

The Development of Environmental Education of Elementary School and Junior High Schools in China



Zongmin Wang*

This year is the thirtieth anniversary between China and Japan in their normalization of diplomatic relations. In the days of commemorating this important historical event, China and Japan's specialists in education got together and talked about the environmental matters of interest to both sides. This is of great importance.

We all hope that the 21-century will be a new century that can keep peace in the world, protect the environment, and preserve men on a regular developed way. As China and Japan are very close neighbors, who are just separated by only a narrow strait of water, in order to make this ideal come true, I think these two nations must keep friendly relations.

From the point of view of environmental ecology and geography, as it were, China and Japan are an environmental community that is difficult to separate. Therefore, it's extremely important for people in these two countries to use for reference and environmental education. Now we're facing the crisis of water resources, decrease of forest area, desertification of land, extinction of species, acid rain, greenhouse effect, ozone layer depletion, life garbage, air pollution etc. If we don't pay close attention to environmental education, don't protect the environment and bring it under control, the earth will gradually lose the ability to offer human being's life. The point of environmental issue is education. Education is expected to be put into operation from kindergarten, elementary school and junior school. Next, I'm going to do some brief introduction about the problems of environmental education in China's elementary school and junior school.

1. Environmental Education's Rise in Elementary School and Junior High School

Since China carried out reforms and an open policy, in the course of economic construction and development of society, we're always confronted with the problem of two relations. One is the relation between environment and development. Choosing the way "Construction ~ Environment Destruction~ Administer again", or choose the way "At the Same Time", which means doing the construction while protecting the environment and doing the development. Most people approve the way, which goes together with environment and construction and also coordinates growth. The second is the relation between human beings and nature. Choosing antagonism and destruction, or making a harmonious atmosphere? Instructive experiences tell us when human beings make good relations with nature, both of them make a profit, and then they developed. On the contrary, if human beings and nature just have antagonism and destruction between each other, there is no doubt that they will be destroyed. Human beings and nature should cross a river in the same boat and help each other develop. Anyway, we have to receive this kind of education first of all when we try to establish this kind of consciousness, to form this kind of ability.

* Former chairman, Tianjin Educational Scientific Research Institution, CHINA

(1) Mentioned at “Basic National Policy”

The Chinese government in 1983 held a national environmental protection meeting. It was definitely mentioned, “environmental protection is a basic national policy”. It also expounded that environmental education plays an important role in the environmental protection cause. The National People’s Congress held in 1989 adopted “Environmental Protection Law”, then went a step further to authorize the environment protection’s position as a basic national policy. For the first time a national environmental education meeting was held in 1992. The theme of this meeting was “Protect Environment on the basis of education”. Environmental protection, in fact, the key to environmental protection is education. Environmental education is a national policy while it is also a national condition.

(2) Stress Environmental Education from Moppet

According to the guidance of “Protect Environment on the Basis of Education”, at the meeting of national environmental education that was held in 1992, we emphasized the need to strengthen environmental education from four aspects. One of the important aspects is “Through environmental education in elementary school, junior high school and kindergarten, try to train and improve children and young people’s consciousness of the environment.” There’s a necessity to stress environmental educational for children. Environmental education has been included in our nine-year’s compulsory education, and it has also been brought into elementary and junior high school’s education program and teaching planning. A group of middle school students wrote a letter to Premier Zhu Rongji in 1999. They mentioned that we have to stress environmental education for children, compile teaching material for environmental education, attaching importance to forestation and so on. Premier Zhu Rongji made comments and said: “Junior high school 2 year students concern themselves so much with environmental education, which made us elders ashamed.” Some departments concerned were asked to adopt their suggestion. Our country’s basic education has been reformed in the curriculum since 2000. On the standard of elementary school, junior high school and high school’s curriculum and complacency of teaching material, they all lay emphasis on including the content of environmental education.

Environmental education of elementary and junior high school has the widest cover, the strongest prevention and it has greatly influenced one’s whole life. It has the special action that other environmental protection measures can’t take the place of.

2. Enforcement of Environmental Education in Elementary School and Junior High School

(1) Environmental Education’s Goal and Content in Elementary School and Junior High School

Now environmental education’s goal, the recognizance of content and operation are still at the stage of experimentation and exploration and we haven’t got the final conclusion. We listed the aspects below.

1. At first make students conscious of the environment and the value of the environment.
2. Master initial basic knowledge and technology of environmental science.
3. Train the correct environment emotion and moral behavior from the beginning.
4. Train student’s ability to participate and solve the problems.
5. Have the initial ability of estimation cope with the environment measure has been adopted.

Some schools make environmental education’s goal and content from the angle of psychology. Such as knowledge, emotion, consciousness, behavior and so on.

There are also some areas requiring “light green” training according to the elementary school’s environmental education. Generally, middle schools carry out “middle green” training, emphasize the spread of environmental consciousness, improvement and volunteer service. Some special schools keep the “deep green” as their aim, combine the knowledge of environmental protection, practice and responsibility, so it can reach the demonstration, radiation, movement, and demand of region in environmental protection.

By means of environmental education, students undergo a process which is non discipline ~ other’s discipline ~ self discipline ~ self-consciousness. So their independence of will and originality have been developed further.

(2). Environmental education’s Way and Method

When environmental education was organized at the beginning of the 1980s, the way and the method were quite monotonous. The content of environmental protection has always been connected with homerooms. As a result of twenty year’s practical exploration, environmental education emphasized synthetic study and systematic education currently. It combined classroom instruction with extra-curricular activities; spread of knowledge with the improvement of ability; rational recognize, emotional experience with practice; instruction in school with instruction out of school, total evaluation with different links and different stages of evaluation. Bring in classroom instruction, research and investigation, extracurricular reading, actual practice, information exchanges, some activities have a main theme, regional activities, summary of experience, action research, contests in school and so on. Environmental education can be conducted by means of such various kinds of forms.

<1> Green Classroom- Bring Environmental Education into the Classroom

After long efforts, the construction which includes compulsory lessons, elective lessons, and activity lessons “three green course” are being formed little by little. This construction that contains synthetic education, will take effect in many different kinds of classes. It also guides students to do synthetic study. Tinajin Shiyuan NO.7 Middle School’s seventh grade takes “Water Resources” as the main content for environmental education. Teachers teach water’s physical properties in physics lessons; teach distribution of water resources in the world in geography lessons; teach the relations between water and life in biology lessons; teach the method to investigate statistical data in math lessons. Teachers also teach students how to write a report in Chinese lessons. Students and teachers jointly organize to investigate the situation of seas and rivers. They went to Jixian Yuxiao reservoir and mountains to extract water in order to write research reports. The eighth grade takes “Pollution Problem” as the main content and infiltrate it at all kinds of teaching. Teachers guide students to take the synthetic study. For example, in history lessons, we know that the education at that penetrate with environmental protection laws. The Chinese traditional figure Xia Yu used his own method to bring flooding disasters under control. The first environmental protection code in the world called “Tian Lv” was finished in the Qin dynasty. And we also have “Tang Lv” since the Tang dynasty. In the Song dynasty, planting trees in spring and protecting dams in summer was considered as common sense. This kind of compulsory study is still being used at few schools as experimentation currently. For example, set up the compulsory course like “Environmental Science Basis”. According to the statistics, almost 80% of middle schools in our country put environmental education in the school education and teaching program. According to some imperfect statistics, there’re almost 50 kinds of editions which have been compiled as teaching materials.

In addition, some outside reading is welcomed by middle school students. As newspapers we have “China Environment Newspaper”, “Environmental Education”, “Earth Family”. As popular science books, we have “General knowledge of Environmental Protection”, “Guide to Environmental Education”, “Shout to Green” and so on. Especially, Jane van Lawick-Goodall’s “In the shadow of man” is really very popular. Some schools and classes set up “Green books” as a special bookshelf. However, generally speaking, reading materials for environmental protection are still not enough and they can’t satisfy the reading demand of students.

<2> Activities with Green Themes

From both sides of basic knowledge, technology of environmental protection and modern environment protection’s popular and important problems, we should select the theme of environmental education to guide students to a synthetic study center on one theme. The theme such as “Protect the earth’s lung-forest”, “Protect biology’s diversification”, “Atmosphere and survival of human beings”, “The earth village is on the verge of crisis”, “Treasure the water of life”, “Green food and green consumption”, “Re-understanding China’s vast territory and abundant resources”, “Environmental Protection and Development that can be continued” and so on. There are also some environmental protection activities, in which literary and artistic creations are held. The song that names “the song of green team members” was also produced.

We have also developed some education activities according to the commemoration of the environment. Such as “forestation Festival”, “The week of loving birds”, “World Environment Day”, “Ozone Day” etc...

In addition, lots of schools have a couple of green science and technology groups in order to protect the environment. They also have some mean themes. For instance, the working room of “Green Life”, research group for environment protection chemistry”, the geography group concern themselves with world affairs and love our country; the group for “survey of water quality”; the group for “noise testing”; the working station for new sources of energy.

<3> Green Base Activities

Some schools and areas, which are in the lead of environmental education, have their own education base. This kind of base activity has stabilization, systematism and substantial results of education.

Shanghai Caoyang NO.2 Middle School formed “room”, “field”, “river”, and “road” four green synthetic study bases. “Room” is to build an environment protection laboratory about 100 square meters. “Field” means a botanical garden in school; it contains lots of kinds of trees and more than 20,000 kinds of flowers. “river” is a river near the school. For more than 20 years students continue to investigate, extract, analyze, write essays, take some measures of the pollution of river water’s quality, plants, soil and so on. “Road” means the streets of the region that the school belongs to. As to the plants on the streets, car’s exhaust gas, survival rate of vegetation, the influence of shops, they mentioned that different kinds of vegetation should be planted because of the road’s different situation. They also participate in doing the activities to put the river in order.

<4> Green Society Practice Activities

Society practice activities are important channels for carrying out environmental education. Its the essential space for students to close society and develop their personality. Through these kinds of activities, students are endowed with the chance to contact the society and reality, to understand the environment, to society and reality, to understand the environment, to strengthen the consciousness of the environment and their ability of environmental protection will be increased also.

First of all, the cooperation between school and region is important. To organize the environmental community together, to give on the activities whose theme is “School, Family, Community-Our Green Homeland in common.” Students take part in activities within their power like planting, protecting greenery, beautifying the environment, administering pollution and so on. And also develop the activity that is related to the contract “keep the green pledge and strive to be the green citizen. In the community, the students delegates work as “Green Ambassador”, “Young Green Bodyguard”, “The sentry post for supervising the environment” to do some service. Some families also take part in these activities very positively. They help each other and make some environmental undertakings; the situation that school, family and community build the environment net together has been formed. School, family and community’s activities have been realized. It makes students who have the synthetic study prove the way to environmental education. It contains realizing the mass of character, becoming a regular practice, knowing the system and scientific knowledge.

On the other hand, schools also organize many different kinds of social practice activities for students. It’s useful for them to be close to nature, to be close to society, to study in the practice actively. It also helps them to cultivate their character. After some activities such as summer camp of environmental protection, doing some investigation by bicycle, students got lots of chances to understand nature. They wrote some reports of their research and investigation. One student said with deep feeling, “If we fully recognized the nature, then we can understand ourselves much more.”

<5> Green Science Research Activities

On the way of environmental education, guide students to make lots of kinds of science groups by themselves and around some theme. Of course to imitate the science work person’s manner is very important.

In order to research the air’s quality, some group members went to different places to take snow on the snowy day. Then they put them together to do the laboratory test, analyze them from both physical property and chemical property. The final step is to compare them together, then complete the report.

In the activities of biology group, one student asked a question. There used to be a swallow living at his house, but since he moved to a new clean house, he could never see the swallow there. He wanted to know why. As everyone is interested in researching this problem, they made a theme that was “house’s outside wall’s affect for swallow building nests”. Within 3 months they went to 359 houses to do the investigation, research 97 swallows’ nests, read many data. At last, they got the result. Whether swallows can make a nest or not is not related to whether the house is new or old, but depends on whether the wall is rough or not. It is successful for students to learn some synthetic study through it.

Many science groups make lots of kinds of activities. For example, “the research of Tianjin wild animals”, “the investigation of main road’s vegetation pollution”, “danger of noise and exhaust gas”, “measure the amount of bacteria of disposable chopsticks”, “investigation of used battery’s environmental pollution”, “research of the effect on creatures from cigarette smoke” and so on. More than ten middle schools in Tianjin have a good relationship with the Japan Community Education association, they cooperate to have the activities of “nature classroom”.

By means of doing investigation, research, and practical activities like a young science work person, students became to lead these things by themselves. Their logical minds will be improved through this kind of synthetic study. Their ability was trained scientifically and the synthetic ability was improved a lot.

<6> Green Management

Environmental education needs the relevant organization in order to keep education under control and always be held effective. With the support of the Chinese government, according to the lines of national environmental education's action, the activities of having an education appraise through comparison about "Green School" is held in many places in China. These activities have been held for 5 years, even now there are 105 schools which have been evaluated as "Green School". More than 5000 schools were given commendations by prefectures and cities. This year we also had the national green school environmental education meeting. More than 1000 green schools and 10 thousand teachers took part in this meeting. It took 5 months to finish it and the commendation ceremony was held in Beijing. These activities play an important role in the development of environmental education.

With the support of government, environmental protection associations and young people an environmental science fans association was set up. Schools set up lots of kinds of groups, graduate courses and the environmental education and then the education net is formed. Some schools developed environmental education very well. They established seven "one". They are one plan, one system, one base, one teaching material, one series of activity, one team (teachers and students), one group of typical case"

A lot of cities set up environmental education web sites and many schools have their own environmental education homepages. It strengthens the exchange of environmental education information not only in China but also in other countries. It also promotes the development of environmental education little by little.

3. The Problem that Elementary School and Junior High School Environmental Education are faced with

Environmental education in elementary school and junior high school in our country started a little late. The level of development in total is not so high. Especially, consciousness to protecting the environment is light; the environmental education in all places hasn't been developed on all sides. Some students have very heavy pressure of study, so it affects them to take part in the activities; the number of trained teachers of environmental education is still very small. We still lack funds for environmental education.

The Chinese government is paying more attention to protect the environment. We made fifteen plans for Chinese environment protection. We hope that with the support of the government, we can strengthen the system building of environmental education; strengthen the teaching material building of environmental education; strengthen the training of the teachers of environmental education; improve the fund of environmental education, then the environmental education will be developed much more.

We hope our new generations will be the generations who have much more strong environmental consciousness and can make some new contribution to the world's environmental protection.