

The Development Path of Small Rural Schools: Appropriate Curriculum Design and Professional Implementation from the Perspective of Natural Education Practice in Simin Primary School, Zhuji City

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Abstract: Rural education in China faces significant challenges, including limited resources, declining student enrollment, and frequent school closures. This paper examines the educational leadership and management strategies employed by Simin Primary School, a century-old rural institution in Zhuji City, which has successfully revitalized its community and attracted students through the innovative practice of nature education. By leveraging local cultural and environmental resources, the school has established a sustainable model for small rural schools.

Keywords: Rural education; Nature education; Educational leadership; Sustainable school development

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1. Introduction

Education in rural China is often constrained by limited resources, a shortage of qualified teachers, and a lack of innovative teaching approaches. However, Simin Primary School in Zhuji City has transformed these challenges into opportunities through its implementation of nature education, emerging as a model of hope and innovation. This paper investigates the role of educational leadership and management in supporting the development and sustainability of rural schools, with a particular emphasis on the curriculum design and practices adopted at Simin Primary School.

2. Background and context

Simin Primary School, situated in the culturally and ecologically rich village of Si Zhai, faces the risk of closure

due to a decline in student enrollment. However, an increasing number of urban families seeking alternatives to mainstream academic trends have brought new students to the school. These parents value innovative educational approaches, and nature education, which emphasizes environmental interaction, experiential learning, and emotional well-being, has become the school's distinctive feature.

3. Challenges addressed by nature education

Nature education has emerged as a vital response to the challenges posed by the rapid urbanization of the 21st century. The swift expansion of cities has significantly transformed the lifestyles and developmental environments of children, giving rise to several pressing concerns that nature education seeks to address.

One of the primary issues is nature deficiency, which stems from the increasing detachment of children from their natural surroundings. Urbanized living environments, dominated by concrete landscapes and limited green spaces, have drastically reduced opportunities for children to interact with nature. This disconnection deprives them of the sensory, cognitive, and emotional benefits that natural settings provide. The absence of such experiences can lead to a diminished understanding of ecological systems, reduced environmental awareness, and adverse effects on mental and physical health. Children who lack regular exposure to nature may face challenges with stress management, creativity, and overall emotional well-being. These issues highlight the importance of integrating nature-based education into their lives to foster a deep and lasting connection with the natural world.

Simultaneously, the phenomenon of parental absence has intensified the emotional and social difficulties faced by children in urbanized areas. Many parents relocate to distant cities in pursuit of better economic opportunities, leaving their children in the care of extended family members or guardians. This physical and emotional separation can lead to behavioral and emotional challenges, including feelings of neglect, low self-esteem, and difficulties in forming secure relationships. These challenges significantly affect children's social and emotional development, underscoring the need for alternative frameworks like nature education to address these gaps. Nature-based programs provide students with a nurturing environment for exploration and learning, fostering a sense of stability and belonging. Such programs often include activities that promote teamwork, empathy, and self-discovery, helping children manage their emotions and build resilience in the face of parental absence. Through these experiences, children develop a sense of autonomy and interconnectedness that counterbalances the emotional challenges of modern urban lifestyles.

In addition to addressing nature deficiency and parental absence, nature education plays a critical role in mitigating cultural disconnection, another significant issue for children in urbanized communities. Urban migration has led to demographic shifts, bringing an influx of non-local families into cities. For children of these families, integrating into new communities can be daunting. They often struggle to connect with the cultural traditions, practices, and values of their new surroundings, hindering their ability to develop a sense of belonging and shared identity. This cultural disconnection can result in feelings of alienation and isolation, further affecting their relationships with peers and the community.

Nature education provides an inclusive and innovative platform to bridge these gaps by fostering a shared connection to the environment that transcends cultural differences. Through activities such as gardening, wildlife observation, and conservation projects, nature education instills a sense of common purpose and collective responsibility. These experiences encourage children to see themselves as integral members of a community that values collaboration and mutual respect, fostering a deeper appreciation for the cultural and

natural diversity around them ^[1].

4. National background and policy support

In April 2019, the National Forestry and Grassland Administration of China issued a notice promoting nature education, highlighting its crucial role in advancing the construction of ecological civilization. The notice emphasized that with the rapid development of modern society, the relationship between humans and nature has gradually become more distant, exacerbating ecological and environmental issues. To address this challenge, the state proposed that nature education should be one of the key strategies to enhance public ecological awareness and promote sustainable development ^[2]. Nature education not only focuses on protecting the ecological environment but also aims to cultivate students' sense of environmental responsibility, environmental awareness, and the concept of sustainable development. By integrating natural elements into education, the goal is not only to reconnect students with nature but also to guide them in understanding the harmonious coexistence between humans and nature, thus laying a solid foundation for the construction of ecological civilization.

In this context, in July 2021, President Xi Jinping further emphasized China's rich plant diversity and cultural heritage in a speech, calling for the integration of these precious resources into educational practice. He highlighted that China possesses a wealth of plant species and profound cultural traditions, all of which are essential components of education, particularly in rural areas. The concept of nature education aligns closely with China's vision for ecological civilization, aiming to disseminate the principles of ecological civilization through education, promote green development, and simultaneously preserve and advance national culture ^[3].

Driven by this policy, nature education has garnered increased attention and support, gradually becoming mainstream, especially in rural schools, where it has received a positive response. For example, Simin Primary School has innovatively implemented nature education courses by utilizing its unique ecological resources and cultural heritage. The school integrates local plant resources and traditional culture, exploring sustainable development paths tailored to rural schools. This initiative not only provides students with opportunities to engage closely with nature but also fosters their emotional, cognitive, and cultural development. The success of Simin Primary School has offered valuable insights for other rural schools, showcasing the significant potential of nature education.

With guidance from policies and proactive responses from local schools, nature education has become widely applied in China's rural schools ^[4]. Through these policy supports, nature education has gradually emerged as an effective means of improving the quality of education in rural schools and advancing rural revitalization. As more rural areas adopt nature education, the concept of ecological civilization will become more deeply ingrained in people's hearts, contributing to China's sustainable development.

5. The unique advantage of Simin Primary School

The success of Simin Primary School can be attributed to its unique ecological environment, profound cultural heritage, and strong ties with scientific research institutions, which together provide solid support for the school's natural education model.

First and foremost, Simin Primary School benefits from its distinctive location. Situated in the Dongbai Mountain Nature Reserve, the school is surrounded by a rich and diverse array of flora and fauna. This ecological setting serves as a valuable field for the school's natural education curriculum. Students not only learn about plants and animals in the classroom but also enhance their environmental awareness and ecological

responsibility through hands-on observation in nature. By interacting with these natural resources, students gain a more intuitive understanding of the ecosystem's workings, fostering respect for and protection of the environment. This experience promotes the concept of sustainable development, taking root and flourishing within their hearts.

Secondly, the village where Simin Primary School is located has a long history of education and a rich cultural heritage, providing a strong cultural foundation for the school's educational approach. The village has long prioritized the development of education, producing many distinguished individuals, such as the famous paleontologist Si Xingjian and other notable alumni. This cultural atmosphere plays a positive role in students' development, allowing them to draw wisdom from the area's rich history and cultivating a sense of pride and identity in their cultural roots. By integrating local cultural elements into the natural education curriculum, the school not only teaches students about the natural world but also helps them appreciate the deep connection between humanity and nature from a cultural perspective ^[5]. Nourished by this cultural legacy, students enhance their awareness of traditional culture while acquiring new knowledge, further promoting their all-round development.

Additionally, Simin Primary School enjoys strong support from scientific research institutions, particularly the Nanjing Institute of Geology and Paleontology. Through close cooperation with this institute, the school has been able to combine natural education with cutting-edge scientific research, offering deeper and more expansive teaching activities. The Nanjing Institute provides the school with research support and educational resources, allowing the introduction of the latest scientific findings into the curriculum. This collaboration enables students not only to be inspired by the natural environment but also to engage with advanced scientific knowledge, sparking their curiosity and innovative abilities ^[6]. The integration of scientific research and education enriches students' learning experiences and supports the continuous improvement and development of the school's natural education model.

6. The development and goals of nature education courses

The nature education curriculum at Simin Primary School focuses on fostering environmental awareness, cultural connection, and emotional well-being. A key component of this program is the course on Recognizing the Plants in the Book of Songs. This course encourages students to engage with local plants through the lens of classical Chinese poetry, blending natural observation with literary appreciation ^[7]. The goals are to:

- (1) Reconnect children with nature to enhance emotional resilience and cognitive development.
- (2) Address psychological challenges stemming from parental issues by creating a supportive community.
- (3) Strengthen cultural identity and a sense of belonging among non-local students through contextualized learning experiences.

7. Strategy implementation

7.1. Curriculum integration

The natural education curriculum at Simin Primary School has created an innovative educational model by combining traditional subjects with experiential learning. This curriculum not only covers traditional subject knowledge but also emphasizes enhancing students' hands-on experience through practical activities, stimulating their interest in learning and fostering their spirit of exploration. Specifically, the school's natural education curriculum includes professional courses, seasonal experiential activities, and interactive learning,

forming a diversified approach to education.

Firstly, professional natural education courses play an essential role in Simin Primary School's natural education program ^[8]. The weekly natural education course focuses on the plants mentioned in the Book of Songs. Through this, students not only learn about plant knowledge within traditional culture but also gain an in-depth understanding of plants in nature from a poetic perspective. This curriculum integrates traditional literature with natural knowledge, which not only enriches students' cultural depth but also stimulates their interest and love for nature. For example, students explore the symbolic meanings of plants in poetry by interpreting plant images from the Book of Songs and then observe real-life plants to connect with the mysteries of nature. This approach blends literature with cross-disciplinary integration, helping students understand the natural world from multiple perspectives while cultivating their critical thinking and cultural literacy ^[9].

Secondly, seasonal experiential activities provide students with opportunities for close contact with nature. Simin Primary School organizes a series of seasonal events, such as "Exploration of Awakening," "Summer Splash Festival," "Autumn's Gift," and "Winter's Plum Blossom," to help students perceive the changes in nature and experience the beauty of the four seasons. Each seasonal activity is closely tied to the natural environment, allowing students to understand the characteristics of different seasons. For instance, during the "Summer Splash Festival," students explore the aquatic ecosystem through water activities, while in the "Autumn's Gift" activity, they collect autumn plants to experience the harvest and changes of nature ^[9]. These activities enhance students' environmental awareness and hands-on learning through sensory experiences ^[10].

Finally, interactive learning is also a key feature of Simin Primary School's natural education program. Through interactive forms such as poetry recitation, plant observation, nature-inspired games, and creative arts, students can learn and grow in a relaxed and enjoyable atmosphere ^[11]. Poetry recitation not only helps students understand plant images in literature but also cultivates their language expression skills. Nature-inspired games increase students' intuitive understanding of natural phenomena through hands-on activities and teamwork, stimulating their creativity and imagination. Creative art activities, including painting and crafts, transform students' connection with nature into concrete works of art, tapping into their artistic potential.

7.2. Multidisciplinary collaboration

The course features a teaching team from various disciplines:

- (1) Language arts: Guides the interpretation and recitation of poetry.
- (2) Science: Teaches plant knowledge and ecological principles.
- (3) Arts: Promotes creativity through painting and crafts.
- (4) Physical education: Organizes nature-based games and outdoor activities.

7.3. Community and external partnerships

Collaboration with local experts, non-governmental organizations, and academic institutions ensures the availability of resources and enhances the overall quality of the project ^[12].

8. Challenges and suggestions

8.1. Current challenges

- (1) Limited consensus: Internal resistance due to varying levels of awareness and acceptance of natural education among teachers.
- (2) Lack of expertise: A shortage of trained natural science and outdoor education teachers.

- (3) Resource constraints: Reliance on external funding and volunteer support to sustain the program.
- (4) Cultural shift: The impact of digital entertainment and lifestyle trends is weakening students' engagement with nature.

8.2. Suggestions

- (1) Professional development: Establishing training programs to enhance teachers' professional capabilities in natural education.
- (2) Funding mechanisms: Creating dedicated funds or securing sponsorship to support natural education projects.
- (3) Community engagement: Promoting greater participation from parents and local stakeholders to foster a sense of collective ownership^[13].
- (4) Expansion: Broadening the scope of nature-based education to include more interdisciplinary projects and real-world applications.

9. Conclusion

The natural education program at Simin Primary School exemplifies how rural schools can leverage their unique resources to address systemic challenges^[14]. By combining ecological awareness with cultural heritage, it promotes holistic development and rekindles community engagement. The continued success of such initiatives depends on strategic leadership, resource mobilization, and strong community support.

Disclosure statement

The author declares no conflict of interest.

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