

Saowanee Koetdung 2015: Inquiry-based Teaching for Improving 4th Graders' Science Process Skills: An Action Research. Master of Education (Science Education), Major Field: Science Education, Department of Education. Thesis Advisor: Miss Jeerawan Ketsing, Ph.D. 213 pages.

This action research aimed to 1) study students' science process skills before, during, and after learning through inquiry-based teaching and 2) explore teaching techniques in inquiry-based teaching that fostered the students' science process skills. The participants were 28 fourth graders. In addressing the first research objective, the researcher collected data by using Science Process Skills tests. The data was then analyzed by clustering it according to rubrics criteria. The students were categorized into three categories: do not have skill, incomplete skill, and have skill. The frequency and percentages of each category were used for tracking the students' learning progress. In addressing the second research objective, the researcher gathered information by using teacher's reflective journal, videotapes of instructions, and focus-group interview with students. The data was analyzed through inductive analysis.

The results showed that after learning the concepts through inquiry, the number of students in 'have skill group' was increased from before the teaching, especially in the skills of 1) operational definition, 2) experimentation, and 3) observation. In addition, the results demonstrated several teaching techniques in inquiry that may promote the students' science process skills. These techniques were, for instead, 1) the use of concrete instructional media with discussion questions, 2) the use of hands-on activity for practicing science process skills, 3) the use of multiple strategies for promoting students' presentation skill, and 4) the use of new situations for helping students to apply the process skills.

Student's signature

Thesis Advisor's signature

