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School ground as a playscape and socioscape

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Abstract

School grounds are a kind of outdoor playscape that can influence the way in which children play and act. They are as important as school buildings to the overall well-being of our children. The main reason that makes school grounds so important lies in the fact that all children have access to this kind of playscape. A perfect school ground should contribute to children's educational, recreational and social needs. Also, it could act as a safe playscape for children with different backgrounds where parental concerns and problems do not inhibit play. In this paper I want to show that a school ground can be something more than the empty space outside the school's building. It is an important place full of opportunities which are missing in children's life; opportunities for active, challenging and collaborative plays and activities. Lack of these activities in children's life can cause some health and behavioral problems in their future life.

The theoretical part of this paper explains the different kinds of outdoor playscape for children and also the importance of play in children's life. This part will narrow down to school grounds as the main subject in this paper and talk about some guidelines to design this important place in order to be beneficial for children's development from different perspectives.

In the field study part, two school grounds in Stockholm are studied to understand if these school grounds fulfill children's different needs and in what kinds of activities and plays children are engaged during recess and finally the differences between girls and boys in using their school ground.

The paper finishes with some proposals for one of the school grounds which is considered as a barren and inefficient ground according to the literature. The concept is to have a diverse play scape for children that provide them with different rooms and spaces for different activities according to children's own imagination. And also to give children the opportunity to socialize in calm and safe places far from functional play.

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Thesis introduction

School grounds, missed opportunities in children's life!

Schools are supposed to be the second house for children, but why most of the children do not like to go to school? Why schools cannot be attractive enough and support children's needs?

The main focus in this project is school ground, specifically elementary school ground, as a significant and inseparable part of school's building and an important part of children's everyday life. Nowadays children's access to the natural environment and outdoor places has decreased. This happens maybe because of new lifestyles, car-oriented societies, growing time pressures and some security issues from parents' point of view. Childcare centers, kindergartens and schools are such last chances to reconnect children to the outdoor environment and nature and give them the opportunity to benefit from these resources. School grounds can play an important role in providing children with safety and stimulating environments where children can play, learn and explore. All schools need a variety of things in their yards in order to provide opportunities for children to play, learn and develop their cognitive, mental and physical abilities. The quality of schoolyard and its design are important factors to the happy experience of school education for children also, it can instill a sense of belonging and pride to them. A good quality schoolyard which meets children's needs could be a way for adults to express how important they are to them.

I have chosen to work on this topic since I am influenced by the poor condition of schoolyards, especially in my country Iran, and their irreparable effects that they have on children. Today most of the schoolyards are similar to back yards; empty, dead, unfavorable, neglected, abandoned and ugly. Big or small open spaces which are covered with asphalt and in some cases with 2 or 3 trees which are not there for specific reason. Learning outside classrooms is lacking in schools and the majority of schools do not give much value to this subject. In fact, there are too many opportunities hidden in school grounds which are missing in children's life.

The overall aim is to investigate the relationship between children and their schoolyard and the role of this place in children's everyday lives.

The research questions that are addressed in the present study are:

1. What design of an elementary schoolyard makes it actively used - not abandoned?
2. What type of places and activities do children choose at the schoolyard during recess?
3. What design of an elementary schoolyard promotes children's play and development?
4. What are the gender differences in schoolyard use?

The paper starts with literature reviews that provide a base to study school grounds and to find some guidelines in school ground's designing. There are three chapters in this part:

Chapter 1- children's play

In this chapter I will describe what play is and its pivotal role in children's life and also its different categories from scholars point of view.

Chapter 2- Outdoor playscape

The second chapter will discuss outdoor playscape in general and then it narrows down to different kinds of outdoor playscape for children like play grounds and school grounds.

Chapter 3- School grounds

The final chapter will talk about the importance of school ground for children and some current trends in school ground designing in Iran and Sweden. Also, it will discuss some guide lines to provide children with perfect school grounds.

Chapter 1- children's play

Introduction

The United Nations High Commission for Human Rights considers play as a right of every child. Children spend typically between 3% and 20% of their time and energy in play. According to Mitsuru Senda, play should be the whole life of a child, "or at least, it must be at the center of his or her life, it must be his or her business." (Mitsuru Senda, 1992)

The importance of play is obvious for everyone but the things that have not been understood fully are its functions. It is proved that children who have the opportunities to play better, freer and in good quality environments have better creativity, flexibility and social skills and also they are healthier (Heseltine, Peter & Holborn, John, 1987).

Scholars believe that the important part of a play is its process and not its start and end point and even its goal (Smith, Pellegrini, 2008). This process could help children's development from different perspectives like physical, social, cognitive and emotional. It also gives children and their parents the possibility to spend time together.

Nowadays, play especially outdoor play has been reduced in children's life due to some factors like: neighborhood violence, hurried lifestyle, family structures and limited resources for children who live in poverty. Even children with no financial difficulties cannot receive the whole benefits of play in some cases (Ginsborg, 2007). It seems that school grounds are the only playscapes to which all children have access regardless of their amount of money, life styles and neighborhood.

What is play?

Play is an important part of children's life. According to Bartlett play is a "basic human drive" that is basic to development. She also defines play as engaging in the surrounding world through "exploration, manipulation, physical exuberance, experimentation and pretence, either alone or with others." (Bartlett, 1999, p.68)

Marianne B. Staempfli states that plays help children develop "flexible and divergent thinking" which then gives children the ability to solve problems in the real world (Staempfli, 2009).

Biddy Youell states that play could be considered as a helpful tool for cognitive development, and "a vital precursor of the capacity for work and love." (Youell, 2008, p.122)

According to Margaret Lowenfield (1991), "play is to a child work, thought, art and relaxation and cannot be expressed into any single formula. It expresses a child's relation to himself and his environment and, without adequate opportunity for play, normal and satisfactory emotional development is not possible."

Some scholars believe that play is a kind of informal learning (Dyment, J.E. and Bell, A.C., 2008). Also, it can be considered as an experience of real life for children's future life and work environment (Youell 2008). It means that play can help children with their future social life to interact with others and in the work environment.

Jean Piaget introduces play as a biological model of interaction between child and environment. Also, he introduced five characteristic to recognize play:

- "1) Play is an end itself while other behaviors involve an aim not contained in the activity.
- 2) Plays are spontaneous.
- 3) Play is an activity for pleasure.
- 4) Play is considered to be devoid of organized structure.
- 5) Play is free from conflicts." (Piaget, 1962)

There are some different classifications for play. One of them is Frost's classification of play in three different categories:

- 1) Functional play: like running, climbing and tumbling, swinging and sliding, playing games, football. High amount of physical activity is an important and inevitable part of children's play.

It has proven that physical activity is associated with healthy lifestyle and it is a good way to prevent diseases (Strong et al., 2005).

2) Constructive play: this type of play is afforded by loose objects. In this type, children create their own elements. This helps children to develop their creativity and learn how to solve problems alone.

3) Symbolic play: in this type children play together and learn how to communicate with others (Frost, 1992). Also, through role play they experience real-life situations. It is really important for the emotional, social and cognitive development of children (Scarlett et al. 2005).

Outdoor play

There are two different kinds of play: outdoor play and indoor play. Nowadays children spend too much time indoor because of the new trends in life styles among people especially in big cities. The majority types of indoor playing are screen-based that are according to Youell (2008) causing the "demise of play". These kinds of play do not give children the variation which they can have in natural and outdoor plasces. Fjortoft suggests that these variations in landscape are important in children's development from different perspectives. "Natural environments represent dynamic and rough playscapes...The topography, like slopes and rocks, afford natural obstacles that children have to cope with. The vegetation provides shelters and trees for climbing. The meadows are for running and tumbling." Fjortoft (2001)

Researches have shown that where children play is really important issue and could have different effects on children. Diversity in the natural landscape increase opportunities for creativity and learning during play among children.

Also, it is believed by many child psychologists that play could act as a type of therapy for children who suffer from some kind of mental problems. According to Bartlett (1999) outdoor space can give children opportunities for this kind of therapy play.

The next chapter will define outdoor playscape and its characteristics, different kinds and how it affects children in different ways.

Chapter 2- Outdoor playscape

Introduction

We often hear that children can play anywhere. It is true but the important thing here is the quality of their play and the experiences that they gain through playing and these factors undoubtedly depend on the quality of the environment.

One of the main reasons that makes outdoor environment important in children's life is that it gives children spaces to move freely (Rivkin, 1995). Movement during play allows children to learn. Many writers (Rivkin, 1995; Bilton, 2002) have noted that in the outdoor environment children can "construct on bigger scale, explore the world at first hand and experience natural phenomena such as the weather the changing seasons and shadows." (Maynard & Waters, 2007, p.256) According to Ouvry (2003) outdoor environment provides children with spaces to develop more believable fantasy plays. Also, it gives children more freedom, fun and fresh air. They can use loud voice, run and act as a child free from classroom's restrictions and rules. In addition, in the outdoor environment children's play is more vigorous than in the indoor places (Henninger, 1980).

Outdoor playscapes can be categorized into two different environments: natural playscapes and constructed playscapes that could include play grounds and school grounds.

According to Frost (1992) playscape is a landscape that gives children the ability to play. This term has been used to show that we need better play spaces for children instead of fixed play equipment in play grounds (Frost, 1992). In the past children had more access to wild lands and natural playscapes and they could benefit from them. But today's children have less opportunity to use these areas. As a result children become more sedentary and it has bad effects on their life style and health later.

Many researchers and scholars have described the value of complex and wild environments for children. High quality outdoor places for play have an important role in children's development (Moor & Young, 1978; Grahn *et al.*, 1997). Also, natural environments have effects on learning qualities in children like play behavior and motor skills (Fjortoft, 2000).

Youell (2008) claims that indoor playing which is more based on screen causes "demise of play" because this kind of play does not give children the possibility of being in varied spaces that according to Fjortoft is really important for child development.

Although many scholars have focused on this important subject, we still have problems in the design of playscapes for children. Most of the problems of playscapes lie in the fact that children's perceptions and preferences are different from those of adults (Olwig, 1989). Adults perceive the forms of a playing area while for children, functions and possibilities that a landscape give them have the main role. According to Märit Jansson (2008), who studied children's perspective on public playgrounds in two different Swedish communities, children appreciate playgrounds for being fun and for offering many different activities. Also, "access to natural places for play seemed to make playground design less important and less problematic for children" (Märit Jansson, 2008, p.88). According to Fjortoft (2004), "the environmental qualities most appreciated by children included: colors in nature, trees, woodlands, shifting topography, shaded areas, meadows, places for climbing and construction, and challenging places for exploring and experience. This indicates that children have a desire for more complex, challenging and exciting play environments than the traditional playgrounds usually offered them" (Fjortoft, 2004, p.23). Frost (1992) also argued that natural features are important qualities of playgrounds that give children lots of learning opportunities.

Märit's study shows that there are other important things in a playground for children such as: the surroundings, the people they meet there, details in the environment and the way to get there. "The boundary between playground and nature is a transition zone between the planned and the wild, and perhaps also between society's perspective of children and from children's own perspective." (Märit Jansson, 2008, p.102)

One thing that has strong effect on play process is the landscape structure, where it takes place. Diversity in vegetation and topography have been argued to be really essential factors in stimulating play and social interaction between children (Mårtensson, 2004, Fjortoft & Sageie, 2000). Vegetation can also stimulate children's imagination (Moore, 1989).

Another essential factor is attachment. According to Moore, it is important for people to feel a sense of attachment to the places where they should spend time every day. This becomes vital in connection with school grounds for children. Schools need to be attractive enough to make children eager to return every day.

In conclusion, outdoor playscape offers children variety of spaces that cause health benefits, use of senses and physical activity. Also it creates social situations for children that prepare them for their future life. Outdoor playscapes in all kinds, natural or constructed are significant in children's life and should be considered in landscape planning and design policy.

Children and outdoor environment

It is really common knowledge that outdoor environment affect children's development in different ways. According to Proshansky and Fabian (1987), home, neighborhood and school are three important places in which children create their own "place identity". They define place identity as "a substructure of the person's self-identity that is comprised of cognitions about the physical environment that also serve to define who the person is"(Proshansky and Fabian, 1987).

"Children read external environment as a loosely connected collection of signifiers. In order to understand or comprehend what a place is, what it might feel like, what they could do there, they deconstructed the whole into elements with which they could identify and which for them held some meaning." (Titman, 1994, p.23)

Titman claims that, according to their research children have common feelings about particular signifiers. Some elements of outdoor environment are positive such as trees, woods, places with different levels, grassy areas, animals, places for climbing and places that challenge you and on the contrast, some elements are negative like: dirt, un-natural color, places with nowhere to sit and hide, places that are boring and places that are too open.

We should not forget the cultural influence on the meanings of elements for children. For example, for some children who live in cities animals are disgusting and smelly but for children from rural areas they are positive elements.

It is proved that vegetation has positive mental effects and people always prefer environments with vegetation (Sorte, 1991). Children also prefer natural environment to built environment because they believe that these places can answer their needs. For example, adventure, challenge and risk are three important factors for children and they connected them with outdoor and natural environment. Such places provide more options and choices for play. Also they believe that designed area for them cannot fulfill their needs since they want to create their own ways of play and not according to the instruction. According to Noschis (1992) children always prefer to use the play equipment in their own ways and it helps them to create their own identity.

Playgrounds

Playgrounds are parts of public spaces and one kind of constructed outdoor playscapes that are considered for children's play in order to keep them away from dangerous and less suitable places. According to Hayward we can classify playgrounds in to three types:

- Traditional (swings, climbing frames, slides and seesaws); these playgrounds are typically barren and covered with asphalt. Their equipment is usually made of metal and they are not challenging enough.
- Contemporary (with designed environment and different materials),
- Adventure playgrounds (where children can construct their own spaces for playing)

Different behaviors in different ages have been observed in different types of playgrounds. In fact, these playgrounds have different user groups. Preschoolers intend to play at the traditional and contemporary playgrounds while 6 to 13 years old children prefer adventure play spaces (Hayward *et al.*, 1974).

Since the late 1960s playgrounds are judged as places that are not attractive enough and not meeting children's needs for outdoor play. In the recent years children's world and their needs have been more taken into consideration and as a result we can see the birth of some new designed playgrounds in some cities like theme playgrounds and adventure playgrounds.

"According to Coffin and Williams (1989), a play area should offer as much as possible of the following: places and opportunities for meeting and socializing; climbing and balancing; testing oneself and each other; exploring and taking risks; solidarity; excitement, movement and colour; equipment and landscaping that permits fantasy or imaginative play; being noisy, boisterous and energetic; items to play *with*, rather than on; and different textures, materials, heights, levels and planes." (Märit Jansson, 2010, p.66)

A perfect playground should be accessible for children easily. The place where a playground is situated in a district is really an important issue when we are planning. According to Veitch *et al.* (2006) the number of visitors and how many times they visit outdoor playgrounds depends on different factors such as, environmental, social and individual. Going into depth, these factors include: the number of local parks, the level of children's independence, restrictions by parents and their attitude, social aspects and safety issues. In their article *One False Move: A Study of Children's Independent Mobility*, Hillman & Adams claim that children's limited freedom of mobility should be considered if we want to have playscapes that are attractive for both children and adults. Also, it is proved that children's independent mobility is an important factor for their physical, social, cognitive and emotional development. One thing that influences this independence is parents' perception of safety. Children's safe mobility is an important issue which urban planners and policy makers should always have in mind. If we want to have playgrounds that have more visitors during the time, it is important to consider placement and surroundings and study playgrounds in social context not as isolated islands (Moor *et al.*, 1992; Herrington, 1999).

In her study, *Attractive Playgrounds: Some Factors Affecting User Interest and Visiting Patterns*, 2010, Märit Jansson claims that the much visited playgrounds have become special places for children to which they are attached. It means that successful playgrounds transfer "places for children" into "children's own places". According to Märit's study (2008), natural features are appreciated in a playground and sometimes they are more important than the play equipment. Playground's closeness to the forest stimulates children to play in dens and it is a way for children to turn part of public space into "my place".

School grounds

Access to the outdoor environment always has been an important factor in children's development from different perspectives. Because of some reasons that are out of children's control, like safety issues, traffic, strangers and hectic lifestyle of these days, children's access to the outdoor environment is limited. Playing outside that has been the culture of childhood from the past time is gone and it has given its place to the indoor playing.

In his document *Children's Range Behavior*, Parkinson (1987) finds some factors that influence children's access to the outdoor environment:

- Their age, sex and where they live
- Cultural expectations
- The nature of their home
- The attractiveness of the outdoor environment
- Controls by parents
- Existence and age of siblings

Titman claimed that children who live in rural areas have more freedom to use outdoor places than children who live in large towns. These children enjoy such freedom and know that this is a kind of privilege. It seems that the main time for city children to spend outdoors is the school's

recess times and the main place is their school ground. As a result school grounds become increasingly significant in children's outdoor life and experience in modern society.

"Students learn and socialize in the 'informal' classroom of the school ground: for example, they play, read, eat, interact, construct, imagine, talk, create and undoubtedly learn positive and negative social skills during the time they spend on the school ground." (Lucas and Dymont, 2010)

According to Titman (1994), school grounds are quite different places for children from the ones that they use and know. She cites three reasons for this claim. First one is that, school grounds are outdoor spaces that are dedicated to children during their recess times. The next reason is that children have to go to school and have to go out during their free times and this gives them the opportunity to communicate with other children who are older, smaller and different from themselves. Finally, school ground is one kind of outdoor spaces for children to which all children have access and their personal circumstances are not important in this experience.

Chapter 3- School grounds

Trends in school ground design

The amount of attention which is given to the design of school grounds by the authorities and even professionals varies from country to country. This variation can further be seen in different cities.

In recent years, there are societies who started performing some changes in designing and planning for school grounds in order to make it more appropriate for children. Yet most of the children in the third world countries are not so fortunate in this context. For example, in Iran children are still victims of adults' wrong attitudes and their inattentions to children's needs. They spend 6 hours a day at school without knowing that what kind of experiences they could have had and what opportunities they have lost in order to be ready for their future lives. Realistically, the only important factors which seem to count for school founders are school buildings and school classrooms. Design of school yards shows us that there is not enough consideration to this important places and their role in outdoor learning of children. Nowadays, lots of schools are established in normal apartments with small yards which are not primarily designed for studying purposes, but living. According to my experiences and observations in the past, when I was a child and in the present time in the majority of schools, yards are small and empty with inadequate spaces. They are mostly analogous with parking lot, so children prefer to stay inside their classrooms during their recess times too.

Yards are covered with asphalt and surrounded by walls and separated from the outside life with the locked doors which are opened two times a day (Fig 1,2,3,4). Children are not allowed to go outside of their schools during the school time unless with their teachers or parents.

In many countries school grounds are parts of urban open spaces with free accessibility. In the other words, there are "schools without walls". This concept does not work in Islamic countries such as Iran because of the cultural and religious issues that dominate and affect especially free movements of girls inside school grounds. In Islam is not acceptable for girls to run, play or do something which needs freely movement, where some men can see them. Because of this belief, girls always have some limitations in play. Even when school grounds are surrounded with walls maybe someone could see them from the third floor of the neighboring building. Although in many schools there is no man and all the staffs are woman, girls should wear scarf and this form of wearing causes some problems for them to move freely.

In recent years, in Iran, legal authorities with the aid of landscape architects have tried to find an acceptable solution in order to design school grounds which are simultaneously based on Islamic culture and are capable of satisfying girls' need in learning process and also with the help of these yards, girls could be hidden when they play. In this way, girls can be given the possibility to move freely. They come up with the idea of "islamicized" spaces. That is to design and establish a central courtyard which prevents people in surrounding buildings from seeing inside of school grounds. This yard will be surrounded with school's building with 2 or more floors and will be totally unseen from the outside. This is an ongoing project in Iran these days and officials hope to solve problems in school grounds with this solution.

The other concept that is lost in Iran is to make it possible for children to use their school grounds after school and in their free times. In the other word, it is to make the school grounds an important place in children's everyday life. Schools in Iran are almost dead after school time. This fact is not unrelated with the "closed school grounds" concept there. Whereas, this is different in lots of European countries like Sweden. The majority of school grounds in Sweden make it possible for children to use them after school too or at least there are no walls around the yard.



Fig 1



Fig 2



Fig 3



Fig 4: Typical pictures of school grounds in Iran which are surrounded with walls with closed doors

Although the design of school grounds in Sweden has changed through the time, there are still schools with inappropriate yards. Maybe this problem is rooted in the fact that there is not enough attention to the yards comparing to school' building and classrooms.

In the past, gardening and cultivation were important components of school grounds. Several ideas from that time are still used in planning for school grounds today, such as cultivation that is considered as a healthy counterbalance to classroom instruction. Children learn lots of things in this process and it opens children's minds in order to perceive nature and its functions better and it could be a source of inspiration for different subject at school.

In the 1970s, some interested groups and government agencies started to work for a better outdoor environment and playing areas for children. Children and their life became really important in researches and investigations. Apart from regular playgrounds, some adventure and different types of playgrounds started to appear.

For many decades, school grounds express the perception of adults who decide instead of children. Using slides, swings and sandbox become general in all school grounds. The fact that adult think and decide instead of children does not mean that children meet all their needs at a schoolyard or a playground. In recent years children's perception and views have been taken into more consideration by a large number of experts. In her study Titman (1994) shows that children have more positive view and feelings about their school ground when they get involved in their school's projects. It gives them more responsibility and the feeling of being important and valuable for adults.

Nowadays we have the knowledge of the relationship between children and outdoor environment and their healthy development but the significant and complex issue with which we have to deal is how to apply our knowledge in practice. Many scholars (Dyment & Bell, 2008; Fjortoft, 2009; Titman, 1994; Mårtensson, 2011; Lindholm, 1995) consider school ground as an important place that can be beneficial in children's health and learning process. Their intention is providing children with school grounds that can give them education, fun and healthy social interactions.

Recess

Before talking about what features school grounds should have it is better to have a little summery about recess period as a time that gives children the opportunity to use their school ground at school.

Recess is a break time for children at school that is typically held outdoors in the school ground and usually involves outdoor play and it is considered as a scheduled part of a day. "The recess period represents an almost unique part of the school day." (Pellegrini, 1995, p.1) For many children, recess period is an important reason to go to school. One reason is that in this period children can interact with each other "on their own term with minimal adult intervention". In his book *School Recess and Playground Behavior*, Pellegrini note that children love recess period, because it is a time during the school day that they have the chance to play and have social contacts with their classmates in the ways that they define themselves. They can decide about who they want to interact with and who to avoid. Since recess period is part of the school day, sometimes it is considered as an educational time as outdoor learning that could be beneficial for children's social and cognitive development. On the other hand, the fact that during the recess period children interact with their classmates who are familiar helps children to learn cooperation more and more, because children intend to cooperate with the friends that they know more than the friends that they have met for a few times.

Furthermore, recess time help children to become more attentive in their instructional time. There are two important factors about children's free time at school. The first one is the length of this time and the second one that could be considered as a really important issue, is the quality of the school yard, it's design and management and the amount of diversity in landscape.

Designing and planning for school grounds

The way that school ground look like has effects on children in different ways. "How the grounds are managed and maintained, the way things are 'done' or 'not done'" has an influence on children's behavior and attitude (Titman, 1994). Children respond "to the appearance of the place on very simplistic level". An element is valued if it introduce "some stimulus or diversity". For example flowers are natural elements that children like because they are beautiful and provide diversity. Also, because children know that flowers did not grow naturally and someone made that decision and this is really important for them since they feel the school cared about them. According to Moore, one reason that natural environment is important for children is that they provide aesthetic diversity and change.

In her article *Special Places, Special People*, Titman claim that children believe that the appearance of school ground is an important factor in the way that people judge the school and children in it. According to Titman (1994) the design of school ground shows children how the school world understands their needs and values them. On the contrast, when school grounds do not meet children's needs, children perceive themselves as worthless and misunderstood. In general "school grounds convey messages and meanings about the ethos of schools. Children viewed the grounds of their school as a whole place, an entity, rather than as separated, segregated units for use either for work or play or at particular times of the day." (Titman, 1994, p.78)

A study by Dymont, Bell and Lucas (2009), shows that school grounds should have different natural elements in order to promote children's physical activity.

"Studies have shown that interventions such as introducing natural and green areas (Bell and Dymont 2006), introducing game equipment (Verstraete et al. 2006), painting markings on the school grounds (Stratton 2000; Stratton and Mullan 2005), and introducing supervised physical activity programmes (Pangrazi et al. 2003) can all have a positive influence on getting children moving and playing during school break times." (Adam J. Lucas and Janet E. Dymont, 2010)

There are differences in the quality, complexity and the amount of physical activity, symbolic and constructive play between barren and green schoolyards. "At the green school ground, the landscape occasionally plays with children and creates open-ended and flexible play sequences" whereas "the gray school grounds afford a more programmatic set of activities" that are "connected to specific facilities and dependent on the access to balls." (Mårtensson et al, 2012, p.24) "The better equipped schoolyards and playgrounds offer a variety of play forms that challenge physical activity" (Fjortoft et al., 2009). In addition, according to Mårtensson et al (2012) the possibilities that green school grounds give children are varied in different ages. Younger children tend to do more physical activities while for older ones, greenery let them to more socialize and relax.

In her document *Schoolyards: the significance of place properties to outdoor activities in schools*, Lindholm claims that the presence of green structures has a positive and increscent effect on the amount of physical activity on children at schoolyard.

Green school grounds are grounds that make it possible for children to interact with natural environments which are dynamic, unstructured, and challenging (Lindholm, 1995). They create opportunities for children with different interest to engage more in active play. Trees, rocks, logs and different features of green school grounds, define places to climb, run, hide and communication for children and materials which children could find in natural environment provide opportunities for imaginative plays (Sobel, 1993).

"In recent research conducted in Canada, Dymont (2005) found that green school grounds offer play opportunities that are more cooperative, diverse, imaginative and less aggressive than play opportunities offered in traditional play areas within the school playground, as they provide diverse environments where students' imaginations can be continually stimulated by external factors. Dymont (2005) argues that this non-competitive, exciting environment promotes exploratory play behaviour that is welcoming to large numbers of students from a variety of backgrounds." (Adam J. Lucas and Janet E. Dymont, 2010, p.183)

Barren school grounds offer children nothing, limit children's opportunities and affect their behavior. "Access to a broad diversity of resources is essential to stimulate adequate play and learning behavior."(Moore, 1980)

It is proved that when children play, they are engaged in learning (Malone K, Tranter P.J. 2003). The connection between play and development and learning is strengthened on green school yards. According to Gunilla Lindholm's study in 1995, "natural areas are the most significant for what is experienced as a good schoolyard" and more activities take place in the schoolyard that have access to the natural areas.

There are some specific elements in green school grounds that could increase children's opportunities for both learning and having fun. Like:

- Comestible plants: fruit trees, berry bushes, vegetables.
- Flowers with different colors and shapes.
- A variation of topography.
- Plants that offer different experiences in different seasons.

There are some other specific elements that can encourage children's outdoor play. According to Stratton (2000) simple changes like add some colors to the walls and ground could be effective in order to improve physical activity among children (Fig 5). Also, give children the possibility to play in forts or build their own forts encourage them to work together and create their own roles.



Fig 5: Eliss Elementary School in Manassas, using colors on the ground

In her document *Special Places; Special People*, Titman cites some of the children's thoughts about different elements of their school yard.

Tarmac:

It is a symbol of hard and dangerous play space for children. They connect it with pain from having accidents during playing. For many children, tarmac is grey, boring and ugly.

Grass:

It is a symbol of "gentle game space". It does not hurt when you fall on it. For many children "grass is for sitting and lying on, rolling on, touching and feeling, rather than just looking at". Grass gives children the opportunities to find different things because of the diversity that offered. In general, children value it and they prefer to play on grass compared with other surfaces.

Trees:

They are symbols of climbing. Since they offer children unpredictable challenge, they are more interesting than climbing equipment for children. Also, trees "provide shade and shelter and bits".

Sand and mud:

They are symbols of fun. For many children they are connected with getting dirty and it means getting into trouble in school and at home. But children appreciate playing with them when they are allowed to, because they know the difference between good and bad dirty.

Bushes:

They are important for children because children usually use them as dens. "Dens provide privacy and a sense of security; a place where children can get away and think". Nearly all children think that dens should be found or built by them not provided by adults. Dens let children to make their own places in public spaces.

Fixed play equipment:

They can answer some of children's needs, but most of the children appreciate equipment that allows them to make new usages and meanings. "The greater the potential of the equipment or item to be changed or manipulated the better".

Shelters:

For children, existence of shelters in the yard means that their needs are important for the school. Children are aware of the value of shelters in rainy weather when they are not allowed to play outside.

According to Titman's study in 1994, we can classify 4 different places that their existence in a school ground is really important for children.

1. Places for doing:

This place gives children opportunities for physical activities, take risks and find challenging activities.

2. Places for thinking:

Which give them the opportunities to discover and learn more about themselves, their friends and the world where they live.

3. Places for feeling:

These places include colors and beauty that can give children a sense of belonging to a place and pride.

4. Places for being:

These places let children to be themselves, to be a child, and to be alone or with friends and to have their privacy in a public space (Titman, 1994, p.58)

The other important aspect of a schoolyard is that it should be a place for fun. Children often suffer from the boring spaces of their schoolyard. Moore (1989) claims that: "Boredom is the result of an absence of playing and learning opportunities. It extracts a high cost in missed learning opportunities- benefits lost forever, if not captured in early childhood." (Moore, 1989)

Chapter 4- Field study

Method

The research strategy for this study is a field investigation at two schools in Stockholm. The elementary school grounds are visited in Stockholm as examples that I could evaluate in relation to the claims and perspectives which I found in the literature. Documentation will be supported with: photographs, maps, tables and some short interviews with teachers and principals as a helping tool. I have been given a permission to take the photos which have been used in field study part by the both principals of these schools. The children in this case study are between 6 to 12 years old.

Children's movement and activities were observed during their free times in the middle of the day at both schools and documented with the help of behavior maps and photos. Then I created tables according to the data I got from my observations. These tables illustrate the number of children regarding to their gender and the play in which they are involved. Children's play is classified in three different categories according to Frost (1992):

- 1) Functional play
- 2) Constructive play
- 3) Symbolic play

The school A was visited three times, two times in November 2011 and 1 time in March 2012. In November the weather was really cold and in March it was sunny and around +4 degree centigrade. School ground was divided in to four different settings (Fig 6) in which I stayed about 15 minutes and documented children's activities then I moved to the other section.



Fig 6: Four different settings in school yard A

In school B children's activities at school ground were documented on three different days in October, November 2011 and March 2012 during the second recess period, from 11 to 12 o'clock. The two first days were cloudy and cold and the third day was sunny. The school has two separated yards for different age groups. There are no fences between two yards but children were informed where they should play during their recess times according to their ages. Also, there are no walls around the yard and children have the possibility to use it after school time too. The yard that is dedicated for children between 6 to 12 years old was divided in to five different settings in which I spend about 10 minutes (fig 7).

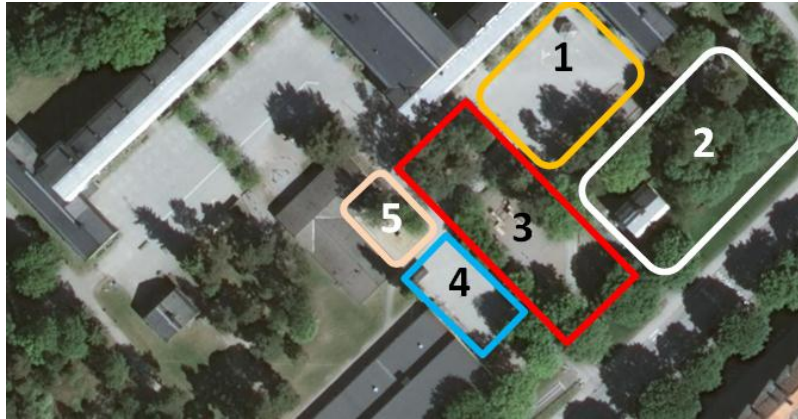


Fig 7: Five different settings in school yard B

Research setting

Two schools with different school grounds were chosen.

Sample school **A** is a city school that is situated inside the Stockholm city, near the city center. It is surrounded with 4 or 5 floors apartments that are used for residential, Administrative or commercial purposes. The schoolyard is mostly flat and dominated by asphaltic open spaces with some trees inside. It is closed to children for after school's activities and children are able to use the yard during their recess periods.

In this school there are two different recess times. The first period starts around 9:30 and lasts for 30 minutes. This is the special time for children between 9 to 12 years old. The second period is from 11 to 12:10. This time is for children between 6 to 9 years old but they do not have a specified and fixed free time. According to their teacher's decision they can have several recesses during the day.

Sample school **B** is a school that is situated in a suburban area in south of Stockholm with a big yard extending into a little forest. The area is mostly dominated by residential buildings. The yard has a more varied design with natural elements: trees and shrubs, grass, boulders and flowers.

In general children have two recess periods during a day. The first period starts around 9:30 and lasts for 30 minutes and the second one starts at 11 until 12. But different classes could have different recess times during this one hour according to their teachers.

Chosen schoolyards are with different landscape and opportunities. Both of them are equipped with some traditional play equipment such as swings, seesaw, slides, climbing equipment and sand box. Asphalt areas afforded running and playing ballgames.

Results (SCHOOL A)



Fig 8: School "A"



Fig 9: School ground "A"

Sample school **A** (Fig 8, 9) is an old school inside the Stockholm city near the city center with 470 children from grade 1 to 5. The school ground is mostly flat and covered with asphalt. In one side of the yard there are some traditional play equipment such as a slide like a fort with climbing opportunities (Fig10), sandpit (Fig 11), swing and climbing net (Fig 12). Next to that there is a football pitch and small basketball court (Fig 13). There are some benches and picnic tables to sit and a Ping-Pong table (Fig 14). No changes occur in the last 15 years in this school ground.



Fig 10: The slide in area number 4



Fig 11: Sandpit in area number 4



Fig 12: The Swing and Climbing net in area number4



Fig 13: Football pitch – Basketball court in area number 3



Fig 14: Ping-Pong table in area number 1

Children's preferences in playing

The table below contains information about how many children were playing different kinds of play and in different areas in the yard during 15 minutes that I spend in each area.

		Functional plays	Constructive plays	Symbolic plays	Socializing	Total
Area1	Boys	-	-	-	2	2
	Girls	5	4	10	7	26
Area2	Boys	29	8	-	3	40
	Girls	19	11	8	6	44
Area3	Boys	20	3	3	6	32
	Girls	13	5	5	8	31
Area4	Boys	3	6	7	3	19
	Girls	6	9	6	7	28
Total	Boys	<u>52</u>	<u>17</u>	<u>10</u>	<u>14</u>	
	Girls	<u>43</u>	<u>29</u>	<u>29</u>	<u>28</u>	

Table 1

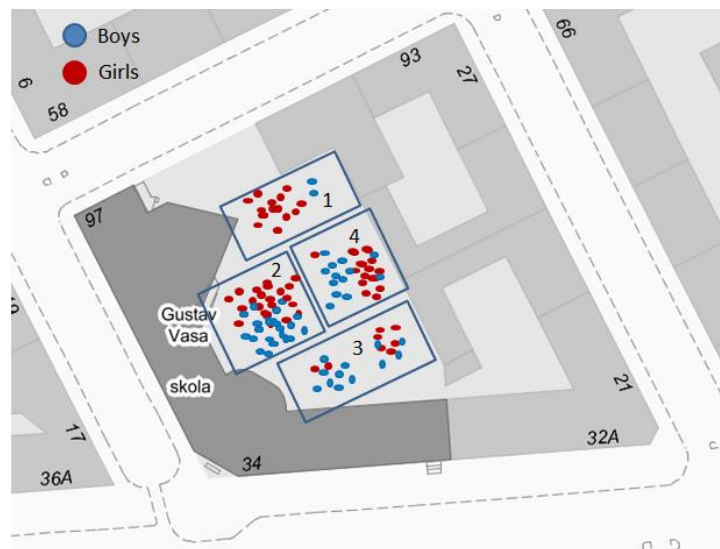


Fig 15: Behavior map for school A that shows the number of students in each area according to their sex

According to the table, the most interesting plays which observed for both girls and boys are functional plays and after that constructive play is most popular among children. Since nearly 90% of this school ground is covered with tarmac and asphalt, the most observed activities were functional play such as: football, basketball, ball games and running

games and mostly in area number 2 and 3. The areas number 1 and 4 were mostly used for constructive and symbolic plays. Although there are some differences from gender perspective, in general most of the children are engaged in vigorous physical activities during the recess periods. The traditional playground equipment in area number 4 afforded different types of activities but most of them were not related to the exact usage that was defined for them. Children mostly use them in their own way. They create their own plays with the help of these equipment (Fig 16).



Fig 16: Area number 4, how children use the equipment in their own ways

Most of the boys tended to dominate the areas in the schoolyard which are appropriate for ballgames and sports (area 2 &3) and girls were less involved in vigorous physical activities. They are more interested in socializing and less interested in competitive games. Although there are not places for sitting without being disturbed, girls find places to sit and talk with friends among all those children who are engaged in functional play. The only place for sitting without being disturbed by balls is a little alcove in area number 1 (Fig 17) which is more occupied by girls than boys.



Fig 17: the Alcove in area number 1 which is most occupied by girls for socializing



Fig 18: Area number 3, girls try to find places to sit in the little basketball court



Fig 19: Area number 3, girls try to find places to sit and socialize with their friends



Fig 20: Area number 3, Boys playing ball games



Fig 21: Area number 2



Fig 22: boys in area number 2



Fig 23: Girls in area number 1



Fig 24: girls in area number 2

Due to the small size of the schoolyard and the large number of children who are registered here, there are inadequate space and equipment that give children the opportunities to take the most advantages that they deserve, so children play with everything that is available and they can find in the yard. Indeed they create their own playscape and plays with all the equipment and furniture in the yard (Fig 25). For example uncovered seats are usually used by children as play equipment (Fig 26). Also, they use trees and fences for climbing (Fig 27).



Fig 25: Children are playing with the ramp, area number 2



Fig 26: Area number 2



Fig 27: Area number 4, using trees for climbing by boys

Most of the children do not use the slide as a slide, but they use it for climbing and they go up and talk with their friends there. Sometimes a group of children go up on the slide and pretend that this is their property and do not let others come up, indeed they do some kind of symbolic plays there. (Fig 28-29)



Fig 28: Area number 4

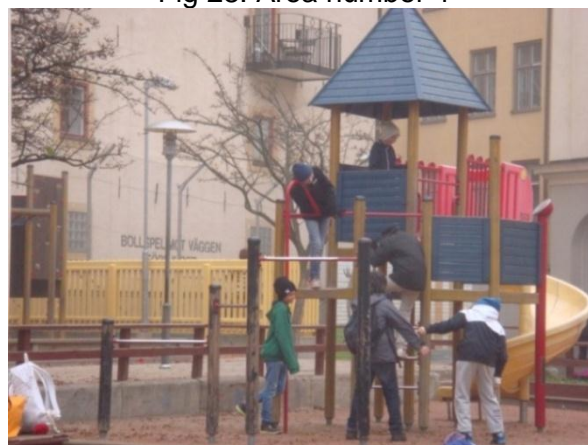


Fig 29: Area number 4

Teachers' point of view

According to the teachers, this yard cannot fulfill children's needs for learning and playing since it is too small and there is almost nothing in the school ground that could be attractive and beneficial enough for children. They said they are not able to use the yard for teaching.

For teaching outside, they would bring children out to the forest or city parks. They cited some equipment of the yard, such as the slide, as something dangerous for children and wished they could omit the slide.

Result (SCHOOL B)



Fig 30: School "B"

Sample school **B** is a big school in south of Stockholm city with 443 student from grade 0 to 9 (Fig 30). The landscape of the school ground contains mixture of areas of asphalt, grass, rocks and trees in addition to some traditional and modern play equipment. The first part is flat and covered with asphalt. This area is appropriate for football, basketball and other games (Fig 32). In one side of this area there are swings and a slide that is connected to a small house (Fig 33).

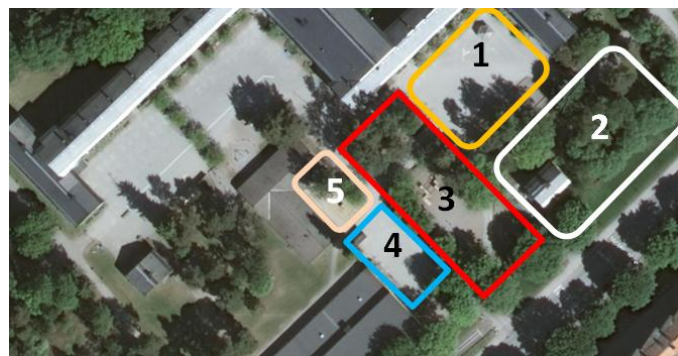


Fig 31: Different settings in sample school "B"



Fig 32: Area number 1



Fig 33: Area number 1

Also, there is an alcove in the other side of this part which was more occupied by boys (Fig 34).



Fig 34: The Alcove in area number 1

The section number 2 is a little forest with trees, shrubs and stumps (Fig 35-36-37).



Fig 35: Girls are socializing in area number 2



Fig 36: The little forest in area number 2



Fig 37: The little forest in area number 2

The section number 3 is a mixed area of adventure playground, trees, rocks and stumps (Fig 38-39).



Fig 38: Natural part in area number 3



Fig 39: Playground equipment in area number 3

Part number 4 is covered with tarmac and it is used as a small football pitch and basketball court with a little greenery and some trees in a corner.

The last part is a small sand pit with a small house (Fig 40).



Fig 40: The small house inside the sand pit in area number 5

Children's preferences in playing

The table below contains information about how many children were engaged in different kinds of play in different areas in which I spend 10 minutes. Analyzing the introduced table leads us to this assumption that boys showed more interest in functional plays and girls are more interested in symbolic plays and socializing.

		Functional plays	Constructive plays	Symbolic plays	Socializing	Total
Area1	Boys	25	-	7	5	37
	Girls	6	3	6	8	23

Area2	Boys	-	8	-	5	13
	Girls	-	10	8	15	33
Area3	Boys	-	6	10	8	24
	Girls	-	9	8	6	23
Area4	Boys	15	-	-	-	15
	Girls	10	3	6	3	22
Area5	Boys	-	2	-	2	4
	Girls	-	3	7	4	14
Total	Boys	<u>40</u>	<u>16</u>	<u>17</u>	<u>20</u>	
	Girls	<u>16</u>	<u>28</u>	<u>35</u>	<u>36</u>	

Table 2



Fig 41: behavior map for school B that shows the number of students in each area according to their gender

In area number 1 most of the children are engaged in functional play. This area is mostly dominated by boys. The most observed plays are football, basketball and running games. There is a small house in one side of this area which is used for symbolic play both by boys and girls.

The little forest in section 2 is mostly used by girls for their social interactions with their friend. Some boys use trees for climbing and hiding.

Boys mostly dominate the natural part in area number 3 (Fig 42-43) while the adventure part is both girls and boys favorite. Most of the children create their own play in this area. Some boys play hiding (Fig 44); two girls walk on the equipment and talk (Fig 45), while some others use the slide as a fort and some girls try to balance on a rope (Fig 46).



Fig 42: Natural part in area number 3



Fig 43: Natural part in area number 3



Fig 44



Fig 45: adventure playground in area number 3



Fig 46: adventure playground in area number 3

In general, girls are more interested in green part in section 4 (Fig 47) and the pitch is dominated by boys (Fig 48).



Fig 47: Green part in area number 4, it is sometimes used by children for socializing and sometimes for functional plays



Fig 48: The football pitch in area number 4

The part number 5 is used more by girls for symbolic and constructive plays. There is a small house in this part and it is always full with children who sit there and talk, eat and play. (Fig 49)



Fig 49: The small house which is mostly used by children for role plays in area number 5

Children's preferences for playing differ between different places according to their age and gender. In this school ground boys involved more in vigorous physical activities while girls were more interested in socializing (Fig 50).

Also, in comparison with boys, girls were more involved in symbolic play in the calm places: in the forest, in two small houses in the yard and on the boulders.



Fig 50: Girls in area number 3

Chapter 5- Discussion

The importance of school ground

This study emphasizes on the important and undeniable role of school ground in children's social and recreational life. It also tries to find out the best design for a school yard from both adults and children's perspective. In the field study part, I tried to use two school grounds in Stockholm with differences in landscape design and opportunities which they give to children to play during the recess time and after school. Types of play that children prefer to do in these two samples were observed and compared.

As outdoor environments, school grounds are really important and different for children from other external environment they use and they know. One reason could be that this place is totally designed for them and it is dedicated to children's use. The second reason may lie in the fact that children have to spend hours at school and they can gain experiences which are not available for them in anywhere else. Finally, the important reason is that school grounds are environments to which all children, regardless of their condition, have access. Although the amount of beneficial and useful feedbacks that children could get from this space differs from one city to another or from one country to another, the obvious fact is that this area has a direct effect on them and the way it look likes is really important for children and it is a symbol of adults' attention to them.

The implication of children's needs and preferences

The opportunities which an area affords to children depend on the characteristics of a landscape and also the child's capabilities. Since every child differs from the other, one landscape can offer different "affordances" for different persons (Gibson, 1979). children perceive landscape elements with their functions for using. So, a diverse landscape promotes children's activities. It is better to say, diversity causes much more different types of activities among children. As Titman claims in her study *Special Places; Special People*, the way school grounds are designed and "the way things are done or not done" has a considerable influence on children's behavior. The two school grounds afforded different activities and plays. Since there is a small forest in the school ground B, it has more diversity in its surrounding. According to Fjortoft and Sageie (2000), diversity in playscape promotes children's activities. My results also show that in sample school B with more diverse landscape, children are more engaged in different types of play like ball games, running and competitive games, role plays, climbing, hiding, socializing, playing in adventure playground, imaginative plays, playing with trees. While in sample school A with a barren school ground, ball games and competitive games and in general functional plays are more popular among children especially boys. The existence of little forest in sample school B, stimulate children's inventiveness. The question is that what qualities do the forest have that give children the possibility to invent their own plays? Can we construct places that could affect children in this way, like natural areas? According to Lindholm (1995), constructed green areas need continual maintenance because children's activities always cause certain amount of tear. In the other word, children's are freer in natural green areas comparing with constructed areas. Also, in most of the time children can find traces from their own plays and others in the wood. But this is almost impossible in constructed areas. In some researches it has been shown that traces of activities in one area are really important in experiencing the environment and a feeling of well-being (Grahn, 1991; Korpela, 1989)

Major differences were found between boys and girls especially in sample school B with more diverse ground. As noted by Evans (1995), girls and boys have different attitudes during recess, for boys free times are opportunities to do active and competitive games and plays, whereas for girls these times give them the chance to communicate with their friends. According to Renold (1997), girls prefer to play in the areas that are not dominated by sports

and games; they tend to choose social interaction in the schoolyard. In sample school A with the asphalt yard, small gender differences were detected. Most of the children regardless of their sex prefer to do running games and ball games. According to Mårtensson et al (2012), "running around and ball games are significantly more frequent at the grey school and besides different competitive sports, probably the types of play contributing with most physical activity." (Mårtensson et al, 2012, p.22) A group of girls can be observed playing football together. It is may be because of the absence of diversity in the area that do not give children different opportunities to play.

One important factor that is missed in both of schools, especially sample school A, is color. In school B in fall and spring time we can find some colors because of the green areas (Fig 51-52). But there is nothing colorful in school A.

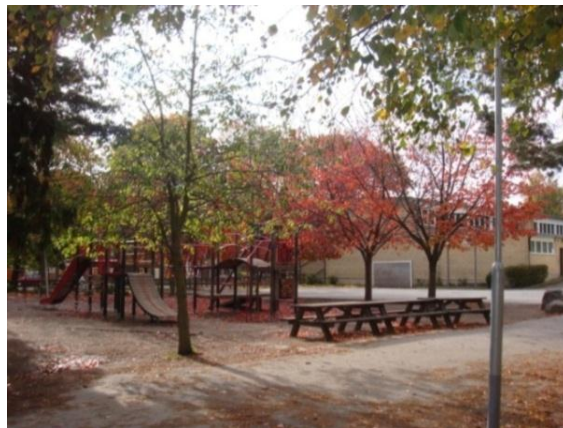


Fig 51: Colorful trees in school yard B in fall



Fig 52: Colorful trees in school yard B in fall

Another significant factor which has an important role to have a flawless playscape is to have landscape with different levels which is lacking in both school grounds. According to Moore et al (1997) children prefer landscapes that are more complex, challenging and exciting. These landscapes provide children with more option and choices in playing. Different levels could create some opportunities for children to have their own private places in a public area. Also, it gives children creativity in play. They can create many ways to play in such area based on their own imagination and ability.

In the green school yard, because of the big size of the ground and also the presence of greenery, children could find some private places for themselves and for gathering with their near friend (Fig 53 -54) but finding calm places in sample school A is almost impossible.



Fig 53: Area number 4, a calm place for socializing



Fig 54: Area number 2, girls talking with their friends in the little forest

The most popular area in school A is number 2 for both boys and girls. It is a flat area which covered with asphalt with a ramp in one corner which is used by many children to play (Fig 55). In sample school B, favorite place is different between boys and girls. Boys were more observed in area number 1, while girls more occupied the section 2. But in general the most used place was number 1 that is a flat area.



Fig 55: The ramp in area number 2 which is used by children in different ways

As I discussed it before in introduction part, nearly all the school grounds in Iran are closed, surrounded by walls and barren with nothing interesting inside. Although it seems that the majority of school grounds in Sweden are open landscapes with almost acceptable design, there are some schools that are not following this assumption. The sample school "A" inside

the Stockholm city has a barren ground with poor facilities for children. It is closed to typical schools in Iran in the case of school ground's designing. It has almost a type of design which I called it "islamicized" space; a central yard which is surrounded by school buildings and it is unseen from the outside.

Throughout this research I found some guidelines in designing and planning for school grounds. The following part contains some recommendations to design school grounds for children to have more fun and to learn and socialize in better ways and environment.

To have more active and beneficial school grounds

School grounds are as important as school buildings for our pupils. They could use for educational, social and recreational needs of children. A perfect design for a school ground should give children safety, risk and challenge at the same time. When children are provided with safety, they would be able to learn, explore and play in better ways.

From qualitative and quantitative perspectives, both school grounds which I visited are not acceptable in designing and managing. Sample school "B" is more admirable than school "A" with more diverse landscape and different rooms for different activities. In school "A", the yard is too small in comparing with large number of students there. I saw lots of children who played inside the building in corridors. Since the majority of children engaged with physical activities like: running, playing football, playing basketball, we can assume that there is nothing attractive for children in the ground. The surface is hard and it is not safe enough. Finding nothing interesting in the yard makes children to spend all days in door unconsciously without being aware of missed opportunities. This interestingly could be interpreted in different ways from each person's point of view. That means the elements in the yard that make children using and enjoying them during their recess times can be designed in thousands of ways according to the way in which the designers interpret the guidelines and their theoretical findings. These findings could be used in different ways and from different perspectives by landscape architects according to their imagination and creativity.

Based on my literature study, childhood experiences and my observations in two school grounds in Stockholm, in this part I want to discuss some recommendations for designing school grounds. Then in the next chapter I will interpret them in my own way and imagination to find a solution for designing one of the school grounds which I have visited in Stockholm.

Followings are some guidelines in designing playscape for children in order to fill and correct the gaps in future spaces for children. Obviously, these guidelines are not sufficient to have a perfect school ground but could be used as a helping tool for designers.

These aspects could be reviewed from three different perspectives: educational, social and recreational:

- To have landscape with different levels, places for different kinds of play and variety of traditional play equipment could be useful from recreational point of view.
- To fulfill children's social needs, it is helpful to have places where children can find shelter (man-made or natural), shade and privacy. Also the presence of different features to sit on, in or under and natural landscape, help children to socialize more without being disturbed by those who have chosen to spend their recess time in other ways.
- Using different kinds of vegetation and natural elements, having opportunities to build something, existence of different places for different ages and providing children with variety of sensory stimulation like different colors, textures and smells are some important ways to enhance children's learning process during recess in school grounds.

Finally, it is better that a school ground matches with its surrounding and local values and needs.

Constructed playscapes should be design safe enough so that children can enjoy them. These places should be designed carefully in order to offer children nearly the same opportunities which they could gain in natural playscapes. This goal could be reached by having diverse physical elements and different sensory stimulations.

In the last several years, efforts have done to enter school grounds to the mission of school which is learning. Outdoor education has been taken in to more consideration in specialists'

works and practices. The school yard is going to be a multi-function site that supports social, recreational and educational activities for children. By reducing the weaknesses in school ground designing it will be possible to increase physical activity level and motor development as well as improve childhood experiences in nature. Since school yards are the only outdoor environments where children have to spend time every day, more attention to this place helps us to have environmentally active children.

Some recommendation for school ground designing in Iran

As I talked about it in the "School ground" chapter, there is not enough consideration to school ground designing in Iran like some other countries in the world. Most of the school grounds are neglected, abandoned and too small. Obviously all the factors which I mentioned in the last part can be used as a guideline for landscape designing of school grounds in Iran through different ways of designing, according to designer's imagination and knowledge. Although the way in which children use different elements in their ground differs from one country to another according to cultural and social issues, the significant goal here is to give them more diversity, opportunities and more freedom to choose and create their own play with their imagination. Followings are some factors which are more important to be considered in Iran according to my experiences both from my childhood and this study.

One important factor that is missing nearly in all yards in Iran is beauty and the other ones are diversity and natural features. Beautiful and diverse spaces in school grounds are more attractive for children and make them to have active and dynamic presence at school.

I remember when I was a child; our school ground was just around 80m² with nothing in side. The only thing that made children to go out to the ground during our recess times was a place where we could drink water. Also, the only reason that made me to go to school besides my interest to educate was my friend and not the school itself. It is really important to give children sense of attachment to a place where they have to spend time every day. This is an important factor which should be taken in to consideration in landscape designing and planning of school grounds in Iran. We as planners and landscape designers should provide children with some things that motivate them to go to school and to use the ground in a way that they could gain advantages as much as they deserve.

Using natural features and domestic plants is significant in school ground designing. It will be more important when we are talking about countries like Iran that do not have too much greenery inside the majority of cities. In big cities of Iran like Mashhad, where I used to live, children suffer from lacking of connection with nature. In my opinion, it is our duty to reconnect them to the nature with the help of school ground designing since all children regardless of their family, economy and cultural background have access to this area. This aspect becomes more important in connection with girls since they are too much limited compared to boys due to some cultural and social beliefs which I discuss it in the "Trends in school ground design" part in chapter 3.

Furthermore, to provide children with sport facilities and spaces that give children this opportunity is another important factor which should be considered in landscape planning of school grounds in Iran and again it becomes more important in schools which are dedicated to girls. Boys are freer to play and do sport in streets and parks but unfortunately girls do not have as much freedom as boys. So, school grounds play an important role for them to improve the amount of physical activities among them.

Finally, using cultural features from Persian traditional architecture in designing different elements and spaces in school grounds can be really useful for children from educational point of view. This is a good way to inform children about their past, traditions and history. They can learn through playing, in more interesting way than in the formal classrooms.

Research limitations

Throughout this study I touched upon some limitations which I want to discuss in this section.

- To understand children's need and preferences for their school ground, it is really important to know their point of view. I think it is useful to involve children in decision making and designing process when we are going to design a place which is dedicated to children. But the question here is what methods of children's participation are the best. Also, the better way to use children knowledge is to let children to participate in building process and interior designing.

- As a helping tool, to understand children's interests in playing and which parts of the yard they use more, I talked with some teachers at schools. The aspect that was really important to them was children's safety in the yard and not what they should learn there. They prefer to omit an equipment which is a little unsafe but do not think about how they can make it safer. It is something like erasing a question instead of finding solutions. It is obvious that safer school ground is more likely to be used. To have well-designed equipment and resilient surface under them help for having safer yard. (Consumer Product Safety Commission, 1997)

- To analyze children's preferences, it is better to make observation in all kind of weather. I missed the opportunity to be with children in snow since this year we did not have too much snow in Stockholm. If we want to have a spotless and perfect school yard, children's need in all seasons should be considered in planning and designing. A good playscape should be usable for children in different weather.

Further possibilities

One of the significant factors which should be considered in school ground's designing and managing is the role of this space in children's learning process and how it can help teachers to take the most advantages of the ground for teaching goals. Children can learn more and easier outside. May be it lays in this reason that the outdoor environment is less formal and they feel themselves freer and find teachers friendlier there. Using school grounds for outdoor learning and how to design and plan the ground for this aim is a vast subject which could be studied in a separate paper.

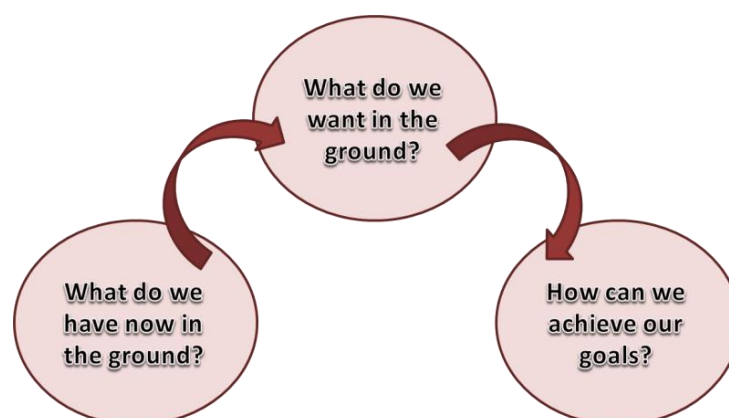
In addition, the role of variety of plants, trees and flowers in school ground's design, how they can affect children's play and experiences in different ways and the importance of using plants that adapt to the environment are significant issues in designing and planning for school grounds.

Finally, it is better to see the school building and school ground as a whole entity in planning process. School ground should be designed in a way that will be integrated with the building in the site. In the other word, if we want to have a better school for our children we should plan for developing the school ground and school building together.

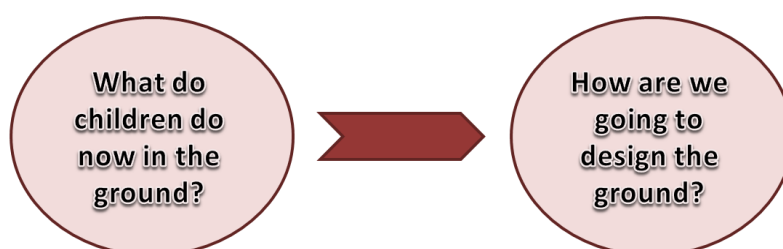
Chapter 6- Improving school ground's quality in sample school A

Integrating theory and design

Although sample school A is really small but some changes in the ground can fulfill some of children's needs. The question is that what kind of redesign could be considered for this small yard. In order to start the design process I should answer three important questions:



When we are going to develop the existing school ground, how children use their school ground in the current situation could be a useful guide to assume how the school grounds could be used in the future or how children intend to use it. Then it will be easier for designers to guess which elements are missed in the ground.



Different elements could be designed in different ways. For example one thing that is missed in school ground A is something for climbing that can be designed in different shapes and colors. According to my field study in sample school A, children tend to create their own play with different equipment and not to play based on the instruction which adults give them. Because of this reason I want to create opportunities for children that let them to choose their play themselves. My aim is to have some flexible spaces with no specific functions.

What do we have now in the school ground?

Site analysis

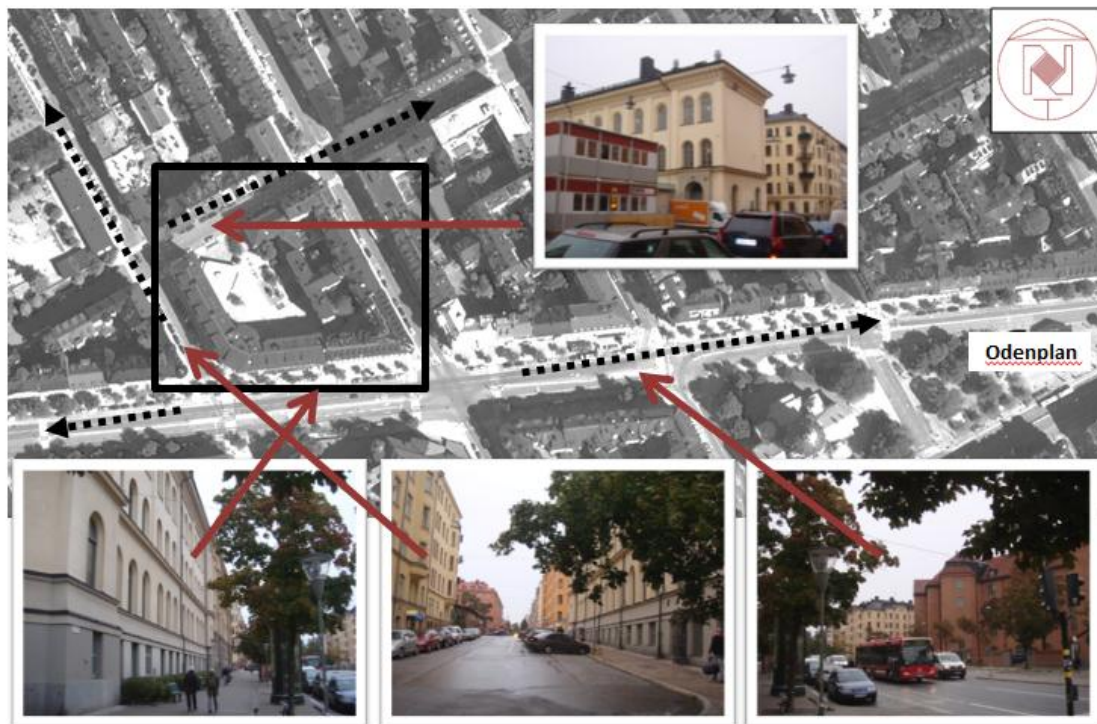
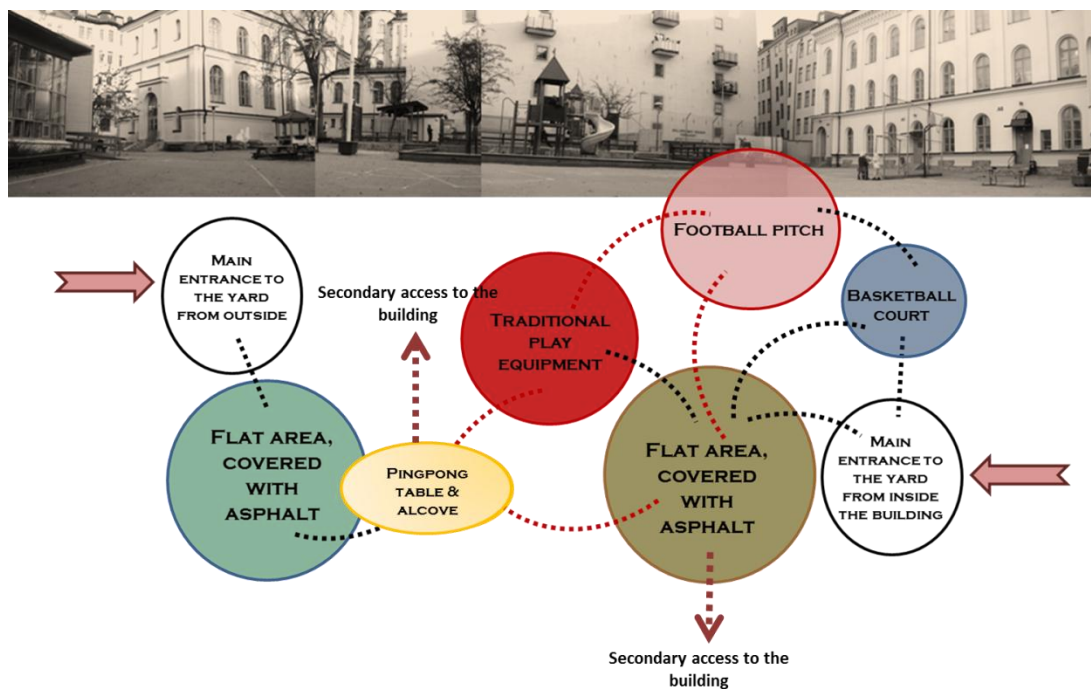


Fig 56: the current condition of the school ground "A" in the site

Diagram of spaces inside the school ground



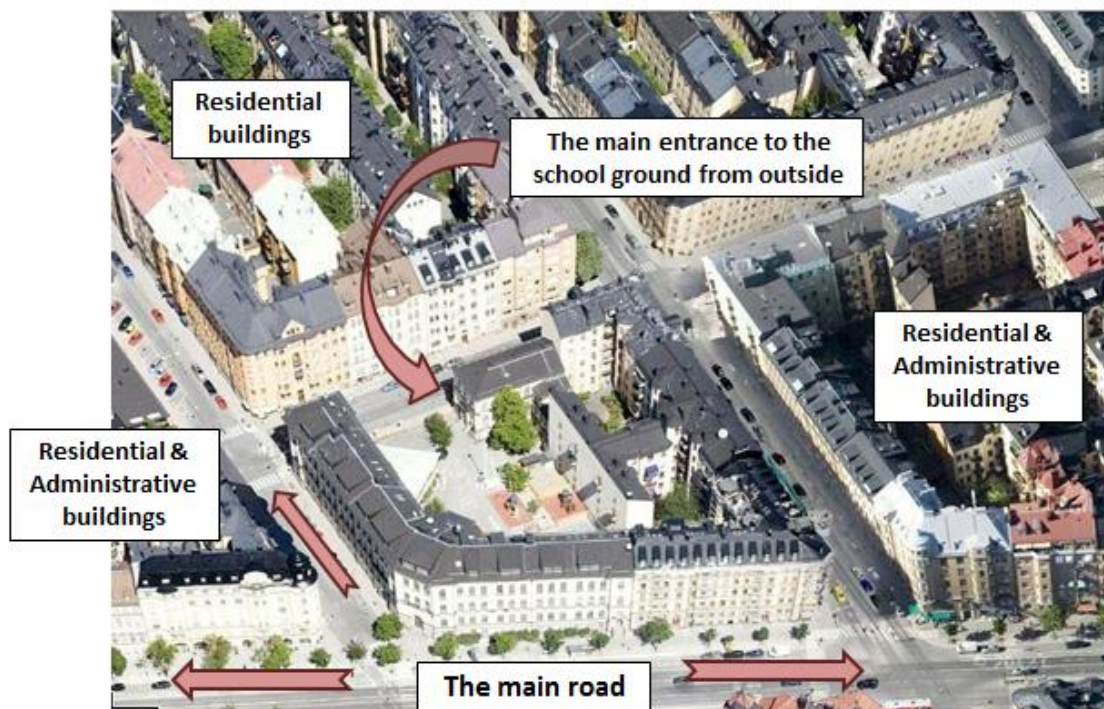


Fig 57: the current condition of the school ground "A" in the site and its surroundings

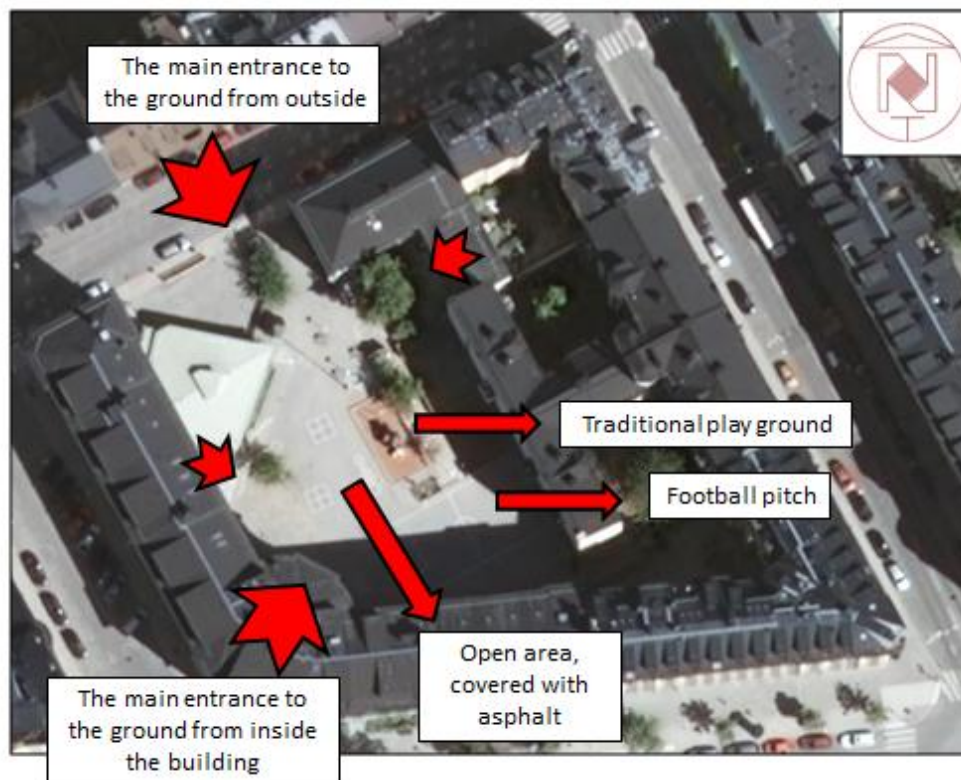
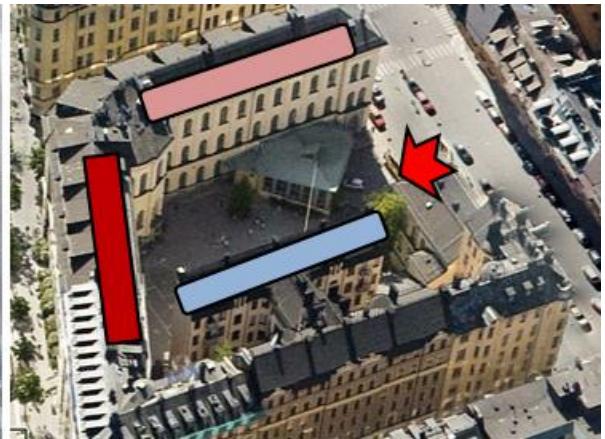
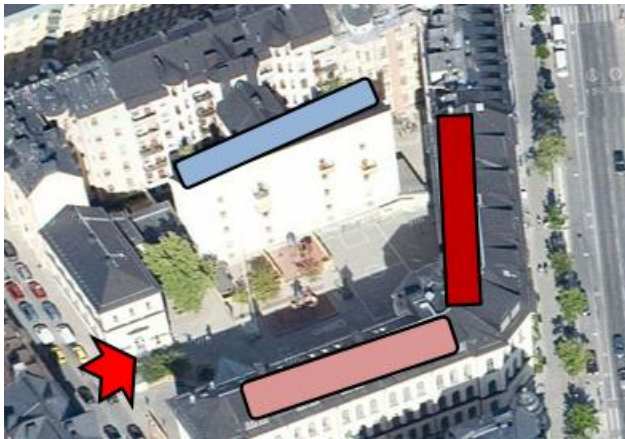
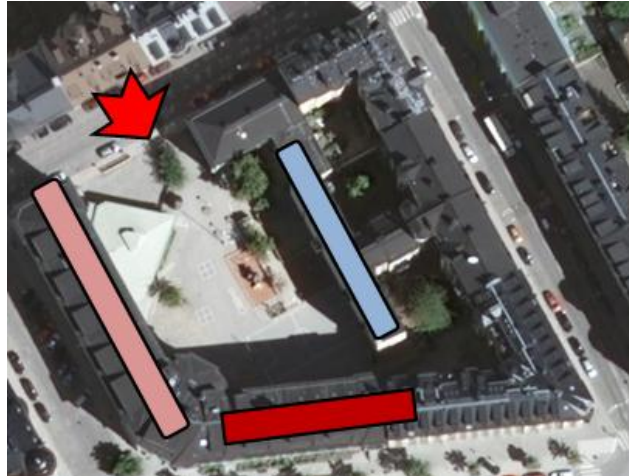


Fig 58: The main entrances to the ground



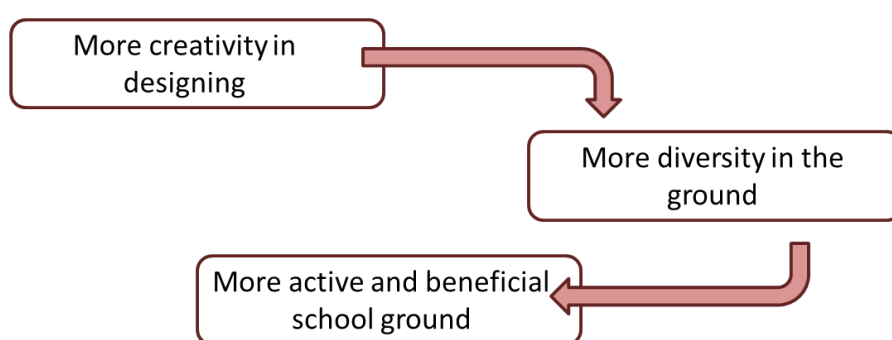
Traditional
playground

Football pitch

Fig 59: different bird views from the school ground

What do we want in the school ground?

We cannot have all aspects of a perfect school yard here since the yard is too small. But my intention is to make this area a little better for children in order to gain the most advantages they can from their yard in all seasons. There are some important factors which are missing in sample school A like: private places, places for creativity and socializing and also natural elements. I tried to solve this problem based on my experiences from childhood, theoretical knowledge and observations in two school ground in Stockholm. The aim of the changes in the school ground is to promote usability, movability and the potential of imagination among children during their recess in the ground. After changes children will be provided with more safe, diverse and functional school ground which will be more active and usable for children with different personality and interests. Different places will be available for both groups of children who prefer sedentary or active play styles and the school ground will be more welcoming.



How can we achieve our goals?

The proposal

My proposal is to have short walls with large thickness in the ground that provide children with four cubic spaces which emerge out of the walls from different places on the walls and could be used for different activities. These cubic places also could protect children from sun, wind and rain. The current condition in the yard is not safe for sitting around since lots of children play ball games in all places around the yard. This wall would be able to create different levels and some places to have more privacy and more safety for those children who choose socializing during the recess times. Also, with adding some colors we will have more colorful area. There will be some openings in different places on the wall which could be used for variety of plays. These walls and the rooms around them will create a quiet imaginative and flexible play area for children where they can decide what kind of play they want to do according to their own personality and imagination. For example children can use the walls as props for ball games or the cubes could be used for hiding. Different materials could be used in constructing these walls and the surfaces inside this area. Some parts of the walls could be movable and plain and one part could be used by children for climbing.

The football pitch will be transferred to the other side of the yard in order to have more distance from the class rooms and it will be surrounded with trees and bushes which will provide more safety and more greenery for children.

Besides the football pitch, there will be a grass field for different games and activities which involved body contacts. Also, teachers could use this field to hold some lessons outside in the school ground. This could be really beneficial for children since they are more relaxed outside and find lessons more interesting and easier. They are freer to move, make noise and mess

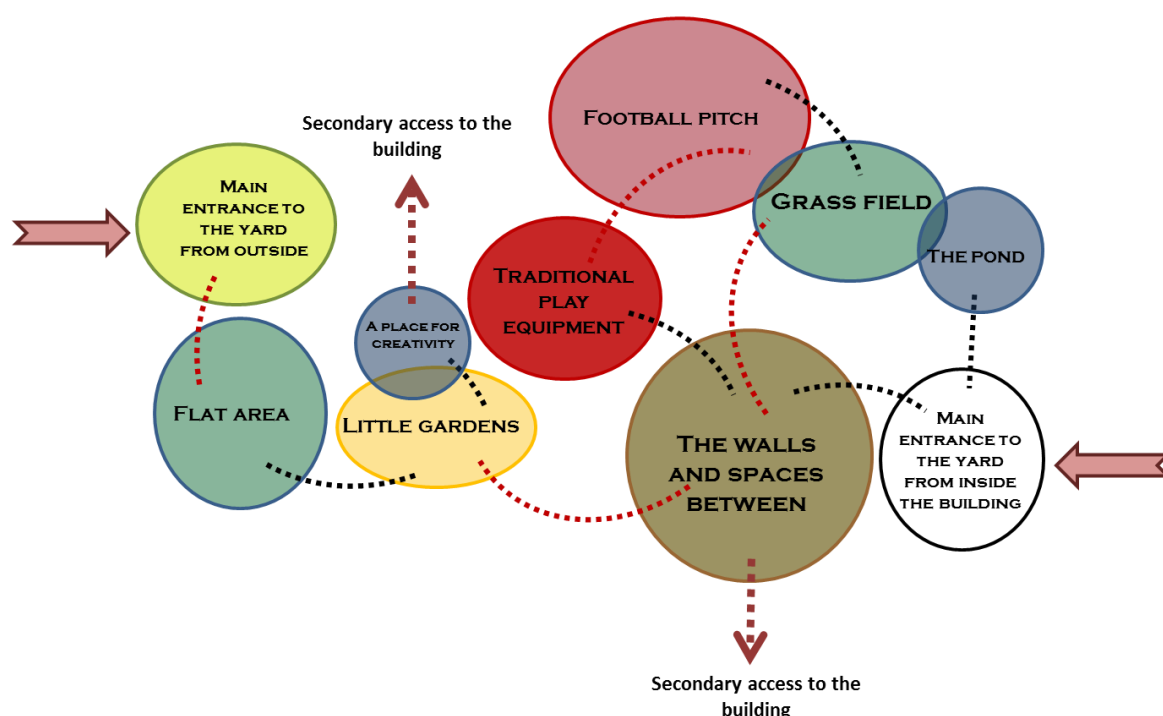
and also they find teachers friendlier (Maynard & Waters, 2007). According to Rivkin (1998) when children are inside the classroom, they are expected to sit down and be quiet, while outside they are freer to make noise and mess. This means that they can be themselves without fear.

In addition, a pond will be added to the yard. According to Titman (1994), for children ponds are "symbolic of the living world". Children are more fascinated "with the creatures associated with ponds". Little children want to discover things and also they want to touch them, but older children know that they should not disturb the creatures in the pond. In conclusion, existence of a pond is preferable for children when it is clean and it could teach many things to them.

Furthermore, children will have the possibility to learn throughout the process of change in their school ground. For example they will be given the opportunity to cultivate flowers and plants in their own small gardens. Also they will have the possibility to have some parts of the wall for themselves. For example they can paint or write things on the wall. In the other words, the wall will become a memory wall that has signs from nearly all students who have studied in this school. The goal is to make children participate in the design project in order to feel some kind of ownership about their school ground or to have their own places. Also, when children take active part in developing their school ground they can learn new skills like how to make decisions and how to work as a part of a team.

There will be paintings and signs on the ground. In fact, the main sign on the ground shows the route from the yard's entrance to the school ground's gate (Fig 57-58). Also, it includes some other signs for other parts in the yard. These colorful markings promote active and imaginative play among the children. Several studies have shown that simple markings on the ground have increased children's activities (Stratton, 2000; Ridgers et al., 2007).

Diagram of spaces inside the school ground after changes



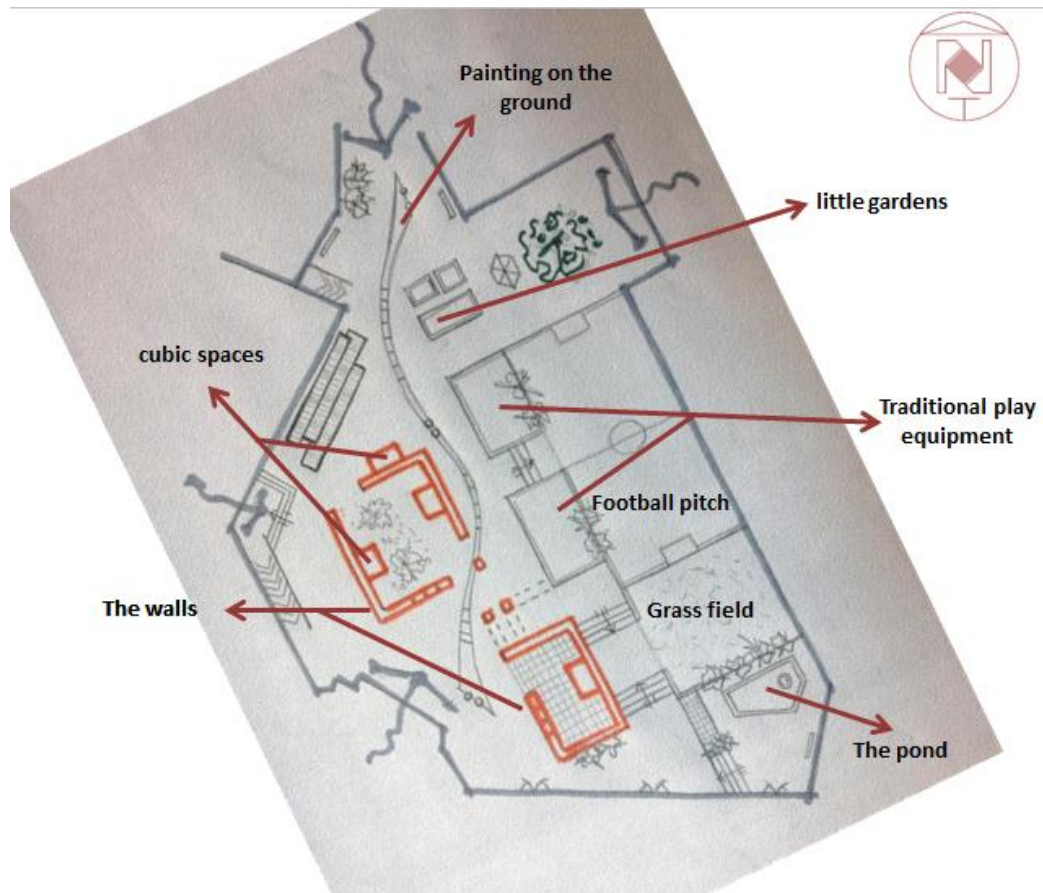


Fig 60: My proposal

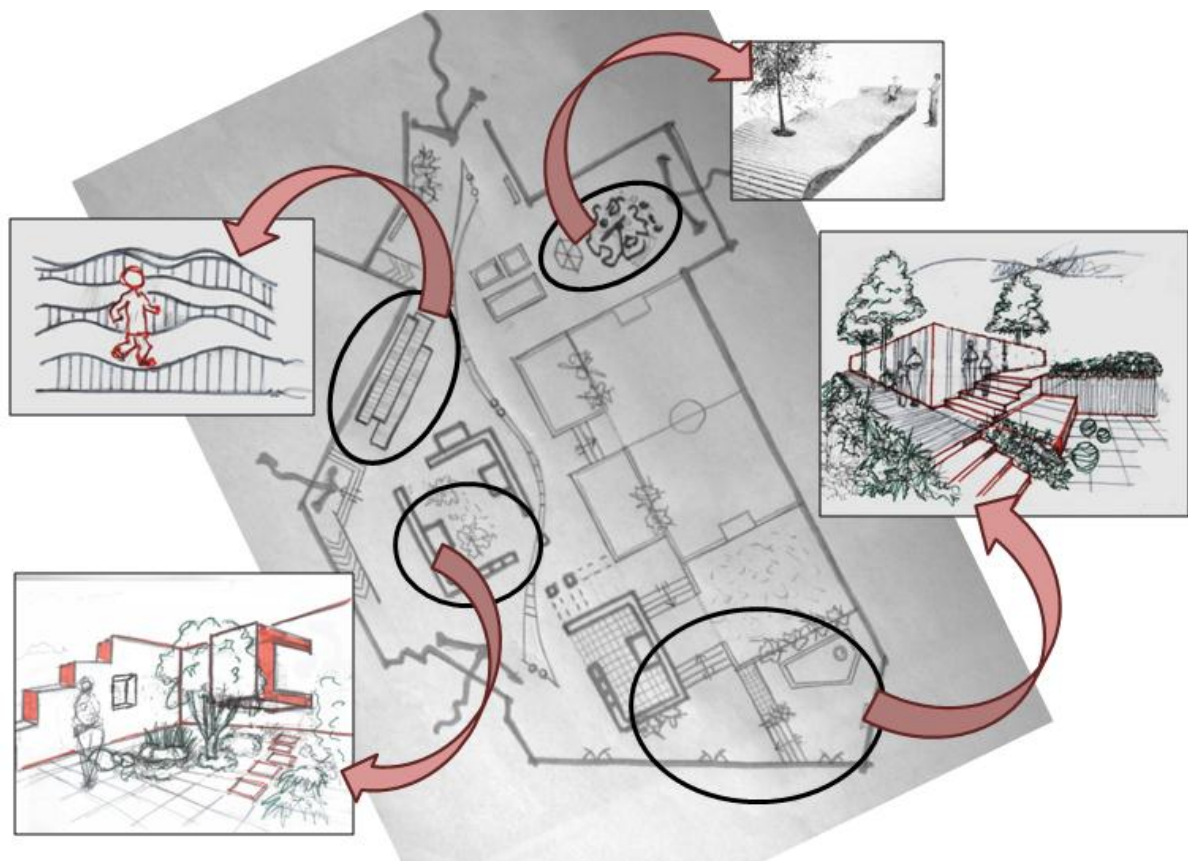


Fig 61: My proposal

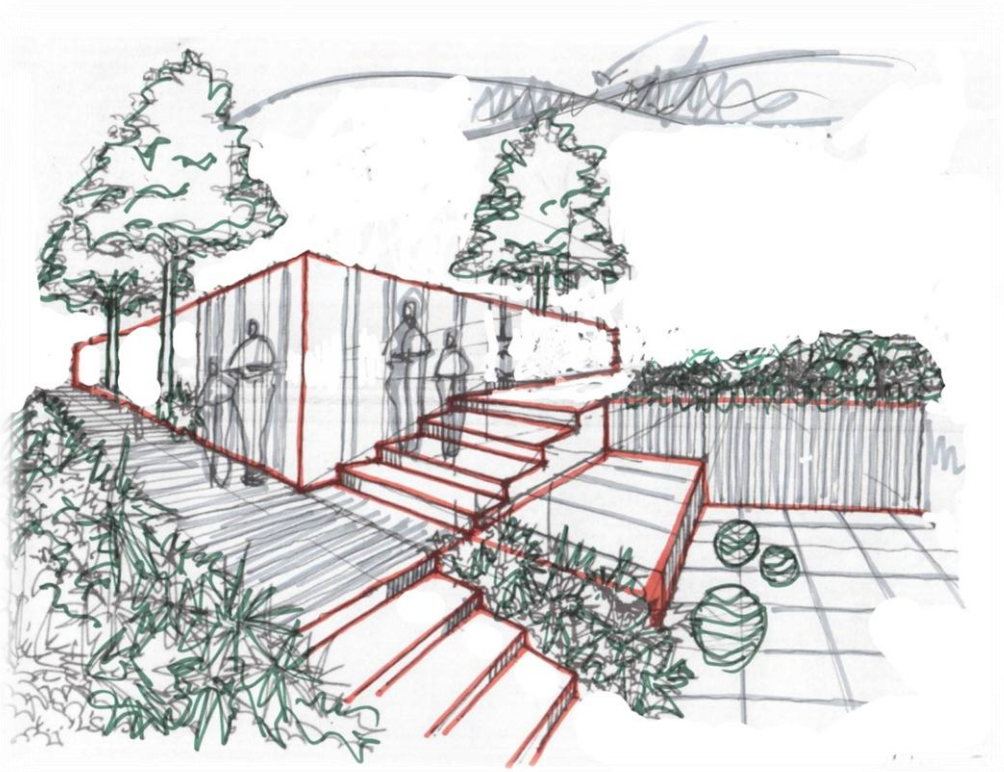


Fig 62: A part of the wall – different topography in the school ground

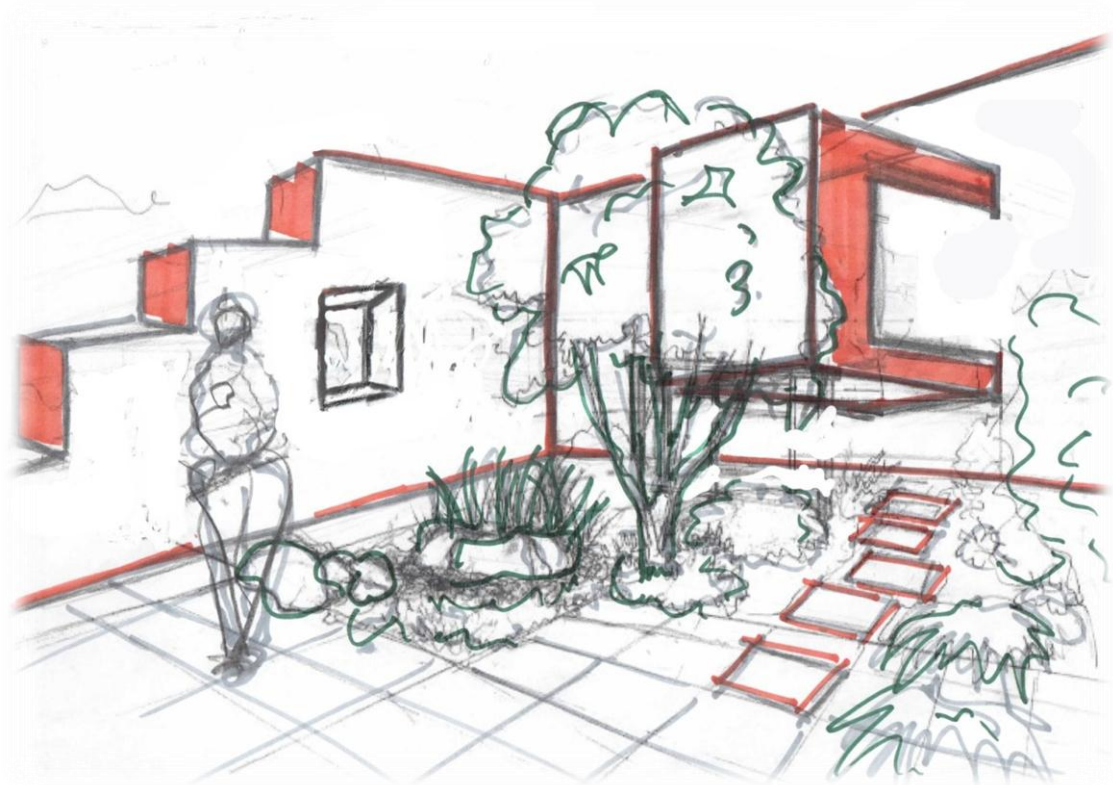


Fig 63: Inside the walls and one of the cubic spaces

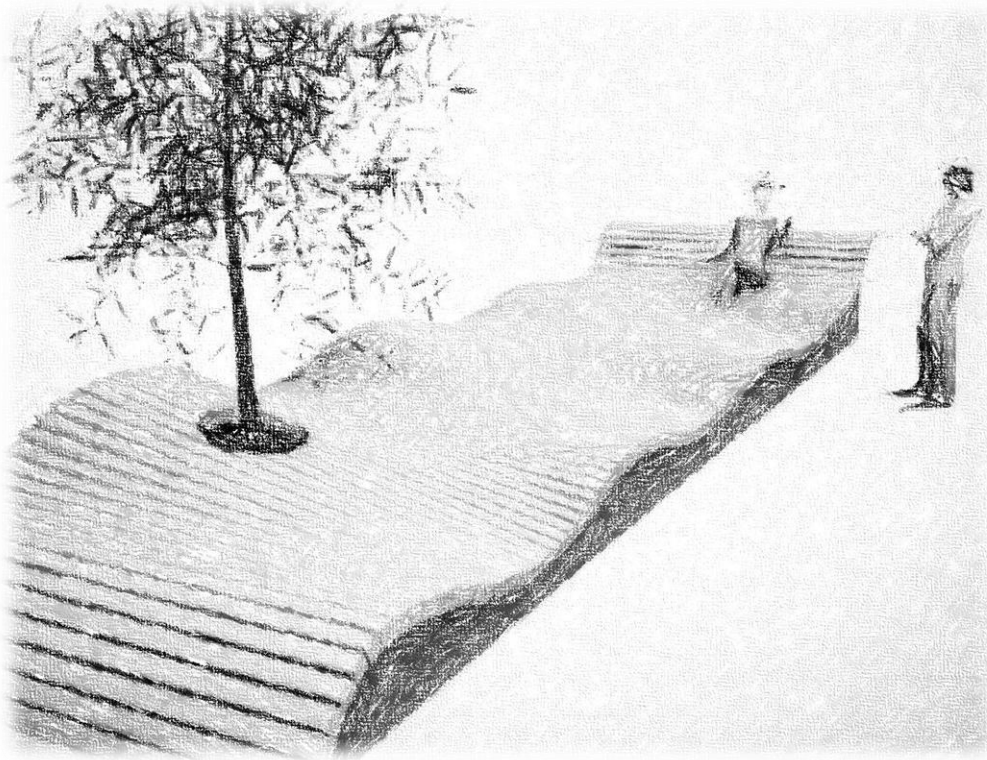


Fig 64: A place for creativity- sitting, having a lie down or socializing

The model

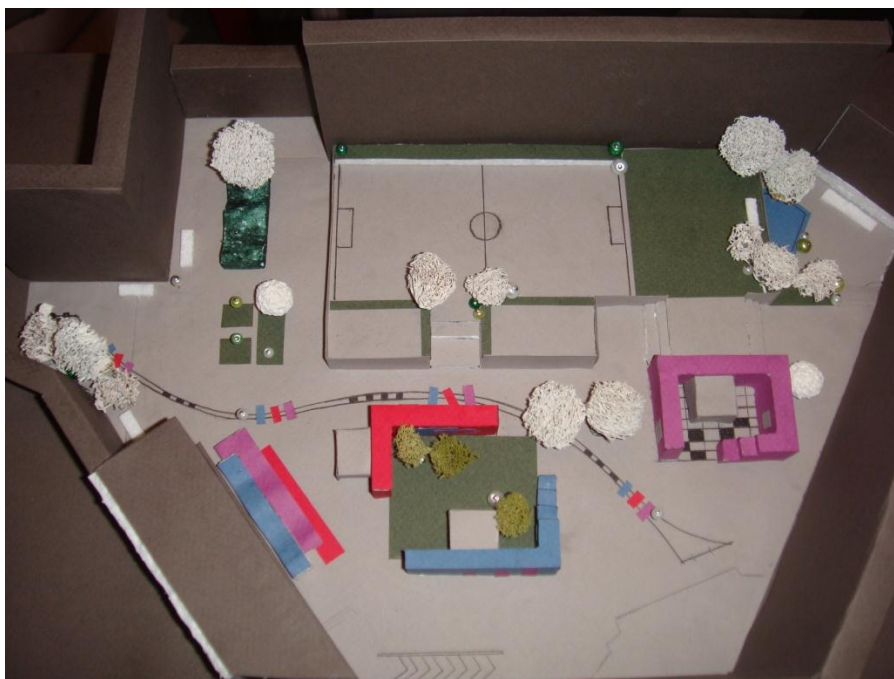


Fig 65

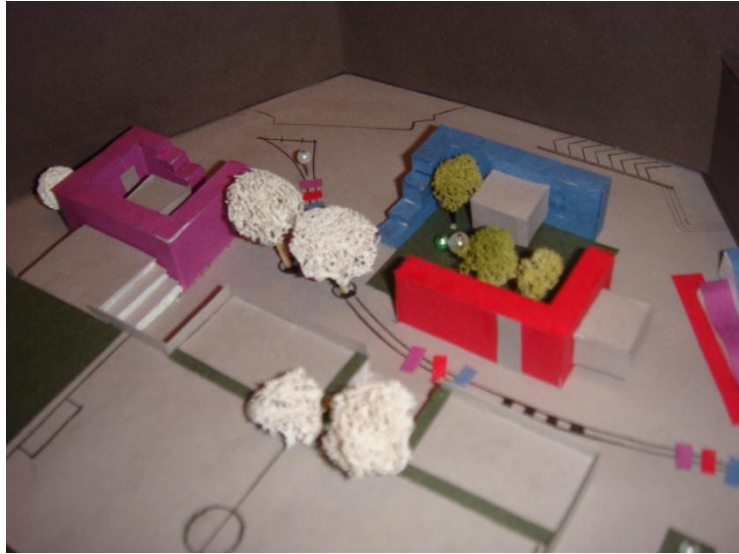


Fig 66

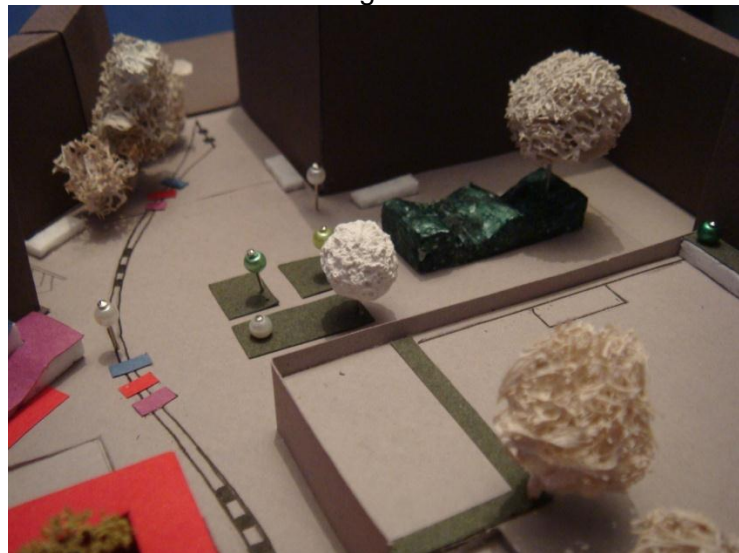


Fig 67

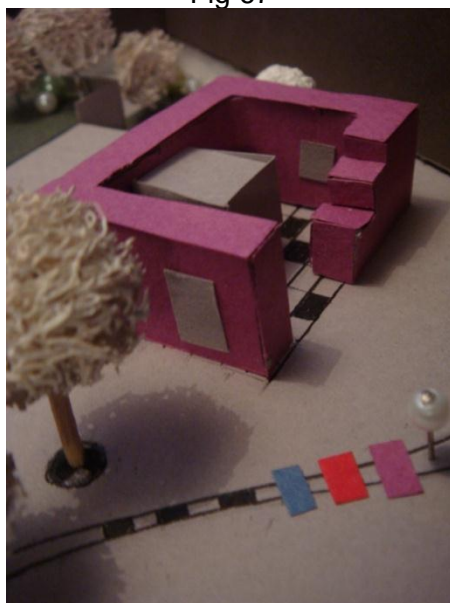


Fig 68



Fig 69



Fig 70

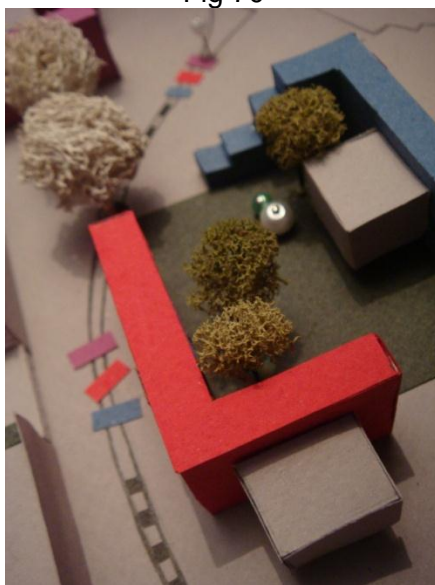


Fig 71

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Figures

- Fig 1: <http://www.panoramio.com/photo/43558485> , By Saman Akbaryan
- Fig 2: <http://mehrnamiblogfa.com/>
- Fig 3: <http://shirkhodaei1.mihanblog.com/>
- Fig 4: <http://choopananvatan.blogfa.com/cat-3.aspx>
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