

Environmental Education in Korean School

Choi, Suk-Jin, Ph.D.

(Fellow, Korean Educational Development Institute)

1. The Development of Environmental Education in Schools in Korea

The Korean government had sought for the economic development as a primary objective until 1970s. As a result, while the Korean economy developing in 1980s, environmental issues became social issues, and policies for environmental preservation were seriously driven. Thus in 1980 the environmental rights were included in the Constitution, and the Agency of Environment was established. In 1990 the Agency of Environment was promoted to Ministry of Environment, The environmental education in Korea faced its turning point.

In 1981, the law by the minister of the Ministry of Education in Korea was proclaimed that the environmental education should be dealt with in each subject in the 4th curriculum for the primary and secondary schools. And the 4th curriculum

was revised in 1987. In the 5th curriculum for the primary and secondary schools, the environmental education became one of eight subjects which had to be optionally emphasized in school education.¹⁾

In the 6th curriculum that will be implemented from 1995, 'Environment' subject was decided as a separate subject for optional subjects in secondary schools. Since 1980s, 'Environment' subject has been studied in kindergarten as well as in secondary schools. Also, the activities of research institutes and organizations for environmental education have been recently activated, and many kinds of data on environmental education have been developed for schools and social public.

2. The Purposes and Areas of the Environmental Education in Schools in Korea

1) The overall frames of the curriculum for kindergartens through high schools have been provided by the Ministry of Education and the choice for optional subjects and their contents has been partly given to each school. That is to say, the choice of curriculum in Korea has been centralized by the government.

However, in the 6th curriculum that will be implemented in 1995, the choice for subjects is more freely given to the district Offices of Education and their schools. That is to say, the curriculum has changed into decentralized one. The curriculum for universities and colleges is decided by each school itself.

1) The Goal and Objectives of the Environmental Education

The goal and objectives of the environmental education have a lot to do with those of environmental education which were suggested by UNESCO and UNEP. Upon the basis of those data, the purposes of the environmental education in Korea can be at large described as following:

The environmental education educates students to be interested in and recognize environment and environmental problems, to preserve environment and to enhance the quality of the pleasant environment.

2) The Content Areas in Environmental Education

The main contents of the environmental education in Korea have been researched and developed by the Korean Educational Development Institute(KEDI). The contents developed by KEDI are as followings:

(1) The definition of environment : natural environment, artificial environment.

(2) The causes of environmental pollution : population problem, industrialization and urbanization, resources problem.

(3) The environmental pollution : the causes of water pollution, air pollution, soil pollution, waste pollution, noise pollution, vibration pollution, bad-smell pollution, food pollution, nuclear pollution, and agricultural chemicals pollution, and the phenomena of pollution and their countermeasures.

(4) The countermeasures for the environmental preservation : the significance of environmental preservation, environmental sanitation, environmental countermeasures.

And also, there is an attempt to include the following into the established contents.

(1) The Environmentally Sound and Sustainable Development (ESSD): the motto of UNCED Declaration in Rio de Janeiro in June, 1992.

(2) The consumerism : packing, advertising, impulsive purchase.

(3) Traffic : stability of various traffic means, traffic congestion, traffic system, etc

These typical contents are included in the content system of 'Environment' subject of the 6th curriculum. (See Appendix)

3. The Contents and Data of the Environmental Education in Schools

1) The Environmental Education in Kindergartens and Primary Schools

In the kindergartens and primary schools, environmental contents are presented in an integrated manner in teaching the contents and the subjects related to environment, In kindergartens healthful life is especially emphasized, and in primary schools environmental pollution takes the main part of the contents of environmental education, And also, the methods for environmental preservation such as cleaning, sanitizing, and saving resources, and so on, and the relationships between humanbeings and the nature are dealt with basically and broadly.

In the higher grade, domestic and international environmental problems are presented. In the 6th curriculum, each school can teach optional subjects by itself one hour a week. Each school can select one optional subject depending on the conditions of each school at an appropriate grade among the

periods which range from 3rd to 6th grade. The schools are increasing in number which are going to teach about environment.

The texts are not provided by the Ministry of Education. The schools are going to use textbooks which will be inspected and passed by the Superintendent of Education, and they made by the Korean Educational Development Institute. In some schools their teachers can prepare the textbooks. Now, some publishing companies are writing systematically-organized textbooks and teachers' guidebooks for the environmental education which will be implemental in 1995.

2) The Environmental Education in Secondary Schools

(1) The environmental education by integrated approach

The environmental education in secondary school is implemented by dual system: one way is to present the contents in an integrated way through related subjects, and the other is to present the content as a separate subject.

The environmental education by the first approach is variously implemented with multidisciplinary approach or interdisciplinary approach. The typical related subjects are morals, social studies education, science, technology, industry, home economics, and so on. Also in the other subjects, the environmental contents are also partly dealt with. Among the main contents are the relationship between environment and high human beings, the causes of environmental,

pollution and its countermeasures the methods for environmental preservation.

The methods used in implementing the environmental education are various. In order to achieve the goal of environmental education, not only sentences but also pictures and charts are used, and experiments, drawing, writing activities are implemented.

(2) The environmental education as a separate 'Environment' subject.

① Setting up 'Environment' subject and its background.

In the 6th curriculum for the secondary schools which was revised and stipulated in 1993, 'Environment' subject and 'Environmental Science' subject were set up as optional subjects for middle schools and high schools respectively. Thus each school can select environment subjects among several other optional subjects according to its conditions. The academic world and educational world's efforts have brought the birth of 'Environment' subject as a separate subject.

Their points are as following. Firstly, there is a strong need to strengthen the environmental education to preserve the Korean environment from being polluted. Secondly, there is a tendency that the future education becomes integrated and the research on educational system is tightened.

- The very representative field in environmental education.

On the other hand, the following were pointed out that environmental education would be neglected in related subjects if the

1) social studies education includes geography, history, politics, economics, culture, and laws.

'environment' subject was decided as a separate subject, or who would organize and guide the new environment subject, or that other new subjects could be decided as separate subjects if the 'environment' subject taught separately. But the public opinion, academic world, educational world fully supported setting up 'environment' subject, and some important figures and the people working in the field of environment have made so many efforts that 'environment' subject was decided to be one of optional subjects. In addition, in the education of social studies, science, industry, home economics and physical education, the environmental education in the 6th curriculum is more emphasized than in the 5th curriculum.

It is uncommon in the world that 'Environment' subject was decided as a regular subject in the curriculum for school. A lot of efforts have been made in making the curriculum for teaching and learning. The author of this paper who was the person in charge of the project of making environmental curriculum in 1992. The environmental curriculum for the middle schools put the first importance on students' attitudes to participate in environmental preservation.

The curriculum for 'environment' subject in middle and high schools is presented in Appendix. Until 1992 when this author investigated the data concerning 'environment' subjects, the author could not find any country where 'Environment' subject was one of the separate subjects, I, however, found out from the investigation in 1993 that in England and Australia the environmental subjects were included in the national level of curriculum. From these, it can be know that the 'environmental' subject is gradually

becoming a separate of educational curriculum in the world.

② Subsequent actions after setting up 'environment' subject

The subsequent actions after setting up 'Environment' subject in secondary schools in Korea are as following:

The first is to make textbooks and teachers' guidebooks. One kind of textbooks and teachers' guidebooks for middle schools have been being developed since 1993 by the Korean Education Development Institute (KEKI), which has plentiful experience in developing textbooks and curriculum. They will be used as textbooks in real classroom from 1995. The reason why one kind of textbooks are intensively developed is that the textbooks can be more systematic and more comprehensive and that many specialties on environment education can take part in this project.

For the high school textbooks for 'environment' subjects, however, some publishing companies were predicted to secure specialties, and the academic system of textbooks was expected to be more systematic than that of textbooks for middle schools. And now some publishing companies are developing the high school environment textbooks. It will be rightly supposed that those textbooks will be different a little from one another in levels and contents. They will be inspected by the investigation committee organized by the Offices of Education of 15 cities or provinces in Korea, and each school will select one of those passed by the inspection.

The second action is to recruit teachers in charge of environment. In 1994 there is no teachers' training program for 'environment'

subject. Thus some short- and long-term actions are prepared for training teachers that will teach environment from 1995 when the 6th curriculum will be implemented. The first long-term plan is to make university departments related to environment - environmental science, environmental studies, environmental engineering - teach the contents on environmental education and to make the departments issue the teacher's licenses for environmental education. The short-term plan is to train the volunteers who are now teaching related subjects - geography, science, biology, morals, technology - and to issue teacher's licenses to them. Another alternative is to make the teachers take some specific examinations supervised by the government and to get teacher's licenses for environmental education.

At the present, the Office of Education of each city or the Office of Education of each province is primarily responsible for training and securing the teachers who will be in charge of environmental education.

3) Extra-Curricular Environmental Education in Primary and Secondary Schools

(1) Activities in schools

The main activities in schools are club activities, student council's activities, home room, admonitory lectures, Saemaetul Movement, protection activities. The other activities performed in schools are as followings:

- Composition, writing slogans, drawing posters.
- Chorus contest, admonitory lecture, meditation, writing a diary, collecting environmental data and their display, interclass correspondence.
- Operation of display centers for environmental

education.

- Setting up the Day of Environmental Preservation and its period.
- Mailing messages to home, distributing leaflets.
- Inviting specialties on resources and visiting related organizations.
- Operation of hometown-loving organizations and mother's class.
- Activities of environmental monitoring organizations.

(2) Operations of model schools for environmental education.

There are model schools for environmental education that are designated by the Office of Education of each city and province. These schools carry out the environmental education in their communities with specific themes for two years, and the results are distributed to the whole country. The schools sponsored by the Ministry of Environment are 2 kindergartens, 3 primary schools and 3 middle schools. The ministry changes the model schools every other year. The Ministry of Education is also operating a few model schools non-periodically. The Office of Education of some cities and countries are also operating their model schools.

4) The Environmental Education in Universities.

(1) Environmental education as liberal subjects in universities

From 1970s subjects related to environmental education began to be taught as liberal courses and have been recently increasing in number : environmental science, environmental preservation, humanbeings and environment, environmental education, etc. The environmental

contents are also dealt with in the subjects such as natural science, community development, national land, cities, population, etc. The university students are actively participating in environmental movements.

They usually take part in those social activities by joining various kinds of NGO's (Non-Government Organizations) or doing campus club activities.

(2) Environmental manpower training program at Universities

Environmental manpower means those who have taken university education or more concerning environmental administration including the control of contaminating materials or sanitary management, and have obtained the licenses by passing the exams approved by the government.

As of 1993, college, universities and graduate schools have trained the environmental manpower. About 20 colleges which have environment-related departments train about 1,000 students, and about 30 universities train about 30 universities train about 1,500 students a year. About 20 graduate schools which have graduate school of environment, graduate school of health, graduate school of industry, or environment-related departments train about 900 students a year. Most of these schools have been established after 1980, and the educational curriculum of these schools are almost the same. College emphasize practice.

In addition, considerable number of schools offer the classes on health science and environmental engineering. They have also school of pharmacy, and school of nursing, which have the close relationship with environmental expert' training.

The environmental experts can get the training program at the environment-related institutes approved by the government. They can also get the teacher's licenses for environmental education by taking examinations.

5) The Research Activities for Environmental Education

The research activities concerning environment are carried out by a number of research institutes and research institutes attached to universities. National or public research institutes or organizations, or government-contributed institutes or organizations make researches and investigation into environmental preservation.

About 40 research institutes attached to universities also play those roles, Not only researches on environment but also each kind of training programs are implemented in the National Institute of Environmental Research, National Institute of Health & Environment Research Institutes of each city and province. Additionally those researches are made in the Korean Educational Development Institute, National Land Development Institute, Korea Energy and Resources Cooperation, Research Institute, and so on.

As the typical scientific research parties, there are the Korea Association for Environmental Science Research and its member, Korean Society for Environmental Education, whose motto is environmental education.

4. Tasks for Environmental Education in Schools in Korea and Its Directions.

1) Development and Spread of Textbooks and Teacher's Guidebooks.

It is true that textbooks are much more important in the classroom than the syllabus of the curriculum. At the present, national organizations and private publishing companies are making the textbooks which will be taught from 1995. The related people as well as the persons in charge of developing textbooks should be serious in making the textbooks. In addition to textbooks, various kinds of teaching aides should be urgently developed.

2) Teacher's Training Program

One of the tasks which must be done is to supply teachers who will be in charge of environmental education. One of the teacher training programs is to re-train the existing teachers in charge of social science studies, science, and related subjects. Another alternative is to give the teachers who will pass the national examination for the license of environmental education. A long-term plan is to make universities establish the environmental departments and to train teachers at those university.

3) A New Interpretation and Operations of Environmental Education Curriculum

The environmental education should be renewed in the operations of teaching, teaching methods, and testing. In the selection of contents and their operations, the regions, the conditions of schools and 'students' attitudes should be considered.

Furthermore, students are at puberty. At this time they show the objective, analytic and scientific characteristics. They become to have beliefs and distrust and their anticipation

and skepticism toward the society. All of these points should be taken into account. There are, however, many difficulties in implementing practical environmental education in implementing environmental education. It is because students do not have enough experience in the real life.

As the solutions for the problem, the following two alternatives can be suggested. The first one is to make students be interested in their community and the solutions for the problems and to make them participate in the extramural activities. The second one is to make them take basic environmental education through the school education. There is no need that the contents of environmental education in secondary school should be too scientific and technical.

4) The Tightening of Research, Development and Spread

With basic researches on environmental education, researches should be made on practical teaching methods, strategies and programs. After considering the reality of school education, some concepts such as ESSD which is newly emphasized should be included in the curriculum and textbooks. The curriculum for the environmental education include in its contents the activities such as learning by project, investigation, experiment and practice.

Therefore, the data and teaching methods should be developed based on regions and illustrations. The Offices of Education of each city and province, school, academic world and related institutes should take part in these projects. And an attempt should be made to activate the environmental education substantially by connecting with

environmental organizations, school education and social education.

5) Support from Schools and Administrative Organizations of Education

In order to make the effect of environmental education, there should be, first of all, an attempt to make many schools teach 'Environment' subject. Enough teachers should be secured. Advantageous policies and budget assignment to environment teachers, active support from the chiefs of organizations, development of training program and data, cooperative implementation, etc. are needed.

Especially, there should be every effort to implement the field study, experiment and practice for environmental education.

< REFERENCES >

- Choi, D. H, Nam S.J. and Choi S.J., *et al.*(1991). *A Study on the Improvements for the Environmental Education in schools.*
- Choi, S. J., (1989). The Present State of environmental education in Korea. *Educational Development.* Vol.432, Korean Educational Development Institute.
- _____(1990). Methods and Data in Environmental Education. *The New Education.* Vol. 424, The Korea Association of Education.
- _____(1990). The Development of Teaching Methods and Data for Environmental Education in Korea. *Environmental Education.* Vol. 1, the Korean Society for Environmental Education.
- _____(1990). *Environmental Education in Korea* Korean Educational Development Institute.
- ____et.al.,(1992). *Tentative Plan for the Curriculum for the Middle School Environment,* The Korean Society for Environmental Education.
- _____(1993). *Tasks and Directions of Environmental Education in Schools.* Korea Environmental Techniques Development Institute.
- _____(1993). The Environmental Education for ESSD. *Korea Environmental Policy and Administration Society.* Vol.1, No.1.
- _____(1994). The Consciousness of ESSD and Environment Preservation and the Environmental Education. *Environmental Education,* Vol. 6. the Korean Society for Environmental Education.
- _____(1994). Environmental Education in Schools to Be Urgently Systemized. *Today's Environment,* Monthly, No. 10, the Korean Association for Environmental Education
- Oh, H. S., Ryu K.B., and Choi S.J., (1991). *Environmental Education.* Korea Air and Correspondence University.

◇ APPENDIX ◇

'Environment' subject Curriculum in junior school

What is described below is the 'Environment' subject in junior school curriculum³⁾, of which establishment is the first in the history of Korean curriculum.

I. CHARACTERISTIC

The 'Environment' subject is a newly established elective subject in the 6th curriculum. It intends to bring together all the educational contents related to environment that have been dealt with dispersedly in different subjects, and integrate them systematically into one separate subject.

The basic purpose of 'Environment' subject is to educate the students to become citizens who are willing to prevent environmental pollution and have the ability to build a pleasant living environment for everyone. Acquiring a correct understanding about the environment, which is the basic foundation of our lives, is considered a key to serving such a purpose.

'Environment' subject emphasizes the followings. The students ought to correctly understand the definition of environment and the nature of the environmental problems. On the basis of this knowledge, they ought to be able to make valid judgements about environment and apply the results to the

reality by practicing relevant behavior. Because of this practice-centered nature of 'Environment' subject, a greater attention should be given to such teaching-learning processes as field study, experiment, survey, discussion or participation in nature conservation activities, rather than to taking or giving lectures. It is also important for the students to be offered a project assignment concerning a particular environmental problem of which completion requires the students to do investigation, analysis and thereby to find a solution.

Also, 'Environment' subject should be linked integratively to the entire spectrum of school education, adult education as well as to the Environmental Science in senior high school curriculum.

II. GOALS AND OBJECTIVES

On the basis of a comprehensive understanding of the environment, the basic foundation of our life, the students should develop correct value system and attitude toward environmental problems. They should also actively participate in various activities to create a pleasant living environment, and practice the same effort at the personal level.

1. A comprehensive understanding of the definition of environment, the relationship between the human beings and the environment, and environmental problems should be fostered.

2. Environmental awareness should be promoted through the students' investigation and observation of environmental problems

1) The plan for the curriculum of 'Environment' subject in middle schools in Korea is the one that was developed by the author of this paper as its research director in 1992, and that got the examination from the Ministry of Education.

that involve various methods. Basic skills and abilities necessary to solve environmental problems should be acquired.

3. A value system acknowledging the need of environment conservation should be

cultivated. The attitude to participate in activities attempting to create a pleasant living environment and to practice the same effort in personal life should be also supported.

III. CONTENTS

AREA	CONTENTS	
Definition of Environment	1. Environment around us	(1) Composition of environment (2) Natural environment (3) Human & social environment
	2. change of Environment	(1) Environment in the past & in the present (2) Causes of environmental changes (3) Changes in perspective on environment
Environmental Problems	1. Environmental pollution problem	(1) Water pollution (2) Air pollution (3) Soil pollution (4) Others
	2. Resources problem	(1) Types of resources (2) Resources & man (3) Use of resources & environmental problems
	3. Depletion of resource & countermeasure	(1) Depletion of resources (2) Development of substituting resources
Environmental Countermeasures	1. Environmental conservation & pleasant environment for living	(1) Pleasant environment & health (2) Pleasant environment & improvement of quality of life (3) Rights & responsibilities for environment
	2. Environmental conservation activities	(1) Personal practice (2) Cooperate & organizational effort (3) Governmental role (4) International cooperation

IV. METHOD AND EVALUATION

1. Method

* Environment and environmental problems are taught from an integrative and holistic perspective. Cognitive, affective and psychomotor objectives are given a due emphasis.

* An attempt is made to link the new 'Environment' subject to the environmental education contents that have been taught dispersedly in different subjects and thereby teach the subject in a systematic and comprehensive manner.

* Selection of learning materials should be made in such a way that they are related to the students' own experiences. Starting from the student's immediate environment, the sequence of the presentation of materials can proceed from the local community to the nation and the outside international world.

* The learning contents and materials can be re-organized and instructed in the way to meet the specific needs of the individual schools and the communities. Also, the environmental problems found in the students' own community can serve an excellent impetus to teaching and learning environmental problems.

* Cases and conflict situations involving environmental problems in daily life can be exemplified to help the students internalize valid value systems concerning environmental problems so that they can act properly on the basis of a valid judgement made.

* Activities that require the student's active participation and involvement, such as field investigation, field observation, case study,

project assignment should be suggested to the students. Instructional formats that require the students to find a solution to a given problem should also be highly recommended. Visits to environmental organizations and use of environmental facilities should be positively supported. Individual or group project assignment conduct a research (e.g., investigating the problem, collecting and analyzing data and summarizing the results) is also a recommendable format of instruction.

* Besides textbooks, other instructional materials such as photographs, maps statistical data, reference books, actual specimen and videotapes shall be used.

* The standard instruction time allotted to the 'Environment' subject is 34-68 hours per year (1 or 2 hours per week), and the content organization of the subject is based on this base-line time allotment. When a longer time-allotment can be spared, it shall be used for a project assignment dealing with environmental problems found in the particular community. In doing so, the objectives and contents prescribed in the curriculum should be taken into a consideration.

2. Evaluation

* Evaluation of 'Environment' subject shall focus on measuring the accomplishment of major educational objectives. In doing so, an attention should be given to the evaluation of ability to apply basic concepts, change in attitude and habit for environment and problem solving ability more than of simple memory of bits of information.

* Main focuses in evaluating the 'Environment' subject are follows: understanding and application of basic concepts or principles of

environment, the extent of environmental awareness, ability to solve and make judgement on environmental problems, establishment of values system concerning environment and attitude to participate in environmental conservation activities.

* The evaluation results shall be reported in a

narrative form, with a focus placed on the description of students' correct understanding of environment and on the record of participations in environmental conservation activities. In doing so, necessary measures shall be taken to keep a balance with the evaluation results of other subjects.