

Research Article

INVESTIGATION OF EFFECT OF SPATIAL DESIGN ON GROWTH OF CHILDREN IN AGE RANGE OF 3-6 YEAR OLD

***Shaghayegh Ghaemifar¹ and Abdullah Jabalameli²**

¹Department of Art, Isfahan (Shahin Shahr) Branch, Islamic Azad University, Isfahan, Iran

²Department of Art, Isfahan (Khorasgan) Branch, Islamic Azad University, Isfahan, Iran

**Author for Correspondence*

ABSTRACT

The main and basic ages, in which identity and personality of people can be formed, is childhood ages. Hence, considering training issues and growth of children is so significant. Today's children have least interactions with others because of specific urban architecture and also specific forms of training. They may also face many problems as a result of irregularity of urban architecture and resulted mental stresses. Children and adolescents, as society members, can be considered as users of man-made environment with a series of specific needs and desires. The main objective of the present study is evaluating specifications and criteria of entertaining-training centers for children and adapting them with training children in view of architecture. Applied method in this study is descriptive-analytical method based on library, documentary and comparative studies for purpose of achieving studies in regard with principles and criteria of children design and architecture. Through using the solutions, one can create suitable domains for desires of children for purpose of designing sustainable pedagogical place and mass environments. The scopes should have procedure-based, dynamic and creative characteristics of children and their desires and ideals in it.

Keywords: *Children, Architecture, Designing Principles, Entertaining and Training*

INTRODUCTION

Growing process of children in early years of life can be resulted from many factors, which encompass not only training methods and manner of view of family and society, but also it encompasses structural specifications of activity environment of children too. Main activities of children include sleeping, eating and playing. Environment of kindergarten should be adjusted with type of activity of children in different age groups. Design of kindergarten adjusted with conditions of children is possible through applying principles of designing based on their physical and mental characteristics (Talebi, 2000).

Over the decades, development of science and technology and considerable growth of population around the world and in Iran can cause paying special attention to training issues and academic environments of children and adolescents. Unfortunately, most academic places in Iran like kindergartens and schools have been constructed in spaces with non-academic and inadequate uses environmentally like residential and commercial places. Building academic places in such environments can cause lack of efflorescence of their creativity and talent and these talents remain in hidden form as national asset of the society. Structured places refer to any kind of place around us, which can be made by people. The environments include buildings, and natural facilities and spaces, in which people live, play and work. Schools, houses, parks, spectacular zones, shopping centers and transportation infrastructures are totally some parts of man-made environments.

Children and adolescents, as society members, can be considered as users of man-made environment with a series of specific needs and desires. An important issue in this regard is considering their entrance to this project (Ismail Zadeh, 2011). Accordingly, the present study has attempted to evaluate specifications and characteristics of Child Paradise and adapt them in view of sustainable architecture to determine position of kid-friendly space criteria in sustainable development.

Theoretical Literature

Since approval of Global Treaty of Children Rights, important and various activities have been started that can specify structure of children rights. Some of the mentioned activities are presented as follows:

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Earth Summit, Agenda 21: world leaders gathered together in Earth Summit by 1992 in Rio de Janeiro and codified relevant orders of agenda 21. Children and adolescents were recognized as main groups, so that they can participate in process of sustainable development.

Urban Summit, Rights of the Child and Human Habitation: among different activities for social and physical environment development, "Earth Summit" on presented by human habitation of the UN (1996) in Istanbul is so important. The summit has emphasized making adolescents and children to participate establishment of small and big cities and neighborhood regions by governments.

Chile Protection Meyers: the international creativity of action was started in 1992 by UNICEF. Meyers and officials of municipalities encouraged people to prefer needs of children and to enhance their participation in development of the society and decision making (Dorsy, 2008).

Definition of Child

According to definition in Moein Persian Dictionary, child means small, underage and a child, who has not reached maturity (boy or girl) or peewee (Moein, 1983). According to legal definition of Islamic Republic of Iran, child can be considered as a person, who has not achieved maturity age. In note 1 of article 8181 approval of 8831 by Islamic Council, Civil Code has considered age for boys to 15 and for girls to 9 year old (Mansur, 1998).

Convention on Rights of the Child, which its provisions have been approved in 2009 by General Assembly of the UN and has been also accepted by Iran's Islamic Council by 2009, has referred in its article 1 that a child is a person with age below 18 years; unless the age has been determined below it according to Executive Law on child (UNICEF, 1997). From perspective of Iran's Census Center, child can be regarded as a person, who has not permission for job activity. In this definition, maximum age of child is 18 years (Shiite, 2006).

Contexts for Growth of Children

Growth means changes that are constantly along with progress. These changes would be formed regularly in specific domain and pattern. Observable growth is evaluation and measurement that can be appeared in neural system, physical status and behaviors. Effects and symptoms appeared in behavior of individuals can form growth rate index of individuals. Growth can be formed in different physical, mental, emotional and social dimensions. Growth of children in different scopes and their skills in different domains can be classified as follows.

Physical Growth

- Physical skills
- Mutual cooperation and adjustment of organs
- Strength and sustainability
- Smoothness and elegance of actions
- Safety and protection skills

Mental Growth

- Learning about size and volume of objects
- Utilizing mind, imagination, logic and skills for problem solving
- Learning about time, space, weight and gravity of the earth and outputs that can create order and arrangement and counting.

Social Growth

- Communicating others and membership in group
- Accepting individual and social responsibilities
- Social sensitivity, justice and intimacy
- Trust in others, sharing toys with them and playing with them
- Adjusting themselves with inadequate situations

Emotional Growth

- Sense of freedom
- Ability of defending individual rights
- Ability of controlling violence

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- Self-learning and individual satisfaction
- Art of patience and self-esteem (Talebi, 1994).

Pedagogical Activities and Games of Children

Pedagogical Activities and Games of Children in Infancy Age Range

At the early days of this age, learning of children would be achieved through touching objects. Children try to catch objects and bring them close to their mouth. Different objects are suitable for infants such as ball, plastic ring, and smooth dolls.

Children would begin walking, when they are 1 year old. By this age, suitable objects for them include doll, plastic animals, car, rattle and big Lego.

Toys with wheels that children make them moving on the ground can cause harmony between hands and feet and is suitable for this age group.

Pedagogical Activities and Games for Toddlers

Teachers use pictorial books in happy colors and big pictures to tell story to children or can use exhibition dolls for storytelling.

Coarse Lego and wooden pieces or big plastic objects in different colors can help them to understand concepts.

Big perforated pieces or empty spools can be provided for children to thread them.

By this age, children enjoy playing with outdoor furniture like swing and sliding board.

Drawing would be begun in this age through tracing irregular lines.

Pedagogical Activities and Games for Young Children

Puzzle, wooden cubes, Lego, watching picture books

Doll house, construction equipments such as bolts, hammer and cars

Playing paste, hand crafts, painting and collage

playing in outdoors like throwing and catching balls, walking on balance beam, skating rink, swing, water games, playing with sands and group game with teacher

Storytelling and puppet show (Talebi, 1994).

Rights of the Child

Convention on Rights of the Child approved by Assembly of UN on Nov 1918 is the most important international document in regard with children and the first international legal instrument for guaranteeing wide range of human rights for children. 11 paragraphs of the treaty can be considered as a "Human Rights Bill" for children, which ask signatory countries to provide some conditions for children to play active and creative role in social and political life of their country. The mentioned bill supports primary rights of children to have a healthy and safe environment and to have right of expressing their ideas in regard with effective subjects in their life and also to transfer and receive peaceful information and ideas and society (Dosik, 2008).

Role of Architecture in Academic Environments for Growth and Creativity of Children

In view of many scholars, architecture with long background plays key role in formation and evolution of human as an important element of culture. In this regard, architecture of academic is so important, which encompass long time of human life.

This is because; specific environmental specifications affected by both subjects of architecture and training like light and color and especially effect of academic space on quality of training and behavior of students and teachers can provide a close relationship between architecture and training. Walter Gropius has stated in this regard that if academic environment aims in being a useful domain for next generation, its atmosphere and buildings should be designed in a creative form, not just an imitation of other forms of academic places.

A stimulant environment for releasing thoughts and creative expression is as important as teaching methods. In addition, quality and quantity of places have key role in training and learning. Unlimited hotness or coldness of the class, inadequate light and cleanness of the class, unreasonable noise in class and overcrowded classes can decrease quality of teaching and learning. In addition, architecture of academic places can be considered as one of the most effective parameters in training and education.

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Scholars have emphasized different factors like family, teacher, teaching method, books, educational management and other factors as effective factors in educational process. Architecture or physical space of academic places as a live and dynamic factor can also play key role in quality of academic and training activities of students (Gropius, 2006).

Effect of Environmental Conditions

Light: one of the most important elements of architecture for purpose of providing facility is a dimension that its mental effects are different among people. Studies have indicated that natural and transparent light can affect feelings of children positively. In their opinion, these places are happy and friendly.

Noise: Children like noises and light sounds help imagination of children. However, noise resulted from traffic of commercial uses and workshops are undesirable sounds of places for children.

Air Conditioner: For purpose of working in academic places, good air conditioner should be provided: a) Determining surface of open surfaces to the direction of winds b) using suitable materials in walls and c) using plants and trees as natural air conditioner of surrounding area.

Architects are responsible for designing some environments for children as follows:

Nature Spaces: These spaces include places such as tree, water and living things, which can form the most important and basic spaces for children.

Open Spaces: Wide areas that children can run in them and discharge their internal energies.

Road Spaces: Before presence of cars, roads have been main land for children to play. Children can meet each other in these roads. The roads are a network that can connect various spaces.

Advent True Space: The spaces are full of complexity, in which imagination of children can be empowered.

Hide Out Space: Independence of children can be enhanced through these spaces.

Play Structure Space: Spaces that have been designed with structure of different games for children.

MATERIALS AND METHODS

Methodology

Applied method in this study is in kind of descriptive-analytical method based on library and documentary studies. Required data for this study have been collected from relevant books and papers in this field. In addition, comparative method has been also applied for purpose of achieving studies in field of principles and criteria of design and architecture for children.

RESULTS AND DISCUSSION

Results

Architecture and Training

Urbanization and architecture, which some factors can affect their structure, depict same principles and they can not only be used in life of their founders, but also they can affect life of other social classes too.

Suitable space for children should be in wide dimensions and should be also evaluated in terms of quality for both consumers and children. In addition to play spaces, children need also other spaces such as gang up spaces, happy spaces, learning, loneliness and interaction spaces, so that they can build their imaginations in these places. For children in different age groups and due to their physical, mental and behavioral characteristics, a special space should be designed. Child parks with their green spaces and open spaces can be effective in florescence of children's talents and can be also a response for their needs for having personal and special place for themselves. According to relevant studies, environmental training is also a requirement for comprehensive success of children and growth of their senses and interaction with the environment.

Some Physical Sentences on Designing for Children

Spaces with various places:

Children need special rooms for themselves for their favorite activities that have ability for providing movement for them like running, jumping and racing. They need large rooms as a certain index for operative qualities.

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Team rooms: Central spaces like entrance space, hall, scene and other spaces can be regarded as places for meetings and can make group activities possible. These are activities that children and adults are interested in them.

Small rooms with Doors: This is a part of daily life of children, so that they can interact with other children and can be also alone sometimes. Hence, children need rooms to be alone in them for being silent to rest and be relaxed and sleep.

Corners and sides of rooms: Children like elbow room. Young and older children would be attracted to these places as magnetics. Spaces that are snug have safety, intimacy and some events. One can be hidden in these places and chatter and think about future plans and other things.

Stairs: People do many works through stairs; can sit on stairs or between them or go up and jump and can be hidden under the stairs. Stairs have also guards.

Second floor: On the floor or stairs, children feel high rate of up and down stretching. One can be hidden on top of the stairs and watch what is being happened. Children can also create exciting games between upper and lower parts.

Towers, tree houses and upper places: Up... up and upper is a specific training method for children to gain happiness and excitement.

House structure: Walls, floor, shelters and columns and pipes have what in common with behavior of children? Children make these elements based on their tendency and go in them most of the times.

Addition of elements: Children like to use doors, windows, stairs, corridors, light button, WC and all practical things independently and without help of their parents. Size of these elements should be suitable and should be adjusted with little children. Conditions should be in a manner that children can independently use them.

Furniture for children: Furniture like tables, chairs, desks and commodes are not the only operative furniture for children, but also they can be regarded as toys. Children want to make things with them. Going through furniture and tunnels among them can be other plays for them. Older children can arrange furniture and move them toward corners.

Special games: Big sliding rink is near the stair guards and children climb it. Special mesh of acrobat and meshed desk and water bed, mirror walls and painted walls are so attractive for children.

Things and instruments of adults: Most of the times, adults prevent their children using their personal things like type machine in a manner that they may also hide these things in their commodes to keep them out of reach of children. Building things of adults in form of toys and giving them to children can make children to enter world of their parents. Using these things can be significantly exciting for them, since this has been forbidden for them.

Picture, book plan, and library: Library is a center of talent for children.

A kitchen for children in a corner of kitchen: A place that is interesting for girls and even boys is kitchen. Teaching them cooking foods along with kidding and enjoying cooking foods is interesting.

Different places for storing different things: Enough space (floor of stock and corners and executive equipment)

View of windows and other communicating ways: All children like to go from one room to another and going from up to down and from inside to outside.

Outdoor space inside the home: Children like to be able to do things inside the house that can be usually done in outdoor, in which the weather is pleasant. If quality of inside rooms and equipment of outdoor are provided, children has the feeling that many good events are being happened in their home.

Outdoor and surrounding area: Inside and outside are attractive places for children; although mostly outside space is more public than inside. Particularly, outside area has more space for movements of children.

Children need open spaces near their home with different qualities and possibility of taking different activities. They need lichgate, yard, open spaces and attractive playing equipment.

Nature: Children like the nature and natural elements like sun, water, fire, plants and animals. They are significantly under effect of experiences of nature to explore rules and imaginary laws of the nature.

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Conclusion

Today, it has been found that people can be affected by spaces more than affecting them. Learning environments can be formed of some elements that would be meaningful along with each other. Specifications of each mentioned element can affect formation of different behaviors. Hence, quality of the environment and amount of available data in the environment includes some important points that should be considered for designation of training spaces for children. Therefore, existence of windows with view to open spaces and close relationship with the nature is essential and positive in regard with growth and prosperity, mental balance and relaxation of children and can affect significantly correction of their behaviors and reduction of their aggressive behaviors. Natural light of space, communicating visual and audial relationship with green space and also creating systematic games and group activities in open spaces can affect reduction of behavioral disorders too. Possibility of playing in water, planting vegetables by children, playing with light and shadow, playing with sand and similar materials can affect promotion of motivation and release of emotions of children. The mentioned actions can be also suitable contexts for group activities of children.

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