

Netdaow Numkleang 2011: The Study of Grade 7th Students' Conceptions and Creative Thinking in the Unit of Life and Plants Function Through an Inquiry-based Instruction. Master of Education (Science Education), Major Field: Science Education, Department of Education. Thesis Advisor: Miss Jeerawan Ketsing, Ph.D. 248 pages.

This research was divided into two phases. The objective of the first phase was to study the current teaching and learning management, conceptions, and higher order thinking (HOT) of the students in the Unit of Life and Plants Function. The results was used for designing the learning activities in the second phase. The subject of the first phase were 151 7th graders who learnt the Unit of Life and Plants Function in 2009 academic year in a high school located in Kam-phaeng-phet province and 3 teachers who taught the unit. The data was gathered by using a questionair, interviews, concept test, and HOT self-assessment. After that, the data about the current teaching and learning management was analyzed through a content analysis. The data collected from concept test was categorized into 5 groups according to Westbook and Marek. The data with regard to HOT was analyzed by descriptive statistics. The objective of the second phase was to study grade 7th students' conceptions and creative thinking in the Unit of Life and Plants Function after learning the unit inquiry-based instruction. The cases of the second phase were 52 7th graders who learnt the unit in 2010 academic year. The case study was asked to do the concept test before and after they learnt the unit through inquiry-based instruction. The data was analyzed by categorizing into concept groups as same as in the first phase. The data about creative thinking was gathered by utilizing creative thinking tests. The data was analyzed by grouping and scoring by following the researcher's scoring criteria.

The results of the first phase showed that the most teaching method, instructional media and measurement and evaluation method used were lecture, activity sheets and scoring of activity sheets, respectively. The majority of students had alternative concepts in all of the concepts being tested . The concepts that many students had specific misconceptions were phototropism, the meaning and the structure of cell and dicotyledons and monocotyledons. For HOT, the study indicated that the HOT that the students had lowest score was creative thinking. The results of the second phases revealed that after learning the unit through inquiry-based instruction, a number of the students had complete understanding in the concepts of the meaning and the structure of cell, structure of the flower, and factor for photosynthesis. After learning the unit, the number of the students who had alterative understanding was decreased in all of the concepts. For creative thinking, the study showed that the students' fluency thinking, flexibility thinking, and originality thinking were increased after learning the unit via the inquiry-based instruction.

Student's signature

Thesis Advisor's signature