The Origin and Development of Environmental Education in Higher Education and Its Enlightenment to China

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Abstract

This article analyzed the nature and function of the higher education, dated from the origin and summarized the development of the higher education, then based on the results, rethought and redesigned the environmental education in higher universities and colleges in China. It put forward three proposals from curricula status, curricula contents and curricula examination. The first proposal is to popularity the environmental curricula to cultivate the students’ environmental awareness, the second is to practice the curricula contents to make the environmental behavior achievable and the third is to carry out the environmental qualification certification system to examine the learning and teaching effect.

Keywords: Environmental Education, the Higher Education, the Enlightenment

1. Introduction

The party central committee emphasized the ecological civilization construction again and precisely put forwards special measures on The third Plenary Session of the 18th Communist Party of China Central Committee, including to set up the systematical and whole ecological civilization regime, to perfect the property right and using system of nature resources, to establish a system of compensation for the use of natural resources and the subsequent impact on the ecosystem. In order to speed up and realize the purpose for ecological civilization, we should launch all-around environmental education from three levels—environmental awareness, environmental behavior and environmental system. As the important institutes of elite education, the universities and colleges undertake more urgent teaching task of environmental education, in addition to this, they have to change the traditional teaching contents and methods of environmental education to satisfy the new qualification from ecological civilization in the new period.

This article bases on the original environmental education, according to the teaching rule of the higher education, and defines the connotation of the environmental education of the higher education in the new period. Then it redesigns the contents and style of the environmental education from three levels—awareness education, behavior education and system education—hoping to enhance the quality of the environmental education in the universities and colleges in China and supply the talent support and thinking for the ecological civilization construction.

2. The nature and function of the higher education

Newman in the oxford university who was the famous higher education thinker in the nineteen century systematically stated the idea of the oxford university at that moment in the book named <the idea of a university > in 1852, and he thought that the university was a place where all of knowledge could be taught, not a place where limited special knowledge could be taught, therefore, the education in the universities should satisfy the requirement for enhancing the social intelligence, cultivating the public mental and spiritualize the national interest and so on. In addition, the exploration and teaching process for the advanced knowledge is the indispensable course of the higher education and it also makes the higher education different from the other education. The process has finished the basic task of the higher education in the way –exploring, converting courses and teaching (Du Ximin, Yu
After the turbulence happened in higher education institutions in the 1960s and 1970s, Sweden carried out the comprehensive reform for the higher education and pointed out the public policy-making and implementation could not change the nature of the higher education (Jan-Erik Lane, 1983). The nature of Chinese education is Neo-Confucian educational idea and the revival of the education for fostering one’s humanity may help balance contemporary Chinese education and restore it to health (Limin Bai, 2010). Education takes place now in homes and workplaces, across national boundaries and in cyberspace. It also crosses traditional life stages. International or transnational spaces, new policy spaces, lifelong learning and work spaces and cyber-spaces and virtual learning are changing the physical nature of the education (Michael McVey, 2013). Most of people think higher education is regarded as a public good, benefiting not only the individuals but also the whole society. Now some began to challenge this well-established view. All kinds of research indicated the viewing higher education as a commodity is very dangerous (Jandhyala B. G. Tilak, 2008).

The awareness decides the behavior, and the behavior also influences the awareness in turn. During the course of this, education has played an important link role and the relationship graph is listed as follows. By means of the education, people can take shape the awareness, even change their awareness, and indirectly influence their behavior. So the main function of the higher education is to set up the human being’s favorable awareness and improve their behavior’s scientificty and sustainability by creating and broadcasting the advanced ideas, technology and knowledge, and at last to realize the ultimate goal of promoting the productivity’s development. Speaking specifically, the higher education not only can provide the well base and condition for steadily and sustainable economic development, but also provide the sufficient and high-quality talents for the departments and help the public set up all kinds of the new ideas, attitudes and behavior habits to adapt the rhythm and change of the modern life. Therefore today facing the more and more serious environmental problems, it is a must to foster the overall environmental protection ideas, to standard the environmental protection behaviors and to design the environmental protection laws. It is undeniable that Environmental Education plays an increasing important role in this process. Admittedly, because of the functions and nature of the higher education, the universities and colleges will become the main base of the environmental education and also the significant place where environmental education reforms and innovates.

Figure 1. Relationship of Awareness, Education and Behavior

3. The origin and development of Environmental Education

So far there has been disagreement about the Environmental Education (Abbreviation EE) in the academic circles. But it is incontrovertible that EE is coming into the public view with the environmental problems such as warming climate, acid raining and so on. From Emerson’s Nature (1836) to George Perkins Marsh’s Man and Nature (1864), one can trace the developing concerns regarding human interaction with nature. This course was continuous until the beginnings of the twentieth century, John Muir, Robert Marshall, Aldo Leopold were the famous representative personages. At that time their researches put more concern on the nature resource protection rather than the environmental quality and awareness. After the Second World War, the public began to pay attention to environmental problems from the new view and was devoted to the environmental protection for many years. Meanwhile all sorts of international organizations whose mission was “the sustainability development” had been founded successively. The Conference for the Establishment of the International Union for the Protection of Nature (IUCN) convened at Paris, France in October of 1948 and made its top priority the protection of nature and habitats. Subsequent conferences were scheduled as well in order to insure continued progress. And Disinger (1985) thought the concept of
EE as practiced today might be traced back to this conference. Although some researchers held different attitude towards this opinion, it is certain that 1972 was a major turning point in EE internationally. The participants in the first United Nations Conference on the Human Environment in Stockholm, Sweden produced the Stockholm Declaration specifically calls for “education in environmental matters, for the younger generation as well as adults”, and precisely gave the definition for EE-- Environmental education is a process aimed at developing a world population that is aware of and concerned about the total environment and its associated problems, and which has the knowledge, attitudes, motivations, commitments, and skills to work individually and collectively toward solutions of current problems and the prevention of new ones (UNESCO-UNEP, 1976). After that Environmental quality was finally gaining some attention from the world at large, and EE was more and more popular within the scope of the whole nations as the vital measures to solve the environmental problems.

The initial form of EE was spread around the environmental movement and environmental lawmaking. From the 1960’s, the west counties began to issue all sorts of environmental laws. Take USA for an example, The Wilderness Act of 1964, the Species Conservation Act of 1966, and the Wild and Scenic River Act of 1968, The Solid Waste Disposal Act and the Clean Air Act of 1965 reflected national concerns over what postwar affluence was pumping into the environment in the form of waste and emissions. The National Environmental Policy Act of 1970 signaled a more concern for our relationship to the environment and what humans might be doing to it. And then a series of movement of environment came up and became popular at that time many of which took the form of sit-ins, kneel-ins and teach-ins. Among them the teach-ins became the main form of environmental movement in the campuses (Robert L. Carter, Bora Simmons, 2012). Denis Hays, a Harvard law student collaborated with Nelson in enlisting the aid of campus activists from across the country for an environmental teach-in that became known as Earth Day and on April 22, 1970 it involved an estimated 20 million people with participation by nearly 1,500 college campuses (Hall.S, 2005).

Although the movement had made a good effect of publicity, it was a research conducted by the National Science Teachers Association (NSTA) in 1970 really made the EE into the system. The study painted the picture of an educational landscape in desperate need of program and curriculum development. The president Nixon paid more concern on the research and immediately issued the Environmental Education Act that confirmed the EE’s importance in the law. After that, the National Association for Environmental Education had been established and the magazines for EE had been published.

The EE in Europe started from the Human Environment Conference in Stockholm in 1972, and then The International Workshop on EE, held in Belgrade, in October of 1975 resulted in what became known as The Belgrade Charter. The Belgrade Charter built on the framework of Stockholm and described the goals, objectives, audiences, and guiding principles of EE and proposed what has become the most widely accepted definition of EE. After that, educators, authors, and researchers continued to promote, demonstrate, and document the benefits of involving children in the environment as a learning context. The capacity building, curriculum development, and dialog resulted in a rich knowledge base for EE grounded in both research and practice. Education in and about the environment remained a topic in educational circles. Now EE have become a multi-discipline including nature science, philosophy, mathematics, social science, economics and management, and an indispensible part of the higher education’ teaching and research in the western countries.

4. Chinese EE in higher education system based on the international experiences

As has been noted, with the remarkable coming of environmental problem, EE which based on the sustainability development theory has aroused wide public concern and become the important content of the higher education. It is commonly believed that the higher education institutes not only disseminate widespread the policies and regulars about the environmental protection, social justice and economic development, but also teach the practices and experiences to the students in order to improve the whole nation environmental attainment. Therefore the universities and colleges must redesign the EE system and implement in the three aspects-the course content, practice teaching and the students’ club activities. Basing on the before research results (Zhu Xiaolin, Liu Li, 2013) and the practice in my university (Zhu Xiaolin, Liu Li, 2013), the writer point out the below measures.
4.1. popularizing the EE courses and cultivating the environmental awareness

Environmental protection awareness is the people’s consciousness and enthusiasm in participating in environmental protection and it is expressed by all kinds of environmental protection behavior (Guo bin, Duan Dayong, 2009). As the main place of EE, the popularity of EE curriculum in universities and colleges is very important. Since 1960s the foreign universities and colleges have had the beneficial attempts, for example Sweden regards the EE as the part of environmental policy and asks that the teaching content in all schools must include the knowledge about the environment. In the ways of teaching, educators pay more attention on the students’ participation, thinking and analysis capacity rather than simple knowledge-transference. In comparison with this, the college students in China have the poor environmental awareness partly because we didn’t pay more attention on EE in our education system. We couldn’t find the contents about EE in the old education system, and even if there were, they could be seen in the elective courses or the professional courses. Obviously, such courses have not satisfied the development of the society and have not realized the aim of setting up and enhancing the national environmental awareness. Therefore the universities and colleges should pay more attention over the EE when they design the teaching plans, for example they can give the EE courses to the all students as a required course and they also elaborately arrange the course’s details as the series course or special course. Let us see the practice in Liaoning University of Science and Technology. Aimed to cultivating the modern managers with the environmental responsibility by setting up the environment protection awareness and passing on the knowledge about environmental protection technology, the university gave the Environmental Management to the all students. This curricular includes eleven chapters----the sustainability theory, environmental management system (ISO14000), clean production, green marketing, green logistics, environmental information management, environmental inspecting, environmental effect evaluation, environmental treatment technology, Japanese environmental management cases and environmental management in iron and steel enterprises. Inspired by this curricular, the students launched a series of campus culture activities and social practice activities including “environmental management” speech match and investigation to the refuse treatment center. It is very obvious that these activities make the students recognize clearly the importance and urgency of environmental problem and enhance the awareness of environmental protection.

4.2. paying more attention to practice in the course content in order to increase the actionability of environmental protection behavior

The environmental protection behavior is more important than the awareness. Meanwhile, <The National Environmental Education Action Online2011-2015>also has emphasized that the EE must shift its center from “knowledge transferring” to “action initiating”(Li Ming,2012). So we also lay stress on passing on knowledge of environmental protection skills and technology when we cultivate the environmental awareness. In the curricular system of the universities and colleges, now the contents about EE be carried out as the professional education such as <environmental protection and safeness>, <solid waste treatment engineering>, <metallurgical environment and comprehensive utilization of resources> and so on. However these curriculums are not useful to guide the college students, even all residents to practice the environmental protection behavior because they have too much professional to understand by the people without enough knowledge about them. On the contrary, many people with anxious environmental protection awareness have no any common sense to conduct the environmental problems such as rubbish classification. Therefore EE should focus on the processes rather than the contents, should focus on the common senses and practice skills rather than the professional knowledge(Guo Guizhou, Yu Haibo, Meng Zhaohui,2012). And this asks the universities and colleges to attach more importance on the environmental protection knowledge and skills in our daily life when they design the EE contents and system. For example, how to prevent or reduce the radiation from the household appliances, how to correctly use the household appliances in order to save the electricity, how to conduct the battery and plastic manufacture and so on. Of course, such the contents are a kind of challenge for the existing discipline system because environmental protection knowledge involves multi-subject and so far no any subject can include all of the knowledge on EE. We should entirely and dynamically analysis the EE and could make a conclusion that interdisciplinary learning is necessary and efficient way for EE because it can cover all knowledge and help individual to deal with the
environmental problems efficiently.

In addition, with the popularity of the modern communicating means, individual can easily obtain some information by himself than before, and the limitation of time and space for learning has been greatly reduced, the teachers haven’t played the role of the information center in the new education system yet. Taking many factors into consideration, teachers should make full use of the acquired knowledge by the students from all sorts of channels and should focus their time and energy on systematizing the knowledge and helping students organize the extracurricular activities about environmental protection. These methods of teaching not only can widen students’ horizon, but also can increase the vitality and visibility of environmental protection knowledge.

4.3. carrying out environmental qualification certification system for the college students

It is well known that many enterprises have applied the qualification certification of ISO14000 and some are trying to apply for it so that they can make more market profits and social profits. This shows that environmental qualification certification has been an authoritative standard judging whether the company has the environmental responsibility or not. This gives the EE enlightenment——we can put into practice the system of environmental qualification certification for the college students to examine the environmental protection skills’ proficiency. Actually qualification certification has been the golden criterion to judging the proficiency of some kinds of knowledge. There are many sorts of qualification certification in China, for instance national judicial examination, certified public accountant and so on. Among them, as for the college students, the most popular is the band-4 or band-6 examination for English. If they cannot pass the exams, they will not get the bachelor degree. We can suppose if they cannot pass the environmental qualification certification, the students will not graduate or not obtain the job. It is undeniable that the students must work hard on EE under the strict policy and then their environmental protection awareness and skills will be improved greatly and quickly. In fact, this system has been practiced for many years in Japan and laid a solid foundation for the national environmental protection. Consequently the EE system in the higher education can give priority to the environmental qualification certification in order to institutionalize the EE and measure the teaching result of EE.

5. Conclusion

The nature and function of the higher education is to help the public set up all kinds of the new ideas, attitudes and behavior habits. It decides that the universities and colleges must be responsible for the EE. Compared with the EE in west countries, EE in China has a short history and be at the beginning. Therefore we should attach great importance to the EE and reform the methods to keep abreast with the latest development of the EE in west counties.

6. Acknowledgement

This paper is supported by China Scholarship Council and it is the partial achievement of the education reform project from Liaoning provincial Committee of Education in 2012—— research and practice of innovative talent training model based on enterprise social responsibility cultivation(No.2012-1-1).

7. Reference

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