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MODERN APPROACHES IN DESIGNING OF CHILDREN'S PLAYGROUNDS IN THE CONTEXT OF DEVELOPMENT OF THE RECREATION INDUSTRY

Qiao Sh., Olenina O. Modern approaches in designing of children's playgrounds in the context of development of the recreation industry. The article analyses special aspects of modern designing of children's playgrounds in the context of social transformations. The author has considered notions of recreation and a game, defined their place and role in development of a child's personality. Play space in children's playgrounds has undergone a long way of development from standard primitive steel constructions to fascinating projects where sophistication of designers' ideas and humanity's state-of-the-art technical-technological inventions get intertwined. Variety of forms of new children's playgrounds allows us to define modern approaches in their designing. The functional-pragmatic approach is based on traditional standard principles of designing with due consideration of modern safety requirements, as well as ergonomic and ecological ones. It focuses on a child's physical development. The creative-narrative approach is based on creation of original images and stories connected to a game scenario; it addresses a child's creative development. The technical-technological approach involves designing of children's playgrounds with usage of innovative digital and interactive technologies. This approach assumes a child's all-round development.

Keywords: recreation industry, game, children's playgrounds, designing, approaches.

Цяо Ш., Оленіна О. Ю. Сучасні підходи в проектуванні дитячих ігрових майданчиків у контексті розвитку індустрії дозвілля. Стаття присвячена дослідженню особливостей сучасного проектування дитячих ігрових майданчиків у контексті суспільних змін. Розглянуті поняття дозвілля і гри, визначені їх місце і значення у розвитку особистості дитини. Ігровий простір дитячих майданчиків пройшов тривалий шлях розвитку від стандартно-примітивних сталевих конструкцій до дивовижних видовищних проектів, у яких переплітаються витонченість дизайнерських ідей і новітні техніко-технологічні винаходи людства. Різноманіття форм нових дитячих ігрових майданчиків дозволяє визначити сучасні підходи у їх проектуванні. Функціонально-прагматичний підхід базується на традиційно-стандартних принципах проектування з урахуванням сучасних вимог безпеки, ергономічності й екологічності, робить акцент на фізичному

вихованні дитини. Креативно-нарративний підхід, в основі якого лежить створення оригінальних образів і історій, прив'язаних до ігрового сценарію, робить акцент на творчому розвитку дитини. Техніко-технологічний підхід, який передбачає проектування дитячих майданчиків на основі використання інноваційних цифрових і інтерактивних технологій, передбачає всебічний розвиток дитини за рахунок наявності на таких майданчиках великого спектра ігор різної спрямованості.

Ключові слова: індустрія дозвілля, гра, дитячі ігрові майданчики, проектування, підходи.

Цяо Ш., Оленіна Е. Ю. Современные подходы в проектировании детских игровых площадок в контексте развития индустрии досуга. Статья посвящена исследованию особенностей современного проектирования детских игровых площадок в контексте общественных изменений. Рассмотрены понятия досуга и игры, определены их место и значение в развитии личности ребенка. Игровые пространства детских площадок прошли долгий путь развития от стандартно-примитивных стальных конструкций до удивительных зрелищных проектов, в которых переплетаются изощренность дизайнерских идей и новейшие технико-технологические изобретения человечества. Многообразие форм новых детских игровых площадок позволяет обозначить современные подходы в их проектировании. Функционально-прагматический подход базируется на традиционно-стандартных принципах проектирования с учетом современных требований безопасности, эргономичности и экологичности, делает акцент на физическом воспитании ребенка. Креативно-нарративный подход, в основе которого лежит создание оригинальных образов и историй, привязанных к игровому сценарию, делает акцент на творческом развитии ребенка. Техничко-технологический подход, который предусматривает проектирование детских площадок на основе использования инновационных цифровых и интерактивных технологий, предполагает всестороннее развитие ребенка за счет наличия на таких площадках большого спектра игр разной направленности.

Ключевые слова: индустрия досуга, игра, детские игровые площадки, проектирование, подходы.

Problem Statement. In the 21st century the increase of the amount of free time in a modern man's life, as well as brisk development of science and technologies have given a new vector in transformation of recreation. Availability of a wide resource base which has been enhanced and extended for last 20 years combined with the demand for a number of variations for free pastime brought about a new sphere called the industry of recreation. Today due to a highly competitive climate, the recreation activity has to meet higher requirements, namely it has to widen the range of offered activities, to modernize its material-technical base, to improve technical tools, and to enhance its expressiveness and fascination. To solve all these tasks the industry of recreation has to draw upon fresh designers' solutions. It concerns in particular a game activity, namely organisation of a play space.

In the era of high technologies, knowledge, leisure and entertainment a particular attention must be paid to children's attractions where specialists have to reconsider approaches in designing taking into account a modern resource base. In fact if modern tendencies are considered and state-of-the-art technologies in design of children's play environment are applied, a child gets involved into the informational society with all its opportunities just from their birth, they become its full-scale subjects and consumers. An Italian researcher Montessori M. states that there is only one period in a man's life which is meant for construction of their minds and it is the age from 0 to 6 years old. In case this fact is ignored and the most favourable conditions are not created for a child, their development won't occur [4: 7]. Accordingly, if a game is one of the main factors for forming and developing a future adult's fundamental knowledge, skills, and abilities, and developing potential of a game space plays a significant role in creating a child's informational space, the issue of necessity to reconsider approaches to professional solution in designing the space of children's playgrounds gets urgent, while so far specialists have not taken into account the mankind's latest achievements and designers' tendencies.

Analysis of recent research. The basic theoretical aspects of designing of children's playgrounds are presented in works by Agde G., Nagel A., Richter Yu. [1], Willett R. [11], Sotnikova V. O. [8], Polyakov Ye. N. [7] The authors offer historiography of the matter, analyse the type assignment for children's playgrounds, introduce principles and main requirements to their designing. In the 20th century the ergonomic conception of designing activity comes about due to intense development of innovative technologies. The ergonomic factors to take into account when designing children's play space are introduced in works of Runge V. F. [9], Papanek V. [6] and other researchers. As the article focuses on the study of the matter in the context of the industry of recreation, the monography of Olenina O. Yu. should be noted; it considers the transformation of art-project activities and art in general which is happening in a constantly developing communicative culture of the society [5].

Results of the analysis of recent research on the subject have proven a lack of attention to designing of children's playgrounds in the context of social changes and development of modern technologies which in turn brings about the statement of research objectives.

Statement of research objectives. The objective of the study is to ground theoretically modern approaches in designing of play space of children's playgrounds in the context of development of the industry of recreation with due account of the technical-technological progress.

Results. One of the major constituents of childhood is a game. While playing a game a child develops their physical body, their creativeness, and brain. Children cognize the world through a game, acquire com-

munication skills, get stronger physically, develop their dexterity, thinking, attention skills, and imagination. Makarenko A. S. defined a role of a game in childhood as the following: "A game plays a significant role in a child's life; it means the same to a child as work, activities, career do to an adult. The way a child behaves in a game, they will be when adults" [3: 38]. That is why it is so important to pay due attention to creating the most favourable conditions for a child's playing activities.

Huizinga J. in his tractate dealing with study of the holistic essence of the phenomenon of a game distinguishes its six major characteristics. Firstly, any game is a free activity in which people indulge in their free time; in other words a game is not a vital necessity and nobody makes a man play but it is their own will. Secondly, a game is a gate out of the "routine" or "real" life into a transitional sphere of activity with its own motivation, namely to get rest, to switch oneself off the reality. Thus, a game interrupts a process of the direct satisfaction of needs; it stands apart from this process. Thirdly, a game contrasts to an everyday life with its place and duration. A game begins and ends at a certain moment, it flows in the play space defined beforehand which can be material or imaginary, premeditated or spontaneous. Whether it is a football pitch, or a playing table, due to their forms and functions they both represent a play space, a separate territory with specific rules. This implies the fourth characteristic of a game, namely a game sets an order. Another important characteristic of a game was defined by Huizinga as intensity. A game is a fight with obstacles, competition with a rival, which brings about interest, excitement, and emotionality. Finally, the sixth characteristic is that players get united into groups or communities. Often a game community tends to stick to its permanent group even after the game is over [10: 26–30].

Taking into consideration one of the major characteristics, namely that a game has its own isolated territory, a matter of its space solution gets really urgent, especially it concerns children's playgrounds where specialists still underestimate growth of social demands, enhancement of the bringing-up process and dynamic development of scientific and technical advances.

A term "play space" unites such notions as space, environment, and game. As early as in 1927 at the first pedagogical congress a question was raised on the role which environment played in a child's development. Some of the conclusions made at the congress say: "On one hand, environment is just a factor which enables manifestation of abilities with which a child is endowed. Environment calls for life and suppresses, it exercises or restrains mechanisms of a child's behaviour. On the other hand, environment defines development; it actively builds a child's activity using at that just an inborn fund of their personality" [2: 109]. Accordingly, first of all, improvement of design-organisation of a play space correlates with needs of a growing child's personality. Children's needs involve a special artistic

and functional comfort which contributes to their best possible state in their life activities. This state comes out as positive emotional reactions and as a criterion of adequacy of the environment which has been offered to a child, their psycho-physiological, functional, and individual personal capabilities.

Play space of children's playgrounds has gone a long way of its development since those days when they looked like standard primitive steel constructions and unsafe swings for the youngest children. First playgrounds as a safe place for children's games appeared in 1990s. They consisted of lines of swings, metall slides, and imitated mountain climbers' trainings. That period was characterized by the functional approach to the solution of tasks on organising a play space. In 1950s–1960s when artists, architects, and landscape designers reconsidered organising the play equipment only due to its functionality, they suggested including as well aesthetical and art characteristics into constructing specialised equipment. Nowadays thanks to the modern design when looking at children's playgrounds, we get impressed by an amazing unconventional author's solutions where designers' creative imagination gets tightly twisted with technical-technological advents of the 21st century.

The major characteristic of modern children's playgrounds is their multi-functionality which supposes a diversity of entertainment which a child can find for themselves, as well as division of the space into specific zones (depending on age groups and game types). It is worth noting that there are plenty of game combinations which are essential for different types of physical and intellectual development. The main conditions crucial for development of healthy creative personalities are variations in design solutions for open-air game equipment and creation of necessary opportunities for a game.

Open-air play space has a number of advantages for children's all-round development and it has the following functions:

- providing an opportunity to play different types of a game, including those with several functions, namely motorial development, construction skills, social-drama function, games with certain rules;
- enabling children to generate plenty of ideas which promotes development of interpretation and imagination;
- providing conditions for the unity with nature and development of relationship with the environment which encourages creating game objects in topical and construction games;
- carrying out a game in an open-air children's playground promotes development of love and respect to the environment;
- providing conditions for a child's social development;
- providing certain freedom from borders and rules of a game, as well as an opportunity for a child's divergent thinking.

Besides, in the context of modern design when aesthetic characteristics in solution for children's playgrounds are especially paid attention at (as specialised equipment, so general composition of a play space), specialists should consider some other essential aspects for their creation, namely ecological, functional, hygienic, and psycho-physiological ones.

Today to solve ecological matters when organising a play space, such protection measures are used as active involvement of elements of green fences, planting trees; usage of green roofing in design of children's playgrounds, etc.

The qualitative functional reformations of territories of children's playgrounds in the context of modern design are achieved thanks to the following factors: increase of the space for walking zones; high-quality selection of different types of surfaces for playgrounds, sport zones, and pavements; usage of different surface finishes, as well as different colour and geometry combinations; usage of different surface materials (paving stone, block stone, ductile coatings, sand, gravel).

Design of children's playgrounds meets the hygienic requirements thanks to improvement of microclimate parameters of the play environment by means of anti-precipitation equipment, namely sheds, canopies, screens, nets, and dispersive grating.

The psycho-physiological requirements to creating a professional play space eliminate a possibility of emergency situations. As a rule for this purpose designers address to the usage of safe borders with enclosing structures, planted trees, flower beds; navigation signs; different types of surface; different surface colour and texture; combined lighting systems.

As it was mentioned above, for the all-round development of a child's personality many game's combinations are applied in design solutions for a play space in children's playgrounds, and a great variety of games' forms is created to make a child interested. Thus, the article should specify main modern approaches in designing of children's playgrounds.

The functional-pragmatic approach is based on traditional standard principles of designing and oriented towards realisation one or another function. It does not only have to do with understanding of children's needs as a complex of functions, but also with the necessity for a consumer to gain some specific practical benefit (pleasant pastime, doing sports, etc.). As a rule, standard children's playgrounds are designed with this approach; they mainly solve tasks of physical development and motor skills among children aged 5–12. Such play spaces are equipped with steel or plastic constructions (swings, slides, walls for mountain climbers). They have several advantages, namely cost effectiveness, meeting safety requirements, environmental friendliness, ergonomics, and brightness in coloristic solution.

Apart from standard children's playgrounds with basic equipment set promoting physical development, specialised sports grounds for both a certain kind of

sports (soccer, basketball, handball, mountaineering, etc.) and for several games (fitness areas, gym) are designed with this approach.

The functional-pragmatic approach was the first in designing of children's playgrounds and remains essential. In its context the "retro" type of children's playgrounds should be mentioned. These are the playgrounds designed in 1960s–1990s which have remained intact among modern urban buildings. Nowadays they are not constructed anymore as the material they are made of is unsafe for children. The safety matter has become the main reason to refuse from addressing to these sculpture-like play spaces. Today in some jurisdictions volunteers interested in protection of retro-areas get united in order to restore such play zones and preserve them as historical heritage.

The creative-narrative approach is a new approach in designing of children's playgrounds. It is based on bright, original images and stories which support a certain visual concept of a playground and relate to different play scenarios. Accordingly, an author's idea plays a special role in this approach. Today it is the most popular approach in Europe. Groups of experts develop such children's playgrounds taking into account all modern requirements to a play space. They are oriented to involving large territories of environmental space. Moreover, they meet aesthetical needs for development of children aged 3–16. As a rule, they are large, more open and encourage a wider range of children's activities.

A perfect example of a creative-narrative children's playground is Gulliver's Body in Spain, a joint project of an architect R. Riviera, an artist M. Martin, and a designer S. Lobel. The playground is themed on the novel by J. Swift and made as a figure of Lemuel Gulliver whose body is separated with slides, stairs, ropes, ramps, ladders, swings, hills, and caves. At that, it is scaled so that visitors are the size of Lilliputians. Thus, entering the playground, a child unconsciously gets a role of Lilliputian who studies Gulliver's body and lives through the novel's scenario.

It should be noted that apart from bright thematic designer's playgrounds offering a child a certain theme, also with the creative-narrative approach the playgrounds are designed which suggest that children create their own play environment. In this case a designers' task is to create a place which gives a child a hint to some scenario, for example, construction of a hunt or fortress. These are creative and adventurous playgrounds. They were first designed in Denmark after the World War II, when a landscape architect C. Th. Sorenson noticed that children aged 5–16 liked to play with improvised materials in building sites rather than in ready playgrounds. Such playgrounds do not always meet aesthetic requirements, neither they always fit in the urban environment, however, they possess a great potential for development of creativeness, communication skills, and social cohesion

among children, thus encouraging the cultivation of a child's personality.

The technical-technological approach has to do with the usage of modern, rather complex and specific technical equipment as a basis for a children's playground project. It is an innovative approach in design and is not widely used due to its high cost. Playgrounds designed with this approach offer their visitors non-standard game situations, combinations of various levels of a game, digital and interactive equipment uncommon to other children's playgrounds.

Cyberport Digi Playground in Hong Kong is the first open-air digital playground in the world. It is built according to an innovative concept of a game and aimed at involvement, motivation and comfortable pastime for children of all age groups. First of all, the specialised equipment SmartUs Basic makes it easy to teach and learn here. Besides, Through iStation is a central computing unit offering a wide range of sports games, competitions, Internet-games and various opportunities for learning which activate motor skills, control of different muscles of arms and eyes, coordination and communication skills, memory, and numerical abilities. The development concept for sensor children's playgrounds is to create an exciting, innovative, multi-sensor, recreational play space. Such playgrounds combine a physical game with an electronic image and sound.

Sona is another interesting example of an interactive playground. It is the modern play equipment with several levels of musical action games for teams of children and teenagers with an opportunity to hold competitions as this play system memorizes and systematizes results. One of the seven games offered in this playground is Freeze! Following its rules, players are dancing when the music is on. At the moment the music is off, the players must stop moving. If a player is still moving, a camera records it and suggests leaving the playground. The game is on till only one player is left who obviously becomes a winner.

Having defined main approaches in designing of children's playgrounds, it should be noted that today as a rule specialists use their synthesis. For example, usage of the creative-narrative approach does not exclude a possibility of addressing to the functional-pragmatic or technical-technological approaches as well, though in this case the creative-narrative one will prevail.

Conclusions. Importance of a professional solution for the design-environment of a child's play space is obvious. A professionally organised space has a tremendous effect upon the development of a child's personality, namely upon their motivation, intellectual, emotional, and tactile spheres, as well as upon their physical and mental health. Modernization in the spheres of bringing-up and education, social changes, importance of familiarization with a growing information stream, and the technical-technological progress have brought about emergence of modern approaches in designing of children's playgrounds. Now designing has to do not only with functionality, reliability,

safety, environmental friendliness, and brightness of children's playgrounds, but also with usage of the mankind's modern advents and creation of original author's ideas which allow us to talk about emerging of new approaches, namely the creative-narrative and technical-technological ones. The playgrounds designed with these approaches are products of the modern civilization — the civilization of recreation, entertainment, creativeness, knowledge and innovations; it is the time when global informatisation of the society, growth of educational and creative potential of population accounted for a necessity to offer children the game-education service. Thus, realisation of modern approaches in designing of children's playgrounds not only creates additional opportunities for both the all-round development of a child's personality and forming their interest to an open-air game, but also provides a child's involvement since their birth into the informational and creative society with its various innovations, as if it brought up its potential consumer and at the same time a future creator of its welfare.

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