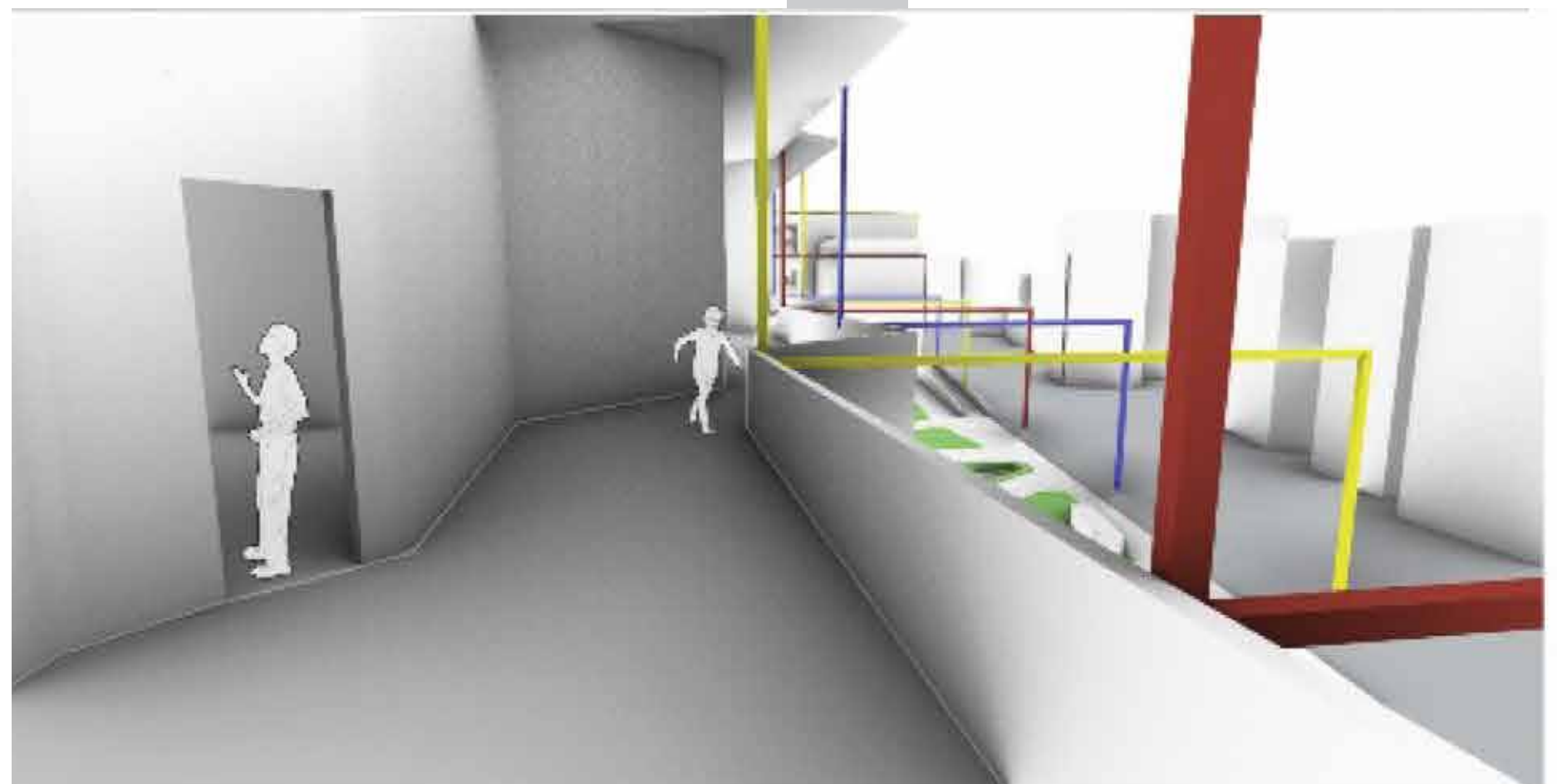
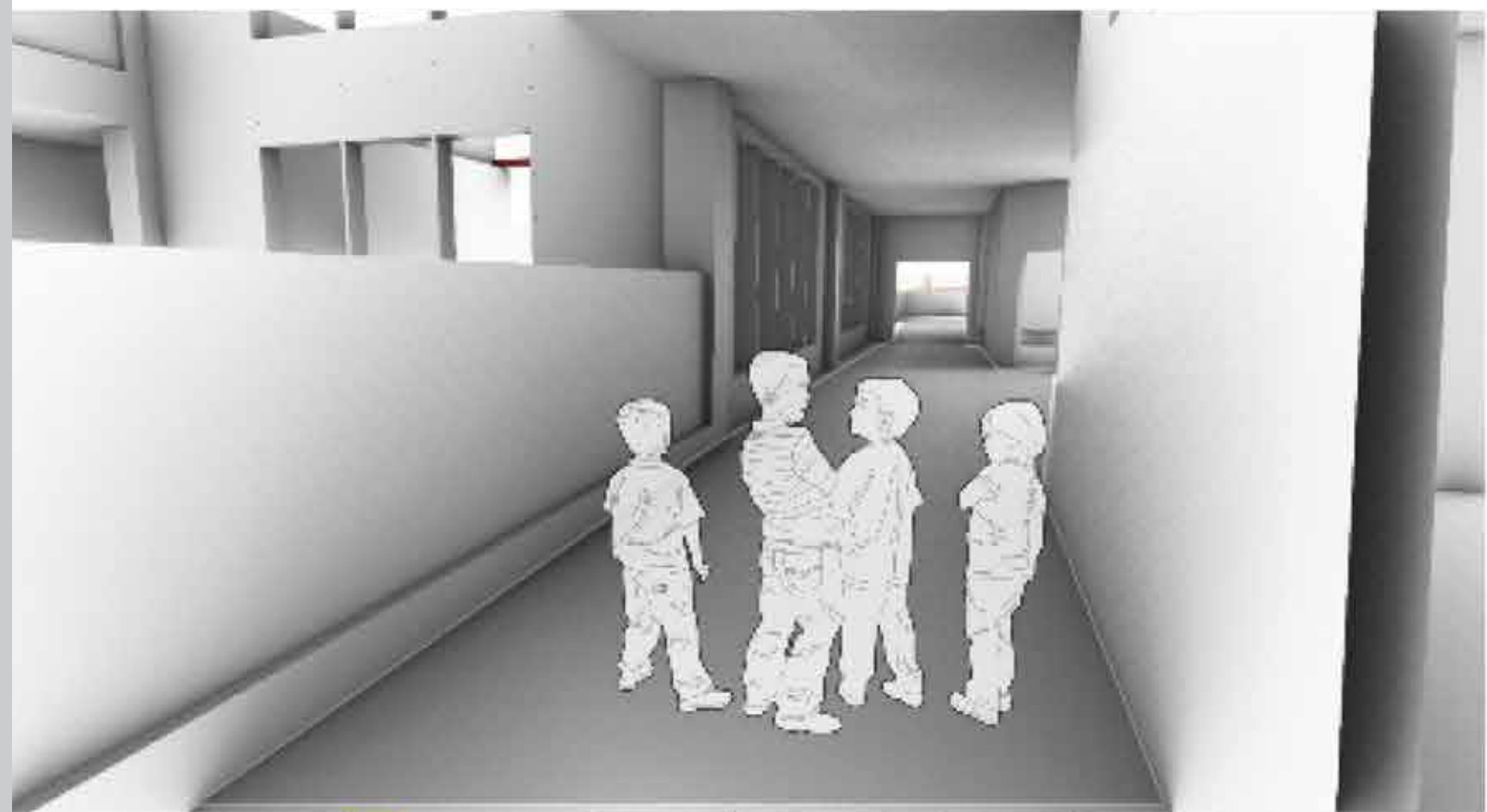
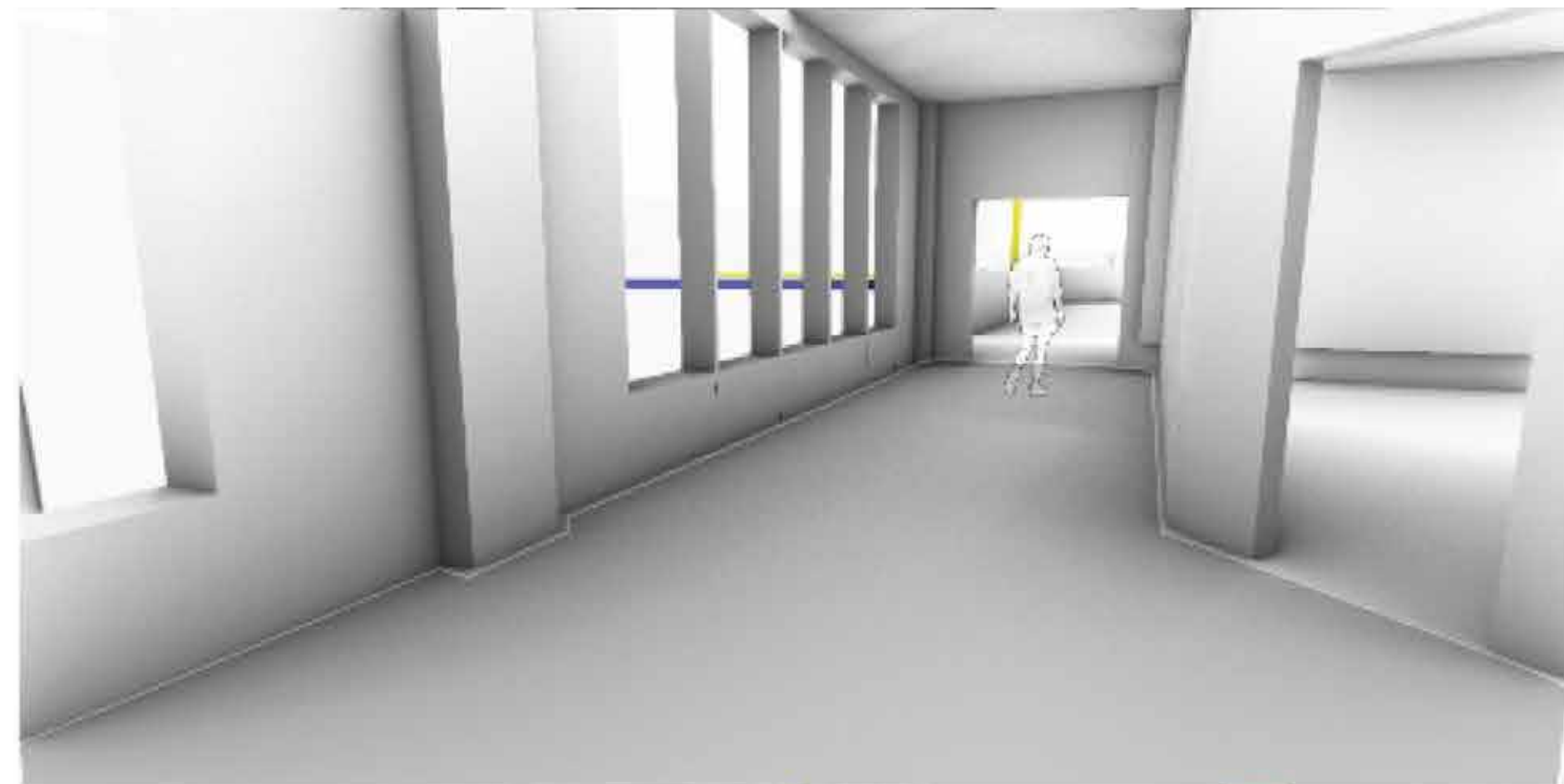
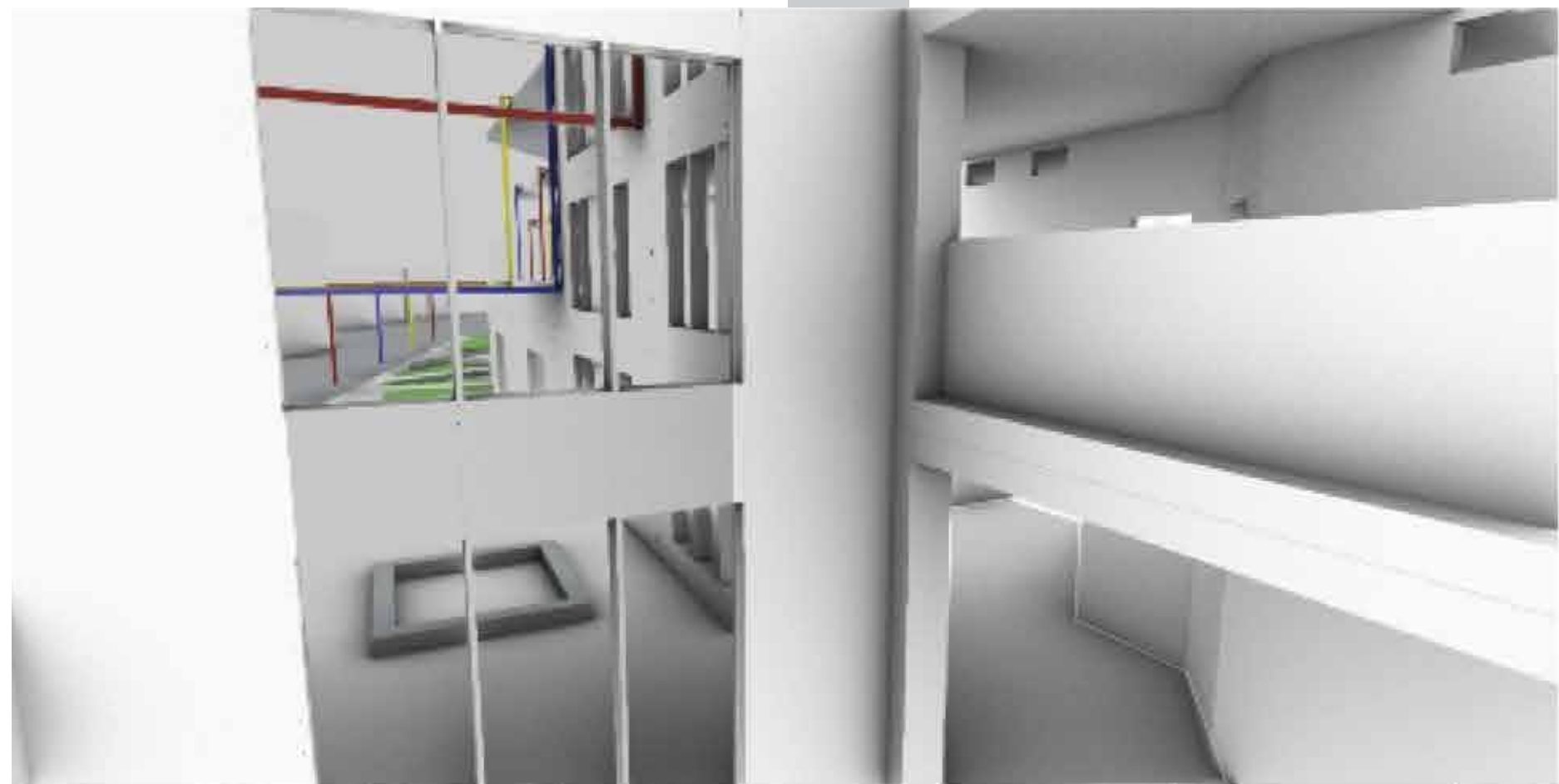
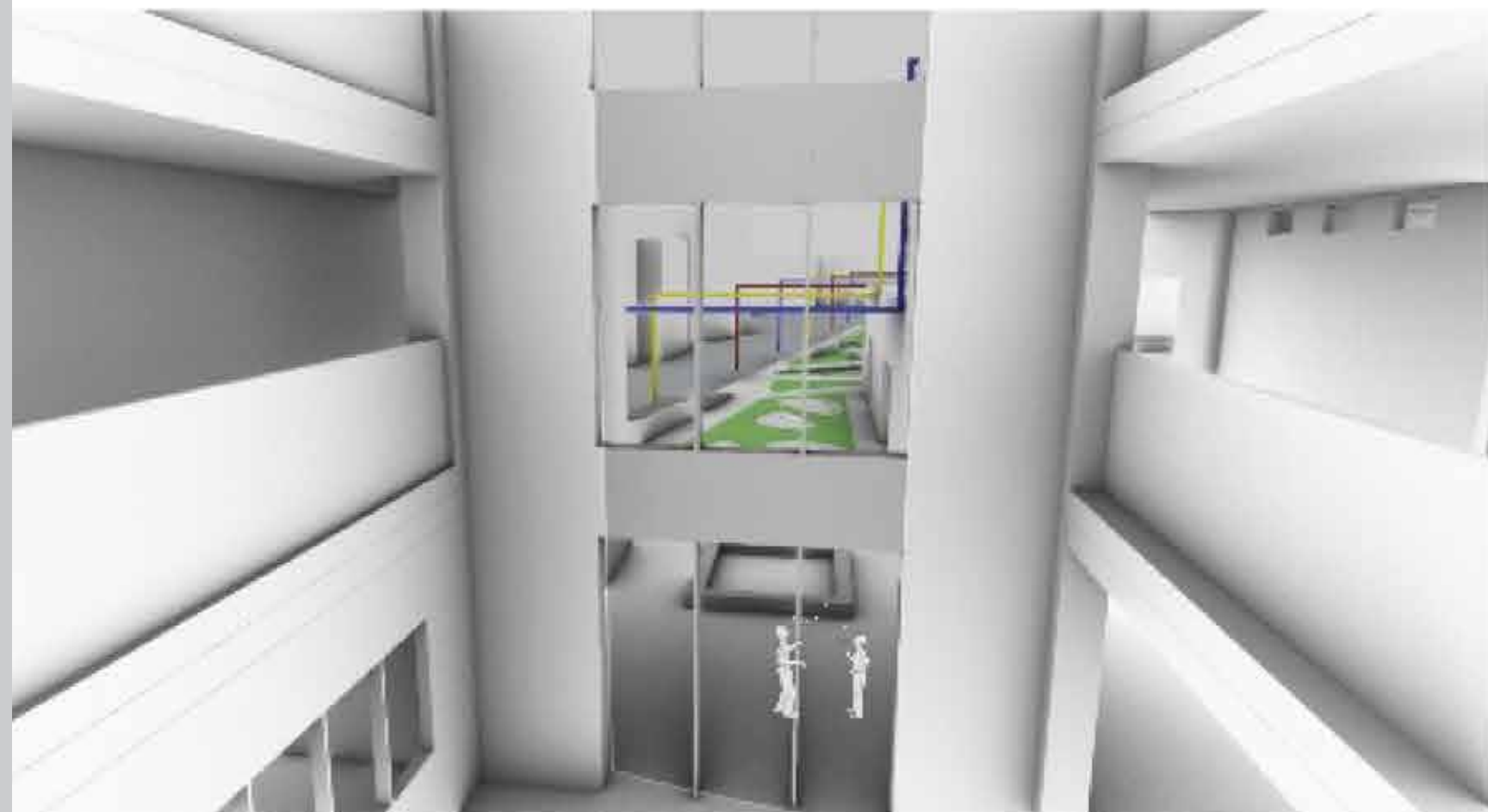
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Interior/Exterior









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