

Research on Cross-border Cooperative Teaching of Ecological Civilization Education in Higher Vocational Colleges

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Abstract: This paper explores the application of cross-border cooperation models such as school-enterprise cooperation, school-local cooperation and school-school cooperation in ecological civilization education. It is found that cross-border cooperation models can significantly improve the effect of ecological civilization education, but still face challenges such as an imperfect cooperation mechanism and a single cooperation content. To address these challenges, suggestions are put forward, such as strengthening policy support, improving cooperation mechanisms, enriching cooperation contents, establishing effective incentive and restraint mechanisms, and strengthening the tracking and evaluation of results.

Keywords: Ecological civilization education; Higher vocational colleges; Cross-border cooperation

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1. Introduction

Against the backdrop of increasingly serious global environmental problems, ecological civilization building has become one of the major challenges faced by all countries in the world. As one of the world's largest developing countries, China is responsible for building an ecological civilization. The 17th National Congress of the Communist Party of China put forward the major proposition of "building an ecological civilization" for the first time and elevated ecological civilization construction to the level of a national strategy. The 18th National Congress of the Communist Party of China incorporated "ecological civilization construction" into the overall layout of the cause of socialism with Chinese characteristics and wrote it into the Party Constitution, emphasizing the need to vigorously promote ecological civilization construction and achieve harmonious coexistence between man and nature ^[1]. The report of the 19th National Congress of the Communist Party of China attaches great importance to ecological civilization. The report of the 20th National Congress of the Communist Party of China further emphasizes that we should uphold the concept that green mountains and clear waters are as valuable as mountains of gold and silver, promote the formation of green development patterns and lifestyles, and build a

beautiful China ^[2].

Ecological civilization education, as an important part of ecological civilization construction, shoulders the responsibility of cultivating high-quality talents with ecological civilization concepts and practical abilities. Higher vocational colleges, as an important force in China's vocational education, undertake the important task of training advanced skilled talents with practical operational ability and professional skills for society ^[3]. Therefore, higher vocational colleges play an indispensable role in constructing ecological civilization. Strengthening ecological civilization education can effectively enhance students' environmental awareness and practical ability, providing solid talent support for the country's ecological civilization construction. Therefore, higher vocational colleges need to introduce external resources through various forms of cross-border cooperation, such as school-enterprise cooperation and school-local cooperation, broaden the channels of educational resources, and achieve resource sharing.

2. The current development status of ecological civilization education in higher vocational colleges

2.1. Curriculum design and teaching content

At present, higher vocational colleges in China have achieved initial results in the curriculum design of ecological civilization education, and many colleges have offered courses related to environmental science and ecological protection. These courses cover multiple aspects such as the fundamentals of ecology, environmental monitoring and governance, and sustainable development, aiming to help students establish a systematic knowledge system of ecological civilization ^[4]. However, the course content is updated rather slowly and often fails to keep up with the development needs of ecological and environmental protection. Many courses remain at the theoretical level, lacking sufficient practicality and interactivity, which limits students' ability to translate what they have learned into practical actions. In addition, the curriculum lacks systematicness and coherence. In many institutions, ecological civilization education courses are scattered across different majors and do not form a unified curriculum system.

2.2. Teaching methods and practical teaching

In terms of teaching methods, the traditional lecture-based teaching still dominates. This teaching method is difficult to stimulate students' interest in learning and is not conducive to developing students' independent thinking and problem-solving abilities. Moreover, the lack of professional knowledge and teaching experience of teachers in the field of ecological civilization also affects the improvement of teaching effectiveness. The practical teaching link is relatively weak. Many institutions, due to the limitations of resources such as funds and facilities, are unable to provide students with sufficient practical opportunities, which directly affects students' ability to apply theoretical knowledge to practical operations and limits the effectiveness of ecological civilization education ^[5].

2.3. Teaching staff and educational resources

Ecological civilization education in higher vocational colleges also relies on a team of teachers with strong professional skills and rich teaching experience. However, many vocational colleges have obvious deficiencies in this regard at present. On the one hand, there is a shortage of professional teachers with an ecological civilization background, and many teachers lack systematic knowledge of ecology and environmental science; On the other

hand, there are fewer training and learning opportunities for teachers, making it difficult to keep up with the latest developments in the field of ecological and environmental protection. Many institutions lack the necessary teaching facilities, experimental equipment and library resources to meet the needs of ecological civilization education.

3. The application of the cross-border cooperation model in ecological civilization education

3.1. School-enterprise cooperation model

School-enterprise cooperation is an important cross-border cooperation model in ecological civilization education in higher vocational colleges. Through cooperation with enterprises, schools can provide students with practical and internship opportunities, enabling them to learn and apply knowledge and skills related to ecological civilization construction in a real working environment. For example, schools can work with enterprises to develop courses and design practical projects related to ecological and environmental protection, allowing students to practice in enterprises, thereby enhancing their ability to solve real environmental problems. Not only can enterprises provide practical platforms, but they can also participate in curriculum design and teaching, bringing the latest technologies and standards of the industry ^[6,7]. For example, some environmental protection enterprises have collaborated with higher vocational colleges to conduct environmental protection technology training, allowing students to learn about the latest environmental protection technologies and equipment usage methods. In addition, enterprises can support ecological civilization education in schools by setting up scholarships, sponsoring research projects, etc.

3.2. University-local cooperation model

School-local cooperation provides a broader social practice platform for ecological civilization education. Through cooperation with local governments, schools can participate in local environmental protection projects and activities, such as ecological restoration, garbage classification promotion, etc. These activities not only enhance students' practical skills, but also help raise environmental awareness in the local community ^[8]. Local governments can provide policy support and financial assistance to schools to promote the development of ecological civilization education. For example, some local governments have collaborated with higher vocational colleges to set up special funds for ecological civilization construction to support the schools' environmental protection projects and educational activities. In addition, local governments can also encourage and support vocational colleges to carry out ecological civilization education by formulating relevant policies, providing more practical opportunities and platforms for the schools.

3.3. The school-to-school cooperation model

School-to-school cooperation refers to the cooperation among different vocational colleges in ecological civilization education. By sharing educational resources, faculty and teaching experience, schools can jointly improve the quality of education. For example, schools in different regions can jointly develop courses and teaching materials for ecological civilization education, organize student exchange studies, and participate in each other's environmental protection projects. School-to-school cooperation can also promote balanced development of education among different regions. For example, a region rich in ecological civilization education resources can help a region with fewer resources improve its education level through cooperation. For example, some

vocational colleges have improved their educational quality by sharing advanced environmental protection experimental equipment and library materials through cooperation with other colleges ^[9].

4. Influencing factors of cross-border cooperation in ecological civilization education in higher vocational colleges

4.1. Policy support

Government policy support is an important external condition for promoting cross-border cooperation in ecological civilization education among higher vocational colleges. Policies can not only provide financial support, but also guide and regulate cooperative behavior. For example, the government can encourage higher vocational colleges to carry out education and practice related to ecological civilization through forms such as financial support and policy guidance funds, while guiding social capital, such as enterprises and research institutions, to participate.

Policy guidance can also clarify the direction and boundaries of cooperation, providing a legal framework and institutional guarantee for cooperation. For example, the government can formulate relevant laws and regulations to clarify the specific requirements and standards for cooperation between schools and enterprises, as well as between schools and localities, to ensure the standardization and effectiveness of cooperation. However, the uncertainty of policy support is also a challenge. Policy changes may affect the sustainability and stability of cooperation. For example, some policies may change due to a change of government or policy adjustment, resulting in insufficient funds and support for cooperation ^[10].

4.2. The motivation and ability of the cooperating entities

The motivation and ability of the partners are key to the success of cross-border cooperation. In cross-border cooperation in ecological civilization education, the subjects involved include not only vocational colleges but also governments, enterprises, non-governmental organizations, research institutions, etc. Whether the goals of these partners are consistent and whether their respective resources and capabilities can complement each other directly affects the outcome of the cooperation. For example, the participation of enterprises can provide students with practical opportunities to enhance their practical skills and employability, while also providing enterprises with the opportunity to solve practical problems. However, the inconsistencies in the motives and capabilities of the cooperating entities may also pose challenges. For example, some businesses may focus more on short-term benefits and neglect support for students' long-term development. To overcome this problem, effective communication and coordination mechanisms need to be established to ensure that the goals and interests of the partners are aligned.

4.3. Cooperation content and design

The choice and design of the cooperation content are the inherent elements that determine the success of cross-border cooperation. The content of the cooperation should be in line with the educational goals and professional characteristics of higher vocational colleges, while reflecting the actual needs of ecological civilization construction. Such as the design and implementation of environmental protection projects, as well as the development of related courses and the compilation of teaching materials, all need to be closely integrated with the core values of ecological civilization to ensure the goal and practicality of education ^[11]. However, a mismatch in the content of cooperation may also affect the outcome of the cooperation. For example, some collaborative

projects may be overly theoretical and lack practicality, resulting in low student engagement and learning outcomes. To address this issue, it is necessary to enhance the design and planning of cooperative content to ensure that the cooperative projects can meet the actual needs and learning goals of the students.

4.4. The ability to integrate resources

The ability to integrate resources is another key factor in determining the effectiveness of cross-border cooperation. Higher vocational colleges need to have sufficient capacity to integrate internal and external resources, including but not limited to teaching resources, experimental facilities, faculty, and resources provided by partners to achieve the goal of ecological civilization education. For example, through the “dual system” education model developed in collaboration with enterprises, students can learn and practice in a real working environment, which greatly enhances the practicality of education and the employability of students^[12]. However, the lack of ability to integrate resources may also affect the outcome of the collaboration. For example, some vocational colleges may lack sufficient resources and capabilities to effectively integrate and utilize the resources of their partners. To enhance the ability to integrate resources, higher vocational colleges need to strengthen internal management and external cooperation to ensure the rational allocation and effective utilization of resources.

5. Implications and suggestions for cross-border cooperation in ecological civilization education in higher vocational colleges

5.1. Strengthen policy support and improve cooperation mechanisms

Policy support can provide legal guarantees and incentive mechanisms for cross-border cooperation such as school-enterprise cooperation and school-government cooperation, reduce cooperation risks and enhance cooperation momentum, thereby attracting more social resources to participate in the practice of ecological civilization education. For example, the government can encourage enterprises to participate in ecological civilization-related education and training programs through financial subsidies, tax incentives, etc. Or by formulating relevant policies to guide and encourage higher vocational colleges to establish long-term and stable cooperative relationships with industry enterprises. The cooperation mechanism includes, but is not limited to, the establishment of cooperation goals, the planning of cooperation contents, the selection of cooperation methods, and the standards for cooperation evaluation. The establishment and improvement of these mechanisms will help to clarify the responsibilities, rights and obligations of each cooperative entity, improve cooperation efficiency and reduce friction and conflict in cooperation. For example, a school-enterprise cooperation committee could be established to hold regular meetings to jointly review the progress of cooperation, solve problems that arise in cooperation, and continuously optimize the content and methods of cooperation.

5.2. Enrich the content of cooperation and improve the effectiveness of education

Cross-border cooperation can cover multiple aspects such as curriculum development, textbook compilation, practical projects, and technology research and development. Rich cooperation can not only enhance the appeal and practicality of ecological civilization education but also increase students' participation and motivation to learn. For example, practical training projects related to ecological and environmental protection can be developed in collaboration with enterprises, allowing students to learn and practice in real working environments, thereby enhancing their ability to solve actual environmental problems^[13]. In addition, the cooperation should include research projects and technology development, etc. For example, higher vocational colleges

can collaborate with enterprises and research institutions to develop and apply ecological and environmental protection technologies to enhance students' research and innovation capabilities. At the same time, students' learning and practice can be enriched by holding lectures, seminars, organizing social practice activities, etc., to enhance their environmental awareness and practical ability.

5.3. Establish effective incentive and restraint mechanisms

Incentive mechanisms can enhance the motivation for cooperation, and restraint mechanisms can prevent potential risks in cooperation. For example, cooperation performance rewards can be set up to provide material or spiritual rewards to individuals or teams that have made outstanding contributions in the field of ecological civilization education, and at the same time, restraint mechanisms such as breach compensation can be established to ensure that the rights and interests of all parties involved in the cooperation are effectively protected. In addition, the initiative and innovation of students and partners can be stimulated by setting up evaluation criteria and competition mechanisms. For example, environmental protection project competitions can be established to encourage students to collaborate with enterprises on the development and implementation of environmental protection projects. Through competitions, outstanding projects and teams can be selected and rewarded. This not only boosts students' participation and learning outcomes, but also enhances enterprises' sense of social responsibility and participation enthusiasm.

5.4. Strengthen the tracking and evaluation of outcomes

Establish a complete tracking service system, conduct regular tracking and evaluation of the implementation effect of cooperation projects, summarize experiences and lessons in a timely manner, and continuously optimize and adjust strategies and measures for cross-border cooperation ^[14]. For example, a tracking and evaluation system for students' practical activities can be established to regularly assess the effectiveness of students' practices and continuously optimize the content and methods of the practices based on the assessment results. In addition, a tracking and evaluation system for enterprise cooperation projects can be established to assess the effectiveness of enterprise cooperation and adjust the content and methods of cooperation based on the assessment results. This will not only improve the effectiveness and quality of cooperation but also enhance the enthusiasm and sense of responsibility of enterprises to participate ^[15].

6. Conclusion

School-enterprise cooperation, school-local cooperation and school-school cooperation each have their advantages and can provide abundant resources and platforms for ecological civilization education. However, cross-border cooperation also faces many challenges, such as imperfect cooperation mechanisms and monotonous cooperation content. Future ecological civilization education in higher vocational colleges needs to further strengthen policy support, enrich cooperation content, establish sound incentive and restraint mechanisms, and enhance tracking and evaluation of cooperation results. These measures can effectively promote the development of ecological civilization education in higher vocational colleges and contribute to building a harmonious society.

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