

Different Scholars' Summary on Nature Education

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Abstract: *As the world's environment continues to deteriorate, nature education has gained its popularity. In the mid-1990s, many developed countries have adopted the method of nature education and have gained positive results. Since nature education is a newly introduced educational methodology in China, there are gaps in the understanding of it. Therefore, this paper aims at popularizing nature education, discussing the advantages of the development of nature education, and the negative influences on children without nature education. Moreover, this paper provides a literature review on related works of Jean-Jacques Rousseau, Richard Louv, and other nature educators, such as Emile, or On Education, Last Child in the Woods, as well as other scholars' interpretation on those works. We conclude that nature-deficit disorder has become common for children living in cities. This disorder can cause various consequences such as lack of confidence, depression, anxiety and language barriers. The best treatment could be to let children get close and interact with nature, because it can not only help relieve children from some natural diseases, but also contribute to the development of their senses. Studies have shown that the development of senses can affect the development of acquired intelligence. Therefore, nature education for children is extremely important.*

Key words: *nature education; forest education, nature-deficit disorder, Richard Louv, sense development*

1. INTRODUCTION

Nature Education, or Forest Education and Outdoor Education, is an educational methodology that allows participants to receive education from working in the ecological and natural systems. It is a complete solution that cultivates participants according to their nature, helps them to release potential energy, assists them to develop independence, confidence, resilience, self-care and other comprehensive qualities, supports them to establish appropriate values of life and balanced development. Nature education is also an educational model that solves the problem of individual differences in education, which helps children to learn life-long and high-quality survival abilities and eventually become strong survivors in life (Baidu Baike, 2020). Nature education is a process that takes natural environment as the background, utilizes human as the medium, and combines scientific and effective methods to integrate children into nature. Through systematic approaches, children can collect, organize and analyze natural information, forming an educational process of effective logical thinking in societies (Global Times, 2020).

A study conducted in Denmark has compared traditional kindergarten and nature education kindergarten. In the study, children enroll in nature education kindergarten spend almost all day outdoor. After a year, scientists find that those children are comparatively more active and delightful, and better at utilizing physical traits. The most outstanding difference between the two types of kindergarten is that children from nature education are more creative and are more willing to create new games. Another study conducted in Sweden indicates that compared with children who are inconvenient to

outdoor activities or who have limited natural space near their residence, those who are closer to natural spaces or hiking have twice the number of friends (Hilbruner, 2006).

Isolation from nature is an important indicator that leads to mental disorder such as depression and anxiety in children. Children who stay indoor surfing online are more likely to show symptoms of depression and loneliness. A research conducted in 1998 by the Carnegie Mellon University indicates that people who spend hours daily on the internet are more easily to develop loneliness and depression than others (Louv, 2005). This research shows us that once children are deprived from nature, they might develop a series of mental disorders. Nature education can not only cure children's disorders, but also help with their creativity and socialization. Despite the importance of nature education, Chinese citizens have not paid enough attention to it. According to a report from People's Daily on February 23rd, 2011, citizens who are equipped with basic environmental awareness and behaviors accounted for only 3.27%, which is equivalent to the rate in the 1980s of some developed countries such as Japan, Canada and those in the European Union (Feng & Guo, 2008). In order to better popularize nature education, this paper comprehensively analyzes the negative influences on children in the lack of nature education and the benefits of learning nature education based on a comprehensive review of previous research.

2. THE ADVERSE EFFECTS ON CHILDREN WHO LACK NATURAL EDUCATION

In the past few decades, children's relationship with nature has undergone tremendous changes. Although they are able to recognize the increasingly seriousness of global environmental issues, their ability to connect and integrate with nature is rapidly degrading. Children are now extremely alienated from nature. Under this background, Richard Louv coined the terminology *nature-deficit disorder* and used it to describe the price that humans would have to pay for nature deprivation (Institute of Sociology, 2007). Nature-deficit disorder is not a medical diagnosis, but it is used to describe people who have difficulty focusing, are prone to have depression, anxiety, sensory abilities deterioration, myopia, obesity and other symptoms due to the lack of outdoor activities since childhood. A recent survey shows that nearly half of the children spend less than 3 hours on outdoor activities every week. In China, 48.5% of elementary and middle school students in 20 provinces and cities spend less than 3 hours on outdoor activities per week, 37.4% of children have 3-7 hours of outdoor activities, and 9.3% of children spend 7-10 hours on outdoor activities, only 4.8% of children spend more than 10 hours of outdoor activities per week. Moreover, 12.4% of the children show tendencies of nature-deficit disorder, such as inattention, irritability, poor environmental adaptability, unfriendly to nature, lack of curiosity (Ministry of Education, 2020). Data show that nowadays more and more children are suffering from diseases such as obesity and inattention due to the lack of outdoor activities. Data from the U.S. Centers for Disease Control and Prevention show that from 1989 to 1999, the number of overweight children aged 2 to 5 has increased by 36%. Studies also show that childhood obesity is positively correlated with the number of hours spent watching TV. Seattle Children's Hospital believes that 1 hour of TV watching per day for preschool children will increase the chance of having ADHD before the age of 7 by 10% (Shanghai Green Oasis Ecological Conservation and Communication Center, 2003). According to a survey in China, 24.39% of primary and secondary school students in Shanghai had a flash of thought to "end their lives", 15.23% had seriously considered the idea, 5.85% of children had planned to commit suicide, and 1.71% of elementary and middle school students attempted suicide (Liu, 2011). Most of the reasons that lead to their suicidal tendencies are due to depression and psychological imbalance caused by the excessive pressure of study and domestic conflict. Getting close to nature can efficiently relieve their symptoms of anxiety, pressure, and psychological imbalance. A research in Germany shows that for children with diseases (e.g. Down syndrome, anxiety, speech disorder, autism), nature education greatly changes and improves their attention, perseverance, cooperation and positive attitude towards study and

life (Yanzhao Metropolis Daily, 2011). Attention Deficit Hyperactivity Disorder is a typical disorder that might be caused by the lack of contact with nature since childhood. ADHD, commonly known as “children’s hyperactivity disorder” in China, usually occurs before the age of 7 and is usually diagnosed at the age of 8-10. Symptoms of ADHD include inattention, irritability, excessive movement, impulsive behavior, learning difficulties, and conduct disorder. In 2004, Seattle Children’s Hospital and the regional medical center conducted a research in the field of ADHD. The results indicate that a main cause of ADHD is watching TV, and 1 hour of TV watching per day for preschool children will increase the chance of having ADHD before the age of 7 by 10% (Wan & Chen, 2013). Nature is a cure for these underlying symptoms. Researcher William C. Sullivan of the Department of Natural Resources and Environmental Sciences at the University of Illinois conducted a research targeting on children aged 7-12 with ADHD. His study shows that green plants and natural spaces around children, even if the natural landscape seen through the window is beneficial to alleviate ADHD symptoms. The larger and greener of the natural environment, the more helpful it is (Healey, 2004). Another survey shows that for problem children (autism, school weariness, rebellion), the natural environment can help relax their anxiety and regulate their emotions, and help them to return to the level of regular children (O'Brien & Murray, 2007). In *Last Child in the Woods*, Richard Louv emphasizes that children who do not go outdoors often will lack a sense of curiosity, which can be provided only by nature. The lack of nature will weaken children's creativity, spirituality and confidence. Moreover, it will hinder children's motivation and needs for the love and expectation of nature and other creature, which is not helpful for environmental protection (Louv, 2005). Studies show that the more time children spend outdoors, the friendlier they will be to animals, which will benefit the sustainable development of environment protection (Louv, 2010). In 2009, a survey including 2,400 mothers from 16 countries shows that 87% of the participants wish they could have more time to play and interact with their children. Also, 54% of the participants wish they could accept their children to get dirty when playing outdoors. Moreover, only 5% of the Chinese participants say that their children often spend time exploring nature (Fu, 2015). In other words, about 95% of the mothers are not aware of the benefits of bringing children closer to nature. Experiencing nature helps arouse children’s sense of curiosity, stimulates their imagination and creativity, builds their self-confidence, improves their social relations, enhances their teamwork awareness, and develops their problem-solving skills, critical thinking skills and decision-making skill. Meanwhile, it helps to raise the awareness of environment protection. Studies show that the more time children spend outdoors, the friendlier they will be to animals, which will benefit the sustainable development of environment protection (Fu, 2015).

3. THE RELATIONSHIP BETWEEN NATURE EDUCATION AND SENSE TRAINING

Sense training is the education that develops and improves children’s sensory skills through the training of sensory organs. It cultivates children’s vision, hearing, touch and smell. It was first proposed by Italian educator Maria Montessori. She states that the development of intelligence firstly depends on the senses, and only by using senses to collect and analyze can the intellectual activities be produced. For children, 3 to 6 years old is an important period to develop sensory function. During this period, sensory stimulation can be used directly to promote the rational development of children's sensations (Fu, 2015). Montessori thinks that sense training plays an important role in the process of children’s intelligence development. A main purpose of sense training is to train children’s ability of attention, comparison, observation and judgement to make children’s sensory more agile, accurate and refined, and to lay a solid foundation for future intellectual development (Gu, 1998). Moreover, Montessori believes that in children education, the development of sensory should come earlier than the development of intelligence. Human intelligence is closely connected with education, and through sensory training,

certain sensory defects that affect the development of intelligence can be found at an early stage, and timely treatment can be taken to correct and improve it (Zhou & Yang, 1999). Furthermore, sense training can promote children's mental health and lay the foundation for children's healthy personality. Childhood is a critical period for cultivating healthy psychology. Children gradually master and use their sensory organs through training, which helps them overcome psychological obstacles such as low self-esteem, timidity, and isolation. This could also boom self-confidence and prepare children to form and develop a strong and healthy personality (Wang, 2018). In Jean-Jacques Rousseau's view, human's knowledge of themselves and the world begins from sensory. Sensory development is the first priority of education in that the formation and development of various abilities are based on sensation. In childhood, children are in the perceptual stage and can perceive the concrete image of things, but they lack the ability to think and judge, and have not reached the intellectual state. Therefore, the development of children's senses and training of the senses are in line with the development of nature, which is a type of nature education. This is a powerful strike to the traditional education, which utilizes religious beliefs to suppress the development of children's personality (Guo, 2006). Rousseau points out that the sensory organs are the earliest mature physical functions, but the senses are not simply used mechanically, nor are they allowed to develop freely at one's will. Instead, it is trained in a variety of free activities by using senses to feel and judge various things (Wang, 2018). Rousseau emphasizes that nature is the true teacher for children. He advocates to stimulate children's sense through nature (Gao, 2018). Rousseau cultivates children's senses that develops in natural range, which helps to train children's senses in a variety of ways in nature. During this process, children's physical and mental development proceeds in accordance with the development sequence of nature, and children's perceptions and experiences gained in contact with the outside world will be richer. Perception training is not only to exercise the body and keen senses, but also to hone children's willpower, cultivate the virtues of bravery, and coordinate the body and mind without oppression and passivity (Rousseau, 2015). Research has shown that exposure to nature can develop and enhance children's perception of various senses. In the complex nature system, children's senses are activated. A child is seeing with eyes, listening with ears, toughing with hands, and even tasting with tongue. Nature is the best place to active and stimulate the closed senses of children (Rousseau, 2015). However, when children become increasingly dependent on comfortable environment and thus are less interested in nature, their body will be degrading at the same time. The body and mind of children will degenerate as they leave away from nature. One example is the simultaneous degradation of vision and touch (Guo, 2006). Professor Jun Ma of the Institute of Child and Adolescent Health of Peking University conducts a research project titled Distribution Characteristics and Epidemic Trends of Myopia in Children and Adolescents Aged 7-18 in China in the Past 10 Years, and the result shows that the average detection rate of myopia in Chinese adolescents aged 7-18 years has been increasing. The rate is 47.4%, 55.6% and 57.2% in 2005, 2010, and 2014, respectively. One of the main causes of myopia is the lack of time spent outdoors (Fu, 2015). In nature education, by interacting with nature, children are taught to protect and cherish our senses, but to explore the beautiful world using senses without hesitation.

4. CONCLUSION

Education should follow the "nature's way". Children should be encouraged to participate in outdoor activities. Taking a walk with the family after dinner, joining an outdoor camp, growing a plant, picking agricultural products in the farm, visiting the botanical garden, and joining in environmental organizations. Diversified teaching methods can liberate children's minds and hands, free their space and time, encourage them to be creative, practice boldly, and learn to study, and eventually promoting children's overall physical, psychological, and personal development (Sheng, 2018). Nature education is

essentially the education for life. It allows children to experience nature, using their senses to get close to nature. Going into nature, breathe in the fresh air that is hard to find in the city, and embrace the sense of freedom brought by nature. This inspires children to protect nature, love nature, and respect life. Children should be encouraged to think boldly and creatively in an unconstrained context. They should realize that success is the most valuable and convincing only when it is created with their own hands. In the process of interacting with peers and teachers, children will develop the ability of corporation and the spirit of teamwork. They will feel the love from others, and learn how to love others, how to love life and cherish themselves (Dong, 2017). Therefore, early education should focus on the development of children's emotional and interpersonal skills, instead of bringing pressure to them. Nature education can provide opportunities for the development of social skill and positive emotions. At the same time, nature education is of great help to the healthy development of children's body and mind, especially to the cultivation of self-esteem and confidence. The rising nature schools can help children establish healthy hobbies and lifestyles. Children will be encouraged to become learners who love nature and life. Eventually, they will be able to develop healthily and comprehensively (Chen & Wang, 2013).

BIBLIOGRAPHY

- [1] Baidu Baike. (2020). “自然教育”词条 [Nature Education]. <https://baike.baidu.com/item/自然教育/5409762?fr=aladdin.2020-08-05>
- [2] Chen, Y. & Wan, J. (2013). 森林教育:构成、经验与启示[J] [Forest education: composition, experience and inspiration]. *Foreign Education Research*, 40(06):53-58. (08):35-38+27.
- [3] Dong, et al. (2017). 2005-2014年中国7-18岁儿童青少年近视流行状况与变化趋势. [The prevalence and trend of myopia among children and adolescents aged 7-18 in China from 2005 to 2014]. *Chinese Journal of Preventive Medicine*, (4).
- [4] Feng, C., & Guo, Y. (2008). 台湾别样的素质教育——森林小学概况及启示 [Taiwan's unique quality education -- general situation and enlightenment of forest primary school]. *Continuing Education Research*, (07):21.
- [5] Fu, W. (2015). 儿童自然缺失症及其相关问题研究[J] [Research on children's nature-deficit disorder and related problems]. *Journal of Mudanjiang University*, 24(11):164-165+175.
- [6] Gao, Y. (2018). 卢梭感官教育思想研究 [Research on Rousseau's thought of sensory education].
- [7] Global Times. (2020). 自然体验活动盛行儿童与大自然如何有效联接. [The prevalence of nature experience activities: how to effectively connect children and nature].
- [8] Gu, M. (1998). 教育大辞典. [Education Dictionary]. *Shanghai Education Press*.
- [9] Guo, L. (2006). 蒙台梭利关于幼儿的感官教育理论及方法[J] [Montessori's theory and methods of sensory education for children]. *Journal of Shandong Education Institute*, (02):4-6.
- [10] Healey, J. M. (2004). Early Television Exposure and Subsequent Attention Problems in Children. *Pediatrics*, vol.113, no.4, pp.917-918.
- [11] Hilbruner, R. (2006) A Review of: “Last Child in the Woods: Saving Our Children from Nature Deficit Disorder by Richard Louv”. *Applied Environmental Education & Communication*, 5(4):283-284.
- [12] Institute of Sociology, Chinese Academy of Social Sciences. (2007). 2007年全国公众环境意识调查报告 [EB/OL] [2007 National public environmental awareness survey report]. <http://www.chi-naceap.org/download/8.pdf>.
- [13] Liu, H. (2011). 修复孩子与自然界的断裂——读《林间最后的小孩——拯救自然缺失症儿童》 [Repair the gap between children and nature – reflection on Last Child in the Woods]. Department of Education, Zhejiang University.

- [14] Louv, R. (2005). *Last Child in the Woods: Saving Our Children from Nature-Deficit Disorder*, Chapel Hill, NC: Algonquin Books.
- [15] Louv, R. (2010). 林间最后的小孩——拯救自然缺失症儿童[M] [*Last Child in the Woods*]. Changsha: Hunan Science and Technology Press.
- [16] Ministry of Education, National Development and Reform Commission, Ministry of Finance. (2010-2020). 中西部高等教育振兴计划 [Revitalization plan of higher education in central and western China].
- [17] O'Brien, L. & Murray, R. (2007). "Forest School" in England: An evaluation of three case study settings [J]. *Environmental Education*, 84:8-9.
- [18] Rousseau, J. (2015). *Emile, or On Education* (Pingze Li. Trans.) [M]. Beijing: Commercial Press.
- [19] Shanghai Green Oasis Ecological Conservation and Communication Center. (2013). 城市中的孩子与自然亲密度调研报告[R] [Investigation report on the intimacy between children in the city and nature].
- [20] Sheng, K. (2018). 森林学校中的感官教育研究[J] [Research on sensory education in forest school]. *The Guide of Science & Education*, (07):50-51.
- [21] Wan, J. & Chen, Y. (2013). 发达国家森林教育的发展及其教育启示[J]. 外国中小学教育 [Development of forest education in developed countries and its educational enlightenment]. (08):35-38+27.
- [22] Wang, P. (2018). 述评蒙台梭利的感官教育论[J] [Comment on Montessori's theory of sensory education]. *ZhikuShidai*. (26):232+236.
- [23] Yanzhao Metropolis Daily. (2011). 中国儿童自杀报告:中国儿童自杀率世界第一[EB/OL] [Chinese child suicide report: The suicide rate of Chinese children is the highest in the world]. <http://gongyi.cn.yahoo.com/yopen/20110322/271049.html>.
- [24] Zhou, C. & Yang, H. (1999). 外国学前教育史 [History of Preschool Education in Foreign Education] . *Beijing Normal University Press*. p. 312.

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