Cultivation of Undergraduates' Sustainable Development Capacity in the Universities of China

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Keywords: Education for Sustainability; Undergraduate; Sustainable-development Capacity

Abstract. Education plays the role of inheriting traditional culture and fostering modernism, cultivates many postmodernists, too. Education for sustainability can decide an energetic and hopeful future; also promote a new kind of revolution in the education thought and education practice. Undergraduates' sustainable development ability has plasticity, initiative, continuity and integrity. The cultivation of undergraduates' sustainable development ability should focus on four dimensions including the individual value and social value, teaching methods, curriculum and subject, structure and organization. Universities and students are the main factors that influence and restrict the sustainable development ability of college students. Colleges and universities must develop a student-centered approach to learning and teaching, and take the students’ demands as orientation, fully play the leading role in teaching, cultivate the subjectivity consciousness and sustainable development ability of college students.

Introduction

Confucius, who was a great educator and thinker in ancient China, believed that people should accept education, and he regarded education, population and wealth as the three elements of a country. For education, it has some different categories including the general and special, the government and non-government, and the formal and informal. So far, the connotation of education has not been accurately defined and elaborated. The role of Education in revealing the prevailing tone of the era has long been a source of controversy, not to mention those with vested interests that depend on them. Education is the important activities of human society, is a kind of practice activity for people to influence their physical and mental development and improve the comprehensive quality of people. According to the real need and the future development of the society, it follow the rules of physical and mental development of people, comprehensively, scientifically, and systematically guide the education aims including the knowledge and skills, the temperament, and the mental fitness to meet the need of social reality and talent development in the future.

Jinping XI, who is the general secretary of CPC from 2012, raised a scientific judgment that education determined the present of human and also determined the future of people; he profoundly elaborated the important significance of education to the development of human society. Therefore, education picks up an important mission of cultivating talents for the contemporary and future of society. In 1992, the UNCED proposed that education was the key to promoting sustainable development and improving people’s expression of environmental and development issues, was also the key to the environmental and ethical awareness, values, attitudes, skills and behaviors that made up the sustainable development. 

204
The Concept of Education for Sustainability

In 1987, the concept of sustainable development appeared in our common future by Brundtland Commission\textsuperscript{[2]}. Henceforth, the sustainable development has become a long-term concern of the whole society including the states, governments, institutions, enterprises and people. In 1996, Commission on Sustainable Development (CSD) officially provided the concept of the education for sustainability. In 2005, the United Nations started the UN Decade of Education for Sustainable Development from 2005 to 2014. So, the Education for Sustainability was widely accepted all over the world. In the exploring the education for sustainability, the concept and theory of education for sustainability appeared in countries and international organizations. In China, the Government combined with the National Quality Education Promotion and the actual needs of Medium-and-long Term Education Reform and Development Planning, Chinese scholars have localized the transformation of Sustainable Development and Education, and gave the innovative concept and basic theory of Education for Sustainability with Chinese characteristics.

The connotation of Education for Sustainability is not unique, no matter in practice, or in theory level. CSD believes that the Education for Sustainability has many prototypical properties. Everyone should be involved in it. Educators should not only be limited to school teachers, but also include the government, enterprises, groups and parents. Education objects are life-education, covering children, teenagers, young, adults and olds. The Education for Sustainability is comprehensive and interdisciplinary, which is integrated of law, ethics, economics, literature, science and technology. The Education for Sustainability emphasizes the discipline connection, which emphasizes the relationship between multiple fields and disciplines, rather than following a single principle. The disciplines are interrelated and interact with each other, not isolated. The Education for Sustainability pays more attention to practice. The cognitive problems, knowledge and skills, daily behaviors, ethics and consumption patterns of students and even the public are the basis for the realization of sustainable development education. Education helps the educated solve practical problems in life. Education for Sustainability helps people understand and be able to participate in the social and economic changes they will face their lives and future\textsuperscript{[3]}.

To the education for sustainability, some representative views and opinions have been formed from different levels and perspectives\textsuperscript{[4]}. Education workers attempted to describe and enrich the existing connotation, theory and thought in education by using their practice. In China, combining the national sustainable development strategy with the promotion of quality education and the education reform and development planning, Chinese project researchers transformed the connotation of international sustainable development education to establish the concept and theory of education for sustainability with Chinese characteristics\textsuperscript{[5-7]}.

The Status and Change of Education in China

Education is in a dominant cultural, social and political background, and promotes cultural development and cultural inheritance, which are comprehensively affected by traditional habits and inherent concepts. For education, there is also a persistent proposition that how much contribution education can make to the fundamental change of society, especially the formal education, which is dominated by the traditional social paradigm and does not have much freedom to reform. Education needs an inclusive culture and environment, and expects to participate in and solve the social crisis in an optimistic way.

In the process of social development and reform, education plays the role of inheriting traditional culture and cultivating modernism, and even the post-modernism of reconstruction. While maintaining the existing good education practice, sustainable development urgently needs a new education model and method, it may lose the historical opportunity and the best opportunity to develop education under the condition of modernization or even post-modernization, or be delayed at least. Compared with other descriptive education, the significance of education for sustainability is
more profound. Its characteristics are more consistent with the quality and ability requirements of future engineers. The basic characteristics of education for sustainability determine a positive and promising future; highlight the characteristics and needs of the ongoing education reform.

The development of the China market economy has stimulated the creativity of the people to participate in economic competition and promoted the subject spirit of the people. We must continue to promote the socialist market economy, transform China from a country with large population to a country with strong human resources, and cultivate every young person into a new type of citizen with the main body spirit, lifelong development and innovation capabilities.

Four-dimension Cultivation of Sustainable Development Capability for Undergraduates in China

Education plays the role of inheriting traditional culture and cultivating modernism, as well as cultivating reconstructed postmodernism. Education for sustainability is more consistent with the quality and capability requirements of future engineers. The basic features of sustainable development education help determine a positive and promising future, and may lead to new and more specific features.

Education for sustainability is purposeful, predictive and lifelong, but not deterministic. Only when the value of ecological sustainable development for higher education is integrated with the actual situation and realistic value, it can be meaningful. It encourages the changing of educational thought and educational practice. The cultivation of college students’ sustainable development ability should pay attention to four-dimensions, which includes the personal value and social value, the teaching methods, the courses and curriculum, and the structure and organization. These dimensions interact with each other. In order to maximize their optimal combination, it is necessary to consider them consciously and comprehensively.

To the personal and social values, the education should make great efforts for the educate to develop a sense of responsibility for others and future, the positive response ability to the reform and the uncertainty, the recognition of relationship between the individual and collective external events and the internal factors, the interdisciplinary overall vision, the creative ability of uncertain question, the balance ability of intuition and reasoning, the respect for diversity, and the sense of self-worth. Connecting the individual value, social value, need, understanding and expectation together forms the value of education for sustainability.

To the teaching methods, it is not the symbol of teachers’ rights and ownership, but the embodiment of systematic, social and critical teaching concepts. Its basic objective is to develop and connect, critical thinking, environmental and social action, and to build ecological and political capacity for the needs of a comprehensive and active citizen. There are many effective learning methods to the educate, the inquiry learning, the experiential learning, the cooperative learning, the critical thinking and creative thinking, the value proof and judgment, the communication skills, and the vision to the future. All of them are specific teaching methods to cultivate college students' ability of sustainable development.

To the courses and curriculum, the vertical development and horizontal integration of courses and the cross-integration of disciplines are the inevitable needs of modern talent training. Relationships between disciplines are more important than independent courses in a particular context. Of course, the integration of the curriculum and the intersection of disciplines depend on the establishment of structure and organization.

To the structure and organization, in-depth integration of government, industry, education and research is the only way to reform higher education in China. The interaction between hidden courses and elective courses should jointly develop a sustainable campus culture, which is not only vivid, but also critical reflection. The structure and organizational characteristics of colleges and universities include the democratized classrooms and decisions, the opening and management of campus environment, the active integration of school and society, and the life-education. Through perfect
structure and scientific organization, colleges and universities can fully fulfill the five-function of universities in China.

Summary

Education undertakes the important mission of cultivating talents for today's society and future development. Confucius listed education as the first of the three elements of founding a country. Xi Jinping, who is the general secretary of CPC from 2012, raised a scientific judgment that education determined the present of human and also determined the future of people. The development of higher education represents the development status and potential of a country.

Education plays the role of inheriting traditional culture and cultivating modernism, as well as cultivating reconstructed postmodernism. Education for sustainability is more consistent with the quality and capability requirements of future engineers. The basic features of sustainable development education help determine a positive and promising future, and may lead to new and more specific features.

Education has the dual-function of education to promote the sustainable development of society, economy and culture as well as the sustainable development of people. It is a mechanism to change education and learning and promote the change of education thought and education practice. The cultivation of college students’ sustainable development ability needs to pay attention to four-dimension which they are personal value and social value, teaching method, curriculum and discipline, structure and organization.

Acknowledgement

This research was financially supported by the Philosophy and Social Science Research Fund of Universities in Jiangsu Province (grant No. 2017SJB1647). It also supported by the Higher Education Research Fund of Huaiyin Institute of Technology (grant No. 2018XGJ16).

References


