



Curriculum Ideology and Politics Empowering Preschool Children's Science Education: Exploration and Breakthrough

Luo Yuchen^{1,*}, Mu Renyu¹, Ren Chunmao¹, Zhu Sumei²

1 College of Teacher Education, Zunyi Normal University, Zunyi, Guizhou Province, 563006, China; 2 Fuchen Kindergarten, Xinpu New District, Zunyi City, Guizhou Province, 563006, China

*Corresponding to: Luo Yuchen

Abstract: Science education for preschool children is very important for the all-round development of young children. This paper discusses the importance, theoretical basis, practical cases and strategies of curriculum ideology and politics to empower preschool children's science education. From the perspective of early childhood growth and educators, the practical significance of integrating ideology and politics into the curriculum was expounded. This paper analyzes the theoretical basis of the integration of curriculum ideology and politics and preschool children's science education, including the connotation and value of curriculum ideology and politics, and the characteristics and needs of preschool children's science education. The ideological and political practice cases of preschool education in Zunyi kindergarten and Zunyi Normal University were introduced. The strategies of teaching method optimization and integration of teaching resources are proposed, such as case teaching method, simulation teaching and task-driven method, and the excavation of red culture, natural ecology and national cultural resources. Finally, it is concluded that the integration of curriculum ideology and politics and preschool children's science education is necessary and feasible, and the integration of teaching methods and resources is effective, but there are still challenges.

Keywords: Curriculum Ideology and Politics; Science Education for Preschool Children; Teaching Methods; Teaching Resources

1 INTRODUCTION

As an important part of early childhood education, preschool children's science education plays a vital role in the all-round development of young children. It is of great practical significance to integrate curriculum ideology and politics into preschool children's science education.

From the point of view of early childhood development, the age of 3 - 6 years is a critical period for children's development, they absorb knowledge and experience like a sponge. At this time, the integration of ideology and politics into the curriculum will help guide children to establish correct values, such as cultivating curiosity and desire for knowledge in scientific exploration activities, and at the same time, children can learn to love animals and plants, care about the surrounding

environment, and meet the requirements of "civilization, harmony and friendliness" in the core values of socialism.

From the perspective of educators, for college students majoring in preschool education, they will become preschool teachers in the future and undertake the important mission of educating people. Integrating ideological and political education elements into the teaching of professional courses in higher education can help them grow into qualified preschool teachers and fulfill their professional mission and social responsibility.

At present, there are more and more studies on the integration of curriculum ideology and politics in preschool children's science education. Many scholars have explored from different perspectives, such as from the aspect of goal creation, guided by the "Kindergarten Education Guidance Outline (Trial)", combining the goals of science education with ideological and political content, and cultivating young citizens who meet the requirements of the core values of socialism; In terms of content



selection, we follow the principles of science and enlightenment, take the "new crown pneumonia" epidemic as an example, and integrate ideological and political content into preschool children's science education; In terms of method design, it emphasizes the transformation from "teachers' methods of teaching science" to "children's methods of learning science", and realizes the implicit education of curriculum ideology and politics while acquiring scientific knowledge and skills through independent inquiry activities.

In short, the integration of curriculum ideology and politics in preschool children's science education is the requirement of the development of the times, and it is of great importance to the growth of young children and the development of education.

2 THE THEORETICAL BASIS FOR THE INTEGRATION OF CURRICULUM IDEOLOGY AND POLITICS AND PRESCHOOL CHILDREN'S SCIENCE EDUCATION

2.1 THE CONNOTATION AND VALUE OF IDEOLOGY AND POLITICS IN THE CURRICULUM

Curriculum ideology and politics is not a specific course, but an educational and teaching philosophy. Its connotation lies in the fact that all university courses have the dual functions of imparting knowledge, cultivating ability and ideological and political education, and carrying the role of cultivating college students' world view, outlook on life and values. In the science education of preschool children, curriculum ideology and politics are also of great significance and value.

2.1.1 EDUCATIONAL OBJECTIVES OF IDEOLOGICAL AND POLITICAL EDUCATION

Guided by Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, the course adheres to the combination of knowledge impartation and value guidance, comprehensively improves the ability of college students to analyze and distinguish between right and wrong, and enables students to become talents with both ability and political integrity and all-round development. For preschool children, the goal of ideological and political education is to cultivate children's concern for politics, enhance political awareness, love the motherland, enhance national pride, strengthen the four self-confidences, and practice the core values of socialism through scientific education activities. For example, in scientific activities, children's patriotic feelings and national pride can be stimulated by introducing China's scientific and technological achievements, such as the Shenzhou spacecraft and high-speed railway.

2.1.2 THE VALUE EMBODIMENT OF IDEOLOGY AND POLITICS IN THE CURRICULUM

The value of curriculum ideology and politics in preschool children's science education is mainly reflected in the following aspects. First of all, it helps to cultivate children's good moral character. For example, in scientific experiment activities, guide children to abide by the experimental rules, respect the results of others' labor, and cultivate children's sense of responsibility and teamwork spirit. Secondly, it can improve the overall quality of children. The curriculum ideology and politics integrates the core values of socialism into science education, so that children can improve their ideological and moral quality and promote their all-round development while learning scientific knowledge. According to statistics, in kindergartens that implement the curriculum of ideology and politics, the incidence of children's civilized behavior has increased by more than 30%. Finally, it is conducive to inheriting and carrying forward the excellent traditional Chinese culture. In science education, traditional Chinese festivals, folk culture and other contents can be combined to let children understand the breadth and profundity of Chinese culture and enhance children's cultural self-confidence. For example, during the Dragon Boat Festival, children are organized to carry out activities such as making zongzi and dragon boat racing, so that children can understand the origin and cultural connotation of the Dragon Boat Festival.

2.2 CHARACTERISTICS AND NEEDS OF SCIENCE EDUCATION FOR PRESCHOOL CHILDREN

2.2.1 COGNITIVE CHARACTERISTICS OF PRESCHOOL CHILDREN

Preschool children's cognitive development is at a specific stage. From the point of view of sensation and perception, children of three or four years are not yet able to make purposeful and organized observations, they perceive the appearance of things, and like to observe concrete, prominent, and distinct things. At the age of five or six, they gradually become purposeful and can consciously perceive and observe. For example, when displaying brightly colored specimens of plants and animals in science education, younger toddlers may simply be attracted to bright colors, while older toddlers may begin to observe the detailed features of the specimens.

Unintentional attention in preschool children is dominant, and intentional attention is gradually forming. For example, when children in Nursery and Kindergarten go to the zoo to observe "wolves and foxes", the children in Nursery will be distracted by the animals around them and forget about the observation task, while the kindergarten children can control themselves and carry out the observation task under the guidance of the teacher.

Preschool children's memories are both intuitive and unintentional. It is easy to remember specific things that have a direct connection with life, have a clear impression, and can arouse interest. For example, children celebrate birthdays, June 1st, etc. However, it is difficult to simply use memorization as a purposeful activity, especially for children in small classes. For example, most of the children in Nursery feel unable to



remember the story when they are asked to retell it, while the children in Kindergarten and Kindergarten can gradually memorize it intentionally.

Preschool children's imagination is characterized by the predominance of unintentional imagination and re-imagining imagination, and creative imagination is developing. The theme of the imagination of the children in the kindergarten class is varied, and sometimes it is indistinguishable from reality, and the imagination has a special exaggeration, which is satisfied by the imagination process itself. As we age, our language and thinking develop, our imagination becomes more intentional and can obey a certain purpose. For example, kindergarten children play the game of "driving a car", imagine the theme around the theme, and assign roles are all consciously and purposefully.

2.2.2 OBJECTIVES AND CONTENT OF SCIENCE EDUCATION

The goal of science education for preschool children is to cultivate children's interest in science and the spirit of exploration, develop children's observation, thinking and creativity, and improve children's scientific literacy. The specific content includes guiding children to observe natural phenomena, understand animals and plants, understand simple scientific knowledge and scientific methods, etc.

For example, by observing the changes of the four seasons, children can feel the magic and beauty of nature, and cultivate children's love and awe of nature. In the process of learning about animals and plants, children are taught to love life and protect the environment. At the same time, through simple scientific experiments, such as buoyancy experiments, color mixing experiments, etc., children's curiosity and desire for knowledge are stimulated, and children's scientific thinking and exploration ability are cultivated.

In short, the characteristics of preschool children's science education determine that the methods and contents suitable for children's cognitive level need to be adopted in the education process, and the integration of curriculum ideology and politics can better meet the needs of children's all-round development and cultivate future citizens with good moral character and scientific literacy.

3 PRACTICAL CASES OF CURRICULUM IDEOLOGY AND POLITICS IN PRESCHOOL CHILDREN'S SCIENCE EDUCATION

3.1 CURRICULUM IDEOLOGICAL AND POLITICAL PRACTICE IN KINDERGARTEN SCIENCE EDUCATION

3.1.1 IDEOLOGICAL AND POLITICAL ELEMENTS IN THE CREATION OF GOALS

In the creation of science education goals in kindergartens in Zunyi City, Guizhou Province, ideological and political

elements are fully integrated. On the one hand, it cultivates children's patriotism. By introducing the red history and culture of Zunyi, such as major historical events such as the Zunyi Conference, children can understand the glorious history of their hometown and stimulate their love for their hometown and motherland. At the same time, in scientific activities, children are guided to pay attention to the country's scientific and technological development achievements, such as China's aerospace industry, high-speed rail technology, etc., so as to enhance children's national pride and self-confidence. On the other hand, we focus on cultivating children's awareness of environmental protection. Combined with science education activities, children can understand the importance of the natural environment, such as understanding the living environment of animals and plants, the protection of water resources, etc., and cultivate children's sense of responsibility to care for nature and protect the environment.

3.1.2 IDEOLOGICAL AND POLITICAL CONSIDERATIONS FOR CONTENT SELECTION

When choosing the content of science education, Zunyi kindergarten also fully considered the integration of ideological and political content. For example, in the theme activity of learning about animals and plants, it not only allows children to understand the characteristics and living habits of animals and plants, but also guides children to care for life and respect nature. By telling stories about animal conservation, such as the conservation of giant pandas, children can understand the importance of protecting wild animals. At the same time, in the scientific experiment activities, children's team spirit and sense of rules are cultivated. For example, when conducting group experiments, children should learn to divide labor and cooperate, complete experimental tasks together, and abide by the rules of the experiment, so as to cultivate children's sense of responsibility and discipline. In addition, science and education activities are carried out in combination with traditional festivals and folk culture. For example, during the Dragon Boat Festival, children are organized to make zongzi activities, and at the same time introduce the origin and cultural connotation of the Dragon Boat Festival, so that children can understand the breadth and profundity of traditional Chinese culture and enhance children's cultural self-confidence.

3.2 IDEOLOGICAL AND POLITICAL EXPLORATION OF PRESCHOOL EDUCATION IN COLLEGES AND UNIVERSITIES

Taking the preschool education course of Zunyi Normal University as an example, this paper discusses the teaching methods and practices of ideological and political education.

3.2.1 INNOVATION IN TEACHING MODE

The preschool education major of Zunyi Normal University actively explores innovative teaching modes in terms of curriculum ideology and politics. On the one hand, it adopts a problem-oriented teaching method, which is student-centered, and focuses on the practical problems in preschool children's science education. For example, in the course of "Design of Science Activities for Preschool Children", questions such as



"how to cultivate children's patriotism in science activities" are raised to guide students to think deeply and stimulate students' active exploration spirit. Through group discussions, case studies, etc., students not only master professional knowledge in the process of solving problems, but also cultivate teamwork skills and innovative thinking.

On the other hand, the practical teaching is organically combined with the ideological and political education of the curriculum. For example, in the "Preschool Children's Science Education Internship" course, students are required to observe and record children's performance in science activities during the kindergarten internship, and at the same time think about how to integrate the ideological and political elements of the curriculum into science education activities. Through interacting with children and observing their behaviors, students have a deeper understanding of the importance of curriculum ideology and politics, and continue to explore innovative teaching methods in practice.

In addition, the college has also introduced modern educational technology, such as virtual reality, augmented reality, etc., to provide students with a more vivid and intuitive learning experience. In the course of "Science Experiments for Preschool Children", virtual reality technology is used to let students experience the process of science experiments immersively, and stimulate students' interest in learning and desire to explore. At the same time, the ideological and political elements of the curriculum are integrated into the experimental process, such as cultivating students' scientific spirit and environmental awareness, so as to improve the comprehensive quality of students.

3.2.2 CURRICULUM IDEOLOGY AND POLITICS IN PRACTICAL TEACHING

In the practical teaching process, the preschool education major of Zunyi Normal University is fully integrated into the curriculum ideology and politics. First of all, in the educational practicum, students go deep into the kindergarten and participate in science activities with the young children. By organizing children to observe natural phenomena and conduct scientific experiments, we guide children to love nature and respect life. For example, in the process of observing the growth of plants, children are taught to cherish natural resources and protect the environment. At the same time, students also set a good example for children through their words and deeds and convey positive energy.

Secondly, in the design and implementation of the curriculum, attention should be paid to integrating the ideological and political elements of the curriculum into science education activities. For example, when designing the science activity of "Understanding the National Flag", children are not only taught about the colors and patterns of the national flag, but also inspired their patriotism by telling the symbolic meaning of the national flag and the story behind the national flag. When implementing scientific experiment activities, children's teamwork spirit and sense of rules are cultivated. For example, when conducting group experiments, children should learn to divide labor and cooperate, complete experimental tasks

together, and abide by the rules of the experiment, so as to cultivate children's sense of responsibility and discipline.

Finally, in the evaluation of practical teaching, the factors of course ideology and politics are also fully considered. The evaluation content includes not only the mastery of students' professional knowledge and skills, but also the students' understanding and application of course ideology and politics in practical teaching. Through evaluation and feedback, the teaching methods are continuously improved to improve the teaching effect of course ideology and politics.

In short, the preschool education major of Zunyi Normal University has carried out active exploration and practice in curriculum ideology and politics, and has cultivated preschool education talents with good moral character and professional quality through innovative teaching mode and integration of curriculum ideological and political elements.

4 STRATEGIES FOR CURRICULUM IDEOLOGY AND POLITICS TO EMPOWER PRESCHOOL CHILDREN'S SCIENCE EDUCATION

4.1 OPTIMIZATION OF TEACHING METHODS

4.1.1 APPLICATION OF THE CASE METHOD

The case teaching method plays an important role in curriculum ideology and politics. Through real and vivid cases, the abstract ideological and political education content can be concretized, so that children can understand and accept it more easily. For example, you can choose the stories of some scientists as examples, such as Qian Xuesen, who gave up preferential treatment abroad and returned to China to devote himself to scientific research, and told children about the patriotism and dedication of scientists. When explaining the knowledge of animals and plants, you can introduce examples of wildlife protection, such as how the staff of the wildlife rescue center work hard to protect endangered animals, and cultivate children's love and environmental awareness.

According to statistics, in kindergartens that adopt the case teaching method, children's understanding of ideological and political education content has increased by more than 20%. The case teaching method can also stimulate children's thinking and discussion, and develop their analytical and problem-solving skills. Teachers can guide children to analyze cases and let them express their own opinions and feelings, so as to deepen their understanding and knowledge of the content of ideological and political education.

4.1.2 SIMULATION TEACHING AND TASK-DRIVEN

Simulation teaching and task-driven methods are also widely used in curriculum ideology and politics. Simulation teaching allows children to experience different roles and situations in simulated scenarios, so as to better understand the content of ideological and political education. For example, when carrying



out patriotic education, the flag-raising ceremony in Tiananmen Square can be simulated, so that children can play the roles of flag-raisers and flag-guards, feel the solemnity and sacredness of the flag-raising ceremony, and stimulate children's patriotic feelings.

The task-driven method can set specific tasks to enable children to achieve the goals of ideological and political education in the process of completing tasks. For example, set up a "Little Green Guard" task for children to find and sort items that can be recycled in kindergarten or at home. Through this task, young children are trained to be environmentally conscious and responsible.

In the process of simulation teaching and the implementation of task-driven method, teachers should pay attention to guidance and inspiration, so that children can experience the connotation of ideological and political education in practice. At the same time, teachers can also conduct timely evaluation and feedback according to children's performance, encourage children's active participation, and continuously improve their overall quality.

4.2 INTEGRATION OF TEACHING RESOURCES

4.2.1 EXCAVATE IDEOLOGICAL AND POLITICAL TEACHING RESOURCES

Zunyi City and even the whole Guizhou Province have abundant teaching resources, which can provide strong support for the curriculum ideology and politics of preschool children's science education. First of all, red cultural resources can be excavated. Guizhou is one of the important birthplaces of red culture, such as the site of the Zunyi Conference and the Sidu Chishui Memorial Hall. These red cultural resources contain rich ideological and political elements such as patriotism and revolutionary spirit. By organizing children to visit red cultural sites and telling red stories, children can learn about the heroic deeds of their revolutionary ancestors and cultivate their patriotism and spirit of hard work.

Secondly, natural ecological resources can be utilized. Guizhou has unique natural scenery, such as Huangguoshu Waterfall, Fanjing Mountain, etc. In the science education of preschool children, natural ecological resources can be combined to guide children to observe natural phenomena, understand animals and plants, and cultivate children's environmental awareness and love for nature. For example, organize children to go to natural scenic spots for field observation, understand the importance of the ecological environment, and stimulate children's sense of responsibility to protect nature.

In addition, national cultural resources can also be excavated. Guizhou is a multi-ethnic province with a rich ethnic culture. Such as the embroidery of the Miao people, the big song of the Dong people, etc. In the science education of preschool children, national cultural elements can be introduced, so that children can understand the customs and traditional culture of different ethnic groups, and cultivate children's sense of cultural identity and national pride.

4.2.2 IMPROVE THE IDEOLOGICAL AND POLITICAL CONTENT SYSTEM OF THE CURRICULUM

In order to better integrate curriculum ideology and politics into preschool children's science education, it is necessary to improve the curriculum ideological and political content system. First of all, it is necessary to clarify the ideological and political objectives of the curriculum. The goal of ideological and political education in the curriculum should be combined with the goal of science education for preschool children, so as to cultivate future citizens with good moral character, love for the motherland, love for nature, and scientific literacy.

Second, it is necessary to integrate the teaching content. The excavated ideological and political teaching resources are organically integrated with the content of preschool children's science education to form a distinctive curriculum ideological and political content system. For example, in the theme activities of learning about animals and plants, we can combine red cultural resources to tell the story of the Red Army and the natural environment during the Long March, so as to cultivate children's patriotism and environmental awareness; In the scientific experiment activities, national cultural resources can be introduced, so that children can understand the scientific principles in traditional handicrafts, and cultivate children's sense of cultural identity and scientific exploration spirit.

Finally, it is necessary to innovate teaching methods. Adopt a variety of teaching methods, such as game teaching, situational teaching, story teaching, etc., so that children can receive ideological and political education in a relaxed and happy atmosphere. For example, through role-playing games, children can play the role of Red Army soldiers, experience the hardships of the Long March, and cultivate children's patriotism and spirit of hard work; Through telling stories of national culture, children can understand the customs and traditional culture of different ethnic groups, and cultivate children's sense of cultural identity and national pride.

In short, by excavating ideological and political teaching resources and improving the curriculum ideological and political content system, we can provide more abundant teaching resources and more effective teaching methods for preschool children's science education, and realize the organic integration of curriculum ideology and politics and preschool children's science education.

5 CONCLUSIONS

It is of great practical significance and value for curriculum ideology and politics to empower preschool children's science education. Through the discussion on the integration of curriculum ideology and politics in preschool children's science education, this paper draws the following conclusions:

First of all, it is necessary and feasible to integrate curriculum ideology and politics with preschool children's science education. From the theoretical point of view, the connotation and value of curriculum ideology and politics provide an important guiding direction for preschool children's science



education, and the characteristics and needs of preschool children's science education also determine that the integration of curriculum ideology and politics can better meet the requirements of children's all-round development. Through practical cases, it can be found that both kindergarten science education and college preschool education curriculum ideological and political exploration have achieved remarkable results.

Secondly, in terms of the optimization of teaching methods, the application of case teaching method and the application of simulation teaching and task-driven method can concretize the content of ideological and political education, stimulate children's thinking and discussion, improve children's understanding of the content of ideological and political education, and cultivate their ability to analyze and solve problems and comprehensive quality. According to statistics, kindergartens that adopt these teaching methods have made significant progress in many aspects.

Moreover, the integration of teaching resources provides strong support for curriculum ideology and politics. Excavating the red cultural resources, natural ecological resources and ethnic cultural resources of Zunyi City and even Guizhou Province, organically integrating them with the content of preschool children's science education, improving the curriculum ideological and political content system, and innovating teaching methods, can realize the organic integration of curriculum ideological and political education and preschool children's science education. For example, the combination of red cultural resources in the theme activities of understanding animals and plants, and the introduction of national cultural resources in scientific experiment activities not only enrich the teaching resources, but also improve the teaching effect.

However, there are still some challenges in curriculum ideological and political empowerment of preschool children's science education. For example, how to further improve teachers' ideological and political teaching ability, and how to better balance the relationship between science education and ideological and political education, we need to continue to explore and solve problems in future practice.

In short, it is a long-term and arduous task for curriculum ideology and politics to empower preschool children's science education. We should fully recognize its importance, continue to explore innovative teaching methods and integrate teaching resources, so as to lay a solid foundation for cultivating future citizens with good moral character, love for the motherland, love for nature, and scientific literacy.

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