

**FEATURES OF THE ADAPTATION OF THE URBAN ENVIRONMENT TO THE NEEDS OF THE CHILD**

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**Abstract.** Children's architecture is a means of education and development of the necessary skills, harmonious physical growth and health of the child. In this regard, the architecture of children's facilities nowadays is understood as an independent factor of education, which has a direct connection with the initial educational process and comprehensive development of the child.

The purpose of the article is to consider the role of the architectural environment in the upbringing and development of the child's personality, its influence on the effectiveness of the educational process. To determine the means of architecture that affect the feelings, emotions, age and characteristic features of children, as well as to form methods of organization and planning of children's developmental and educational spaces.

Children's space is one of the main educational and developmental sources, which should arouse interest, joy and excitement, ensure a safe and comfortable stay. Today, the rapid development of media and information technologies affects the child's recreational and play space in a new way. Sounds, shapes, colors, materials and various factors determine the organization of the play space. With the development of technology in modern conditions, children's environments are constantly changing and taking on new forms. The old outdated methods of forming the playing space are no longer modern enough and do not meet the current requirements for the competent development of the child. A properly organized environment shapes the child's perception, encourages him to learn about the social and material world. From the point of view of doctors and psychologists, the playing environment is an integral part of a child's healthy development. The process of play is important at all stages of growing up. The architect is also a leading expert in creating a competent play environment for learning and raising a child. Properly organized space, shape, color, texture – all this forms the child's personality. It is important to maintain the balance of the game and the educational structure in the formation of the interior of the game environment.

As a result, global examples of children's developmental environments and existing ways of organizing educational and educational processes were analyzed, and architectural methods of the child's perception of the surrounding environment, which contribute to adaptation in space, were revealed.

The conclusion proves the importance of the influence of the architectural environment on children's behavior; the importance of forming the correct volumetric and spatial composition of the developing environment and creating a favorable environment for children.

**Keywords:** friendly city, children's urban space, game environment.

**Introduction.** The reverse side of urbanization in the form of densification of urban development, destruction of green areas, loss of social ties between residents of the same house or neighborhood, increased motorization stimulated the social demand of the city to transform its environment, increase

the degree of comfort and safety, accessibility of social facilities, social communications with people – both with adults and with children and young people. In connection with this, phrases such as "friendly urban environment", "benevolent urban environment", "city of harmonious development", "city suitable for life" and others are increasingly appearing in public rhetoric [1].

The space in which a child grows up has always had a significant meaning and influence on the formation of personality. The child perceives the surrounding world in his own way, and in the process of this perception, the future personality is formed. Thanks to the play space, the child gets to know not only himself, but also the people around him, learns to interact with the surrounding world. Children reproduce a picture of the world with the help of game action, and in this game they learn about life forms. Today, the rapid development of media and information technologies affects the child's recreational and play space in a new way. Sounds, shapes, colors, materials and various factors determine the organization of the game environment. With the development of technology in modern conditions, children's environments are constantly changing and taking on new forms. The past outdated methods of forming the playing space are no longer modern enough and do not meet the current requirements for the competent development of the child. Properly organized space, shape, color, texture - all this forms the child's personality. It is important to maintain the balance of the game and the educational structure in the formation of the interior of the game environment. A properly organized environment shapes the child's perception, encourages him to learn about the social and material world.

**Analysis of recent research and publications.** The scientific and methodological basis of the study was the work related to the justification of the concept of balanced development of cities and the development of appropriate methods and norms of urban planning, which are based on the results of research by such scientists as: Yu.M. Bilokon, M.M. Gabrel, V.L. Glazyryn, M.M. Demin, O.I. Yefimov, E.O. Smirnova, I.A. Ryabkova, B.S. Cherkes. The social situation of children's development and the influence of the environment on identity problems are devoted to the works of L.S. Vygotsky, D.B. Elkonina, H.M. Andreeva. Research related to the organization of entertainment and children's playgrounds in an urbanized environment was carried out by: G. Beltzig, M.Ya. Basov, L.S. Vygotsky, A.B. Zalkin, S. Solomon, M. Sudarsana, L. Tai, S. Talpaid, D.N. Uznadze, J. Frost, D. Hynes.

**Relevance of research.** The development of the child's brain occurs as a result of interaction with the environment, which is possible due to motor activity. If the volume of spontaneous movements in a child's life is sharply reduced, he finds himself in a risk group: his body and brain cease to cope with elementary everyday tasks.

Every year, the number of children with developmental disabilities and learning difficulties is increasing in the world; children begin to walk and talk later, learn self-care skills with difficulty; students do not cope with the elementary school curriculum. In recent decades, there have been negative changes in other areas of children's development as well: in the report of the World Health Organization for 2018, it is noted that every fifth child in the world aged 5 to 19 years is overweight or obese, physical activity is 80% children is recognized as insufficient.

If in adults, vestibular disorders are manifested primarily in the form of dizziness and disorientation, in children, congenital vestibular dysfunctions prevent the full development of the brain and lead to a delay not only in motor, but also in cognitive development. A child with such disorders faces a number of difficulties in life, which change with age, but do not disappear.

**Research methodology.** A problematic analysis of theoretical propositions in urban planning, sociology of cities and the perception of the urban environment through the eyes of a child was carried out. The empirical basis of the study was made up of the analysis of documentary sources – regulatory and legal documents, data from specialized periodicals, Internet publications, materials from information portals, and secondary analysis of research materials by other authors on the study of social space for children.

**The aim of the study.** Based on the analysis of the global experience of creating and adapting children's spaces in the city, give a clarification of the concept of "child-friendly city" and approaches to determining the quality criteria of children's urban environment.

**Basic material.** Everyday life of children takes place in specific physical spaces. Children's daily lives flow because children live in a stream of time that slips as they find other places. Time and place are central categories in the conceptualization of the transitory, ordinary nature of a child's everyday life [2, p. 155].

A child-friendly environment consists of many factors. It should correspond to the growth, weight and other parameters of the child's body; encourage interaction with nature and more movement; adapt equally well to the needs of a specific child and all children in general (Fig. 1). At the same time, the solutions can be different – from interior and architectural to management.

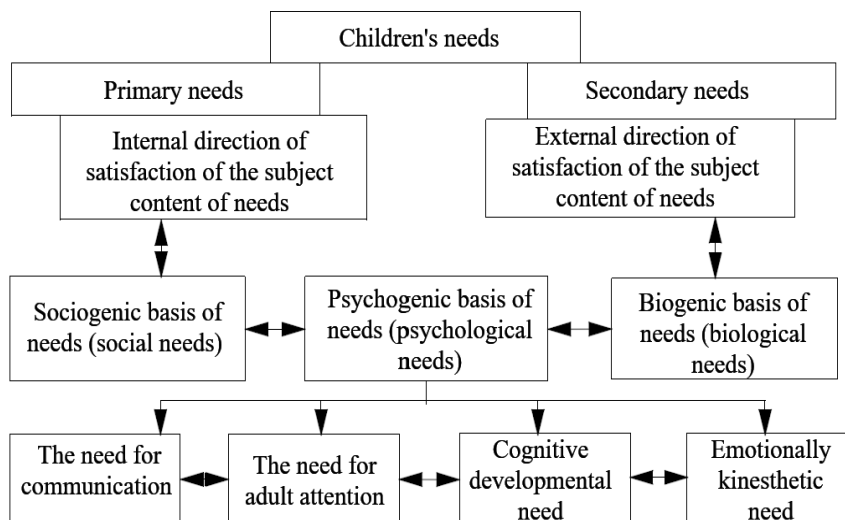


Fig. 1. Consume preschool kids

Playgrounds are not a set of random children's zones; they should complement each other from a neurodynamic point of view. Children will be able to move from yard to yard, and their development will be versatile [3, p. 30].

Any environment realizes itself through the level of design decisions, through the objects included in it as elements. The game environment includes: a playing field, game equipment, toys, game paraphernalia, game materials necessary for a child's game activity. In urban buildings, children "find everything already organized and adapted to the functional needs of adults" [4].

A child needs a choice of different game simulators to stimulate the vestibular, tactile, proprioceptive, auditory, and visual systems. When it comes to simulators that stimulate different types of motor activity, it is necessary to take into account the lack of equipment that allows you to include an element of risk in the game, which is very important for a child, especially for children over the age of 7. Children at this age are agile and inquisitive, they are overcome by a thirst for strong sensations. This feeling can be given by various options of complex rope "climbing houses" located at a height, or a strong but transparent tunnel between steel wire towers.

The creation of game landscapes, that is, the artistic modeling of the terrain, is performed by means of geoplastics using artificial rubber coatings, natural lawn and other building materials [5].

The use of horizontal, vertical and horizontal-vertical zoning methods allows you to highlight levels of difficulty for children of different ages. It was found that the complexity of the volumetric-spatial solution depends on the architecture of the public institution, which determines the constructive features of the children's environment. The generalization of foreign and Ukrainian design experience made it possible to distinguish the methods of environment formation: monovariant design (use of unchanged stationary equipment and integral subject content) and variant design (availability of three-dimensional objects and modules). The variety of design solutions is achieved thanks to the variant design method [6, p. 12].

On the terrace of the Marmara Forum shopping center in the Istanbul district, an ensemble of assembled white spheres invites children to climb, roll down a hill and relax in a forest of hammocks (Fig. 2). The project, known as Cloud Playground due to the bulbous shape of the structures that look like clouds hanging over the building, was designed by the Amsterdam studio Carve. The limited area and location of the space – at a height of 24 meters above the street level – became the starting point of the project for the architects. Instead of a horizontal extension of the playground, the Carve studio looked for vertical forms with significant volumes that children can explore from within [7].



Fig. 2. Playground in Istanbul, landscape studio Carve

The peculiarities and diversity of the formation of children's spaces are based on the "scenario" approach and associative interpretation to their design. When designing each specific zone in the children's center, first of all, "scenarios" should be taken into account: functional processes, activities, possible behavioral patterns inherent in adults and children in this space. For example, the interior of children's centers has several scenarios: 1. An educational institution with a profile specialization, such as urban economy, may have an image of the city and urban infrastructure – public transport, lighting, landscaping. It is not necessary to reflect the image of a particular city, it is possible to use conceptual architectural and artistic means, associative images of the city of the future or a magical city, a fairy-tale world. 2. On the other hand, if the institution does not have a certain specialization, it is necessary to create an interesting image that will reflect certain trends in the children's world – fairy tales, cartoons, etc. However, the peculiarity of such children's centers is not only to provide relevant services and ensure gender equality among adults and children, but also to play an educational role for the next generation. The educational role is to orient the specialized children's space to the living conditions – what their parents do, perhaps, what their future is connected with [8, p. 95].

Closeness to nature has a positive effect on people at any age and is especially beneficial for children. They are more sensitive to the environment. Architects of the Vietnamese bureau VTN Architects took this into account when designing a kindergarten in Bien Hoa. The roof of the building almost completely occupies the garden, where 500 pupils acquire the first skills of caring for the natural world (Fig. 3).

Here they are taught the basics of agriculture. Products grown on the farm are collected and sent to the kindergarten kitchen. The two-story building "rolled into a knot" is designed for 500 preschoolers aged 2 to 5 years. Energy-saving technologies are used in the construction, which means that the building does not take resources from the city's ecosystem, it gives them back [9].



Fig. 3. Kindergarten in Bien Hoa

Typical solutions are not suitable for children even within the same age and social group. Children are more willing to interact with a space that is more amenable to change. One of the successful examples of this approach is the playground designed by the British Bureau Assemble in the Architectural Gallery of the Royal Institute of British Architects (RIBA) (Fig. 4). The play space is created using colorful modules made of recycled polyurethane foam. The lightweight material makes it easy to move these elements and its surface is easy to clean.

The considered space of the play environment and the conditions for the formation of children's artistic outlook allow us to assert that the properties of the subject-spatial environment are not reduced only to the sum of the objects that make it up. Space contains a length, a real or imaginary measure, which can be explored through color sensation, through light, sounds, melody, the feeling of silence, the shape of an object, architectural space, natural landscape. Thus, we consider space (environment) as a way of immersing the child in the real actions of the environment through art, which allows children to develop imagination, diversity of impressions, thoughts [10, p. 203].

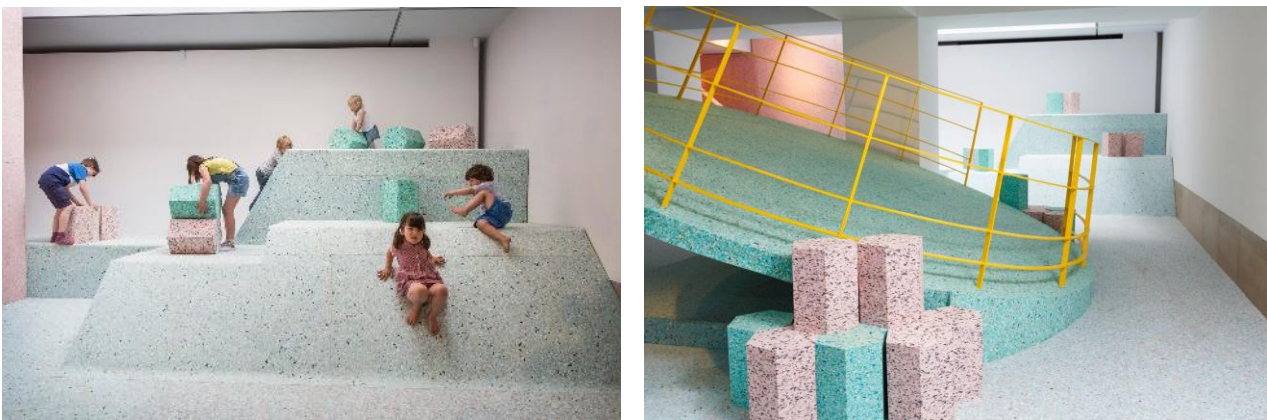


Fig. 4. Playground designed by British Bureau Assemble in the Architectural Gallery of the Royal Institute of British Architects (RIBA)

The game environment is a system of material objects of the child's activity that functionally model the content of his physical and spiritual development. It performs a responsible function, it encourages play, forms imagination and acts as a material center of the child's thought. The category "play environment" is understood as a part of the space that is already mastered and understandable for staying. "Even significant ensembles are designed as a kind of large-scale spatial design, and their functional content is designed as an independent design environment formed by engineering and technical components" [11].

Any element of the environment that stands out in the physical space is simultaneously in the material and mental realities. The comfort of the urban environment is determined by the presence

in it of elements and properties that give a person a sense of the necessary physical, psychological and social well-being, comfort [12].

**Conclusion.** A child-friendly city is a child-oriented city, it has space for safe and comfortable living of a child, it is equipped not only with children's infrastructure facilities, but also with spaces for independent children's mobility. It is also a city where children can participate in shaping the children's urban environment.

The main tasks in the adaptation of the urban environment to the needs of the child are to meet the interests and needs of the child, to ensure the development of the child, to implement their own initiatives, to make independent decisions, to develop creative abilities.

It can be concluded that comfortable conditions of the urban environment determine the formation of a specific system of values in the younger generation, while public institutions and the state of the urban environment largely determine the direction of socialization of the child. The problems of the influence of the urban environment on the personality, especially the personality of the child, remain poorly researched and difficult to solve. Further research in this area will improve the quality of the urban environment and develop proposals for the formation of a more child-friendly environment.

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## ОСОБЛИВОСТІ АДАПТАЦІЇ МІСЬКОГО СЕРЕДОВИЩА ПІД ПОТРЕБИ ДИТИНИ

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**Анотація.** Стрімке зростання міст, інтенсифікація міського життя, зникнення дітей з міських осіб та поміщення їх у захищені міські життєві простори у поєднанні з включенням молоді до міських процесів, подієвим наповненням міського середовища, увагою суспільства та держави до маломобільних груп городян – це та багато іншого підтримує невгасаючий дослідницький інтерес до міста.

В статті наголошується проблематика «дружності» міського середовища до дітей, адже інтенсивний соціально-економічний розвиток країни неможливий без зростання творчого та морального потенціалу її громадян, без розвитку їхньої активності, ініціативи, здібностей. Формування цих та цілого ряду інших якостей відбувається в основному в дитячі роки не тільки через цілеспрямовану роботу школи, установ додаткової освіти, але ще й активному використанні дітьми міського середовища: гра на дитячому майданчику, активна вільна дитяча мобільність та інше.

Багато дослідників відзначають існування у міському середовищі окремих безпечних ділянок для дітей – «острівців» захищеного та комфортного дитинства. У той же час, переміщення між такими «острівцями» буває досить небезпечно для дитини. Це викликає звуження просторів вільної дитячої мобільності. На активність дитячої мобільності впливає також непристосованість міських громадських просторів, а саме, відсутність велодоріжок, заповнення наявних вільних територій (наприклад, прибудинкових просторів) автотранспортом, необладнані дитячі майданчики, відсутність спортивних майданчиків.

Дитяча архітектура – це засіб виховання і розвитку необхідних навичок, гармонійного фізичного росту і здоров'я дитини. У зв'язку з цим архітектура дитячих об'єктів в наш час розуміється як самостійний фактор виховання, який має безпосередній зв'язок з початковим учбовим процесом і всестороннім розвитком дитини. Дитячий простір – одне з основних освітніх та розвиваючих джерел, які повинні викликати зацікавленість, радість та хвилювання, забезпечувати безпечне та комфортне перебування. З точки зору лікарів та психологів ігрове середовище – це невід'ємна частина здорового розвитку дитини. Процес гри важливий на всіх етапах дорослішання. Архітектор також є провідним фахівцем у формуванні грамотного ігрового середовища для навчання та виховання дитини.

**Ключові слова:** дружнє місто, дитячий міський простір, ігрове середовище.

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