

Environmental Education in the 21st Century and Present Tasks of Japanese Environmental Education

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1. Introduction

This paper is based on the Keynote Speech entitled "Environmental Education in 21st Century from the Global Viewpoint: Introduction to Activities of the Japanese Society of Environmental Education and Present Tasks of Japanese Environmental Education" at the International Co-operative Symposium on Environmental Education in Thailand and Japan, 12-20 October, 2001, at Aichi University of Education.

At that time I delivered a speech on the activities of the Japanese Society of

Environmental Education since its foundation in 1990, and present tasks on environmental education in Japan.

However in this revised version I have added new chapters to the original manuscript to provide guidelines for environmental education in THE BASIC ENVIRONMENT PLAN: Guidepost for the Environmental Century by Ministry of the Environment, Japanese Government, December 2000, and to explain the present tasks of Japanese environmental education in detail.

Let us begin by considering the development of environmental education in Japan and by examining its individual tasks. These tasks could be solved by the transformation of human nature. This transformation of human nature could influence the improvement of our daily life and help solve environmental issues.

2. Policy of the Japanese Government's Ministry of the Environment

(1) THE BASIC ENVIRONMENT PLAN 2000 by the Ministry of the Environment

Japan has experienced two kinds of environmental crisis. The first crisis was that of industrial pollution, the result of rapid economic growth, but Japan has made significant efforts and achieved some success towards the solution of this problem. However, we are now experiencing the second crisis. The second crisis has the same root cause as the first crisis and is still continuing through production and consumption structure geared to manufacturing, consuming and creating huge quantities of waste.

The first crisis has been brought under control with relative ease through the application of symptomatic therapy, but the solution of the second crisis demands the transformation of our society itself and human conduct and lifestyle.

In order to solve today's environmental problems we have to alter the human mind and way of life. What is more, we must be aware that the environment we live in is only one part of the larger eco-system of the earth. Additionally, we must acknowledge the earth as "global commons", namely, a common asset for all humankind.

The following outlines the contents of THE BASIC ENVIRONMENT PLAN 2000 of the Japanese Ministry of the Environment.

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From the above mentioned we can understand the long-term objectives of THE BASIC ENVIRONMENT PLAN 2000, which aims at Environmentally Sound Material Cycle, Harmonious Coexistence, Participation and International Activities.

Within the environmental policy of the Japanese government, what is the status and role of environmental education?

(2) Status and role of environmental education by Japanese Ministry of Environment

Environmental Policy on "Environmental Education and Learning" is located in Section 2 'Environmental Policy for Building a Sustainable Society' in Part? 'Directions for

Environmental Policy at the start of the 21st Century', and Strategic Programs on "Promoting Environmental Education and Learning " is located in Section 7 in Chapter 1 'Implementation of Strategic Program' in Part? 'Specific Implementation of Environmental Protection Measures'.

In the former part, Section 2 of PartII, "Environmental Education and Learning" is as follows:

Environmental education and learning helps promote the inclusion of environmental concerns into the actions of each person. This will be accomplished via assisting each individual in coming to know and understand the environment, increasing overall environmental awareness, fostering problem solving skills and providing the basis and motivation for individual conservation efforts.

From this point of view, environmental education and learning systems should be set up initially to have rather simple and basic programs aimed at the general populace. Subsequent programs must include a more focused strategy and curriculum because the age group which plays an important role in conservation efforts, as well as that responsible for the next generation, has a greater demand for environmental education and learning programs. Once set in motion, we expect these programs to have far-reaching future effects.

The themes of environmental education in THE BASIC ENVIRONMENTAL PLAN are concerned not only with conventional issues like pollution and nature protection but also with consumption, energy, food, habitat, population, history and culture for a sustainable society. The Ministry of the Environment emphasizes the fruits of "voluntarily thinking, studying, learning and acting through one's own experience" in environmental education.

These programs can be developed through partnership between schools, local administrations, private organizations and business entities. In this way the focus of environmental education will remain centered on every citizen.

In the latter part, Section 7 of PartIII, "Promoting Environmental Education and Learning" strategic programs of environmental education to be promoted are clarified. Environmental education and learning involves arousing concern regarding the environment, deepening our shared understanding, raising consciousness, heightening the desire to participate and fostering the ability to solve problems. In this way, environmental education provides the basis and the motivation for group efforts and encourages all participants to consider the environment in their activities. It is also an effective means of promoting policy within individual policy areas.

There are 7 items to be emphasized.

<1>Training Personnel

The Ministry intends to foster: individuals who will assume the role of implementing specific environmental education and learning plans (planners); individuals who will assume the on-site role of skillfully leading and encouraging participants in voluntary activities (facilitators); and individuals who will assume the role of creating harmony and networks among various individuals and organizations (coordinators).

<2>Providing Programs

Emphasizing mutual links between programs based on a flow of specific activities in stepwise progression: arousing interest deepening understanding; raising awareness inspiring desire to participate; and finally, training to develop problem-solving ability.

<3>Providing Information

As part of efforts to promote environmental education and learning, therefore, the Ministry will gather and provide information that consumers and businesses need to select products through green purchasing and environmental labeling.

<4>Expanding Locations and Opportunities for Environmental Education and Learning

The Ministry intends to use various local facilities as bases for environmental education and learning. In addition it will conserve various natural environments in rural communities, near coastal areas and so forth, as sites in which environmental education and learning can be conducted in contact with nature.

<5>Collaboration Among Groups

It is necessary to deepen the collaboration among participating groups including the government, as well as private organizations and business entities, in order to effectively provide the conditions for independent and voluntary environmental education and learning, starting at the grass roots level and spreading outward from local areas.

<6>Efforts by Business Entities

The Ministry will make efforts to prepare programs and provide information for corporate in-house education. In addition it intends to encourage voluntary efforts, such as environmental reporting and labeling, on the part of business entities. Additionally, it will forge links with business entities that provide opportunities for practical training

through outdoor activities such as eco-tours.

<7>International Cooperation

It is important to support international efforts by sharing Japan's experiences in environmental education and learning with other countries, in addition to learning from the excellent examples they offer. In particular, it is essential to support efforts to train personnel who will be working in environmental education and learning within developing countries.

We can understand well the guideline and particular framework, which THE PLAN offers.

(3) Tasks of THE BASIC ENVIRONMENTAL PLAN 2000

We can agree basically to THE BASIC ENVIRONMENTAL PLAN 2000. But as its policy asserts, is it possible for environmental concerns to be compatible with economic interests? Is it easy to integrate economic development and environmental sustainability? Although we can understand that the Ministry wants to implement THE PLAN concretely, we need to know what the philosophy underlying the plan is before we can carry it out.

As far as environmental education is concerned, how can teachers and researchers concretely teach problem-solving skills, motivation for conservation, far-reaching future effects, and voluntary thinking, studying, learning and acting from the general outline of long-term objectives such as Environmentally Sound Materials Cycle, Harmonious Coexistence, Participation and International Activities? Further, is it possible for one person to act as a planner, a facilitator and a coordinator all at the same time? What is most important, how could a teacher make long-term objectives concretely take shape? In addition, what about the transformation of human conduct or human nature?

We can well understand the intention of THE PLAN and its long-term objectives, but once teachers or instructors try to implement environmental education program, they will surely be at a loss as to which way they should take. Successfully carrying out THE PLAN's tasks rests in the ability of teachers or instructors in environmental education.

3. Development of the Japanese Society of Environmental Education since its foundation in 1990.

In this chapter we will outline the development of Japanese environmental education and the activities of the Japanese Society of Environmental Education.

As a whole, there are two currents of the environmental education in the world. One current is typical of European and North American environmental education that may have originated in the tradition of outdoor activities, as well as in the awareness of environmental problems caused by industrialism from the 18th century. The other current has been typical of Asian environmental education that originated in fears arising from pollution problems.

In Japan environmental education originated with such unfortunate pollution problems as Minamata Disease, Yokkaichi Asthma, Itai-Itai Disease or Agano Minamata Disease (Second Minamata Disease). As a result, environmental education in the 1960s was called pollution education.

But nowadays environmental education has spread all over Japan mainly owing to the activities of the Japanese Society of Environmental Education.

(1) History of the Japanese Society of Environmental Education

The Society was established in May in 1990 at Tokyo Gakugei University in Tokyo. And its purpose is to promote environmental education. This Society is unique for comprehending both environmental education at school and nature work in the field. We will look back over the past ten years.

Transition of the themes of Annual Meetings is as follows;

1990-1992 : "What is Demanded for Environmental Education ?" at Tokyo Gakugei University (Tokyo), Osaka Kyoiku University (Osaka), Aichi University of Education (Aichi).

1993: "What is Environmental Education ?" at Tsukuba University (Saitama).

1994: "Civilization and Environment" at Konan University (Kobe).

1995: "Living Together with Nature" at Chiba Central Museum (Chiba)

1996: "Present Affairs of Nature" at Shiga University (Shiga)

1997: "Coastal Materials for Environmental Education" at Yokohama National University (Yokohama).

1998: "Environmental Education for the 21st Century" at Osaka Kyoiku University (Osaka).

1999: "Educational Reform and Environmental Education" at Tokyo Gakugei University (Tokyo)

2000: "Environmental Education regarding 'Inside and Outside the Classroom' " at Tokura Yamada Junior High School (Nagano)

2001: "Cycle Society (closed-loop material-cycle society) and Environmental Education" at Kyushu International University (Kita-Kyushu)

(2) Activities of the Japanese Society of Environmental Education during the last ten years

The society's activities are also symposia open to the public and in cooperation with other Academic Societies.

<1>Symposia open to the public

i) "Environmental Education for a Better Future" at Ochanomizu Square(Tokyo), 1995 .

ii) "Earthquake Experience and Transformation of Human Consciousness" at Konan University (Kobe), 1996.

<2>Cooperation with other Academic Societies

i) "The Way to Live Together with Nature," 1995, co-sponsored by the Science Council of Japan (Tokyo).

ii) "International Congress on Environmental Education in the Asia-Pacific Region through International Cooperation," 1995, co-sponsored by Globe Japan (Tokyo)

iii) International Congress on "Environmental Problem and Information exchange of Environmental Education" at Peking University, 1999, co-sponsored by the International Association of Earth-Environment and Global Citizen (China).

iv) International Congress on "Environmental Ethics and Environmental Education" at Rajabhat Institute Phranakhon, 2000, co-sponsored by the International Association of

Earth-Environment and Global Citizen (Thailand).

(3) Activities of the Japanese Society of Environmental Education for the coming ten years in the 21st century

We would like to introduce main agenda in 2001.

<1>International Networking, for instance with CONECT and other organization.

<2>Open Lectures on Environmental Education to the public.

<3>Publishing Books on Environmental Education.

<4>News letters at least five times a year.

<5>Journal of Environmental Education.

<6>International Symposium in the near future.

Besides these agenda the Society would like to promote environmental education by partnership with agents concerned with.

The above-mentioned report is a summary of activities of the Japanese Society of Environmental Education since its foundation. As the Society has a history spanning more than 10 years, it has contributed a lot to the establishment of school curricula and fieldwork programs for environmental education.

However, history can make things appear conservative and rather unattractive. Around the period of its foundation the Society had an attraction due to the novelty of the concept of environmental education and the rich diversity of participants from a wide range of fields such as rangers and administrative officials as well as teachers and researchers. But now most people know what environmental education is, and the concept of environmental education has become so familiar with the populace that the Society has become less attractive.

Recently the Society has realized that it must reform itself to be more attractive and practical, so that it will be able to revive its role as providing the basis from which to carry out environmental education and learning suitable for the 21st century.

Additionally, present days environmental education is focused mainly in school

education, but it should spread to other fields such as social education or life-long education. What is more, its themes should be updated from focusing only on the school curriculum to serious themes such as consumer ethics, energy, food, housing, population and so on as THE BAIC ENVIRONMENTAL PLAN suggests.

4. Present tasks of Environmental Education in general

We must consider the present tasks of environmental education in general. We can indicate 5 tasks Japanese environmental education is concerned with.

(1) Is environmental education one subject or a comprehensive subject ?

In either case, there are merits and demerits. Regarding the merits, as one subject, it has a unity and its target is clear. In this case a teacher can easily teach according to a textbook. On the other hand, as a comprehensive subject, it is possible to integrate diverse subjects. If the themes and activities are too diverse they are difficult to implement in every subject, and so environmental education becomes confused.

Regarding the demerits, as one subject, it is too narrow. If environmental education is carried out only by a specialist teacher, other teachers might become indifferent to environmental issues. On the other hand, as a comprehensive subject, it should have a principle, or pedagogy of environmental education. But this is unfortunately not yet established.

There are merits and demerits in either case. But environmental education should be a comprehensive study, and if it is one subject a philosophy or pedagogy of environmental education is required.

(2) Problem of materials for environmental education

If environmental education is comprehensive but lacks a pedagogy, we are easily led into trouble. Because the themes of environmental education are so wide teachers must rely on some kind of instruction books. But these are often too limited or too abstract for teachers to use efficiently.

As for manuals, they are less general and are comprised of a variety of particular cases so that regular teachers cannot use them efficiently without the relevant field experience.

As for textbooks, they provide common knowledge from a general perspective about environmental education, but teachers usually do not have the ability necessary to utilize them. Thus, in most cases, textbooks become useless. Because textbooks are based on a static and abstract curriculum, they cannot be adequately applied to the evolving and changing situations in environmental education.

Consequently, we need a model program which is applicable to every situation both in the field and in the school, and which any teacher can easily use. But there are as yet no suitable model programs in existence.

(3) Quality of teachers for environmental education.

In environmental education one teacher should teach many fields. Also considerable experience of nature is needed. How can only one teacher teach so many fields and at the same time have sufficient experience of fieldwork? It is very important to develop instruction materials suitable for the model program that anyone can make use of them.

(4) Postulation for philosophy of environmental education, or pedagogy of environmental education.

The fundamental principle of environmental education should be urgently postulated so as to bring together and integrate a variety of themes. If we stand on one principle and master it, we can apply it to a diversity of subjects.

We need much more effort to establish a pedagogy of environmental education.

5. Present task of Environmental Education in particular: polluted Mind Environment

Recently in Japan juvenile crime has been increasing and there is evidence of the serious issue of "mind pollution." This has resulted from the modern Japanese enjoyment of a convenient and materially rich life gained from rapid economic growth. In other words, we have become rich in our daily life, but at the cost of impoverishing our minds. Concerning environmental destruction, such destruction has happened as a result of the impoverished mind's lack of consideration for other people, nature, society and so forth..

We need time to reflect on how to change our internal life and as a result our life style and to reconsider human conduct in daily life. If we try to examine our mind environment, or human nature, we need to reevaluate the conventional concept of environment. We are inclined to discuss environmental issues while failing to distinguish between the natural environment, the social environment and the mind environment.

When we consider the destruction of external environments like nature and society we can regard this as being caused by internal polluted environments, i.e., polluted mind. Therefore, we have to consider and reflect on human nature and the internal environment.

(1) Human mind, the "Total-I," consists of two "I"s, that is, "Ego-I" and "Self-I".

Here, we will examine human nature and its influences on human conduct. Human nature consists of "I-consciousness," so we need to analyze what the "Total-I" is that is formed by interaction with both the external and internal environments.

What is "I"? There must be two "I"s in human nature, that is, conscious-I and unconscious-I. Therefore, there yield two different kinds of recognition of the outer world, or external environment. These two "I"s may be analyzed as conscious "Ego-I" and unconscious "Self-I" by the theories of depth psychology of S. Freud and C. G. Jung.

Ego-I is located in the center of the consciousness which forms the ego-centered "I" and is the rational, logical, reasonable "I". This is the active principle by which we adapt ourselves to the outer world, and also adapt the outer world for ourselves, because it always has some purpose to act for itself from the viewpoint of egoism.

On the other hand, Self-I is an integrator of the two worlds, the conscious world and the unconscious world. Self-I is "ecological-I" which is irrational, illogical, unreasonable, instinctive, ecological, full of life, warm "I" like conscience. This is a warm principle in the inner world, because it includes the conscience of humans including passion, sentiment, and life.

Furthermore, there exist two other things in the inner world: complexes (causes of neurotic symptoms) and possibilities (duty to realize one's potentials). Realization of these

two things contribute, on the one hand, to recovery from neurotic illness, and on the other, to actualization of potential "Self-I".

The external environment is seen from the viewpoint of the conscious "Ego-I" while the internal environment may be seen through, for instance, Sandplay Therapy (or Sandplay World which we will use) and felt by the unconscious "Self-I" which lives in the internal ecological system. Sandplay World is, in a sense, Self-expression as well as healing in the unconscious world by Sandplay Therapy.

Accordingly, Sandplay Therapy (World) is not only useful to heal the wounded mind, but is also available to reveal the internal environment. It can suggest the solutions for environmental issues and contribute to the environmental education of mind.

(2) How to reveal the internal environment by use of Sandplay World

We can make Sandplay World using a box (57cm length x 72cm width x 7cm depth), with sand and toys. Clients freely play with many kinds of materials and put them in the sand box with no time limitation. The work that clients make expresses their internal environment.

We will illustrate this with an example which shows us the change of the inner world. The client (14 years old, male) was manic-depressive and could not go to school.

Picture 1): Divided internal environment

Symbolic words: train, forest, dividing channel

Picture 2): Sleeping environment

Symbolic words: no train, sleeping fish, flowers and trees

Picture 3): Symptom of re-born world

Symbolic words: train, killing himself, skeleton to be born into a new world

Picture 1) is the first work that shows us an internal environment divided between inner world and outer world by a deep channel. In the internal environment the boy is in the dense forest (left side) losing his way, which is in striking contrast to the right side in which his friends enjoy baseball. Along the channel there is a railway line on which a train is heading toward the wall which implies a barrier in his life.

Picture 2) is the work after being released from the rigid Ego-I by counseling. This is also an extreme picture, because it reveals too much passivity, that every living thing is sleeping such as trees, flowers, fish and so on. There is now no train on the railway line which symbolizes his exhausted energy. So his energy is also sleeping, or depleted.

Picture 3) shows us a "re-born" theme, using a skeleton. At the first sight it is confused and frightening, but it shows symptoms for recovery. With the explanation, the sand world is divided into several parts by the railway and the train is running over a boy, representing the client himself, and at the front there lies a skeleton. But this environment implies that after his rigid Ego-I is killed by the train, he then becomes a skeleton in order to be reborn as a new Ego-I.

The whole series of sand boxes constitutes a life stage which is equal to the Self-I, and there we can see the movement of growth of the Total-I in the due course of time during counseling.

In this manner we can reveal the internal environment by use of Sandplay World. Perhaps most modern people may experience ego problems such as hardened ego in which they cannot go beyond themselves without consideration for others, leading to the narrow viewpoint of egoism so typical in the modern world. Such inner egoism is the fundamental cause of destruction of the external environment. We can expand the concept of personal egoism to egoism of entity, local region, government and so forth, which are destructive toward the global environment.

(3) Consideration

If we attempt to change our human nature and life style, we should make efforts to realize two "I"s, that is, Ego-I and Self-I, and their dialog effected in sleep and relaxation, which are needed to achieve the healthy, continuous, unimpeded life energy circulation in the Total-I like in the Sand-play World. Thus, actualization of Total-I is a task for our lives and also for the restoration of the environment.

We can apply Sandplay World as a tool to reveal the internal environment, i.e., mind environment, for environmental education.

The destruction of the external environment is caused by ego-illness such as egoism in modern society. Pollution of the human mind has led us to destruction in the outer world. In order to put ourselves in others' place, for instance volunteering for environmental education activities, we should go out of narrow "Ego-I" and actualize Self-I. In other words, we should know what I am as Total-I. This is the transformation of human nature which is necessary to change our destructive activities toward the environment in daily life.

Then, we can get out of the Ego-centered viewpoint and adopt an Eco-centered viewpoint in order to preserve our "Only One Earth".

6. Direction of environmental education in the 21st century

We have reviewed the tasks of the Policy of the Ministry of the Environment, activities of the Japanese Society of Environmental Education and the transformation of human nature and conduct. Therefore, we would like to point toward the direction of

environmental education in the 21st century.

(1) Present state of environmental education

Environmental education has a comprehensive character. Although comprehensive, it is not a single subject. It can be adopted in all subjects and compose a cross curriculum approach because of its character. In order to do so efficiently requires the establishment of a philosophy of environmental education, or a pedagogy of environmental education.

We have already learnt the long-term objectives of the Ministry's PLAN and its strategies, but what are the essential contents from the student's perspective?

Environmental education is a comprehensive approach which needs to make children or students feel as follows: <1> that they are enabled to ask serious questions about environmental issues, <2> that their interest continues in a spontaneous and lasting way, <3> that they gain a wide viewpoint, both locally and globally, <4> that they can question the meaning of traditional cultures and modern civilization, <5> that they can learn how to learn by themselves, <6> that they can acquire a positive attitude and fulfilling life, and <7> that they realize the importance of respect for life and the fairness of intergenerational ethics concerning interaction with the environment; that is, environmental ethics.

In Japan from April 2002, comprehensive learning in each school will be implemented for the purpose of fostering the vitality of life. This is an educational ideal proposed by the Japanese Ministry of Education, Science and Culture.

However, whether it is successful or not depends upon the ability of teachers. At the same time there is the danger of an inadequate foundation of learning because of the lack of curriculum time for teachers to teach children or students. This, in turn, has a negative influence on teachers' ability to provide sufficient knowledge and techniques for education in general.

Therefore, the teaching side requires the ability to teach beyond the framework of one subject, the ability to teach environmental education systematically, the ability to coordinate between schools and society, the ability to connect and facilitate the activities of local communities, NGOs or NPOs and regional governments. Furthermore, teachers are asked for the ability to network among themselves.

On the students and parents' side, there is another problem. Environmental education should start from family education, not from school education. In this case most Japanese families lack the teaching manner of daily life. For instance, the younger generation is inclined not to greet each other or neighbors. This is because as we have observed above, the Japanese younger generation typically has a narrow and stiff ego which is not willing to contact with others and instead stays closed in on itself.

In conclusion the younger generation cannot develop satisfactory relationships within themselves between the conscious I (Ego-I) and unconscious I (Self-I) and in the outer world with other people and the environment. This is the core of the problem.

For the resolution of these problems environmental education provides a significant clue and the effect of this education is powerful enough to enable students to grow naturally sound in both mind and body.

(2) The future of environmental education

Here, again we have to ask what environmental education is. But it is better, so as to make it clear, to ask what the philosophy of environmental education, or the pedagogy of environmental education is.

From the viewpoint of the philosophy or pedagogy the objectives of environmental education must be, on the one hand, to foster a sensitive and rich mind, and, on the other, to actualize a sustainable society with an environmentally sound material cycle as THE PLAN indicates.

The form of environmental education is a kind of value education. Such a value education requires students to choose one value among a diversity of values autonomously, which is truly the education of a sensitive and rich mind. As far as the value of education is concerned in this case, a teacher does not instruct one dogmatic value but encourages students to choose by themselves what value is the most important.

Consequently, students will acquire the ability to choose one value among a diversity of values and also develop the knowledge and ability to restore the damaged environment and create a new environment suitable for the 21st century.

7. Conclusion: Necessity of Pedagogy of Environmental Education and Cooperation through partnership

We have already been provided with a social framework within the policy of the Japanese Ministry of the Environment. Next, we have learnt how to actualize concretely

the contents of the policy for environmental education activities. On this occasion we have to depend upon the pedagogy of environmental education.

In conclusion, we cannot solve environmental issues only in our own country but also we need cooperation through various partnerships within the nation, of business entities, private organizations, local government, national government and foreign countries for the 21st century from the global viewpoint.

Thus we are growing together in the 21st century by moving from an Ego-centered viewpoint to an Eco-centered viewpoint, by cooperating together in partnership at both the local and global levels, and by living together with the younger generations.

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