

On the Eco-Culture Teaching Model in School Education

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Abstract: It is significant to deal with the relationship between nature and human. At present, it is universal knowledge that the global ecosystem is rapidly degradation. Although people around the world have taken plenty of measures to handling the environment crisis, there are much left to be desired. The first most goal of this research is to providing a new possible teaching-model and suggestions to the work related the global environment protection based on school education. We found the school education plays a splendid role in the environmental protection, especially for the cultivation of eco-culture and eco-intelligence with different methods. The methods used in this research is questionnaire, interviews with the teacher, students and parents and so on. The main assumptions addressed in this paper are: a) effects of the Eco-Culture Teaching Model (ECTM); b) the role of teachers in ECTM; c) the role of students in ECTM; d) the role of parents in ECTM. The conclusion is that the school education which based on the Eco-Culture Teaching Model (ECTM) is a essence for the world environment protection, and the different related subjects of school education system plays different role in this significant work. What I need to emphases is that the collective roles of all subjects in school works together will be the most suitable and effective method to making contribution to the environment. At last, some possible implications are provided in the final lines.

1. Introduction

Environmental education was defined and some basic principles was been put forward in 1970 by UNESCO. In the eyes of Palmer, he holds the view that "environmental education is a filed characterized by a paradox: whilst few would doubt the urgency and importance of learning to live in sustainable ways, environmental education holds nowhere near the priority position in formal schooling around the world that this would suggest" (J.A.Palmer,1998). Environmental education involves in the sustainable development of human being, and the environmental education needs to be a combination of natural science and humanities and social science (K.Shih-Yu,2009). Thomas B. Colwell Jr. Published an article in Education Theory in which he argued for an "ecological basis for human community" (B.C.J. Thomas,1971) which emphasizes the importance between environment protection and human community. Burger and some other researchers think that people, like managers making decisions about issues related to environment must "recognize the importance of understanding attitudes about environmental features" (B.Joanna,2009). D.W. Orr put forward a real teaching program related to Eco-Culture in high education stage (D.W.Orr, 2002). C.A. Bowers think that we should talk about environmental education from the field of philosophy (W.E.Gibson,2004). Although a variety of definitions and theories of eco-culture have been suggested, this paper use the definition suggested by Orr who saw eco-culture as the knowledge which can help people to know the nature, observe the nature, and act according to the guidance of these knowledge. With the rapid development of economy and society, the contradiction between nature and human is growing severer and severer, more and more people around the world, especially those countries which near the sea and those in underdeveloped countries, have to dealing with the splendid crisis. Here is the key, what we can do in confront of the global environmental crisis. I have made a review about the present research about the reflection of people to the environmental crisis, much work have been done, including theatrical analysis and pragmatic

practices around the world. However, Thinks to the theatrical short comes and practical constraints, the real effects is out of our expectation. It is in this context of the unideal current condition that we turn to eco-culture for help with the aim of providing a comprehensive outlook of environmental crisis and struggle to change our living condition for much better comfort. At last, some useful suggestions from the findings would be drawn.

2. Global Environmental Crisis

Environment crisis is not a new issue for people, some people even say that the environmental problem exists as long as people separate from the nature (we all know that human, to some extent, is the product of the development of nature). The only difference is that the extend of environmental problem caused by people's daily action and production in different times. The environmental problems become a crisis gradually since the Industrial Revolution. As we all know that the first most famous person who attract people's attention to environmental protection is Rachel Carson and he published his famous work *Silent Spring* in 1962,"Carson focused on the production and use of man-made chemicals, practically those substances that were long-lived in the environment. Carson drew attention to the fact that organic pollutants such as DDT, PCBs, and other bio-accumulate through the food web, with lethal effect on bird populations and other biota, including humans."(D.J. Rapport and L. Lusia, 2010) People have pay much attention to environmental problems since then on.

At present, Some countries have gone the period of modernization and in the process of post modernization, those countries have made plenty of environmental sacrifices during their development. On the contrary, there are many developing countries in the junction of pursuing modernization while taste the bitter of environmental crisis. These developing countries have to looking for different developing models if they want to still pursing modernization and avoiding the critical environmental crisis in that the resources in the earth is limited and they will be used to to "zero" level without eco-awareness. Environmental crisis embodies different aspects in today's world, such as increasingly destructive hurricanes, heat spells, and wildfire has ravaged communities and so on. Sea pollution is another environmental crisis which be ignored by us for a long time, the big pollution resource is the waste plastic, "150 years ago, we created a lightweight, strong, and inexpensive material. Today this miracle material helps keep hearts beating and planes in the air. More than 40 Percent of it is used just once, then tossed. Some 9 million tons of it end up in the ocean each year" (P.Laura, 2018). There are plenty of micro plastic in the sea, and the micro plastic ingested by a water fles that's three millimeters long flow green, "experiments show that micro plastics damage aquatic creatures, as well as turtles and birds: They block digestive tracts, diminish the urge to eat, and alter feeding behavior, all of which reduce growth and reproductive output. Their stomachs stuffed with plastic, Some species starve and die" (P. Laura,2018). Many people around the world have already taken much efforts to handling the environmental crisis in different perspectives and measures, but know the essence of environmental crisis is the first step to taking action.

3. Reasoning the Essence of Environmental Crisis

Different people and scientists have different explanations for the causes of environmental crisis. Some think the catastrophic loss in the vitality of the world's ecosystem is a consequence of cumulative anthropogenic stress (D.J. Rapport and L. Lusia, 2010). I cannot agree more with the Rapport and Frend, I think the essence of environmental crisis is the result of people's wrong thinking-model of development and its counterpart of action. The environmental crisis are the results of people's thinking-model about development which has its philosophical roots in modern time. As we all know that the technology and science have obtain their main position in all aspects of people's life since the modern time, especially the philosophical thought system of Descartes was established in the 17th century. Mayer think this kind of philosophical thought system attach much importance to the the precise scientific identification, and require all research findings should be

drawn from the experiments and the data or results could be reconducted in the same way. While in Western culture since the philosophical thought system of Descartes has been established, the science “the tradition, is considered nonbiased, objective, and disconnected with human or spiritual values”. It is in the philosophical thinking system that people has established two main popular thinking-pattern about the nature and human gradually, that is the people-oriented thinking-pattern and the nature-oriented thinking-pattern. Many people, even some famous educators criticize the Host-guest dualism in that this kind of worldviews and values in modern society have new appearances, such as consumerism, technology and science-oriented system dominant all people’s emotion and action. R. Cronk pointed out that “we are long for consumerism at the cost of self-perception” (S.Miles, 1998). Bowers think “consumerism is an addiction” (C.A. Bowers, 2000). Many philosophers and scientists have already introspected the benefits of technology and science which they bring to human beings, such as Heidegger and Dewey (V. Dusek, 2006). And with the development of science of technology, people find that the technology and science-oriented system is not just a technological and scientific problem (A. Grengson, 1995), but it is a problem involves in environment, culture, civilization, ecosystem, and society, in a world it relates to the sustainable development.

What we can do about the serious environmental crisis? There are many ways towards to the change of wrong thinking-model about development, such as ecological economy, ecological law-systems, ecological philosophy, and so on. I think school environment education plays a vital role in the glory procedure. In a word, we can through ecological education to gradually dealing with the environmental crisis. Many experts in the educational filed attach great importance to the connection of environmental awareness and culture. Orr pointed out that all education is the education of environmental education(D.W.Orr,1992). Johnson hold the views that people should obtain ecological intelligence which emphasizes the harmony and cohesion between nature and people (E.A.Johnson, 2005). Glasson and some other researchers think that “understanding the connections among ecological sustainability, culture, and education is particularly important when posed within the context of developing nations that are struggling to both modernize and improve educational experiences of their citizens in the midst of widespread challenges such as poverty, hunger, lack of infrastructure, and environment degradation” (G.E. Glasson, J.A. Frykholm, N.A. Mhango and A.D. Phiri, 2006). Bowers also holds the views that there is a need for us to preserving ecological culture which contains profound ecological intelligence(W.E.Gibson,2004). Since the school environmental education is so important in the protection of environment, we need to do more work to fully utilize the advantages of school environmental education. Here comes the Eco-Culture Teaching Model(ECTM) for concrete details, ECTM is a new kind teaching model which emphasize the spread of ecological knowledge in or out of class with many teaching methods, including class teaching and field trips with the preserve.

4. Assumption: Eco-Culture Teaching Model (ECTM)

Eco-Culture is a kind culture that not only takes its reflection in the environmental crisis, but also is a new kind of life system for people on the earth, that means the eco-culture is a new for people to pursuing their ultimate meaning for their spiritual world. Joanna Burger once said that “one important step for managing resources and land is including people and their perceptions of the characteristics that are important within ecosystem”(B.Joanna,2012)As for the education field, Eco-Culture emphasize much the education function, but the final of educational foundation is also points to the people’s spiritual world, including the harmonious cognition and action between nature and human beings, the only difference lays in the extend of people’s cognition of nature. ECTM is a model based on theatrical analysis and practical exercises. It is a combination model which focus on not only outdoor exercises/activities but also ecological knowledge obtain in school education.

Assumption and Methods I. In this procedure, My assumption is that ECTM is an useful model for school environmental education. And my research methods are Questionnaires and Interviews with related subjects in school education. The final assessment tool based on the three main aspects in the perspective of students, teachers and parents, because education is a combination system,

only all involved expresses their excitement and satisfaction will match the goals of education.

Research procedure I. At the beginning, I would introduce three teaching models, the first one is Knowledge-Oriented Teaching Model(KOTM), the second one is Activity-Oriented Teaching Model(AOTM) and the third one is Eco-Culture Teaching Model(ECTM). KOTM's focus on the knowledge teaching in class and after school, there are much homework for students which increase students' study burden in or out of school; AOTM's focus only on a variety of activities, not only the indoor or class activities but also outdoor activities, and students lack the chance to obtain necessary knowledge which will help them better understand the nature and human society(Maybe students will understand better and know deeply if they have the necessary knowledge when they do activities); ECTM's focus on the plenty skills and capabilities in students, in the first place, ECTM stress the basic knowledge obtain indoor or outdoor, ECTM also focus on the useful activities, such as role-playing in class, curriculum development activities, teaching experiences with students and field trips to a natural preserve, especially the filed trips under the guidance of their learned knowledge in school that counts, the primary aim of ECTM is to teaching students harmonious sense about the nature and human in the purpose of cultivating to protect the beautiful planet.

I have chosen some primary schools and some teachers to using the three teaching models to test. I tested these three teaching models in different classes/grades in some primary schools. I used some techniques to analysis the data I got, the finding are that a) seventy-eight percent of the teachers would like to choose the ECTM to teaching when they have the right to choose teaching model, and the final performance of ECTM is better than other two teaching model on the base of traditional assessment criteria and modern assessment criteria; b)twelve percent teachers would like to choose the KOTM and the rest would like to choose the AOTM. After analyzing my interviewed data, I found that teachers, students and parents play different roles in ECTM, the main problems I got from the interviews about this issue are that the quality and ability of teacher, that's mean the skills and knowledge about the ecosystem and the whole society will matter the final performance of teaching; the wills of students to taking part in ECTM will count and the parents' daily environment-friendly action will influence children' thinking model and action system.

Assumption and Methods II. In this procedure, My assumption are that a) the role of teachers in ECTM is vital; b) the role of students in ECTM plays little influence; c) the role of parents in ECTM is important. And my research methods are interviews with related subjects in school education, that is mean interview with teachers, students and parents. The final assessment criteria based on the three main aspects(cognition, emotion and action) in the perspective of students, teachers and parents. The reasons for the procedure based on the goals of ECTM. I think ECTM has three important levels, Firstly, in the bottle line is the related subjects, namely the teachers, students and parents will be satisfied with their performance in ECTM in a short time. Secondly, the second level of the goal is that all students will make some contributions to the their country. Lastly, the top level is that all people, including the teachers, students and parents, who they want to be in the world according to the harmonious relationship between nature and human, that is to say all people will take care of themselves and their next generations given the limit resources and in this process, people will obtain their living meaning. As for the three different goals of ECTM, we know that only all involved are willing to sense and action, there will a new outlook about the environmental crisis.

Research procedure II. In this research process, I tested the effects of different related subjects in the ECTM of environmental education. And the research based on the Palmer's theory system. Palmer holds the views that environmental education is a kind of education contains much contents with its unstable, change easily, and difficult to assess. And he thinks the environmental education contains aesthetic, spiritual, social, and economic and so on. Palmer's environmental education model is below: Fig. 1(J.A. Palmer, 1998)

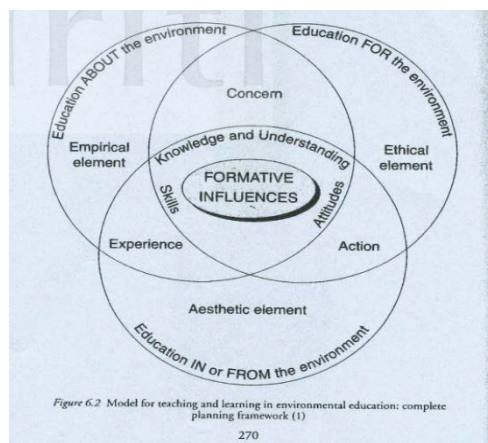


Fig 1. Palmer's environmental education model

From the Fig. 1, we know that Palmer not just cares three main aspects (knowledge and understanding, attitudes and skills) of environmental education relate to the teaching and learning, but also cares the whole education environment, he introduces the ethnic element, empirical element and aesthetic element into his theory system. As we all know that the aesthetic category is the sub-field of philosophy and the philosophy is a kind of science which puts attention to the root of beings. To some extent, Aesthetic category involves in the essence of environmental crisis. I interviewed with teachers, students and parents, what have been found in the analyzed data are that a) sixty percent of the teachers themselves lack the right or suitable skills to exert the ECTM, only thirty percent of the interviewee teachers can apply the ECTM appropriately; b) thirty-five percent of the students know the eco-friendly knowledge and act under the guidance of these knowledge; on the contrary, large part of the students need to improve their cognition and action in ECTM; c) seventy percent of the parents lack correspondent knowledge to instruct their children to do well in ECTM.

5. Discussion

At present, we can make some discussions based on above research.

In the first place, As for the first assumption, the ECTM is better than the other two models, the result comes from on the condition that the teachers have the right to choose teaching models. However, we all know that every country around the world, the national education is servicing the national whole benefits, there left few right to teachers to choose they desired teaching models, especially the developing countries around the world, many of their national benefits are to pursuing modernization which is a reality in some developed countries. Against this background, their national educational will service this kind of modernization, from we have analyzed above, this kind of modernization contains much negative effects, such as consumerism, destroys the environment in order to developing economy and some other serious results. This is what we need to think over and over, and need to take action from the root not just to change the surface. Regarding this issue, the ECTM will be carried out perfectly only under the general development pattern reach a consensus which will do good for the environment and the human-self around the world, and there is a long way to go to reach this kind of consensus.

In addition, As for the second assumption, we can know that teachers, students and parents are three main subjects in ECTM, and they have different influences for the whole educational effects. At first, the teacher plays a vital role in ECTM, although ECTM breaks away from the negative effects which bring by KOTM & AOTM, ECTM still needs to making full use of the teachers' role in teaching process. In teaching, teacher should utilize the suitable methods and suitable activities to instruct students. What I want to stress is that the teacher themselves is an important resource for students to establish right cognition and take appropriate action protect our nature and environment, especially for the primary students who have a curious mind to know everything in the world for they stay in school much time. Teachers can hold environment-friendly awareness and actions in or

out of class, I think this is the basic quality for a ECTM teacher. What is more, students also play a key role in ECTM, this result is out of my expectation, the main aim of environmental education is to cultivating a new generation who can give consideration to environmental protection or enjoy the beauty of nature in the perspective of philosophy. The current phenomena are that students, on one hand, lack some necessary knowledge to do well in ECTM, on the other hand, some students know the importance of ECTM and how to do in ECTM, but they won't to take active part in ECTM. So the students need to change their mind about the ECTM gradually with the help of teachers and parents. At last, as for the parents, as the old saying goes that parent is the first one teacher in one's life, it is no doubt that the parents play an essentials part in ECTM. What we worry about is that the most of the parents will destroy their children's worldview about the ECTM and related knowledge gain in school, for one reason is that some parents' consciousness and actions aren't match the basic spirits and principal principles in ECTM, some children stay with their parents will meet many vivid problems, that's mean there is gap between the school knowledge and the parents' real daily action, for example, one day, a student to go shopping with their parents, and the ECTM requires that we should to pack things with bags which are environment-friendly, but their parents maybe in the aim of convenience or some other "reasonable" reasons turn to use unfriendly bags(plastic bags for instance), so this is a big question for parents to answer.

All in all, the recognition from people's inner heart is that important, what make us worried is that current researches and practices about eco-culture just focus on understanding and theory establishment, which is not enough to change the crisis. What we really need is the sincere recognition from our heart and makes comprehensive and integral steps. And the eco-culture will enrich the sincere meaning of our life (Shih-Yu, Kuo, 2010)

6. Conclusion

From what have researched, we can find that ECTM is an useful teaching model compared to some other teaching models, and all the related subjects plays vital part in ECTM. Although there are reasons for us to relax and enjoyable for the occurrence of effective teaching model, there are still some short comes in the present environment education. First and foremost, it is a must to change the whole development pattern if we want to change the environmental crisis earnestly. Although there are a great deal of measures are taken to change the current phenomena, for example the ECTM in environmental education, I think nowadays people have to do much more to reach a relative perfect consensus in order to change the current condition. All in all, among a variety of approaches to respond the environmental crisis, such as ecological laws, ecological economy, ecological aesthetic and arts, and so on, I think the most important point is the think-pattern which is a core in the eco-culture education in school education, that is to say, all people around the world should change their worldviews about the relationship between nature and human being which give the expression to the the development pattern, we shouldn't just focus on the techniques and technologies, we need to change our way of thinking. Eco-culture criticizes the consumerism and the environment-destroy development pattern, and the education is the main field to cultivate eco-culture which also is a meaningful lifestyle not only for the current generation, but also good for the next generation in the perspective of environmental safety.

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