

Cognition and Demand of Nature Education

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Abstract This paper aims to explore the cognition and demand of nature education. Through the analysis of its connotation, significance, current situation and challenges, corresponding countermeasures and suggestions are put forward. Nature education is a kind of education mode based on the natural environment, which enables learners to integrate with nature through scientific and effective means. This kind of education method has a far-reaching impact on shaping the overall quality of teenagers and cultivating the correct world outlook and values. By means of literature review, case analysis and other means, combined with the development practice of nature education at home and abroad, this study deeply analyzes the cognitive status and demand characteristics of nature education, which provides guidance and basis for the dissemination and development of nature education.

Key words Nature education; Ecological environment; Comprehensive ability; Education methods; Cognitive status; Demand characteristics

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With the acceleration of urbanization and the change of people's lifestyle, the frequency of interaction between teenagers and the natural environment gradually decreases, which leads to a series of health problems^[1-2]. Therefore, the rise of nature education is a feasible way to solve this problem. Nature education is not only helpful to cultivate teenagers' awareness of ecological environment and cooperative combat ability, but also can promote their physical and mental health development and all-round growth^[3]. Therefore, it plays a vital role in promoting the popularization and growth of nature education by deeply studying the cognition and demand of nature education.

1 Connotation and significance of nature education

1.1 Connotation of nature education The meaning of nature education is to receive nature knowledge in the process of labor through the green ecological structure. It is a complete plan to form a correct world outlook and values, achieve balanced growth, and solve how to cultivate experiencers by themselves, how to cultivate experiencers to release their potential, and how to cultivate comprehensive qualities such as self-reliance and self-confidence. By shaping lifelong adaptability and implementing the education and training mode based on life, various individualized problems can be solved in the teaching process. Ecological education is an educational method aimed at integrating children into the natural environment and developing effective logical thinking in social life. This method uses the natural environment as the background, human as the media, and scientific and effective means to enable chil-

dren to efficiently collect, sort out and weave natural information, so as to achieve the goal of effective social life logical thinking^[4].

1.2 Significance of nature education

1.2.1 Cultivating comprehensive quality. By guiding learners to integrate into the natural environment and participate in various practical activities, nature education helps to improve learners' comprehensive qualities such as observation, thinking, innovation and team cooperation ability. These qualities are essential for teenagers to better cope with challenges in their future study and career, and to achieve successful development in work.

1.2.2 Establishing correct values. The core values of nature education are to respect nature, follow the laws of nature, and protect the ecological environment. By participating in nature education activities, learners have a deep understanding of the relationship between human and nature, and then establish ecological awareness and environmental protection awareness. The construction of ecological civilization has a significant impact on the promotion of sustainable development, and the realization of sustainable development has a far-reaching impact on the construction of ecological civilization.

1.2.3 Promoting physical and mental health. Nature education provides learners with a platform to get close to nature and release pressure. In the natural environment, learners can independently breathe fresh air, watch magnificent scenery, and participate in outdoor activities, which help relieve academic pressure and improve psychological status. In addition, nature education can significantly promote the physical development of learners, and also promote their healthy growth to a certain extent^[5].

2 Cognitive status of nature education

2.1 Development practice of nature education at home and abroad

2.1.1 Development of nature education abroad. The origin of

the concept of nature education can be traced back to ancient Greece. Its founder Aristotle advocated that education should aim at imitating nature and respect the process of human natural development. This view is reasonable in the field of education. Therefore, it is called "nature education", which refers to the education methods that follow the laws of human natural development. Spank once said that the real excellent teachers are those who are just right^[6]. Rousseau clearly put forward the idea of "returning to nature" in his book *Thoughts on Nature Education*, and believed that the core of school education is to return to nature, and the purpose of education should adapt to children's nature, so that children's physical and mental development can be free, which is the root of children's growth. The so-called "returning to nature" is "comparing with traditional kindergartens". For the physical and mental development of children, the focus of forest kindergarten is to enhance their love and respect for nature, and pay attention to their physical and mental health. After thousands of years of development, nature education has tended to be perfect^[7]. According to incomplete statistics, there are currently more than 4 400 natural schools, including full-time forest kindergartens for young children and experiential life education projects, such as study tours for adolescents and nature education. South Korea is gradually implementing the "ecological childcare act", and the core idea is to strive to maximize the return of children to nature and natural environment^[8]. In this process, children can achieve all-round growth, such as the comprehensive development of life, education, games and other fields. In the United States and Canada, pilot projects of field kindergartens have also been launched. In the forest, there are no houses and no walls. The teacher guides the students in the forest. In the natural environment, they usually use natural resources such as park green space and trees to educate children^[9].

2.1.2 Development of nature education in China. In history, the famous Chinese philosopher Lao Tzu put forward a key point: there is a close relationship between human beings and nature, and the earth follows the laws of nature. The formation of these phenomena comes from nature. In Chuang Tzu's *Xiaoyaoyou*, it vividly depicts that "the world contains great beauty, but there is no language to express. The four seasons have their own patterns, but there is no need to discuss them; the growth of all things is not only mastered by the narrator, and it has its internal laws and reasons". Liu Bin pointed out that although children are members of the family and society, first of all, they should be the descendants of nature. In addition, Mr. Chen Heqin also expounded the view that "life is education, and nature and society are important living textbooks". Mr. Tao Xingzhi, a famous educator, once pointed out that we should create a broad space for children to touch the flowers, trees, green mountains, clean water, and the sun, moon and stars in nature^[10]. Since the 18th CPC National Congress, the CPC Central Committee has attached great importance to ecological protection and regarded it as a core strategy. In promoting the construction of ecological civilization, the CPC Central Committee has included the protection of the ecological environment into the key link. In the report of the 18th CPC National Congress presided over

by Xi Jinping, general secretary of the CPC Central Committee, he clearly put forward the basic national policy of maintaining resource conservation and environmental protection, and stressed the socialist ecological civilization view that clean water and green mountains are invaluable assets. He also unwaveringly adhered to and practiced the socialist concept of ecological civilization. At the educational level, it is necessary to build a scientific view of nature to guide minors' cognition, love and care for nature. The *Guidelines for Kindergarten Education (Trial)* clearly points out that the natural environment and community education resources should be fully utilized to enrich children's life and learning fields. In China, the practice of nature education is mainly divided into three categories: first, in terms of environment and material design, both adhere to the principles of nature, autonomy and freedom, and a unique model with regional characteristics is successfully shaped^[11], such as Zhejiang Anji game and Shandong Lijin game. Second, it has become the basic mode of nature education in most kindergartens to carry out education on planting and solar terms by using the facilities such as plantations and plant corners in the kindergartens^[12]. Third, educational institutions that adopt the model of foreign forest kindergartens to carry out weekly or monthly practice and exploration, such as Friends of Nature Gaia Nature School, Beijing Amethyst Kindergarten, Xiamen Sanwuchu Kindergarten, *etc.*

2.2 Cognitive status of nature education

2.2.1 Parents' cognition of nature education. With the continuous improvement of social attention to quality education, the importance of nature education has been recognized by more and more parents. It is expected that children can be widely exposed to the natural environment, and their observation, thinking and innovation ability are improved through nature education. However, some parents' understanding of nature education is biased, and they think that nature education is limited to outdoor activities or play, thus ignoring its significance in the process of education.

2.2.2 Teachers' understanding of nature teaching. In nature education activities, teachers play a key role and are also the core participants in the implementation activities. Their cognitive level of nature education has a direct impact on its actual effect. At present, most educators are optimistic about nature education in the field of education, and believe that nature education can promote the cultivation of students' comprehensive quality and the shaping of correct values. However, some educators' understanding of nature education has not yet reached depth. They are lack of systematic understanding of the nature education, as well as advanced teaching methods and means.

2.2.3 Social cognition of nature education. From the social perspective, nature education has been gradually concerned and recognized. Governments, schools, enterprises and non-governmental organizations have participated in the promotion and implementation of nature education. However, the development of nature education is relatively lagging behind in China, and the social awareness of this field still needs to be continuously improved. Some individuals have not fully understood the definition and connotation of nature education, resulting in a lack of deep understanding of

its educational value.

3 Demand analysis of nature education

3.1 Teenagers' demand for nature education

3.1.1 Demand for being close to nature. With the acceleration of urbanization, the relationship between teenagers and the natural environment has gradually weakened. They are eager to get close to nature and experience the beauty and magic of nature. Nature education provides students with a place to get close to nature, giving them the opportunity to explore nature and understand its mysteries and laws.

3.1.2 Demand for exploring nature. Teenagers have a high degree of desire for knowledge, and have a strong thirst for knowledge. They hope to explore the mysteries and laws of nature with the help of natural education activities, so as to meet their desire for knowledge and exploration. Nature education provides students with rich inquiry resources and opportunities to improve their observation and thinking ability.

3.1.3 Demand for cultivating comprehensive literacy. Adolescence is a key stage of youth, when the body and mind are in the stage of rapid development. They need to participate in various educational activities to improve their comprehensive quality. As an education mode based on the natural environment, nature education helps to shape students' comprehensive qualities such as observation, thinking, innovation and team cooperation.

3.2 Parents' demand for nature education

3.2.1 Demand for improving children's environmental awareness. Parents hope that children can have a deeper understanding of the natural environment through nature education, and their awareness of the natural environment and protection are cultivated. This is of positive significance for children to establish scientific ecological and moral concepts in the construction of ecological civilization in the future, and to make their own contributions to society.

3.2.2 Demand for promoting children's physical and mental health. Parents hope that children can release pressure in nature and improve their psychological status through nature education. Nature education has a positive impact on children's physical growth and physical and mental health development. This practice plays a positive role in cultivating children's healthy attitude and good ways of doing things.

3.2.3 Demand for enhancing children's social skills. Parents expect to encourage their children to participate in collective activities and improve their social skills and teamwork ability with the help of nature education. In this way, it can provide children with a better way to adapt to the team environment and enhance teamwork with others in the future study and work.

3.3 School's demand for nature education

3.3.1 Demand for enriching educational content. Educational institutions are committed to improving the quality and effect of education through the introduction of nature education. As an education method combining with the natural environment, nature education can guide students to expand their horizons and knowl-

edge fields, so as to improve their comprehensive quality and competitiveness.

3.3.2 Demand for cultivating students' practical ability. The school hopes to cultivate students' practical and innovative abilities through nature education. Nature education emphasizes practical operation and personal experience. This will help students find and solve problems in practice, and improve their ability in practice and innovation. Nature education attaches importance to practical operation and personal experience.

3.3.3 Demand for advocating the construction of campus culture. Schools plan to promote the construction of campus culture through the implementation of nature education, so as to create a good atmosphere of education. Ecological education helps to cultivate students' awareness of environmental protection and the concept of sustainable development, promote the construction and improvement of campus culture, and emphasize the ecological civilization concept of respecting, conforming to and protecting nature.

4 Challenges and countermeasures of nature education

4.1 Challenges faced by nature education

4.1.1 Resource shortage. The development of nature education needs abundant natural and educational resources as the foundation. At the same time, if we want to promote the development of nature education, it needs sufficient natural and educational resources for support. However, with the acceleration of urbanization, the shortage of natural resources has become increasingly prominent. This has brought certain challenges to the promotion and development of nature education.

4.1.2 Shortage of teachers. Nature education needs professional teachers for organization and implementation. However, the current teaching staff of nature education in China is relatively scarce, lacking teachers with professional quality and rich practical experience. This has affected the quality and effect of nature education.

4.1.3 Backward education concept. Some parents and teachers still adhere to the traditional concept of education, and believe that nature education is limited to simple outdoor activities or play, and their profound understanding of its educational significance is insufficient. This has hindered the popularization and promotion of nature education.

4.1.4 Safety problem. Nature education activities need to be carried out outdoors, which may lead to certain potential safety hazards. Nature education is particularly important when facing the problem of how to ensure the safety of students.

4.2 Development countermeasures of nature education

4.2.1 Strengthening the integration and sharing of natural education resources. In view of the lack of natural education resources, it is necessary to strengthen the cooperation and collaborative action among government departments, educational institutions, enterprises and non-governmental organizations, so as to realize the optimization, integration and sharing of natural education resources. First, through the construction and development of nat-

ural education bases, it could increase the types and quantity of natural education resources. Second, it should promote information exchange and cooperation among various fields, and improve the utilization efficiency of natural education resources by building a information sharing platform for nature education.

4.2.2 Enriching the content and form of nature education. In order to meet the diverse needs of different groups, it needs to continuously enrich the connotation and methods of nature education. First of all, according to the age and gender differences, combined with the individuals with educational background, a targeted natural education plan should be formulated. Additionally, modern scientific and technological means such as virtual reality and augmented reality can be used to innovate the forms and methods of nature education, enhance the interest and interactivity of educational activities, and combine knowledge with fun^[13].

4.2.3 Improving participation in interactive nature education activities. In order to improve the participation and effect of nature education activities, it should pay attention to the improvement of activity participation and interaction. First, it can stimulate individuals' enthusiasm for participation by setting tasks, challenges and teamwork. Second, feedback mechanism and interactive communication can be constructed to enhance the interaction and communication between individuals and deepen the understanding and experience of nature education^[14].

4.2.4 Strengthening the construction of teaching staff for nature education. The construction of teaching staff for nature education is the key link to promote the development of nature education. For the cultivation and evaluation of teaching staff for nature education, on the one hand, it needs to increase support to improve the professional level and teaching ability; on the other hand, it should strengthen the training of teaching staff for nature education. It should encourage all teachers to actively participate in educational practice and accumulate rich experience, so as to improve the quality of teaching. In addition, it can introduce outstanding talents, build an incentive system, and encourage them to participate in nature education.

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