

The validation of Japanese environmental education on the basis of Minnesota Environmental Literacy Scope and Sequence

Kumiko Ota

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1. INTRODUCTION

Recently, the importance of environmental education is increasing by the enactment of Act for the Promotion of environmental education, the revision of the Fundamental Law of Education and the increased content about environmental education in Education Ministry guidelines. But the current environmental education has many problems. ; The content is not systematic, the goal of training is not established by each grade level, the lack of holistic approach to environmental problems, critical thinking, and perspective of social system. To solve these problems is that environmental education must be systematized, the flame work linked the aim of environmental education is showed according to children's stage of development, the programs that see environment systematically are made. It is necessary that the concept constructed the aim of existing environmental education; the perspective of natural systems, social systems and interactions between natural and social systems is verified. This study focus on the analysis of the concept that formed environmental education the current Japanese environmental education programs and the verification of Japanese environmental education on the basis of the necessary concept for environmental education according to children's stage of development.

2. METHODOLOGY

This study analyzes the Japanese environmental education on the basis of 59 concepts about natural systems, social systems and interactions between natural and social systems that should be learned for environmental literacy in “Environmental Literacy Scope and Sequence”. “Environmental Literacy Scope and Sequence” provides a system approach to environmental education that can focus the efforts of teachers and deliverers of environmental education to unify their many independent efforts to achieve the goal of environmental literacy. The concept map by the activities of learner, the content of learning from activities and the concepts linked content of learning. Firstly the concepts were derived from activities in the programs, then concept map by the activities of learner were created. Secondary, the concepts were classified into natural systems, social systems and interactions between natural and social systems, others that described only their definition.

3. RESULT AND DISCUCCION

In early elementary school years, the programs focus on having contact with nature. It is assumed that the programs gave the opportunity to have contact with nature to learners. There were no focuses on natural and social single system and their each part and relationships. Meanwhile, in Japanese programs the concept about waste and energy issues was learned in early elementary school years, which learned in sixth grade in Minnesota. However the definition of the concept is presented, there were no systematic approach to their issues in the programs. In a higher-grade, because students learn about global warming issue and garbage issue, it seems that the opportunity that learns natural and social systems increased. But most of the programs about urban-type problems don't promote to think systematically, but they recommended reflecting on individual behaviors. In the analysis of each environmental education program, it was shown that Japanese environmental education programs lack the perspective of social system, there were no enough systematic thinking about solutions of environmental problems in their perspectives. In the elementary school environmental education, it is clear that the programs did not have relationships among each in the natural system. In the future, there is a need for building the framework of the concept that should be learn according to children's stage of development, the preparation of programs about natural and social single system from early elementary school years