

The Eco-School Project at the Daegu National University of Education

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Curriculum Vitae

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Summary

Practical Arts Education (PAE) is included in the Korean national curriculum for elementary schools. Practical arts consist of three areas: 1) home economics, 2) technology and 3) life science. Life science education is the bio-related technology content areas, which were established as: a) the foundations of bio-technology, b) life, environment and agriculture, c) plants and animal production and d) processing and marketing of bio-products. The Eco-project at Daegu National University of Education (DNUE) is based on the sector of life, environment and agriculture.

The Eco-school is a great way to make sustainable development a part of life and the ethos of our university. Designed to fit into the curriculum, it's an award scheme that gets all sophomores at DNUE involved in improving the university environment.

A DNUE support program for the eco-project has been developed to assist PAE classes to achieve the recognized benefits of eco-DNUE activities: the integration of sustainable development issues across the curriculum, bottom line cost savings that can be made through more effective use of resources, and building a strong environmental ethos among sophomores at DNUE. More details about the environmental health promotion is as follows:

- 1) Natural expression
- 2) The extent of affection
- 3) Functional realization
- 4) Educational intensification
- 5) Quantity of matter raised

Biology Fieldwork in the DNUE Grounds: a model of good practice in teaching science

Direct observation of the environment and practical scientific enquiry outside the classroom are fundamental to an understanding of the nature of science as well as a source of inspiration and motivation. Outdoor biology is a well-developed tradition in the DNUE grounds and provides many examples of good practice that could profitably be extended to the teaching of other scientific disciplines. Several case studies are presented that illustrate good practice in science teaching, while minimizing timetable disruption by making use of the DNUE grounds.

- 1) Learning by inspection
- 2) Learning experience
- 3) Programs for eco-environmental education
- 4) A project study
- 5) An ecological learning center utilizing an arboretum for the development of eco-environmental education
- 6) The development of an ecological experience program in the DNUE forest

Waste And Recycling Educational Resources

A comprehensive range of educational resources have been developed by DNUE Waste Management, aiming to assist PAE classes at DNUE in educating pupils about waste management and recycling issues. Materials include: lesson plans, ideas for assemblies, fact sheets and classroom activities. It is also possible for relevant persons to visit the school and give talks about waste related subjects.

- 1) Development of water-saving programs to overcome a lack of water by understanding and recognizing use realities, and the identification of the use realities in the water consumption of elementary school students classified by residential types and area; the effects of residential type and area on understanding, recognition and actual conditions of water use in elementary school students.
- 2) A study on the recognition and actual conditions of food wastage of elementary school students.
- 3) Develop a program on food waste for elementary school students.
- 4) The operating organization should be changed to gather feedback from students and teachers as students and teachers participate and plan equally in every activity.

Making The Invisible Visible: monitoring levels of noxious gas emission in the field and classroom

The noxious gas emissions and micro-flora population were determined in the field and ground soil of DNUE. This study introduces the use of Gastec set and data for a variety of purposes in the life science laboratory, including measurements of respiratory and photosynthetic rates of animal, plants and microbes. Suggestions are made for taking measurements in the field, as well as demonstrations and project work in the life science laboratory.

- 1) Using functional plants
- 2) Using earthworms

Organic Foods: Do They Have A Role? (The production of safe and functional food)

Food is the primary product of agriculture. Natural fibers, such as wool, mohair, cotton, and leather, and alcohol, certain pharmaceuticals, oil, and plastics are also important agricultural products valuable to society and the economy. Animal and plant products: cereals, vegetable, fruits, meat, milk, and eggs; provide nutrients essential for human life in a form that also gives enjoyment and satisfaction. Nutritional quality is defined as the value of the product for the consumer's physical health, growth, development, reproduction and psychological or emotional well-being. This extended definition of nutritional quality can be divided into two terms. One term is for the effects of food determined by its substance, i.e., the sum of all ingredients, beneficial and harmful compounds and their nutritional (or biological) aspects. The second term of nutritional quality covers the feelings of well-being (or indisposition) that certain foods can induce in consumers. Organic agriculture has been confirmed as environmentally sound and more sustainable than mainstream agriculture.

Organic agriculture has received attention in Korean society since late 1990 after the demand for safe food increased rapidly by consumers, and an environmentally sound farming system was introduced by the Government as an official agricultural policy for the future. In this project, look for an absence of:

- 1) Synthetic pesticides
- 2) Synthetic herbicides

- 3) *E. coli* or other harmful bacteria
- 4) Artificial ingredients and preservatives
- 5) Synthetic fertilizers and production facilities
- 6) Compliance with environmental permits
- 7) Using earth-sustainable techniques only
- 8) Using techniques that protect water resources

Ecology in Practice at the Eco-University of DNUE

Practical school activities for the restoration of the ecological environment:

- 1) A school greenery and roof garden (Sky park)
- 2) An environmental thermometer (an environmental board)
- 3) An eco-pond (water garden)
- 4) A plant tunnel
- 5) Functional plants
- 6) Horticultural therapy (herb farms/ therapeutical pressure treatments)
- 7) An economizer (reduces energy consumption): a solar heating system or a solar collection/a rainwater collecting system.
- 8) An eco-environmental diary
- 9) An eco-environmental newspaper
- 10) Education for eco-environmental assistants
- 11) The improvement of DNUE landscapes used as fields for eco-environmental education. For the visual appreciation of the DNUE landscape throughout all four seasons, diversity should be always employed. The DNUE landscape is a pro-eco-environmental area for students and staff alike.

References

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