

Thesis Title : The development of a slide-tape programmed instruction for teaching "Environmental Pollution" Concepts in Biology and Chemistry courses to Muthayomsuksa 6 Students.

Researcher : Pravaes Deelai

Department : Department of Education

Advisor : Waraporn Srisupan
Boontham Kijpredaborisuthi
Thawatchai Chaigirachayakul

Date : February 13, 1987.

ABSTRACT

The purposes of this study were to construct a slide-tape programmed instruction on environmental pollution concepts in Biology and chemistry for Mathayomsuksa 6 students and to find out its effectiveness and responses the students reacted to it.

Procedures were sequenced as follows.

1. Constructed a slide-tape programmed instruction an exercise for learning a slide-tape programmed instruction, a test on environmental pollution concepts, and also an evaluation form of the slide-tape programmed instruction.

2. Tried out the above teaching media and tools with 73 Mathayomsuksa 6 students of Khaosaming Witthayakom school, Khaosaming district, Trad province by the following steps :

- 2.1 Tried out 3 times with one student each time.

- 2.2 Tried out and revised 2 times with ten students each time

- 2.3 Tried out and revised one time with a group of 30 students.

- 2.4 Tested the sensitivity of the test on environmental pollution concepts from the test scores; selected and used only the test items whose sensitivity values from 0.25 and above and revised the test items whose value were under 0.25

3. Applied the tools and teaching media in the experiment where each half of 90 Mathayomsuksa 6 students were the experimental and control groups. The pretest-posttest control group design was employed. The derived scores and data were analyzed in terms of percentage, arithmetic mean, standard deviation, t-test, and Pearson product moment correlation coefficient.

The results of the experiments are :

1. A slide-tape programmed instruction on "environmental pollution" concepts in Biology and chemistry for Mathayomsuksa 6 students, which consisted of 158 frames, was already constructed.

2. The effectiveness of the slide-tape programmed instruction was 91.13/91.11 which met the set criterion of 90/90 standard.

3. The overage score from the posttest made by students who learned from the slide-tape programmed instruction was significantly higher than that from the pretest at .01 level.

4. The overage score from the posttest made by students who learned from the slide-tape programmed instruction was significantly higher than the one made by students who did not learn from such program at .01 level.

5. Students who learned with slide-tape programmed instruction had significantly position responses to the program at .01 level.