Promoting children's creativity through designing urban environments

Avin Khalilolahi[1*], Ali Qaffari[2], Afzal sadat Hosseini[3]

[1]Ms.c in Urban Designing, Faculty of Architecture and Urban Development, Shahid Beheshti University; [2]Ph.D in Urban Development, Professor at the Faculty of Architecture and Urban Development, Shahid Beheshti Unviersity; [3]Ph.D in Education and Nurturing Philosophy, Associate Professor at the Faculty of Psychology and Educational Sciences, Tehran University

Abstract

One of the principles of developed countries is the existence of a talented innovative work force. Children and adolescents, as the creative assets of the future, are the basis and principle of the cities' dynamism and stability in the future; therefore, providing an open space for the creative talents of children and adolescents to flourish for providing the city's future need for them is necessary. Lack of proper standards for designing and open spaces in accordance with the needs of the children has led to studies regarding the attendance to the basic wishes and needs of children like health, transportation, support and education and the growth and flourishment of the children's creativity, as one of the child-friendly standards of cities has been pointed out. With the belief that the physical environment must provide the conditions for living and flourishing the talents and capabilities of children through creating appropriate grounds, the goal of this study is to present a design guide in which guidelines are presented in order to improve environmental qualities of urban environments to educate the children's creativity. In this study, which is of the interdisciplinary and practical nature, the descriptive-analytic approach has been used. Therefore, first through the study of the theoretical basis in the field of flourishing the children's creativity and analyzing it, the effective factors on nurturing children's creativity are found and then, the approaches of the child-friendly city and creative city are studied and analyzed and then, their coefficients in devising the design guide has been utilized. This guideline includes the principles and guidelines of urban design. These principles are comfort and convenience, connection with nature, complicatedness and mystery, creativity and innovativeness, flexibility, social interaction and collaboration with the children.

Keywords: Creativity, effective factors on nurturing children's creativity, child-friendly city, creative city

Introduction

Nurturing all the innate aspects of human during childhood can be considered as an opportunity for the child and help him achieve the real truth of life and reach a proper life and in the same way, creativity too, as one of these innate aspects is among the items that with attention and effort for nurturing it during childhood can cause the creation of the conditions for the child's growth in the future and lead to the development of the society. The human being is innately creative, but this creativity is connected to the environment in which his mind is located and if the conditions were to be appropriate, he makes efforts to accomplish creative actions with a unique and unimaginable enthusiasm (Bohm, 1998: 11). Environmental interaction in the age periods of infancy, childhood and adolescence has immediate effect on the growth of their creativity and since urban open spaces are accounted for the place in which the children spend most of their time in their living environment, they play important roles in the growth and nourishment of physical, cognitive and creative capabilities of the children as a result their interaction with these environments. It

seems that mature people have prepared urban environments for themselves, consciously or unconsciously in many cases and in this regard, children do not have appropriate positions, especially in big cities. As a result of the lack of proper designing standards and open spaces in accordance with the children's psychological realities, their innate talents do not grow properly.

Research questions

• What are the effective factors in promoting the children's creativity that the environment plays an important role in achieving them through interaction with the environment and people? What capabilities must the environment enjoy so that these factors have the grounds for being achieved?

• How can the child-friendly and creative city help create the needed environmental capabilities for achieving effective factors in promoting the children's creativity?

• What are guidelines of urban design for promoting the children's creativity in urban environments?

Research methodology and process

In this study, which is of the interdisciplinary and practical nature, the descriptive-analytic approach has been used. Therefore, first through the study of the theoretical basis in the field of flourishing the children's creativity and analyzing it, the effective factors on nurturing children's creativity are found. By studying resources in the field of environmental psychology, the necessary capabilities for providing the effective factors on nurturing the children's creativity were determined. Then, the approaches of the child-friendly city and creative city are studied and analyzed and the way their standards were utilized to provide environmental capabilities was studied. In the end, the guideline for designing urban environments that nurture children's creativity was devised.

Literature review

Attention to the subject of children in the city was first given in the 1980s. The study of the subject of children in the city has been done under the title of child-friendly city in which experts of environmental sciences, urban developers and architects use different methods such as analyzing educational sciences and psychology and sociology of children, children collaboration, etc. to reach coefficients and principles for designing living environments for children and followed different goals such as giving citizenship rights to children, expanding awareness, increasing social collaboration, reducing violence against children, attention to environmental issues, etc. Most of these studies were in the fields of appointing basic and citizenship rights to children and attending their basic and principal wishes and needs such as health, transportation, support and education.

No study regarding the subject of promoting children's creativity has been done specifically in the field of urban design and few studies have mentioned the growth and promotion of the children's creativity as one of the criteria for child-friendly cities. In the field of landscape architecture, a Ph.D. thesis entitled the principles of designing urban parks based on improving children's creativity in the Science and Industry University and a paper entitled the role of open spaces of the neighborhood in the growth and nourishment of the children's creativity in Baq-e Nazar Journal. In these studies, the principles of designing children playgrounds with the goal of increasing their creativity have been discussed.

Effective factors in promoting children's creativity

Regarding the nature and definition of creativity, there has not been an agreement between researchers and psychologists. The different perspectives of the psychologists have led to different definitions of this subject that in summary categorize the definitions of creativity as follows:

• The approach that centralizes individuals' personality feature, meaning the set of capabilities and features that lead to creative thinking.

• Some others pay attention to the creation process -meaning that the formation of litigant elements in the form of new combinations that apply to certain necessities or are proficient in one way or the other.

• There is another approach that regards creativity based on the product of creativity, meaning the results of creativity such as theories, inventions, etc. and another approach that is about the cultural and environmental impacts (Azemati, 2008: 23-24).

The most important results of these three approaches are the following items:

• All people have creative thinking (Runco, 2007: 35; Lin, 2011: 151; Hosseini, 2008: 12). The results of creative thinking are theories, approaches, tools, ideas and new services entitled as products of creativity. But the product or result does not come to existence unless it is bonded with the social process and grounds and it has the following two conditions:

- It must be different with the things that person has done before.

- It must be correct and meaningful and used as a tool to reach a proficient goal (Csikszentimihalyi, 1998: 330; Amabile et al, 1994: 964).

• In the creation process, the two aspects of thinking (convergent and divergent) are utilized:

- In the first stage, using divergent thinking and with the use of the power of imagination and through searching, innovative and new ideas and methods are discovered.

- In the second stage, with the utilization of convergent thinking and the use of the gained knowledge and skills in a specific field and experimenting and evaluation, the discovered ideas are processed (Mayesky, 2009: 5; Guilford, 1959: 172; Lin, 2011: 151).

• Creativity as a capability is affected by different individual and environmental factors. Like individual features, individual factors are also affected by different environmental and social factors; therefore, nurturing creativity in children needs a creative system. Individual factors that are related to individual and personal features include cognitive capabilities, personality features and the person's intrinsic motivation and also the environmental or external factors in relation with the person's circumstances in relation with the physical and social environment (Hosseini, 2008: 33). Environmental factors affect the person's creativity indirectly and through the impact on individual factors. In this way, if that person was to be put in an environment in which all the proper conditions for creativity were provided and the individual factors that are innate in that person were not oppressed by the environment and external thoughts, the environmental will play its role as an effective factor in that person's creativity nurturing.

Like all the other talents and potential, children need education to gain the skills of creative thinking and the personality features of a creative individual. This education begins at an early stage of childhood by being present in the environment and in interaction with others, without the child's knowledge and when the child enters the school, official education, next to unofficial education which used to be done through the life's routine experiences, begins. The obvious role of official education in nurturing children's creativity during these long years has led to the conduction of several studies in the field of creative educational methods. However, the importance of environment in learning through gaining experience cannot be neglected. In a conclusion of the analysis of effective factors in nurturing children creativity, the most important factors that the environment plays an important role in achieving them through interaction with the environment and the people were identified. These factors include:

• Stimulating the sense of curiosity in the child

• Bringing forth the child's imagination

• Nurturing the features of bravery and risk-taking in the child

• Increasing the sense of independence and confidence in the child

• Providing the freedom of thought and action in the child

• Providing the physical and mental security for the child

• Respecting the child

• Collaboration in group and social activities

• Positive and valuable approach to creativity (Amabile, 1998: 84-85; Deci, 1971: 114; Mackinnoh, 1962: 487; Runco, 2010: 321; Hosseini, 2009: 134; Hosseini, 2008: 34).

Environment that promotes children's creativity

Environmental interaction in age periods of infancy, childhood and adolescence is necessary for the growth and flourishment of physical, cognitive and creative capabilities of people (Sutton et al, 2002: 172). The individual's living environment in this period has an immediate effect on the essential form and the physical and mental growth of that person. Each of the affective factors on promoting the creativity of children to achieve it, they need conditions and capabilities in the environment. These capabilities provide the possibility for the children to do different activities. One of the most important factors among them is to stimulate the sense of curiosity in the children. Since children are naturally curious about the world in an effort to know and understand it, they are spontaneously and enthusiastically searching, their living environment must be curious.

The child's sense of curiosity is stimulated in an environment with new, eccentric, uneven or mysterious elements and in a way provide the possibility to discover spaces for the child (Arnone, 2003: 2). The need for stimulating feelings and the joy of experiencing new and desirable spaces is related to the quality of discovering these spaces. Therefore, a curious environment is one that provides the possibility to discover spaces for the child. Added to the curiosity, the environment that nurtures children's creativity must be imaginative, meaning that it must bring forth the child's imagination.

Like their sense of curiosity, the imagination of children grows in environments in which they can discover it. In fact, after the sense of curiosity was stimulated in the children, they experience and analyze environmental motivators and as a result, the sense of curiosity poses questions to the mind. In these conditions, if the environment was to be motivating, it prepares the grounds for the child's imagination (Altman, 1977: 286).

Imagination is either active or passive. Passive imagination is the recollection of incomplete environmental signs from the environment without the child having any hand in recollecting them. In passive imagination, the child is in contact with the environment in a non-active fashion such as when the child imagines by looking at the different shapes of the clouds, watching a play, etc. But in active imagination, added to recollecting, the child can also manipulate it (Maureen and Ravisha, 2009: 59). In fact, the child becomes actively in contact with the environment through manipulating and changing the environment and directly experiencing it. Therefore, the environment that stimulates the children's imagination and provides the possibility for active and passive imagination for them expands the grounds for imagination in the environment for the children.

Only an exciting environment that elevates their aesthetic experiences can bring forth the active and passive imaginations of children. Only the things that stimulate all the children's senses are exciting for them (Moon et al, 2013: 224). Different things can be exciting for children for various reasons such as having colors, attractiveness, difference and the ability to change. Also, everything that the child can look into, manipulate or use in different ways has aesthetic potentials

and is effective in the child's imagination (Mayesky, 2009: 46). It is important to note that independence during the action is of great significance. Since the child is innately active and discovers for itself, if there were no barriers, he would become creative. In fact, creativity is flourished through freedom.

Freedom for children includes two aspects: freedom of thinking and freedom of action. Freedom of thinking provides the possibility to express his beliefs, in conditions where the child enjoys value and respect. And freedom of action needs an environment in which provides the possibility for the function of different activities for the child and gives him more options to choose an activity which he has a tendency for and enjoys. This causes the child to have intrinsic motivations for his activities (Amabile, 1983: 361). On the other hand, as it was said, after the sense of curiosity was stimulated in the child, his active imagination during the change of environment is stimulated; therefore, freedom provides the grounds for the expansion of the child's imagination through providing the possibility to manipulate and change the environment.

Added to that, other personality features of independence, confidence and risk-taking which are the characteristics of creative individuals, are nurtured in an open environment. It is only in an open environment that the child finds the opportunity to think, decide and act and consequently, reduce the amount of dependence on the parents and find thinking and action independence from an early stage and boost the confidence (Duffy, 2001: 51). But the necessary thing for all the free activities of the child is to provide the grounds for his secure and comfortable presence in the environment.

The environment that nurtures the children's creativity must enjoy the amount of convenience that guarantees the child's physical and mental peace. In this way, the grounds for the child are provided through which he can freely experience and look into the environment, experience the dangers easily and use his power of innovation and imagination. Together with environmental interactions, what is obvious and important is the growth and nourishment of the child's creativity in connection and interaction with others.

Interaction with others has the biggest role in the formation of the individual's motivating beliefs. In the first stages of creativity, attention to talents and encouragement, stimulating and guiding the motivation, attention to the quantity and quality of the individual have roles in the nurturing of the capabilities and the formation of motivating beliefs (Runco, 2010: 342). Added to that, the environment that accepts population and in other words, provides the possibility for social interactions with different sectors of the society for the child, together with individual activities, also provides the collaboration in group activities for him. Consequently, the senses of belonging to the group, sense of being valuable and being respectful is created in the child and as a result, his confidence is boosted. Together with these factors, as much as the environment had a better situation in terms of creativity, creative activity and gaining positive results seem easier through that (Pisanu and Menapace, 2014: 150). This means that the child's living environment must accept creativity and have a positive approach toward creativity.

Evaluating and appreciating any creative activity, if followed by success leads to the affirmation of the creative individual's capability and behavior and can cause boosting in intrinsic motivation and consequently, efforts for increasing skills in relation with the subject and creative skills. Lack of timely appreciation, negligence or ignorance can delay the discovery of creativity and this causes the lack of providing the grounds and facilities that are worthy of the creative individual and thinking and eventually, lack of opportunities to display creativity (Runco, 2010: 356). This subject shows the importance of the environment that encourages and stimulates the needed facilities for new and creative thinking and accepts new ideas and plays its role in the formation of

motivating beliefs without the preconceived limits and boundaries in nurturing the children's creativity.

Analyzing effective factors on nurturing children's creativity and the needed environmental conditions for achieving these factors in the environment shows the close connection between these factors, in a way that the growth and nurturing of some of these factors, needs the providing of all the other factors. With regard to this subject, six factors were devised for environment that nurture children's creativity that were also noted in the context. Meaning that each environment that has put the growth and nourishment of the children's creativity in its perspective, must have these six factors. To achieve each of these factors, the environment must enjoy capabilities so that it can reach the effective factors on nurturing children's creativity through it. Table 1 is a summary of the above mentioned items:

Table 1: Factors of the environment that nurtures children's creativity (source: authors)

Environment capacities	Effective factors in nurturing children's creativity	Factors
• Peace and comfort in the environment	• Provides the grounds for the achievement of all effective factors on promoting the children's creativity	convenience
• Providing freedom of thinking and action • Having the right to choose. • The possibility to change and manipulate the environment. • The possibility to discover the environment	• Nurturing bravery and risk-taking in the child. • Elevating the sense of independence and confidence in the child. • Respecting the child. • Stimulating the child's sense of curiosity. • Bringing forth the child's imagination	Freedom
• The possibility of interaction with different sectors of the society • Sense of belonging to the group	• Taking part in group and social activities •Respecting the child • Elevating the sense of confidence	Inclusiveness
• Propagation of creativity	• Positive and appreciating approach to creativity. • Respecting the child	Creative-friendly
• Existence of new, diversified, mysterious and complicated elements in the environment. • The possibility to discover the environment. The possibility to investigate, manipulate and change the environment	• Stimulating the child's sense of curiosity • Bringing forth the child's imagination	Curiosity-friendly
• The possibility of discovering the environment. • The possibility to investigate, manipulate and change the environment	• Stimulating the child's sense of curiosity • Bringing forth the child's imagination	imaginative

Urban design based on promoting creativity in children

Urban open spaces are appointed for a huge proportion of the routine living time and environment of the citizens, including children. If there was no place outside the house and the

public spaces of the city to go, search, play, find, watch and display excitement and creativity, the result is reduction of physical dynamism, environmental awareness, lack of interaction with the surrounding environment and the appearance of the sense of boredom in children, which in turn, provides the grounds for the display of abnormal behaviors and reduction of genuine childish creativities (Mazafar et al, 2007: 60).

With regard to the factors of the creativity-aspiring environment, the general goals of designing a physical environment for promoting children creativity are:

- Providing the grounds for children's presence
- Motivating and stimulating children's curiosity
- Bringing forth children's imagination
- Providing the freedom of presence for children
- Elevating the level of social interactions for the children
- Increasing the propagation of creativity in the environment

To reach methods of urban design to achieve these goals in urban environments, the approaches of child-friendly and creative cities were studied. Until now, several studies have been done regarding the children-centered environments during which experts in environmental sciences, urban developers and architects used different methods such as analyzing educational, psychological and sociological sciences for children, children participation, etc.

Table 2: Standards of child-friendly city (collected by authors)

Standards of child-friendly cities	Studies of child-friendly cities
Social interactions, safety and security, green spaces, environment health, access to facilities	Driskell in his book entitled "Creating Better Cities with Children and Adolescents"
Access to natural services, facilities and spaces, security, accessibility, diversity of activities, environmental cleanliness	A report entitled "Question from children, relooking the children's understanding of welfare"
Access to green spaces and facilities, proper communications and health, safety, security and diversity of choices	Chawla's research on children between the ages of 10 and 15
Security, services of public transportation, child participation, providing basic needs and greenery	Studies of the Association of Preventing Child Abuse in Australia
Security, accessibility, universality, collaboration and services	Bartlett, in his study entitled "Creating better cities with children and the youth"
Children's living welfare, children participation and access to services, green spaces, universality	A UNICEF based association in France with the support of the national board of municipalities in France
Providing basic services, physical and mental security, diversity of activities, creating a sense of belonging in children and guarding the environment	Lisa Harreli in a study on Finnish children and adolescents
Appropriate playgrounds, safety, security and public transportation	In a study in South Africa, with a poll from children between the ages of 10 and 14
Safe and secure spaces, diversity, children collaboration and appropriate connection with the environment	The study by Malone and Hasluck on children between the ages of 10 and 15 in Melbourne

The most prominent studies regarding children-friendly environments have been done under the title of child-friendly city. The most important quality standards which were introduced in these studies for child-friendly cities are presented in summary in table 2.

The results of studies on the child-friendly cities, is the presentation of quality standards for designing children-centered urban environments. Standards such as safety, security, access to basic services and public open environments, a clean environment and having appropriate public transportation, especially the existence of proper routes for walking, biking and the universality through providing peace and convenience makes the presence of children in public urban environments possible. Other standards such as access to natural environments, right to choose, diversity, social interactions and collaboration are also effective in promoting children's creativity in different ways.

Nature, as a rich and infinite source, is a proper ground for the child's growth in all aspects. The nature faces the child with new issues and experiences indirectly and teaches the child like a teacher. This causes the learning to take place often based on the interests and discoveries of the child and in an unconscious way. Physical activities of children in the nature increases the joy and durability of these experiences in the mind and in the end, leads to the child's attachment to the location. This good feeling provides good opportunities for the child to discover, create, be inspired and amazed (Said, 2005: 8).

The soft, slow and gradual movement of natural phenomena that are familiar to the child, like the movement and change of shapes in the clouds, the movements of the grass and the sound and movement of water drops, the falling of the snow cause the mental calmness of the child because they do not need a great amount of conscious effort (Day, 2007: 126) and they provide a peaceful place for the child. Contact with animals and plants quickens the process of cognitive growth and leads to the encouragement of imaginative games and sensitive stimulation and sensitive experiences lead to a deeper learning in children. Natural environment has superiority over playgrounds which are designed for a purpose; because natural environments need more creative and diversified games (Fjortoft and Sageie, 2001: 116). In the end, it can be said that nature, through providing the proper grounds for freedom, curiosity, imagination, amazement and excitement, is an endless source for nurturing children's creativity.

More choices provide the possibility for the functioning of different activities and create a quality in the place which is entitled flexibility (Bentley et al, 2008: 157). Flexibility means the possibility to change in order to match with the environment and its changes in different states. Having more choices means giving freedom to the user of that environment, freedom to the child to think, decide, take action and consequently, reduce the amount of reliance on the parents and find thinking and action independence and boosted confidence. On the other hand, the possibility to manipulate and change the environment is effective in nurturing the child's curious nature and stimulating his imagination (Mayeskey, 2009: 325). In the children's eyes, the world is flexible and can be changed according to their will. Therefore, an environment with the quality of flexibility, because it gives the right to choose and freedom to the child and stimulates the child's curiosity and imagination by providing the possibility to change and manipulate the environment, is effective in nurturing children's creativity.

When the information of the environment has sufficient number, diversity and richness, it attracts people's attention and involves the individuals in itself. In fact, this means that the environment enjoys the quality of complicatedness (Kaplan, 1979: 243). Added to complicatedness, mystery is another quality that provides the possibility of being involved in the environment for people. These two features refer to subjects like discovering, motivation and stimulation (Kaplan, 1979: 242). The environment that provides involvement and discovery of the environment for the

child, added to stimulating the sense of curiosity, also brings forth the child's imagination and nurtures the child's creativity in this way.

Furthermore, this mystery refers to the ambiguity of the environment (Kaplan, 1979: 244) and one of the characteristics of people with higher levels of creativity is the capacity of enduring ambiguity. Because creativity deals with the future and the future, because of the non-preconceived states, has several different ambiguities. Therefore, facing the children with unknown and undefined states causes the increase of their coordination capability in face of ambiguities. Ambiguity of environment does not refer to an incomprehensible environment by no means, rather an environment that stimulates curiosity. Therefore, complicatedness and mystery are two environmental qualities that are effective in nurturing the children's creativity because they create the opportunity for stimulating curiosity, imagination and involving the children with ambiguities.

Human beings are social creatures and to answer most of their social needs, they join different groups. According to one of the basic theories regarding creativity, one of the most important functions of the group is the creative synergy. It means that if creative activities were to be done in the group, they take an increasing trend and take a synergic form. Because the members of the group, through individual differences and different tastes, present more and better ideas, thought and solutions (Lewis, 1999: 53). Therefore, providing the grounds for social interactions in the environment through creating a role pattern in stimulating intrinsic motivation, create an emotional atmosphere for providing emotional-mental security and elevating the confidence level, play an important role in nurturing the children's creativity. Added to this involvement of children in different stages of designing, together with the child's enjoyment of a sense of value and respect, the freedom of though is provided for the child because of giving the opportunity to express (Gwinner, 2013: 6).

In order to analyze how the goal of propagating creativity in the environment is reached, the creative city approach was analyzed. Ever since the beginning, attention to the subject of creativity in urban studies, under the title of creative city, several ideas have been discussed and the creative city has been defined from different perspectives like creative economy, presence of the creative social class, existence of artistic and cultural infrastructures, cultural programs, encouraging the culture of creativity, etc. The common point in the discussed definitions and subjects is the attention to creativity as a valuable skill and recognizing it in modern urban societies.

When creativity is constantly flowing in the environment in the form of new and innovative ideas in different forms, it is considered valuable. New and innovative ideas in a creative city, are demonstrated through creative artistic-cultural works and activities and technological innovations in the city and in the process of producing and implementing these ideas, the collaboration of the citizens is sought for. Cultural-artistic activities and facilities are some of the important criteria of creation in the creative city and they are prominent factors in inspiring, boosting confidence, interacting ideas and creating mental images in the city and provide opportunities for the people to nurture ideas and also take part in the creative construction of environments and cultural-artistic activities (Landry, 2012: 231). Cultural-artistic activities and facilities help nurture children's creativity in two ways: first is the fact that art and artistic activities are prominent factors in creating new and innovative ideas (Landry, 2012: 149). On the other hand, taking part in artistic activities and direct connection with them expands the range of the children's appreciations, brings forth their imagination and deepens the combinational and analytic process of the mind (Deirdre and Martlew, 2014: 1535).

Article 31 of the human rights proclamation notes the importance of the relation between art and creativity. According to this article from the proclamation, art is the range of expressing oneself in a creative and imaginative way by all people from different cultures, classes and ages (Hosseini,

2011: 103). Art and artistic activities provide the best opportunity for better learning. Not only does art lead to deeper learning, but it is also effective in creating a positive self-image in people and increases their imagination and creativity capabilities (Hosseini, 2004: 52). Art helps nurture children's creativity through expanding the range of understandings, elevating the artistic taste and appreciation of aesthetics, making the children's imaginative world richer and more diverse, facilitating and making the act of learning more enjoyable, improving social interactions and children's collaboration in doing artistic activities.

Since technology fulfils the children's need for diversity, it also provides very interesting learning experiences for them, expands their range of thought and perception of the world and stimulates the sense of curiosity in them and therefore, is effective in nurturing children's creativity (Mayseky, 2009: 140). Utilizing technology in designing urban environments can provide diversified and new opportunities for children in the fields of games, entertainment, communication, general knowledge and education.

Table 3: Urban designing guide for designing environments that nurture children's creativity (source: authors)

Guide for nurturing children's creativity through designing environments							
General goals	Stimulating child's imagination	Stimulating child's curiosity	Providing the child's freedom of presence	Propagating creativity	Increasing social interactions	Accepting child's presence	
Design principles	Flexibility	Connection with nature	Complexity and mystery	Innovation	Social interaction	Collaboration with children	convenience and comfort
Urban design guidelines	diversity function and activity	green spaces and gardens	Constancy and cohesion of different routes	art and technology	behavior setting	Participation in knowing the problems	human scales
							Walk ability
							Climate Responsive Urban space
	Possibility to change in the environment	Keeping and saving natural domains	diversified and attractive visual sequences	cultural activities	social interactions	Participation in giving ideas and solutions	environmental cleanliness
							legibility readability of the environment
	The possibility to personalize	Designing inspiration from nature	emotional richness	knowledge-based infrastructures	network of diversified open spaces	Participation in the implementation of the plans	mixed-use
							universal urban environments
							safety and security
							Cohesion and connection between public realms

The principles of designing and designing guidelines for cities that nurture children's creativity were produced using the two approaches of children-friendly city and creative city. This guideline is a tool for reaching the goals and principles of designing creative-friendly environments. Its audience are all the designers of urban environments who have placed nurturing children's creativity in their landscape because of their presence in these environments. The children's creativity nurturing through designing urban environment guideline is presented in table 3.

Conclusion

This study tried to present a design guide based on the effective factors in promoting children's creativity so that by utilizing it in designing urban environments, together with providing a secure and safe ground for the child's presence, the conditions for the growth and nurture of the child's creativity are also provided. In conclusion from the analysis of effective factors in the promoting of children's creativity, the most important factors in which the environment plays an important role through the interaction with the environment and people were identified. These factors include the stimulation of the child's sense of curiosity, bringing forth the child's imagination, nurturing bravery and risk-taking in the child, providing the life and mental security of the child, child's enjoyment of respect, participation in group and social activities and positive and appreciating view of creativity.

Analysis of the way the effective factors in promoting children's creativity in the environment are reached indicates that the environment in which there is peace, freedom and creativity and the possibility for group and social interactions are provided, a ground is created in which the child can gain different experiences in a calm environment, in a free environment where the personality features of bravery, risk-taking, independence and confidence are turned into innate features in the child, the nature of curiosity, which is the core of adventure and the beginning of creativity and innovation in the child is stimulated as a result of discovering the environment and then, through involvement in the environment, active and passive imaginations of the child, which are necessary for creativity are brought forth. With regard to this subject, the six factors of peace, freedom, curiosity, imagination, inclusiveness and creativity were devised for environments that nurture creativity.

These factors are useful in general for all environments that one of their goals of designing is to nurture children's creativity. To reach the methods of achieving these factors in urban environments, the child-friendly and creative city approaches were analyzed. The child-friendly city approach provides a secure and safe environment for children's presence and promoting their creativity through creating urban environments according to the wishes and needs of the children and by the respect and value that it holds for the children because of the stress it has on the citizenship role of children. The idea of the creative city provides the possibility to be a ground for nurturing creative children by improving the positive view toward creativity and creative people and also through creating new and innovative ideas in the child's mind to encourage creativity in the society.

In the end, with attention to the effective factors in nurturing children's creativity and by utilizing the two approaches of child-friendly and creative city, the general goals and principles and the designing guide of the skeletal environment for nurturing children's creativity were devised. This guide includes urban designing guidelines that show the way the principles of designing skeletal environments based on nurturing children's creativity. These principles and the factors through which they are possible in the environment, are summarized in table 4.

Table 4: Design Principles of children's creativity nurturing environment (Source: authors)

Effective factors in promoting children's creativity	Design principles
• Providing the physical and mental security for the child	convenience and comfort
• Nurturing bravery and risk-taking in the child • Elevating the sense of independence and confidence in the child • Respecting the child • Stimulating the child's sense of curiosity • Bringing forth the child's imagination	Flexibility
• Taking part in group and social activities • Respecting the child • Elevating the sense of confidence	Social interaction
• Positive and appreciating approach to creativity • Respecting the child • Stimulating the child's sense of curiosity • Bringing forth the child's imagination	Innovation
• Stimulating the child's sense of curiosity • Bringing forth the child's imagination	Connection with nature
• Stimulating the child's sense of curiosity • Bringing forth the child's imagination	Complexity and mystery
• Taking part in group and social activities • Respecting the child • Elevating the sense of confidence • Nurturing bravery and risk-taking in the child	Collaboration with children

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