

The Present Condition and the National Policy of Environmental Education in Japan

Tatsuya Ootsuki*



Thank you for your introduction. My name is Ootsuki. It is my very great pleasure to have this opportunity of speaking to you at the 2004 UNESCO Japan Asia Pacific Environmental Education Research Seminar. I would like to express my appreciation to Miyagi University of Education as well as the co-organizers - the Asia Pacific Culture Center for UNESCO and Kesennuma City. More than 10 years ago, I was a staff member in Miyagi Prefecture, dealing with education, so I am very pleased to have this opportunity to visit the Kesennuma region again. About 20 years ago, I was based in the APEID secretariat within in the UNESCO office in Bangkok. Therefore, I hope that you have a very successful seminar here in Kesennuma.

Environmental problems are very urgent and crucial issues for the existence and prosperity of humankind in the future. We should make a transition from the mass consumption, mass production, and mass wasting society of the 20th century, and shift to a recycle-based sustainable society or eco-friendly society in the 21st century.

As Dr. Ginkel has mentioned, many things have been going on recently in the global environment area. For example, the WSSD (World Summit on Sustainable Development) was held in Johannesburg in 2002, and the United Nations has adopted the resolution on the Decade of Education for Sustainable Development, which will start in 2005. Also, in Japan, we have had several activities to focus on these issues. In particular, the Kyoto Protocol was ratified by the Government of Japan in 1995. Our Government has adopted the outlined policy to address global warning, and new laws and regulations have been adopted, too. In particular, in July, 2003, both legislative bodies of Japan approved the law for the promotion of environmental education and to promote the will for environmental conservation. The laws of the respective bodies were clarified in the government-outlined policy which determined actions needed for ensuring global environmental preservation. Each individual human being has deepened his/her understanding and awareness of the relationship between the environment, and people should be able to live, caring for the environment. We should make efforts to convert society and human behavior into something environmentally sustainable. Therefore, environmental education has drawn a lot of attention and has been emphasized. The development of human resources that have sensitivity and knowledge for the environment has been emphasized. We at the Ministry of Education, Culture, Sports, Science and Technology have the following philosophies in regard to this issue. We humans should have knowledge about and interest in environmental issues as well as the ability to make decisions and judgments with responsibility about the environment. We should also while participate in creating a better environment and nurturing an attitude enabling us to take responsible action and behavior concerned with the environment.

Now let's look at environmental education in the schools. Our schools have various subjects such as social studies, science, PE, and health where matters related to the environment are taught. In the mid 1960s, considerable attention was drawn to the issue of pollution. In 1969, there was a revision in the course of study for the lower secondary education to

* Ministry of Education, Culture, Sports, Sci. & Tech., Japan

allow introduction of subject classes related to issues of pollution and health issues in physical and health education. Not only pollution studies but also all the other aspects of the environment have been introduced in formal education.

In 1988, the course of study was revised again, so currently education is being promoted on the basis of the new revised course of study which has been offering much more in regard to environmental studies. In particular, integrated studies have been introduced to deal with environmental education. Today, many of the participants here are teachers who teach integrated studies under the revised course of study. Students themselves find themes, issues and topics to think about the problems by themselves and act on them by themselves with the objective of solving the problems. They should actively pursue and explore problems, and also think about how to live better. The knowledge and skills the students acquire from this subject and separate subjects should be interrelated and linked to each other to give them comprehensive abilities for making decisions. This illustrates just some of the topics to be taught in the integrated studies, in respects to the specific contents. The course of study merely gives examples of things that are encouraged to be taught. In 2002, environmental issues were introduced into integrated studies in 56 percent of Japanese elementary schools and 40 percent of lower secondary schools.

I would like to show you some of the examples of this approach. Individual schools are conducting integrated studies in environmental education. This is a primary school in Osaka. In social studies and science classes and the period of integrated studies, the school has been developing a curriculum and teaching materials to introduce the topics of energy and the environment. Specifically, the students learn about electric power, thermal energy, hydroelectric power generation, and they are made to notice problems related to the possible depletion of natural resources and fossil fuels. Moreover learn how the strength of electric current varies depending on the number of electromagnetic lead wires wound. They actually learn about the circulation of the electric currents of copper wires. Moreover, they get to experience generating electricity in both the thermal way and hydraulic way by using manual power generators. They learn as well about the energy conversion efficiency of hydraulic power generation and how low thermal power generation requires fossil fuels. They do some experiments where they use natural and renewable energy such as solar and wind power, so learn, too, about the lower conversion efficiency and the insufficient light intensity.

Furthermore children at this school themselves make a hybrid power generator whose electronic buzz will go on even though the lights have been shut off in the generators they produced. So in this way, the children learn how they can conserve energy, natural resources and sources of energy. Environmental issues tend to cause some denial of humankind or denial of science if they are not properly taught. So, the students learn how to do tests and experiments where they take a more positive approach and try to have positive views of humankind and science. The teachers of these integrated studies let children learn that they can resolve environmental problems - by means of science. We must encourage them to solve the environmental issues.

Next this is an example of a lower secondary school. "Globe", an approach that was encouraged by the United States in 1994, is an international program for environmental science and environmental education. This is being practiced in a lower secondary school in Akita Prefecture. That school uses elective science studies some of the time and at other times integrated studies for children to make observations of changes and environmental parameters such as water quality and acid rainfall, so as to encourage them to think actively about their own environment and develop an attitude that is more friendly to the environment. Thus in these integrated studies, the contents for students to learn about the environment are based on independent problem-solving activities where they tackle various issues of their own choosing.

In the first year of lower secondary school, they, for example, look at what to do about waste and the recycling of

materials and waste. In the second year, they take a look at their prefecture, local communities and the nation and learn about ocean pollution, forest protection, and electric consumption. In the third year, they pick up the theme of acid rain, animals and wild life on the verge of extinction, deforestation and world heritage. Observing their own community's environment and areas beyond their community is the first step in environmental learning. There are no natural boundaries to air and water pollution. The students conduct their own observations by themselves to learn the importance of conservation.

What abilities are to be nurtured through the opportunities of environmental education? I have categorized those capabilities into several areas. One is a problem-solving capability: by working positively on environmental issues, students can identify the problems, make forecasts and investigate natural phenomena. So they implement such exercises and examine the results, which they apply to a new set of problems. Research and task-based investigations are very popular for raising the level of the problem solving ability.

Second is the methodological capability to quantify the environmental phenomena and to grasp matters in quantifiable and statistical ways by collecting, classifying and analyzing data through investigation. These skills are very important in tackling environmental problems objectively and logically.

Third is the ability to use information through experimentation and the investigative application of multimedia, including computers. Students learn how to collect, select and process important information, and streamline all that information in an appropriate way. Fourth is the ability to communicate, this means the capacity to be aware of environmental problems, to become interested in them, and for students to develop their own ideas and opinions, and express their opinions orally or in writing or by using the media.

Fifth is the ability to evaluate the environment. This ability means that the students will be able to observe the environment and notice changes in environmental conditions, and come to notice what changes occurred or the status of the environmental changes or the possible impact the changes in natural phenomena have on the environment. They also learn to project future possible changes in an environment, and to investigate and observe environmental events before and after the event in a multifaceted and comprehensive way.

Next is the development of attitudes toward environmental education. The basis for such an attitude should lie in the affection and emotions the students have. The attitude should be such that they are interested in the effects of household garbage and waste-water on the living environment. They should want to resolve these problems in a rather enthusiastic way, and also to learn and judge what lifestyle they should have to preserve their environment and to implement the necessary actions.

The second is the attitude of thinking and judging by themselves, without a selfish viewpoint concerning nature and human beings. Students should develop the attitude of grasping natural and social phenomena in a multi-faceted way and respecting the fact.

Fourth is a tolerance for the beliefs and opinions of other people. Therefore, without having only fixed concepts, their attitude should be open to different ways of identifying the causes and lifestyles related to environmental problems, and they ought to be tolerant of the positions held by other people and also different value structures, based on the facts and objective ways of thinking.

What viewpoint should be borne in mind when implementing environmental education? There are six points. The first one is that environmental education should be clearly defined within the school's guidance plan and implemented in all the school's educational activities.

The environment should be included in each subject within the courses of study and be offered in every school and every classroom. How should we deal with such classes and what should be the developmental activities and guidance methods? The schools of each community and their students are in different situations, so each school will have to decide how to implement its environmental education according to its own conditions. Each school ought to clarify its own objectives in environmental education for the school and transmit the contents, and conduct related activities to check and investigate the environment on a continuous basis.

The second point is to develop guidance that can relate environmental content within subjects in an integrated way. Environmental education in schools should of course be embedded in each subject. How to deal with events related to the environment ought to be related to the character and objectives of each discipline. In the hour for Integrated Study, the basic knowledge taught in each subject should be mobilized in an integrated way for problem-solving. It is expected that the students will take advantage of what they learn in each individual subject and also what they learn from the Integrated Studies will be applied to the study of each subject in school.

Third, the education should be tailored to the real and actual conditions of the community and the children. It will not be enough just to recognize what problems lie ahead in the future. Actually the natural and social environments have their own environmental concerns. There is a need for teaching materials that cultivate problem-solving attitudes and capabilities among the children and that practice environmental education. It's very important to identify and characterize the status-quo of the environment of the particular region where the children live. The teaching materials should be selected properly, and the guidance method also chosen to meet children's educational wants and needs in the best way.

Fourth, enriching learning through hands-on experience depends upon the children's particular stage of development. To repeat what I have already mentioned, problem-solving and hands-on learning depend on what stages their children are in. The relevance of the environment to human beings should be deepened. Fifth, environmental education should be properly positioned within the entire educational activities of a school to deepen common understanding among the teachers and to raise the level of awareness toward the problem in order to have effective education. Toward that purpose, the teaching staff should be fully aware of environmental problems and ought to reach a common understanding on the teaching materials and guidance methods. The awareness level of the teachers toward the environment should be constantly high, and teachers should have time for research and training in teaching materials and improving their qualities as teachers.

Sixth, good linkage among school, households and community: environmental education should not be completed simply within the school setting alone. In order to foster very sensible attitudes toward the environment among children and get them to participate environmental preservation, close collaboration is needed among the school, the homes and the region to handle environmental education, along with non-profit organizations dealing with environmental preservation. These activities should be done in collaboration.

What are the policies of our ministry? We designate model projects where environmental education is being carried out in each municipality, and globe-model schools. Moreover, an environmental learning fair is an event sponsored by the Ministry to conduct reach-out environmental educational practices. In Ehime Prefecture in 2004, we will hold the Environmental Learning Fair, and we will continue with such projects. We have additional new projects planned as well for reach-out extension. One such project is to be done in collaboration with the Ministry of the Environment to raise the capacities of teaching staff and arrange the information infrastructure for environmental education. We want to utilize them best in schools and have basic courses for leaders, including teachers, on environmental education, environmental learning and school facilities. The development of eco-school is another attempt to promote environmental education. In order to implement hands-on experiences with nature and integrated studies involving the environment, in the next fiscal year, we

will be developing new teaching materials for primary schools, and we have allotted a budget - totaling 500 billion yen for promoting environmental education.

In concluding my report, I would like to note that the objective of environmental education is to develop the capacity to be interested in the environment and environmental problems for a sustainable society, and to understand the responsibilities and the roles of people toward the environment, so that they can get involved by themselves in the creation of a better environment and environmental preservation. For this purpose, environmental education should be conducted at every level and every place including schools, households and the community, and it ought to be targeted at all age groups from young children to the elderly and carried out in a systematic way depending upon the level of awareness. Life-long learning also has to be continued in addition to formal education.

Well, environmental education should really depend on the conditions of the each region. Environmental problems stem from conditions ranging from urban pollution, to the destruction of natural environment. The character of the problems in each community varies. The contents of environmental education should be geared to the needs of the characteristics of the regional problems. It should start with nearby activities. As Dr. Ginkel mentioned, we should emphasize "think globally, act locally." What we do locally will ultimately lead to a better global environment. We should develop sufficient capabilities and attitudes as well as the ability to act and to get interested in solving global environmental problems. By changing people's awareness, we can develop environmentally-minded people, and that'll be a step to the further realization of sustainable societies.

With this belief, I would like to complete my speech. The Ministry will make its best efforts to promote environmental education. And to teaching staff and all the participants, I will say that I really hope that you will further your efforts to practice environmental education in your own communities. With that plea, I would like to finish my presentation. Thank you very much.