Research on Landscape Design of Children’s Outdoor Activity Space Under Natural Experience

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How to cite this paper: Haoran Lu. (2024) Research on Landscape Design of Children’s Outdoor Activity Space Under Natural Experience. Journal of Humanities, Arts and Social Science, 8(6), 1434-1438. DOI: 10.26855/jhass.2024.06.022

Received: May 6, 2024
Accepted: June 4, 2024
Published: July 2, 2024

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Abstract

Children's outdoor activity spaces, as the most direct connection between children and nature, are often overlooked in meeting children's need for natural experiences. From the perspective of natural experience, this paper will explore the landscape design strategy of children's outdoor activity spaces, analyze the characteristics of children's outdoor activities in residential areas, and combine the preliminary basic survey to identify the current landscape issues of children's outdoor activity spaces. It will be pointed out that the current landscape of children's outdoor activity spaces faces problems such as a scarcity of natural elements, reliance on single amusement facilities, and neglect of nature education. In response to these problems, this paper proposes landscape design countermeasures for children's outdoor activity spaces. It aims to combine the psychological and behavioral characteristics of children with the landscape of activity space. This integration seeks to merge the natural environment and activity space, allowing children to use modern gaming equipment while enhancing their interaction with nature. This approach also aims to provide children with a better experience of the natural environment.

Keywords

Nature experience, Children, Outdoor activity space, Landscape design

1. Introduction

In today's modern world, faced with the increasing number of children with autism, obesity, and diabetes, more and more children like to close themselves in a room with a wireless network and power supply to surf the Internet, play games while eating a lot of fried food and coke, such a bad lifestyle requires more children to be able to exercise in natural outdoor space. Medical experts based their research believe that children need at least 60 minutes of pure natural activity a day (He X & Nordin J, 2022). Children need to enjoy games and entertainment in the outdoor activity space, which is as important as learning and education in the classroom and family. Participating in games and activities in the outdoor activity space will have a good promotion effect on their physical fitness, intelligence, and life ability as well as the ability to communicate and cooperate with others. Children's behavior in natural experiential outdoor activity space should be predictable to a certain extent (Cao Dong & Zhu Weilin, 2022). Based on existing theories and characteristics of children's psychological activities and behavioral activities, the psychological changes and needs of children in the natural environment should be investigated and analyzed, so as to discover the relationship between children and the environment in natural experience and summarize its design rules. Thus, a green outdoor natural space that can meet the needs of children in all aspects and ensure the healthy development of children's bodies and minds can be made.
2. Characteristics of outdoor activities of children in residential areas

Through the observation and field investigation of the outdoor activity space of children in residential areas, the characteristics of outdoor activities of children in residential areas are understood as follows:

In terms of activity space distribution, for preschool children who are not yet at school age from 2 to 6 or 7 years old, most of the time are accompanied by grandparents or nannies, and the caregivers are mainly middle-aged and elderly people aged 50 to 60 years old, followed by middle-aged people aged 40 to 50 years old. On weekends, when parents have a rest, most of the children are taken care of by their parents.

In terms of the distribution of activity time, children aged three to six who have entered kindergarten usually have outdoor activities from 5:30 to 7:30, while school-age children aged six and above have a small part of outdoor activities from 5:30 to 7:30 on weekdays, but most of them are concentrated on weekends, and the frequency and duration of activities are also affected by the weather.

At the level of activity range distribution, for children under the age of three, due to their weak mobility, the outdoor activity range is generally near the entrance of their own building unit in the residential area, pushed by the caregiver or held in the arms, and sometimes held by the caregiver to practice walking (Olsen et al., 2022). Children between the ages of three and six can already play some simple games accompanied by a caregiver, and the activities will mainly be in the children's playground or more open space in the residential area. In addition to the outdoor activities in the residential area, children over the age of six usually go to some activities far away from the residential area with their parents on weekends.

3. Landscape status of children's outdoor activity space

3.1 Scarcity of natural elements

In recent years, relevant national policies have proposed to strengthen the construction of child-friendly natural ecology, and the "Guidelines for the Construction of Urban Child-friendly Space" mentioned that sandpits, shallow pools, micro-terrain, and other recreational facilities should be reasonably allocated in children's outdoor activity areas to optimize children's natural experience (Chen P., 2022). However, a large number of existing children's play venues rarely use natural elements, designers are often only eager to focus on the economic utility of the site, and attention is focused on thinking about the play of amusement equipment, directly placed on the hard pavement on the colorful plastic slide is also a common scene of children's outdoor space. Such a design in disguise deprives children of the natural experience they should have, and can only meet their needs for "play equipment", children play with small toys at home, and go out to play with large "toys", resulting in little difference in the meaning of the indoor and outdoor play, and children can not achieve positive interaction with nature.

3.2 Single game facilities

Apart from the theme of children's paradise, most of the existing outdoor activity Spaces for children in China depend on urban parks, public green spaces, squares, and residential areas. The design of such children's activity space needs to be integrated with the type of venue, and should not be equipped with large power amusement equipment, so the unpowered amusement facilities have become an important carrier for urban children's outdoor activities, but the common unpowered facilities are simple to play, and it is difficult to have new ideas in form and material selection (Ting S & Guoying L U, 2023). At present, the number of non-power parks famous for innovation and creativity is few, and most of the existing children's outdoor activity space equipment design forms are similar, and lack new ideas, children's activity Spaces in the community and parks are mostly occupied by the form of integrated entertainment equipment facilities, the inherent mode of "swing, slide" limits children's imagination of outdoor activities. Parent-child rides for parents to participate in are also rare. Such "paradigm" design is derailed from the new era, unable to meet the activity needs of children, unable to stimulate their curiosity, and lack of long-term appeal for modern children.

3.3 Neglect nature education

The educational process of guiding children to collect, organize and weave information about nature to form logical thinking of social life system is called natural education. The research shows that on the one hand, nature education can help children establish sympathy for animals and plants, enrich their inner emotions, and cultivate children's
sense of responsibility (Xie H, Wang D, & Ge T, 2022); On the other hand, it helps children to increase natural knowledge, correctly identify common natural organisms, understand food sources, and cherish the fruits of labor. In recent years, with the establishment of the National Natural Education Committee and the promulgations of important national measures such as the Ministry of Education focusing on the promotion of research trips, the concept of natural education has been gradually recognized and matured by the academic community. In spite of this, China's children's activity Spaces still lack attention to natural education, with less than 30% of children's activity Spaces containing the design of science popularization and research plates. Even if there are, the science popularization corners of many old community parks are only cursory in the form of "sign + text", subject to problems such as low public attention and scarce reference cases. Inevitably, he took the path of formalism. At the same time, most parents believe that the emphasis should be placed on traditional book education, no time to take children to the suburbs to get close to nature, children even have no opportunity to fully understand nature, how to accept natural education.

3.4 Security risks exist

Children's safety awareness is extremely weak, because their physical and mental development is not mature, so children often do not have the ability to judge the danger, and the risk perception of the surrounding environment is low. There are many security risks in the residential areas that threaten children's own safety, although many residential areas have underground parking lots, with the gradual increase of people shopping on the Internet, the number of vehicles in the residential area to send takeout, express delivery and furniture is also increasing, which undoubtedly adds to the risk of children's daily outdoor activities (Yelda Durgun Sahin & Altunkasa C, 2023). Many residential activities equipment is aging; The floor tiles of the floor paving appear to break; Some venues and equipment are not suitable for children's scale; Some residential areas are negligent in the management of the field, resulting in the plants around the field are not pruned in time to grow a lot of messy branches and other common problems in life, which will cause safety hazards for children.

4. Landscape design strategy of children's outdoor activity space based on natural experience

4.1 Reflect the lively tonality of the activity space landscape

American colorist Les Chusking found that different colors will have different effects on children's emotions, and children should pay attention to the color matching of various landscape elements in the outdoor activity space. Most of the plants in the traditional park prefer to use evergreen pine and cypress trees and shrubs, the color is single, the overall color is darker, and the lack of interest. Children's outdoor activity areas should emphasize the lively tonality of the space, try to avoid the reuse of single-color plants, and appropriately increase the number of colored leaf trees, so that the seasons of trees and shrubs are distinct, and the four seasons can enjoy seasonal flowers. The color matching of amusement facilities should be "less and fine", and the simple and bright large colors complement each other with the space environment to achieve a harmonious unity of visual senses. Shape and scale can also bring different visual feelings to people (Nordh H & Evensen K H, 2022). To create a "secret communication space" for children by considering the way of enclosing vegetation, it is also necessary to reserve a certain area of open lawn to meet the needs of children running and playing. In the design, according to different needs, open play space and relatively private interactive conversation space are designed to create a natural space form with a degree of opening and closing. In the design of children's outdoor activity space, there are various still-life shapes that can not be ignored, including the shape of plants and landscape pieces, and the image of IP, which will bring a certain degree of visual impact to children. In terms of plant allocation, the plant community should be appropriately increased, the height of tall, medium, and low trees should be scattered, the visual level should be enriched, and the serious planting and planting methods should be minimized. In terms of plant morphology, trees with strange shapes can be appropriately planted to attract children. Pavement and wall pattern decoration are also very important, and some designs are completely divorced from the surrounding environment, simply catering to the preferences of children to draw popular animation images, which is often counterproductive, and its timeliness is difficult to last. At the same time, it can be combined with the science popularization area to design the animal viewing area, narrow the distance between children and nature, and enhance the interaction between children and space.

4.2 Diversified natural and ecological interactive experience

Children's thirst for knowledge is very strong, and out of curiosity will frequently touch the outside world with their
hands, therefore, children's activity areas should avoid planting plants with thorns, toxic and containing catkins and other allergic ingredients, such as citrate bone, purple leaf wall, cuckoo, privet, phlox, cattail, camellia and so on. Interactive experience areas with different textures should be set up in the design of children's activity space, including paddling pools, sand, climbing nets, grassy slopes, etc. These areas with strong experience help to narrow the relationship between urban children and nature, strengthen the development of children's tactile cognition, and cultivate children's observation and coordination abilities. When designing landscape pieces or non-powered amusement equipment, circular edges should be used as much as possible to avoid sharp corners, such a shape is more popular with children, and can effectively reduce the probability of children being injured. Good natural ecological experience contributes to the healthy physical and mental development of children, and can also improve children's cognition and learning ability. Most children are full of interest in nature, they like to get close to green plants, water, and sand, like to explore nature. In some newly planned residential areas, there is often a high greening rate. The combination of children's outdoor activity areas with surrounding water bodies and greening, although it cannot be compared with the natural ecological experience of the park, can meet the needs of children's experience of being close to nature. Through reasonable collocation of different kinds of "child-friendly” plants, children can enjoy the natural environment. Make different flowers and trees bring different sensory experience to children, so that children can contact nature and embrace nature, and get education in nature.

4.3 Comprehensive activity natural landscape for all ages

Good children's space can accommodate the preferences and growing needs of children of different ages. In rural areas, it is common to have several children in one family. Due to the lack of parental care, the intergenerational caretakers are busy with farm work and housework, so rural children are more precocious than urban children. Therefore, in the design of outdoor interactive space, let children of different ages play together, and older children will learn how to care and humility. Embedding a universal design concept in the design allows children of different ages to play together in the same place, as it provides a different spatial difficulty coefficient of activity, the activity space is also sustainable to adapt to the changing characteristics of the child. In a rich and colorful comprehensive field, it is necessary to carefully consider the scope of activities and habits of children at different ages. In the space design materials, the reducibility of nature can be fully utilized to design a lively and free space full of natural breath suitable for children. For example, the terrain can be used to create a height control territory for children, forming a height difference, so that the site is divided into two activity areas in space—the older children's area located at the outer height, the younger children's area in the center, and the rest area at the step. The two play separately in a safe design environment, and they will not feel lonely, wait more, or compete with their peers. Learn to share happiness here; At the same time, different slope sections can also be used to assist the length of the rope to climb, help children keep fit, cooperate with each other, and promote their creativity.

4.4 Reflect the interest in natural ecological landscape

From the perspective of environmental behavior, behavior is inseparable from the space environment, and children can explore the world through outdoor activities. For left-behind children, the role of outdoor space is nothing more than play and rest, so the design of the site should be combined with the site environment. In environmental design, it is necessary to restore the natural ecological landscape, emphasize the children's feelings in nature, and combine the original landscape, soil, and vegetation with natural lighting, ventilation, and precipitation to create a green environment full of natural breath. For example, the vegetable planting area can be planned and classified, and the sea-sonal collocation of melons and fruits can be considered to form a plant science park. Children can help adults plant in their spare time at the same time, and complete the four seasons of continuous science knowledge, learning, science, fun perfect combination. It is necessary to provide guided facilities in the site design to help children increase their interaction with the site environment through play. Therefore, children can play with children who have different personalities and ways of thinking, learn from each other, and thus develop their thinking ability. A variety of plant combination operations, fully stimulate children's five senses, which can not only cultivate children's good balance and coordination ability but also have a good effect on children's cognition, judgment, and cultivation.

5. Conclusion

Children's outdoor activity space under natural experience makes better use of local favorable resources, takes natural
experience as the fundamental starting point, and combines natural experience with children's behavioral psychology and behavior to further promote children's mental health development. In outdoor activities, the relationship between children and children is equal, and outdoor activities train children to gradually adapt to social life and promote children's socialization as one of the important tasks. At the same time, the effective activity space allows children to fully stimulate the potential ability. Therefore, children who participate in outdoor activities can actively experience or feel the interest brought by nature, and at the same time can face difficulties independently, which helps to form a sound personality and good character, so as to cultivate healthy emotions.

References


