

Thesis Title A Comparison of Academic Achievement, Scientific Process Skills and Attitudes toward Science of Mathayomsuksa 1 Students in the topic, "Maintenance of Plant Life" Using 7E Learning Cycle Instructional Model and Traditional Instruction

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ABSTRACT

The research aimed to compare the academic achievement, scientific process skills and attitudes toward science of the students in Mathayomsuksa 1 using 7E learning cycle and regular instructional model. The samples were students of Mathayomsuksa 1 in the first semester of the academic year 2014 at Tetsaban 1 Bankhoksamrong School, under Khoksamrong Subdistrict Municipality, Khoksamrong District, Lopburi Province. Two classrooms were selected through the purposive sampling , then the student were randomly selected and divided into two groups. The experiment group consisted of 41 students and the control group consisted of 40 students. The instruments used in the research were the lesson plans using 7E learning cycle instructional model and the lesson plans using traditional Instruction in the topic, "Maintenance of plant life" for Mathayomsuksa 1 students. The academic achievement test consisted of 40 multiple choice items of which the discrimination index ranged from 0.35-0.95 and the reliability was at 0.95. The scientific process skills test consisted of 39 multiple choice items of which the discrimination index ranged from 0.31-0.62 and the reliability was at 0.92. The attitudes toward science questionnaire was a 5 level rating scale which consisted of 30 items. The discrimination index ranged from 0.44-0.76 and the reliability was at 0.95. The data analysis used by t-test and one-way multivariate analysis of covariance (MANCOVA).

The results showed that

1. The average score of academic achievement, scientific process skills and attitudes toward science of the students after learning with 7E learning cycle instructional model were higher than that of before learning at .05 level of significance.

2. The average score of academic achievement, scientific process skills and attitudes toward science of the students learning with 7E learning cycle instructional model were higher than those who learn with the traditional approach at .05 level of significance.