Research on the Predicament and Countermeasures of Sustainable Development Education in Colleges and Universities

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Abstract. Sustainable development education is an important part of sustainable development strategy. As the main force of personnel training, colleges and universities are important places for sustainable development education. Only by carrying out sustainable development education in university campuses can future builders have a scientific concept of sustainable development and sufficient knowledge of sustainable development. College students are the backbone of the sustainable development of the environment, society and economy in the future. Therefore, it is of great significance to solve the dilemma of sustainable development education in Colleges and universities and to carry out sustainable development education among college students.

1. Introduction

Engels pointed out: "If man conquers natural forces by means of science and creative genius, then natural forces also retaliate against man and subordinate him to a real tyranny, regardless of social organization, according to the extent to which he utilizes natural forces." [1] That is to say, human beings must respect objective laws and protect the environment whether they live or develop. In the process of human governance and improvement of the environment and implementation of sustainable development, it is also of great significance to improve the ideological awareness of environmental protection and sustainable development of College students.

In 2010, sustainable development education was written into the Outline of Education Planning, which is a major event in the history of sustainable development education in China. [2] At present, the main achievements of sustainable development education are concentrated on basic education. The sustainable development education in higher education is relatively weak and lacks systematic achievements. [3] Higher education has great potential in achieving sustainable development. [4] At present, it is of great significance for us to strengthen environmental and sustainable development education for college students.

2. The practical significance of carrying out sustainable development education among college students

The 21st century will surely become an important era of education for sustainable development. [5] University is the ideal home of humankind. College students undertake the future of the country and society. Universities play an irreplaceable role in sustainable development and sustainable development education.
2.1. Helping to optimize the knowledge structure of college students
At present, college students generally attach importance to their major and ignore the courses of other majors, which leads to the phenomenon of unreasonable knowledge structure. With the highly development of human civilization, mutual dependence, mutual learning and mutual integration of knowledge have emerged, and the degree of dependence between disciplines has gradually increased. If a college student only studies professional knowledge and knows nothing about other subjects, it will inevitably result in the lack of integrity of his knowledge structure, and at the same time, it will affect the further development of his major. Sustainable development education has the characteristics of integrity and interdisciplinary. Therefore, it is necessary for us to carry out sustainable development education in universities to help college students form a reasonable and developing knowledge structure.

2.2. Helping to improve the quality and ability of college students
To develop the economy and get rid of poverty, the key is to rely on scientific and technological progress and improve the quality of workers, while scientific and technological progress and improving the quality of workers undoubtedly rely on education. The comprehensive, practical and developmental characteristics of sustainable development education can meet the inherent requirements of improving the quality and ability of college students in an all-round way. Effective development of sustainable development education can improve the quality of college students and cultivate their ability of sustainable development. Firstly, sustainable development education is conducive to broadening students’ horizons and improving the comprehensive quality of college students in an all-round way. Secondly, the practicality of sustainable development education helps students improve their ability to solve practical problems. Thirdly, the developmental nature of sustainable development education is conducive to improving the sustainable development concept of college students in an all-round way.

2.3. Sustainable development education can promote the reform of higher education
The reform and development of higher education in China has always been accompanied by the development of China's economy and social changes. In the period of economic system transition and social transformation, higher education has trained a large number of talents for national economic construction. Facing the trend of economic globalization and world integration, the sustainable development of colleges and universities must be strengthened. Faced with new challenges, higher education should be thoroughly reformed both in system and in personnel training mode. Therefore, it is an inevitable choice for higher education to implement sustainable development education, promote higher education to establish the concept of sustainable development education, and promote the cultivation of sustainable development talents.

2.4. The education of college students' sustainable development is of great significance to the sustainable development of the whole people
College students will be, or have been, the backbone of China's development. The college students' ideology and behavior have a great influence on the society. What's more, college students play an important role in the development of social economy. The consciousness of sustainable development of college students will be shown in the future work, which will directly affect the development of human society. College students are the potential talent resources for the future social development. College students' understanding of sustainable development will determine their attitude in future work to some extent, because they are the main force to solve the problem of sustainable development in the future.

3. The predicaments of sustainable development education in Chinese Colleges and universities

3.1. College students' awareness of sustainable development is not strong
College students are the backbone of China's sustainable development. At present, the consciousness of sustainable development of Chinese college students is still weak. Through the ideological education of sustainable development for college students, it is a strategic issue to firmly establish the consciousness of sustainable development, which will determine the future sustainable development of China. Only by setting up the concept of sustainable development can college students more effectively promote the cause of environmental protection and sustainable development. We must strengthen the ideological consciousness of sustainable development education of college students through various effective measures.

3.2. Insufficient investment in sustainable development education in colleges and universities

Overall, the investment in college sustainable development education is insufficient, which is reflected in the following two aspects: firstly, the investment in faculty construction is insufficient. The implementation of sustainable development education is seriously affected by the lack of capital input and the lack of sustainable development knowledge of many college teachers. Secondly, there is insufficient investment in the teaching material construction of sustainable development education. At present, all parts of the country are vigorously promoting education for sustainable development. In contrast, the quality of teaching materials is not high enough to meet the needs of the new situation.

3.3. The quality of teachers engaged in sustainable development education is not high

Professional teachers engaged in environmental and sustainable development education are quite scarce. Teachers' concept of sustainable development is not enough to play a leading and exemplary role for college students. With the increasing number of students in colleges and universities, relatively few teachers are engaged in the education of environment and sustainable development. At present, due to the differences in age and knowledge structure, teachers have different levels of mastery of the concept of sustainable development and different teaching effects. Some teachers are older and there is a generation gap between them and college students around the age of 20. Some teachers still follow the rigid and old-fashioned teaching methods in the past, which leads to the poor effect of sustainable development education.

3.4. The practical education activities of sustainable development are insufficient

Although sustainable development education system has been established in some colleges and universities, those colleges and universities do not attach enough importance to practical education of sustainable development. Some colleges and universities have only strengthened the teaching of sustainable development education theory in the classroom. The form is too single and one-sided. They are not integrated into students’ professional knowledge and social practice, nor into students' actual life and social practice on a large scale. This leads to the fact that college students cannot implement the concept of sustainable development in practice after graduation. Some universities have not yet formed a sustainable campus culture atmosphere, which is not conducive to the construction of sustainable development education system.

3.5. Insufficient institutional construction of sustainable development

Environmental and sustainable development education in colleges and universities has not formed a systematic environmental education mechanism fundamentally, and its curriculum system is not perfect, nor has it formed a complete subject system. Many colleges and universities have not established rules and regulations to promote education for sustainable development. Some colleges and universities’ green campus construction and energy-saving technology popularization system are not perfect.
4. Countermeasures to promote the sustainable development of higher education

4.1. Strengthening propaganda and education to enhance college students’ concept of sustainable development and sense of responsibility

If environmental education is directed at school children alone, it is impossible for them to succeed, because school children are not yet qualified to make many decisions to protect existing environmental resources. [7] Therefore, it is particularly important to strengthen sustainable development education for college students. Firstly, colleges and universities must incorporate sustainable development education into the curriculum system and carry out training for sustainable development education among students. Secondly, we should strengthen the propaganda of sustainable development in Colleges and universities. Through propaganda, students are encouraged to have a good grasp of the basic situation and crisis of China's resources and energy utilization, and to understand the importance of saving resources and energy and specific measures. Through publicity, colleges and universities encourage students to travel low-carbon, green consumption, pay attention to saving water and electricity, do a good job in garbage classification, and return to the harmonious life of man and nature.

4.2. Increasing input and speeding up the construction of teaching materials and hardware facilities for sustainable development education

Insufficient investment is the bottleneck of sustainable development education in Colleges and universities. Colleges and universities should attract more excellent teachers to join the ranks of sustainable development education by increasing capital investment. Through increasing investment and policy support, the construction of sustainable development education system and propaganda work in Colleges and universities can be guaranteed. Therefore, it is necessary to increase investment in teacher training through off-job, correspondence and other forms to accelerate the construction of sustainable development of teachers. Colleges and universities should strengthen the construction of teaching materials for sustainable development and hardware facilities for energy conservation and environmental protection.

4.3. Strengthening the construction of teaching staff in colleges and universities and raising teachers' awareness of sustainable development

In order to implement sustainable development education in Colleges and universities, we must have a team of teachers with comprehensive knowledge of environmental science. At present, most university teachers have some understanding of sustainable development education, but lack of systematic and macroscopic knowledge structure. Therefore, colleges and universities should introduce a series of policies to encourage young and middle-aged teachers to study for master's or doctoral degree in the direction of sustainable development of their specialty, and further improve the teaching and research level of sustainable development of young teachers. Colleges and universities should encourage young and middle-aged teachers to use the scientific research platform to strengthen their own theoretical cultivation and level by applying for projects, visiting scholars and other forms. Teachers improve their awareness of sustainable development and professional quality through their efforts.

4.4. Strengthening the sustainable development consciousness of college students through practical activities

Sustainable education in Colleges and universities should adhere to the basic principle of cooperative activities and keeping pace with knowledge and practice. [8] Colleges and universities should make full use of students’ spare time to provide jobs, carry out work-study programs and scientific and technological entrepreneurship activities among college students, and promote them to develop a low-carbon, environmentally friendly and sustainable outlook on life and values. Universities should also make full use of special anniversaries such as Earth Day, Tree Planting Day, Turn off the lights for an hour, World Environment Day, and important forms of social practice in winter and summer.
vacation to organize students to go deep into the countryside and grassroots level, so as to enable students to experience the necessity and importance of environmental protection.

4.5. Strengthening the institutional guarantee of sustainable development

The education of environmental protection and sustainable development in colleges and universities should be guaranteed by sound systems. Colleges and universities should pay attention to professional service platform and information platform, improve the construction of hardware facilities for environmental protection teaching and research, and improve the effect of theory and practice teaching.

Colleges and universities should establish and improve the market incentive mechanism for the transformation of research results in the field of environment, so that the frontier technology of environmental protection can be rapidly transformed in campus. Colleges and universities should formulate relevant systems to reward teachers and students who have achieved outstanding results in carrying out sustainable development activities. Colleges and universities should formulate systems to promote valuable experience in energy conservation, environmental protection and sustainable development.

5. Conclusion

Sustainable development education has become a new trend of education and a new driving force for educational innovation in various countries. [9] After long-term efforts, China has gradually formed a multi-form, multi-level and multi-channel environmental education system, which has formed environmental education with Chinese characteristics. [10]

With the development of environmental and energy crisis, it is an inevitable trend to carry out ecological environmental protection and environmental sustainable development. This requires a large number of outstanding talents to devote them to the tide of environmental sustainable development. It is not only the task of higher education, but also the responsibility of every college student to implement environment and sustainable development education in colleges. Colleges and universities must solve the existing problems in the current environmental and sustainable development education, actively explore and innovate, cultivate students' environmental protection concepts and environmental awareness, accumulate rich professional knowledge, and make contributions to China's environmental protection and sustainable development.

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