

# **PRESCHOOL CHILDREN'S ENVIRONMENT BETWEEN PLAYSCAPE AND PLAYBEHAVIOUR**

Dr. Manal Samir Abou El-Ela

## **Abstract:**

More attention is directed, recently, towards improving children's development in various aspects. Although educators, parents and architects have been concerned with children's environments, play environment has not gained the same attention, despite its importance.

A play environment provides an important means to stimulate a successful development of the child's physical, emotional and intellectual abilities. To fulfil their development, children need various types of outdoor activities. Accordingly, outdoor spaces for children should include the suitable play equipment, which help children promote healthy development while participating in their activities.

The paper is concerned primarily with the play environment, which is related to daycare centres and preschool spaces intended to children from 3-6 years old. A case study of some of these spaces will be examined through the analysis of children's play behaviour with relation to the existing playscape.

**Key words:** playscape, play environment, play setting, playbehaviour, and all-in-one equipment.

## **INTRODUCTION:**

Play for children is not only necessary for the physical growth, but also for their emotional, social and intellectual development. The importance of play lies in its adding the sense of confidence and independence, security, making strong relationships with other human beings and many other self-benefits. Play areas, as settings of play, when designed to support a variety of activities are largely expected to be more stimulating and better contributing to the children's learning development.

## **PROBLEM:**

In Cairo most residents live in apartments with no yards where children may fulfil an important part of their physical, psychological and physiological needs acquired to achieve a healthy growth and development. Recently and due to the industrial revolution play in the front street or "*hara*" is not safer any more, while the technological revolution has transformed the mode of children's play to a tele-directed individual type which lead to a loss in play space [1]. On the other hand, and as a result of the stress of improving the educational process, children are losing most of their playtime to high level- competition in school exam. How could children achieve a healthy growing? And how can creativity become a result in such an environment?

To try to over come the problem of both play space and time, architects and landscape architects should offer a variety of carefully designed and landscaped outdoor environments that support and suggest activities which are essential for children's healthy growth. Children must be given a playsetting which can arouse their interest and through which they can express their genius. Playscape in the research refers to a space where a suitable number of outdoor playsettings are put together so that children can fulfil their playbehaviour in the outdoors.

## **FOCUS AND AIM OF RESEARCH:**

The research focuses on preschool children's learning environment in the outdoors, whether related to schools or day care centres. Playscapes will be studied through the relation between play equipment and activity settings with reference to children's behaviour. A field study for some preschool playgrounds will take place through the observation of children's behaviour with relation to playing equipment and settings in addition to some open ended interviews with teachers, supervisors and some children focusing on the preferred participated activity within the playsetting. The field study presents actual playsettings and describes how children use them in relation to the theoretical preview. Moreover it will determine the successful aspects and conditions, shortcomings and general patterns of needs and use within such settings.

## **IMPORTANCE OF RESEARCH AND DESIGN FOR PLAY:**

According to White [7], "the preschool years are transitional period for social development, the principle experiences being creative products and role play both of which are believed to be important to developing competence." The preschool stage, from 3 to 6 years old, embodies a variety of children's behaviour and needs. At the age of three children begin to be engaged in symbolic play to assimilate their new skills of representing objects and events. Until the age of four, children are involved with themselves, the majority of their activities are in the individual form although they may play together. That does not mean that they do not enjoy others company but that each child is more involved in his own world. Four and five year-old children are more social, and their play materials are more complex and varied.

They make greater use of the playground stacking, building and climbing. From five to six, children's ability to conceptualising and organising their experience logically increases. Their social world begins to grow, and they seek others company in play. In sum and according to Dattner [2], this phase is one of transition between the world of fantasy and the world of reality, between the world of intuition and the world of logical thinking and between the world of solitary and the world of social cooperation and mutual understanding.

Playgrounds represent the outdoor environment where the most important behavioural activity of children, known as play, takes place. They are a must to prevent children's loss of opportunities and to show and develop their talents and genius. As Dattner [2] cited " a playground is as important a learning institute as a school". Playground, as a setting, is not only a means of gaining effective gratification, but also represents a significant setting in which modes of interaction are learned and styles of coping with the world develop. Through play, children not only move and interact with others, but also come to have a particular view of themselves and their ability to do things. Moore [6] believes that, "the quality of the environment can have a direct stimulation on children". Play for children is a response to the environment that varies with the immediacy and complexity of stimulation. This stresses on the importance of a carefully designed environment, which is expected to provide all kinds of stimulation. According to Eriksen [3], offering a variety of activity settings will arouse the child's interest, allow exploration and development at the child's own pace and stimulate the child in various ways of stimulation. Moreover, she mentioned five kinds of stimulation; the physical, intellectual, perceptual, emotional and social.

The physical whether sensor or motor is fulfilled through perceiving an environment rich in sights and sounds, in addition to allowing a wide variety of movements. Such stimulation is important in making children's growth healthier, livelier and happier. The importance of the physical activities, which reflect the physical stimulation, lies in its enabling children to know their bodies and to be aware of their abilities and limitation. Forms of physical play activities include structured games as kickball and hopscotch and nonstructured play as climbing and swinging. Intellectually stimulating activities are those that encourage children to be curious and to wonder; to investigate independently what things are, how they function, and how they relate to one another; to solve problems and understand situations with others; to express ideas and feelings in language. Such stimulation is as important outdoors as indoors and is fulfilled through the play loose parts and toys. The wonder of growing plants and watching animals and rules of games are all intellectually stimulating. Both the physical and intellectual development, characterised with manipulated play at all types, formulate concepts of relationships. The emotional stimulation is essential in improving a child's ability to deal with difficult situations. This is fulfilled when children interact with each other through play and conversation. Emotional stimulation is reflected in both independent and cooperative activities. It includes group play, solitary play as drawing and participation in structured games. The social stimulation is important in the child's growth, it is the core of the learning process, as the well-known proverb indicates, "no man is an island, no man lives alone". Social activities are important to encompass children's increasing expertise in interpersonal interactions and verbal ability, and finds expression in dramatic and role-play behaviour. Finally, perceptual development comes from children's emotional, social and intellectual experience. Thus, building with sand and playing in playhouses are needed in such playscape.

Frequently, an activity will stimulate more than one kind of development. As an example, playing in playhouses encourages the imagination of children and reflects a form of fantasy

and social play, which fulfils social, emotional, intellectual and above all perceptual stimulation. Accordingly the playscape should support an activity in all of its various forms at different times and places, in addition to encouraging the participation of more than one activity.

### **EQUIPMENT AND DESIGN RECOMMENDATIONS:**

Play equipment should be chosen with children's preferable activity in mind. Equipment should be easily used by children, have variety, afford challenge, and be attracting for play and use. Children need simple equipment that they use to fulfil many roles. An important role of play equipment is to concentrate children's play into small areas in a safe and educating manner. To fulfil children's stimulation a diversion of activities is required.

Activities that fulfil the physical issues are the ones that acquire motor skills, and through which children can have pleasure kinesthetic experience. Swings, slides, seesaws, climbing structures, rings and monkey bars are examples of the required equipment for such activities. Most of them could be gathered in an "all-in-one" piece of equipment, which refers to any equipment that combines a variety of play activities especially active as climbing, sliding and crawling. In addition, riding wheeled toys and peddling vehicle are different form of activities that fulfil the physical stimulation. Not all physical activities require special equipment, as most structured games, ball play, running games, jumping ropes and hopscotch, all what they need is a hard-surface area.

Participating in most play activities that are in a group-form fulfills the social stimulation. Before performing in group activities, children are frequently engaged in some behaviour. Many children watch others before getting engaged with them, so there should be plenty of well-situated sitting and watching settings. As for joining, many children hang out before joining in other activities and groups, which requests 'hanging out' areas allocated close to the popular areas. In addition, children frequently when riding wheel toys stop to watch other activities around, then either join or go on with their riding. To encourage this type of joining, the design can provide hard-surfaced wheel toys paths near frequently used play settings.

Intellectual stimulation is fulfilled through playing with loose parts, planting and caring for birds and animals. Playing with loose parts, as tiers, enriches children's imagination. Playsettings should enclose a variety of loose parts to enable such activity to take place. Planting is a learning activity through which children watch plants growing starting from planting a seed, label them and identify the seasons. By watching, interacting and taking care of birds and animals children can learn valuable lessons about life cycle and responsibility. Animal cages should be large enough for free movement, provide some type of shelter or enclosure for bad weather or retreat, be easy cleaned and should allow children to feed the animals and birds inside. Most intellectual activities do not require specific settings' surface.

Perceptual stimulation is fulfilled through children's participation in imaginative activities as playing with water, sand and in playhouses. Children can sit and talk or hide in playhouses. A sandbox or water source, specially if combined, can occupy the greatest number of children for the largest period of time. A low wall around the sandbox is essential to prevent the sand from scattering about the yard, define the area and form surface for toys and sitting. Sand should be in the sun to be well drained, covered when not used and well ventilated. A small spray pond might be provided on the site, it needs not to be elaborated or large.

Children experience emotions in participating in most of the above activities. Their emotions are highly affected by others and by the environment. In playgrounds children may express their emotions through special activities as drawing on boards or suitable hard ground surfaces.

As for natural landscape elements, plants are potential resources for children. They should be located to provide some shaded sitting areas on both benches and playing areas. Shaded areas are largely demanded by children to play during hot seasons of the year. Moreover, trees around the playground can provide a nice frame and screen out adjacent buildings or undesired views. The variety and quality of textural, colour, massing aural and olfactory effects created by a careful planted plan can add immeasurably to a playsetting.

On dealing with settings' surfaces, different materials should be used for different purposes. Playing equipment requires soft-surfaced area, as sand, to make falling off equipment less risky. In addition, sand under and around the play equipment serves also as a play source for children. On hard-surface material, children can pull wagons, ride tricycles, wheeled toys, play hopscotch, ball games, run, jump rope, and draw.

All the above design recommendations should be taken in consideration in the landscape of playsettings for preschool children. Children supervision is required in accommodation with most of the above activities; accordingly benches should be placed in various locations around the playsettings. The research, furthermore, will analyse playscapes with reference to participated activities and behaviour in a field study.

### **FIELD STUDY:**

Dr. Joseph Lee [5] in his book *Play and Playgrounds* offered many intelligent suggestions. For children under six, he suggested that the playground should provide workable materials such as sand, blocks, paper and clay; movable things, such as toys; props and places for dramatic play; and areas for social activities, such as circle games.

Three case studies are analysed according to playscape and playbehaviour with reference to the above mentioned equipment and design recommendations. The first case study represents a part of a school playground, the second is a day-care centre at the ground floor of a residential building, and the third is a nursery accommodating a residential building. The gathered information is based on a site visit to each case study, from two to three hours, and on comments gathered from teachers. The analysis is achieved through a description of each setting, the location of playscape within each, the playbehaviour taking place and ends by an evaluation of the successful and unsuccessful playscape in each case study:

### **Case I: Playgrounds in School Buildings:**

#### **Description:**

The MES preschool play yard is an L-shape one with an area of about 1500m<sup>2</sup>. It is directly detached to the nursery and first year of kindergarten through the back doors of the classes. On the other hand, KG2 classes are indirectly connected to the playground as they occupy the first floor. Serving a total number of 239 kids, 118 KG2, 98 Kg1 and 23 in nursery, the playground as one space is divided through time to three phases of use. KG2 uses it from 11.00 to 11.30 a.m., KG1 from 11.30 to 12.00 a.m. and nursery uses the yard from 12.30 to 1.00 p.m.

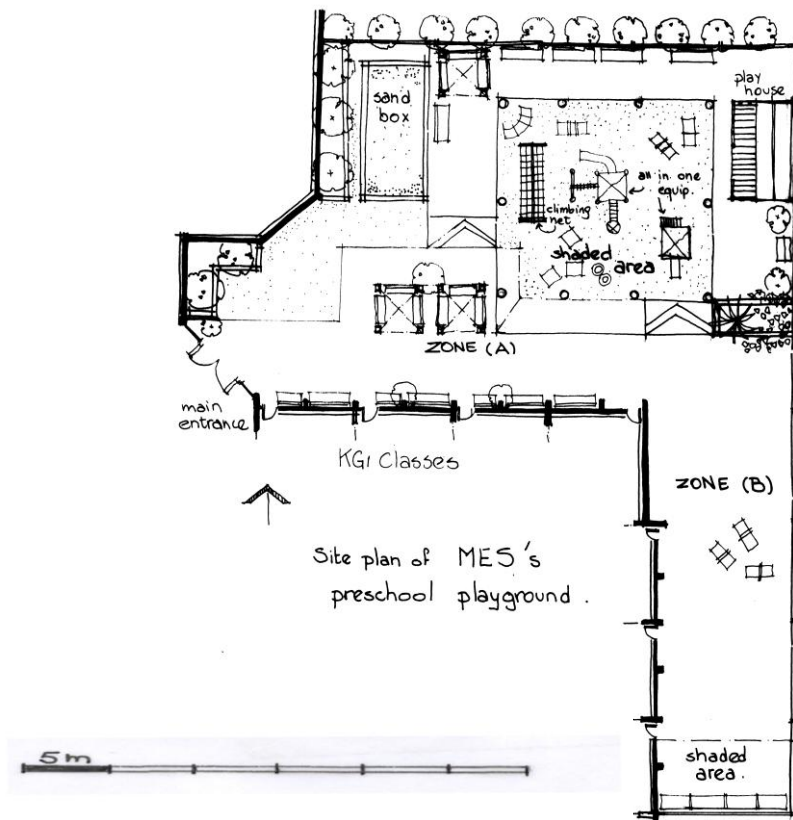


Fig. 1, the site plan of MES' s preschool playground.

### Playscape zones:

The play yard is divided into two zones. The first zone (A) by the entrance is the sand-surfaced play zone, which is divided into two settings separated by a hard-surfaced path. The first setting by the west embodies the sandbox, while the second to the east is a large shaded area that includes all the equipment of gross-motor activities. Fixed equipment as the climbing net, slides, a house, and an empty animal cage, while movable ones, as some swings and tires, are scattered by the area. The second play zone (B) is the hard-surfaced one by the south area, is a nearly empty zone, mainly used for playing football and running. In addition, to the play equipment, benches were along the edges and a number of three shaded areas for sitting were fixed near the entrance, fig. 1. Framing the playground from the outside are some trees in addition to a type of palm tree by the flower box separating both zones.

### Playscape and playbehaviour:

At the period of observation, from 11 to 12.30 children were engaged in various activities. Some children were found participating in emotional activities as drawing by the asphalt while many were more involved in perceptual as playing by the sand and hiding in the wooden playhouse. Similarly the "all-in-one" equipment providing physical activities as swinging and sliding was always in use. Football was relatively frequently played. Running in all directions was the main movement of most children. Using benches for supervision and social interaction was also observed. Plants were partly screened by the fence in the north side.

Teachers' comments confirmed the above observations, as most teachers and supervisors agreed that children prefer to play in the sand, "all-in –one" equipment and to play football<sup>1</sup>, followed by the rest of the activities.



Fig. 2, socially and emotionally stimulating activities.



Fig. 3, physically stimulating activities

### **Successful playscape with reference to play behaviour:**

- Good provision of social, physical, emotional, intellectual and perceptual stimulation.
- The sandbox is well ventilated and its edge provided a location for children to sit, watch and join, which accordingly enriched the playsetting.
- Sloped pavement separating the sand-surfaced area from hard surfaced area, which prevent sand from scattering around.
- Circulation between the playsettings avoids conflict with main playsettings.
- Variety of soft-surfaced and hard-surfaced playsettings.
- Variety of shaded and exposed playsettings.
- Plenty of seating, both formal (benches) and informal (ledges) which encourage social and group formation, beside supervision.
- Enough trash cans.

### **Unsuccessful playscape with reference to play behaviour**

- Riding and wheel toys were nearly missing.
- No animal or birds in cages.
- No plant pots for intellectual activities.
- The second hard-surfaced area [zone (B)] is poorly landscaped.
- Lack of water resources for play.
- No garden areas.

### **Case II: Playground at Residential Buildings:**

#### **Description:**

The playground of the Teddy bear kindergarten in Nasr City the 8<sup>th</sup> district is a rectangular shaped play yard nearly 60m<sup>2</sup> in area. The kindergarten serves about 16 preschool kids ranging from 2 to 5 years old. At the time of observation only 50% of the kids were at the kindergarten due to the inconvenient weather.

---

<sup>1</sup> Riding the scooter and tricycle used to replace the football in participation but most wheeled toys were broken at the time of observation.

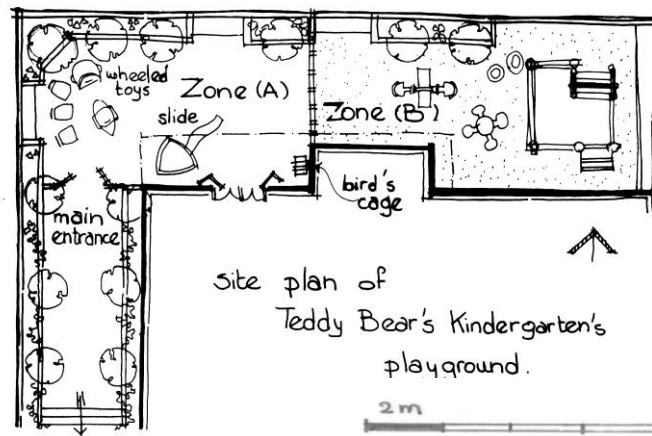


Fig. 4, the site plan of the Teddy Bear's kindergarten playground

### Playscape zones:

The playground is divided into two settings separated by a short wooden fence. The hard-paved setting (A) by the entrance of the nursery at the west is occupied by few wheeled toys, rocking-horses and a colourful slide in addition to some movable wooden chairs. The second setting (B) occupying the east area is sand-surfaced where fixed playing equipment exist beside some sand loose toys. Trees are planted in built-in pots by the north side embodying built benches in between, figure 4.

### Playscape and playbehaviour:

The wheeled toys were found to be the nursery's most popular playsetting, followed by playing in the sand, figures 5 & 6. Very few children were sliding, and swinging and none were observed playing with the loose toys. Teachers and supervisors were mostly sitting on the built benches by the north edge. According to teachers, sand play is the most preferable activity within the settings. The playground as a whole seems a little bit small to encourage nonstructured motor activities as running and hiding.



Fig. 5, physically & perceptually stimulating act.



Fig. 6 physically stimulating activities.



### **Successful playscape with reference to play behaviour:**

- A birdcage is hanging by the wall for intellectual activities.
- Colourful drawings by the north and west wall fence.
- The variation in plants by the north is very cheerful.
- Built-in pots have been designed to embody built in benches although their location does not encourage social activities it enables supervision.

### **Unsuccessful playscape with reference to play behaviour**

- The wooden fence, separating both settings, is unsuitable and unsafe for children's movement.
- The area is limiting children's physical motor play.
- The hard-surfaced area is a green covered area that does not encourage drawing.
- No water play and no garden areas.
- Conflict between children's playing in sand and those playing by fixed equipment.
- No shaded areas.

### **Case III: Playgrounds in Houses:**

#### **Description:**

The Baby Academy Nursery, at Heliopolis, is occupying a pre-residential house and serving children from 3 months to 6 years. The playground is U-shaped, of area about 430 m<sup>2</sup> and each class uses it at a different time. From 15-20 children are present at a time, sorted according to age. The observation took place when children from 3 to 6 were using it.

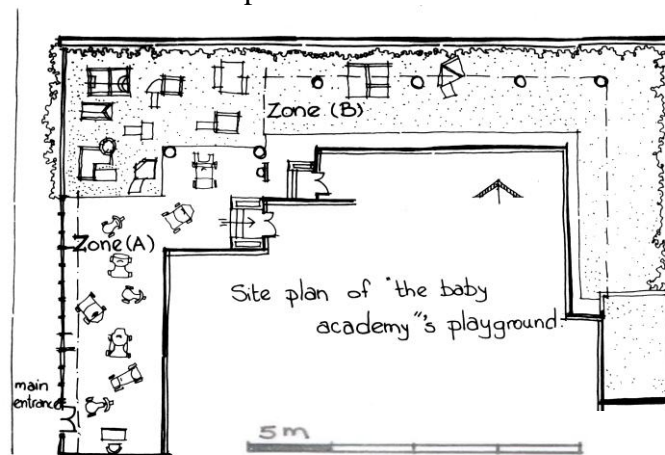


Fig. 7, the site plan of the baby academy's playground.

#### **Playscape zones:**

The play yard is divided into two zones according to the ground surface material. The south zone (A) by the entrance is hard surfaced with tiles, while the north zone (B) is sand surfaced. The hard-surfaced zone is sheltered and used for movable toys as mini-cars and tricycles, while plastic colourful playing equipment are located by the soft surfaced area as slides, playhouses, and a mini basket. The playground represents a toy exhibition more than a planned and landscaped area. The spirit of a playscape is missing, toys are just put together and crowded near the entrance. Plants by the north are surrounding the fence from the inside and from the outside by the west, figure 7.

### **Playscape and playbehaviour:**

Children were mostly using either the motor toys or the playhouse and few were running. No play with sand was observed, as sand was a little bit mudded and shallow. Most children, if not all, were playing the same game or activity, figure 8 & 9.



Fig. 8, physically stimulating activities in zone (A)



Fig. 9, physically & perceptually stimulating activities in zone (B)

### **Successful playscape with reference to play behaviour:**

- Shaded and exposed playsettings.
- Variety of shapes, colours and forms of play-equipment are attracting and encouraging for imaginative play.

### **Unsuccessful playscape with reference to play behaviour**

- No animals, or garden areas.
- The hard-surfaced area is small in comparison to the number of wheel toys occupying it.
- No seating or suitable areas for supervision or group use.
- No loose toys.
- Poor variety of surfaces' textures, materials and colours.
- Sand as a soft-surfaced area is shallow and a little bit mudded, hindering children to play with.
- Lack of hangout areas between play equipment to encourage social pre-joining.

The sum of the outcomes of the two research techniques; the observation and comments, with reference to the above design recommendations is outlined in the table below:

Table 1. Playscape according to the participated activities in case studies.

Stimulation	Activity	Play equipment	Surface	Case studies			Comments
				I	II	III	
<b>Physical</b>	Jump <sup>1</sup>	Trampoline/rope*	Soft	W	N	N	<sup>1</sup> nonstructured activities <sup>2</sup> structured activities * jumping was participated without using equipment.
	Climb <sup>1</sup>	Ropes / nets/steps	Soft	M	N	N	
	Slide <sup>1</sup>	Slides	Soft	M	M	M	
	Swing <sup>1</sup>	Swings	Soft	N	N	N	
	Rocking <sup>1</sup>	Rocking horse	Hard/soft	M	N	N	
	Hopscotch <sup>2</sup>	Flat surface	Hard	N	N	N	
	Hide/seek <sup>2</sup>	Places to hide	Hard/soft	W	N	M	
	Riding <sup>1</sup>	Wheel toys	Hard	N	H	H	
	Ball play <sup>2</sup>	Ball	Hard	H	M	N	
	Run <sup>1</sup>	Horizontal plane	Hard/soft	H	M	H	
<b>Intellectual</b>	Loose parts	Tires	Hard/soft	M	M	N	*Animal and birds' cages were empty.
	Plant	Plant pots	Hard/soft	M	M	M	
	Animals & birds	Cages	Hard/soft	*	W	N	
<b>Emotional</b>	Drawing	Chalk	Hard	H	N	N	
<b>Social *</b>	Watch	Hanging out areas	Hard/soft	H	H	M	*Social activities accompanied most of the others.
	Join		Hard/soft	H	H	H	
	Talk		Hard/soft	H	H	H	
	Sit	Benches	Hard/soft	M	M	W	
<b>Perceptual</b>	Playhouse	Playhouse	Hard/soft	M	N	H*	* variety in shapes of playhouses
	Sand	Sandbox	Soft	H	H	W	
	water	Tap or pool	Soft	N	N	N	

Key: degree of existence and participation: H: high, M: moderate, W: weak, N: none.

Note: average area per child: case (I)= 15 m<sup>2</sup>/child, case (II)= 4m<sup>2</sup>/child, case (III)= 21m<sup>2</sup>/child.

The above case studies cleared out a number of factors that need attention. In terms of physical stimulation, most playgrounds fulfilled the physical activities specially the non-structured through colourful, attracting individual and “all-in-one” equipment. It has been noted that most playsettings do not encourage hide and seek and their surfaces hindered the existence of hopscotch. The emotional stimulation was weakly fulfilled, except through social interaction between children. In terms of playscape surfaces only one case study encouraged drawing which was highly participated. Social stimulation was highly fulfilled through children’s interaction, but through landscape elements as benches and hanging out areas still there is a lack in both. In terms of intellectual stimulation, playing with loose parts, specially when accompanied with sand was one of the most preferable activities but taking care of animals, birds and planting was relatively poor. Finally, perceptually stimulation activities as playing in playhouses and sand were the highest participated activities but playing with water was missing in the three case studies leading to a lack in fulfilling part of the perceptual stimulation. While in terms of natural landscape elements, relatively poor vegetation and lack of colour is a main symptom in the three case studies. In sum, there is a noticed neglect to the emotionally, socially and intellectually stimulating activities when compared to the physically and perceptually stimulating in terms of landscape design of playsettings, which accordingly has its defect on children’s growth.

## **CONCLUSION**

The study represents an indicative between playscape and playbehaviour of preschool children. Taking playbehaviour as a reference to planning and landscaping playgrounds, better and well designed playscapes are resulted. Through the above case studies and by using both techniques, the observation and interview, it has been observed that there is a great need for well designed playscapes respecting children's needs and behaviour. Playscape should not only include colourful attractive play equipment but above all should also be equipped to support the most likely and desirable activities that are expected to enhance their healthy growth and development. The wider the variety of activities the playscape supports, the richer and more stimulating the environment it will be and the greater the contribution it will make to children's growth and development. Finally the paper asks for more designed playscapes for children taking playbehaviour and activities' stimulation in consideration. Moreover, it calls for taking thorough knowledge of play and of children's various developments into account in the landscape of playgrounds.

### **References:**

- [1] Abou El Ela, M., "Recreational Spaces in Cairo through Time and Space", proceedings of the 37<sup>th</sup> ISOCARP congress in Utrecht, the Netherlands, (2001).
- [2] Dattner, Richard, "Design for Play", The MIT Press England, (1974).
- [3] Eriksen, Aas, "Playground Design: outdoor environments for learning and development", Van Nostrand Reinhold Company, (1985).
- [4] Kelly, John R., "Leisure Identities and Interactions", Leisure and Recreation Studies I, (1983).
- [5] Lee, "Play and playgrounds", American Civic, Association, Boston, Department of public recreation, leaflet # 11, (1928).
- [6] Moore, Gary T., The Physical Environment and Cognitive Development in Childcare Centers. In "Spaces for Children: the built environment and child development", ed. Carol S. Weinstein and Thomas G. David, pp. 41-72 New York: Plenum, (1987).
- [7] White, Burton L., "The first three years of life" Englewood Cliffs, NJ: Prentice Hall, (1975).