

SUSTAINABLE DEVELOPMENT EDUCATION FOR EARLY CHILDHOOD AND ITS PRACTICAL PATH

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ABSTRACT- This research investigates the current state of sustainable development education in Chinese kindergartens, utilising data from an environmental protection teaching experiment conducted at Gong Shu Kindergarten A in Hangzhou City, Zhejiang Province, China. The experiment demonstrates the positive impact of sustainable education concepts on fostering sustainable development thinking among preschool children. The research methods are then elucidated, encompassing the scope, issues, assumptions, data sources, data analysis, research areas, and the timeframe. Chapter 4 analyses the current state of Chinese sustainable early childhood education, delving into the philosophical underpinnings of environmental education and environmental ethics in sustainable development. This analysis includes an in-depth examination of the existing challenges in Chinese sustainable education, such as limited learning channels, immature thoughts, and the effectiveness of sustainable education concepts in environmental protection teaching. The chapter concludes with proposals for environmental education to advance sustainable education, encompassing the establishment of application systems, implementation approaches, and curriculum design. Through this comprehensive study, a deeper understanding of Chinese early childhood education sustainability emerges, offering valuable insights for future development.

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INTRODUCTION

Research Background

China's sustainable development education also stems from environmental education. Since the late 1970s, when ecological education was officially incorporated into the education curriculum, significant progress has been made in China's kindergarten environmental education. In 1996, China initiated the "Kindergarten Green Education Action," in 1998, efforts were made in sustainable development education with a focus on environmental, population, and development education. In 2003, the Ministry of Education issued the first national ecological education document, the "Outline of Implementation of Environmental Education in Primary and Secondary Schools" (Abdalla, 2010).

Despite some progress in environmental education in China, it must be acknowledged that sustainable development education in Chinese kindergartens is still in its early stages. Under the pressure of exam-oriented education, sustainable development education has not received the attention and dissemination it deserves. This will likely hinder sustainable education development in China, impact the Chinese people's environmental awareness and conservation capabilities, and be detrimental to addressing environmental issues and building an ecological civilisation in China (Aderonmu, 2012). Based on a concern for the environment and development, reflections on the current environmental situation in China, and a reconsideration of sustainable development education in Chinese kindergartens, the author

attempts to conduct empirical experimental research, combining it with the practical problem of Chinese kindergartens. The aim is to explore and summarise feasible strategies to promote sustainable development education in Chinese kindergartens.

Research Objectives

The primary objective of this research is to comprehensively investigate and analyse the landscape of sustainable early childhood education in China. Through a structured examination of the philosophical basis, essential characteristics, and current conditions of environmental education for sustainable development, the study aims to identify challenges such as limited learning channels and immature thoughts. Additionally, the research seeks to ascertain the effectiveness of sustainable education in environmental protection teaching. By addressing these aspects, the study endeavours to propose practical and actionable suggestions, including the establishment of an application system, implementation approaches, and curriculum design strategies, with the overarching goal of enhancing the effectiveness of environmental education within the broader context of sustainable development in early childhood education in China.

Research Problem

The research addresses the central issue of sustainable early childhood education in China, focusing on the philosophical basis, essential characteristics, and current conditions of environmental education for sustainable development. The identified research problem encompasses challenges such as limited learning channels, immature thoughts, and the need for practical concepts in ecological protection teaching. By investigating these issues, the study aims to provide a comprehensive understanding of the obstacles hindering the progress of sustainable education in Chinese early childhood settings. Through analysing the research problem, the study proposes practical suggestions and strategies for improving environmental education within the broader context of sustainable development in early childhood education.

Research Significance

The research holds theoretical and practical importance in sustainable early childhood education in China. From a theoretical perspective, the study contributes to the existing body of knowledge by exploring the philosophical basis of environmental education for sustainable development, particularly the evolution of ethics and the establishment of environmental ethics within the sustainable development context. Examining the essential characteristics of environmental education for sustainable development enriches the theoretical framework.

From a practical standpoint, the research provides valuable insights into the current conditions of sustainable education in China, highlighting challenges such as limited learning channels and immature thoughts. Identifying these challenges informs practitioners and policymakers about the specific issues that need attention. Furthermore, the study offers practical suggestions, including the establishment of an application system, implementation approaches, and curriculum design strategies, aiming to guide educators and institutions in

enhancing the effectiveness of environmental education within the broader framework of sustainable education. Overall, this research contributes to theoretical understanding and practical improvement in sustainable early childhood education in China.

LITERATURE REVIEW

Research on Environmental Education Policy

Australian scholar Annette Gough summarised Australia's sustainable development education policies, asserting that various environmental education policies lay the foundation for future strategies and methods in sustainable development education. Gough believes these policies effectively promote the rapid development of sustainable education (Gough, 2012). Josephine Lang, former chair of environmental education in Australia, has been a National Environmental Education Council member. She has also been actively involved in organisations such as the National Environmental Education Network (NEEN) and the Australian Research Institute for Environmental Sustainability (Aries), providing robust support for sustainable development education in Australia.

Research On The Development Of Sustainable Development Education

In China, numerous scholars have conducted relevant studies on sustainable development education, as evidenced by research works such as "Sustainable Development Education," "Teacher Training Manual for Sustainable Development Education," and "Theoretical Research on Sustainable Development Education" (Badjanova, 2014). The theory and practice of education for sustainable development continue to be explored. Consequently, variations persist in the conceptualisation and expansion of sustainable development education across different countries, with ongoing exploration and validation of the principles of sustainable development education (Badjanova, 2010).

Xu Hui and Zhu Huaixin have summarised and studied the developmental processes of sustainable development education in other countries. Yao simplifies the historical evolution of environmental education in different countries into "Environmental Education (Knowledge) → Education (Experience) → Environmental Education (Action) → Sustainable Development Education (Engagement)" (Best, R, 2012). According to related research, the study of sustainable development education in kindergartens involves the guidance of government and national macroeconomic policies and various aspects of sustainable development education in schools.

RESEARCH METHODOLOGY

Introduction

This study will conduct empirical teaching based on the theory of sustainable education, aiming to fill the gaps in existing literature. Simultaneously, with the support of actual data, we can obtain effective research material and draw accurate research conclusions. Sustainable education has been a gradually developing field of study in recent years, and there needs to be more relevant literature on the subject.

Data Sources

This study employs a questionnaire survey to investigate kindergarten teachers and utilises SPSS 21.0 software to conduct statistical analysis on the collected questionnaire results, providing data support for selecting the topic.

Study area

This study focuses on Kindergarten A in Gongshu District, Hangzhou, Ji'an, China. The immediate vicinity of Kindergarten A consists mainly of residential areas with a commercial centre. The Gongshu District in Hangzhou has initiated a continuous education policy, primarily emphasising environmental protection education. However, the research conducted by Wu Fei incorporates broader concepts related to sustainable education, reducing the direct impact of Hangzhou's educational policy on this study. The survey used random sampling to administer questionnaires to 35 children, resulting in 32 completed questionnaires and 30 effective responses. The questionnaire recovery rate reached 91.4%, with a completion rate of 85.7%.

Time period and limitations

The experiment spanned 28 days, during which Wu Fei, leveraging the principles of sustainable education, devised and delivered a curriculum to the students in the targeted class. It is essential to note a limitation in this study: the author did not actively participate but was informed solely about the experiment's process and results. Consequently, some variables within the experiment might have needed to be meticulously controlled.

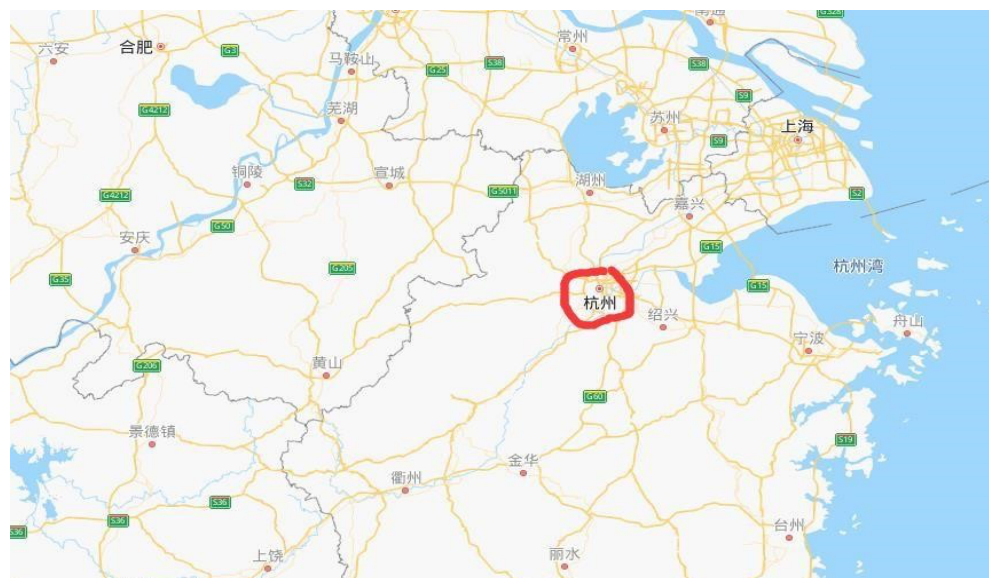


Figure 3.1 Location of Hangzhou
Source: Baidu Maps



Figure 3.2 Location of the Kindergarten A
Source: Baidu Maps

CONCLUSION

This paper aims to derive thoughts and conclusions of universal significance by investigating UNESCO's global governance in education for sustainable development. Through case studies, it seeks to offer insights and perspectives into the participation of international organizations in global governance, addressing the processes, mechanisms, and impacts involved. The intention is to contribute to the practical analysis of global education governance issues by summarizing experiences from various international organizations, thereby making a meaningful contribution to the field.

SUSTAINABLE EARLY CHILDHOOD EDUCATION IN CHINA

Employing statistical methods, this study delves into questionnaire data, validating its reliability through SPSS software. The findings from the questionnaire are then juxtaposed with relevant literature to substantiate the influence of the sustainable education mode on children's sustainable thinking. Additionally, insights gathered from interview methods will contribute to the broader exploration of this topic.

Philosophical Basis of Environmental Education For Sustainable Development

The Change of Ethics

The existence consciousness (Ethics) of human society has experienced three stages:

(1) White Ethics:

Natural ethics, often referred to as a form of human survival consciousness during the "undifferentiation" period, manifests in primitive society. In this undifferentiated state of

living, individuals exhibit a profound reverence, fear, and attachment to nature, as evidenced by various cultural expressions like totem worship and similar practices.

(2) Social Ethics:

In the modern era, the dominance of science and technology has played a significant role in the conquest and transformation of nature, accentuating humanity's inclination to assert control over the natural world, akin to ancient desires. The prevailing belief is that science and technology have the potential to completely reshape the primitive cultural psychology of revering nature. Consequently, nature is perceived merely as an object for human utilisation, development, transformation, and exploitation. This shift in perception leads to a gradual neglect of nature's independence and regularity, resulting in its disdain and exploitation. This evolving relationship causes a growing alienation between humans and nature. As human society forms, the imperative arises to harmonize interpersonal relationships for enhanced survival within the societal framework, culminating in establishing ethical principles and norms reflecting the requirements of social survival—social ethics.

Environmental Ethics of Sustainable Development

Environmental ethics within the framework of sustainable development shares both commonalities and distinctions with anthropocentrism and non-anthropocentrism. The primary divergence between anthropocentrism and non-anthropocentrism in modern ecological ethics lies in their conflicting perspectives on the "ethical relationship between humans and nature." On the other hand, the disparity between non-anthropocentrism and environmental ethics of sustainable development centres around their understanding of the "ethical relationship between humans and nature influenced by the human-nature relationship." The latter emphasizes "justice between human beings." Notably, environmental ethics of sustainable development align with environmental holism within the deep environmental theory, advocating for the holistic value of harmony and unity between humans and nature.

Basic Characteristics Of Environmental Education For Sustainable Development

1) Action (Practice): Target Characteristics of Sustainable Development Environmental Education

Environmental education operates as action-oriented learning, emphasising education through practical engagement. It goes beyond merely imparting information on environmental issues or delivering knowledge; instead, it adopts an activist approach. The conventional method of educating individuals solely on the severity of ecological concerns or providing them with ecological knowledge needs to be revised for substantial impact on environmental protection. The contemporary approach in international environmental education involves encouraging individuals to adopt a sustainable development perspective and enhancing their abilities for active participation. The overarching objective of

environmental education is to instil individuals with accurate environmental ethics and corresponding values, ultimately fostering behaviours that contribute to protecting and enhancing the environment.

- 2) **Critical:** The thinking perspective of environmental education for sustainable development
Traditional thinking promotes a mindset that seeks common ground, often undervaluing the importance of seeking differences and embracing divergent thinking. The conventional education system subtly encourages cultivating "obedient" students, conforming to established standards. It prompts reflection on whether such students, conditioned in this manner, will make decisions contributing to future environmental protection and improvement. In contrast, environmental education for sustainable development advocates for critical thinking.

It encourages individuals to contemplate questions such as: Who holds the authority to make decisions influencing the quality of the social and natural environment? Why do they make specific decisions? What criteria underlie their choices? Whose interests, or which interest groups, do decision-makers serve? Does decision-making consider long-term impacts? How do decisions align with the principles of sustainable development? What objections exist against these decisions? The shift towards critical thinking represents a departure from the traditional educational approach and encourages a more nuanced understanding of decision-making processes.

Current Condition of Sustainable Education In China *Limited Learning Channels*

Following the interview with Mr. Wu Fei, the author observed that kindergarten students developed a specific understanding of natural resources as the foundation for sustainable development through the experimental process. Mr. Wu Fei noted a noticeable improvement in students' comprehension of the principles of sustainable development during post-experiment assessments. He emphasized that a solid grasp of sustainable development's basic concepts, theories, and principles is the groundwork for children to cultivate a profound understanding and implement it correctly. Despite these positive outcomes, Mr. Wu Fei acknowledged limitations in classroom content, preventing a detailed introduction to sustainable development thought. Consequently, challenges persist in fostering a comprehensive understanding of sustainable development concepts within kindergarten settings.

Table 4.1 Result of Questions 5, 14, 17

	Extremely disagree	Very disagree	Disagree	Neutral	Agree	Very agree	Extremely agree
Q5	0	5	1	12	3	7	3
Q14	2	2	3	4	13	3	3
Q17	0	1	4	4	10	7	4

Source: The experiment

The results presented in Table 4.1 showcase responses to questions 5, 14, and 17 on a spectrum from "Extremely Disagree" to "Extremely Agree." For Question 5, most respondents indicated a neutral stance (12), with a reasonably balanced distribution across other categories. Question 14's responses are diverse, notably in the "Agree" category (13). Question 17 reveals a more polarised distribution, with respondents evenly distributed across the "Disagree" and "Agree" categories. These findings suggest varying perceptions and opinions among participants. The neutral stance in Question 5 may indicate a lack of firm conviction, while the concentration in the "Agree" category for Question 14 implies a shared sentiment. The polarisation in Question 17 suggests a more distinct divergence of views. This data underscores the nuanced nature of participant attitudes, necessitating further exploration to comprehend the underlying factors influencing their responses.

Unmature thoughts

Table 4.2 Result of Questions 12, 18

	Extremely disagree	Very disagree	Disagree	Neutral	Agree	Very agree	Extremely agree
Q12	1	3	2	7	4	5	9
Q18	1	3	4	10	4	6	2

Source: The experiment

Table 4.2 displays the outcomes of responses to Questions 12 and 18, spanning from "Extremely Disagree" to "Extremely Agree." In Question 12, participant responses are distributed across various categories, with a notable concentration in the "Very Agree" and "Extremely Agree" categories, indicating a substantial level of agreement (14). Conversely, for Question 18, respondents exhibit a more evenly distributed range of opinions, with a balanced representation across the "Disagree," "Neutral," and "Agree" categories. The presence of both agreement and disagreement in Question 18 suggests a diversity of perspectives among participants.

These findings hint at the complexity of participant attitudes toward the surveyed topics, revealing strong agreement, more varied opinions, and some disagreement. Further exploration and analysis may illuminate the underlying factors contributing to these diverse responses, providing valuable insights into the nuanced perspectives within the surveyed group.

Concept of Sustainable Education Is Effective in Environment Protection Teaching

Teacher Wu Fei's assessment indicates that while children have gained some understanding of sustainable development through classroom teaching and extracurricular activities, there still needs to be a gap in achieving comprehensive comprehension. Since sustainable development has emerged as a mainstream ideology, the current generation of children is poised to become pivotal contributors to sustainable development. Consequently, contemporary educators bear the crucial responsibility of thoroughly instilling the principles of sustainable development and fostering students' independent application through diverse channels. The imperative for kindergarten students is active participation in learning activities, cultivating innovative consciousness, and developing practical skills.

ESTABLISH APPLICATION SYSTEM

- (1) Establishing a democratic participation mechanism that actively involves the entire school staff in both school management and environmental protection is crucial. This necessitates embodying democratic management principles in daily school operations and offering training opportunities for teachers to engage in "environmental education for sustainable development." Active participation in school management and cultivating a sense of environmental responsibility among staff members can be achieved through this approach.
- (2) Develop a comprehensive and flexible plan for long-term and short-term environmental education aligned with the academic year and semester structures. This plan, rooted in subject infiltration, aims to transcend the traditional boundaries of ecological education within specific subjects, emphasizing its interdisciplinary and comprehensive nature. The outline of fundamental education curriculum reform (Trial Implementation) and curriculum standards for various subjects in the new round of national real education curriculum reform outline the foundational aspects of environmental education. This includes the directive that students should develop a preliminary ecological awareness. Subjects closely linked to environmental education, such as science, specify objectives, content, and feasible cases within their curriculum standards, providing a robust foundation for kindergarten environmental education grounded in subject infiltration.

IMPLEMENTATION APPROACH

- (1) Single subject mode:

Implementing environmental education as a separate subject is just one curriculum model. While this model enables students to comprehensively and systematically acquire knowledge and skills related to environmental science, environmental protection, and sustainable development, it also facilitates the evaluation of educational effectiveness. However, this approach requires dedicated time, specific locations, and full-time teachers, making its feasibility less favourable. Additionally, adopting this curriculum model may increase students' academic workload. Only a few countries, such as India, have embraced this method, offering "Environmental Science" courses in primary schools' first to fifth grades.

(2) Carrier curriculum mode:

Many countries commonly implement environmental education through one or two dedicated courses. For instance, primary school ecological education often revolves around core courses like Science and Society. This approach is typically integrated with subjects such as physics, chemistry, and biology in middle school, providing opportunities for integrating environmental education without altering the original curriculum content. In this model, the responsibility for ecological education falls on two or three teachers, without requiring the involvement of other teachers' time. However, a notable drawback is that this model may only partially meet some of the standards for environmental education throughout the day.

While it helps students acquire essential knowledge and skills, it may need to improve in fostering the correct ecological attitudes and values, as these are not the primary teaching goals of subjects like biology or chemistry but are crucial objectives of environmental education.

CURRICULUM DESIGN AND ORGANIZATION

Addressing specific environmental issues within the framework of daily education requires advancing knowledge and technology and collective engagement in addressing established ecological problems. When facing challenges, the close connection between individuals, communities, and the environment becomes apparent in communal daily life. Individuals and communities feel compelled to act for environmental protection and improvement in these situations. Consequently, community education and collective action play a crucial role. As emphasised in the characteristics of environmental education for sustainable development, many national problems are the aggregation of specific issues shared by social groups. Progress in solving the specific problems of a particular social group can contribute to broader improvements in national environmental issues. However, the modern societal over-reliance on school education has led to an excessive burden on schools, limiting their freedom in social practice. Societal sure is an invisible barrier between schools and the outside world. The skewed evaluation system further directs school education toward the confines of classrooms and textbooks. With subverting these fundamental ideas, the practicality of environmental education is easier to achieve.

CONCLUSION

The central challenge in sustainable development education is not solely acquiring knowledge but enhancing children's awareness of sustainable development. While knowledge remains valuable, the primary focus should be on instilling ecological and moral concepts and a sense of societal responsibility in students through education. The goal is cultivating their values, fostering a profound understanding of the environment, and inspiring conscious actions rather than inundating them with theoretical knowledge. While academic education undoubtedly contributes to the experience, the ethical foundations and social responsibility instilled in students are paramount. Numerous issues associated with environmental education for sustainable development require ongoing exploration. The repositioning of ecological education

in theoretical research demands a continuous enrichment of practical experiences in kindergartens. Therefore, future endeavors should prioritize practical exploration to complement and enhance the theoretical foundation.

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