

## A Development of Learning Activities about Forestry Resource for 2nd Level Students

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**Abstract:** The development of learning activities about forestry resource for 2nd level students aims to develop the learning activities about forestry resource for 2nd level students and compare knowledge attitude and behavior about forestry resource of 2nd level students that learning by integrate method and normally method. Samples were 150 students of Bancokrangnoi school and Nongyangtoi school in Tambon Nongyangtoi Srithep District Phetchabun Province obtained by the purposive random sampling technique. The instruments used for the study included learning activities, 40 items knowledge test, 30 items scale on attitude and 30 items scale on behavior about forestry resource. The collected data were analyzed by the used of a mean, a standard deviation, an effectiveness index and the paired t-test were employed for testing hypotheses. The research results revealed that the learning activities about forestry resource for 2nd level students was rated as a high efficiency and the students learning by integrate method showed gains knowledge attitude and behavior about forestry resource as a whole with learning by normally method ( $p < 0.05$ ).

**Key words:** Learning activities, forestry resource, student, knowledge, attitude, behavior

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### INTRODUCTION

Forests cover roughly 31% of the earth's landsurface. They provide many natural resources that benefit individuals, corporations and governments and they contain much of the world's biodiversity that is so essential to the integrity of the earth's biosphere. Forest management, once the sole domain of professional foresters who attempted to regulate forests to maximize the value of the timber and other natural resources extracted from the forest has taken centre stage as many powerful interests compete aggressively to have forests managed to satisfy their often conflicting objectives. Forest management has evolved from relatively simple stand rotation decision-making (deciding when to cut individual stands to maximize the present net value of the timber) through the adoption of industrial agricultural approaches for the production of timber from large forest management units, while attempting to reconcile conflicting demands for nontimber resources to the current era in which environmental concerns outweigh natural resource exploitation in many forested areas. It is therefore not surprising that forestry continues to be a very rich source of problems that will push foresters and operational researchers seeking new challenges up

to and in many cases beyond their capabilities (Martell *et al.*, 1998). The forest in Thailand have been destroyed so rapidly in the past 5 decades. The forest area approximate one half have been trespassed and destroyed for colleting lumber and wood and cultivating land for agricultural purposes. According to the forest survey in 1988 (BE 2531), it was found that Thailand had the forest areas of approximately 90 million rais (circa 20 million acres) or accounting for 28% of the total land arrears in the country. The rate of forest trespassing and destroyed is about 1.5 million rais (circa 0.34 million acres) annually. The effects of deforestation consequently lead to soil quality degradation, water scarcity and many more other natural disasters (Thawatchai *et al.*, 2008). For the result of that the environmental education was then appeared from educational concept in order to solve the environmental problems by setting up learning processes which is coherently and relatively between human and environment or it could be a knowledge promotion method about environment for the learners and all people in order to be the highest target in developing the environmental quality which relatively gives an advantage for human by having an effective target in encouraging the learners to have awareness, knowledge, attitude, skill, evaluation ability and participation in order to solve

current problems and being able to control the coming problem in the soon future. Educational system plays an important role to solve those problems. Therefore, the teacher is a key agency of change or transformation. Education in about and for the environment are three categorical approaches of environmental education. Education in and about the environment are intended to develop knowledge, awareness, attitude and skills. Education for the environment is intended to enhance values, ethics, problem-solving skills and action (Spork, 1992). It is education for the environment that seems to have the potential contributing most to the general well being of environment (Sonneborn, 1994). Teaching and learning on environmental education is necessary. It is needed to teach students to act for the environment. In Thailand, there is not an environmental education subject at the basic education level. Environmental education is taught only in science subject but environmental education is related to all subjects therefore, the researchers conducted this study to help the teachers construct the environmental activities and infuse the environmental issues and/or local information in their own assigned subjects. Infusion is one kind of integration of teaching strategies.

This research therefore, emphasized on the development the learning activities about forestry resource. The aim was to have more knowledge attitude and behavior about forestry resource in their living in community areas through for the 2nd level students.

#### **The research's purposes:**

- To develop the learning activities about forestry resource for 2nd level students
- To compare knowledge attitude and behavior about forestry resource of 2nd level students that learning by integrate method and normally method

#### **Hypothesis:**

- The learning activities about forestry resource for 2nd level students has rated as high efficiency
- The students learning by integrate method showed gains knowledge attitude and behavior about forestry resource as a whole with learning by normally method

### **MATERIALS AND METHODS**

This research was to randomized two groups pretest-posttest design.

#### **Population and sample as follows:**

- Population were the 2nd level students from 48 schools in Amphur Srithep Phetchabun Province

- Sample, 150 2nd level students from Bancokrangnoi school 75 students as the group to learning by integrate method and Nongyangtoi school 75 students as the group to learning by normally method selected by a purposive sampling technique

#### **Research instrument including the following:**

- The 12 learning activities about forestry resource for 2nd level students
- The test of knowledge about forestry resource 40 items
- The test of attitude about forestry resource 30 items
- The test of behavior about forestry resource 30 items

#### **Data collection**

**Step 1:** Collecting pre-test data from the sample by the test of knowledge, attitude and behavior about forestry resource before learning.

**Step 2:** Collecting data from the sample by learning activities about forestry resource for 2nd level students.

**Step 3:** Collecting the immediate post-training data from the same sample by the same instruments namely the test of knowledge, attitude and behavior about forestry resource before learning.

**Step 4:** Analyzing data by statistical, percentage and Efficiency Index (E.I.) and t-test.

### **RESULTS AND DISCUSSION**

The learning activities about forestry resource for 2nd level students:

- Meaning of forest 3.45 h
- Biodiversity in forest 3.35 h
- Problem of forest 3.35 h
- Global warming 3.30 h
- Make merit with the tree 3.25 h
- Afforesting 3.20 h
- Forest fire 3.40 h
- Forest conservation 3.20 h
- The forest and the way of life 3.25 h
- Herbs physician 3.25 h
- God takes care the forest 3.40 h
- Forest ordination 3.30 h

The 2nd level students had a knowledge about forestry resource during the learning and after learning in very high level of over 80%. This shows that the developed learning activities has made the 2nd level students efficiently received knowledge and experiences about forestry resource which is accorded

to Bowjai *et al.* (2008) who found that the integrated learning entitled Environmental Conservation for Prathomsueksa 6 had efficiencies of 90.12/87, respectively which was each higher than established requirement of 80/80, Tai *et al.* (2008) who found that after the training the institution administrators gained the leadership as knowledge in very high level of over 80%. The students learning by integrate method showed gains knowledge attitude and behavior about forestry resource as a whole with learning by normally method with statistically significant difference at the level of 0.05 which shows that the developed learning activities making more knowledge attitude and behavior about forestry resource for the 2nd level students which relating to the forestry resource directly to the programs target which is accorded to the Bowjai *et al.* (2008) who found that the students who learned using the integrated teaching method had higher learning achievement than the collaborative and inquiry teaching method.

#### **CONCLUSION**

From this research, the learning activities about forestry resource for 2nd level students was rated as a high efficiency and they also had knowledge attitude and behavior about forestry resource after learning were higher than learning by normally method from the study was giving beneficially to the forestry resource conservation in primary school in the future.

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