

Jitrawadee Phakdeesan 2014: The Experimental Skills and Attitude toward Structured Inquiry Learning of Grade 10 Students' in the Topic of Force and Newton's Law of Motion. Master of Education (Science Education), Major Field: Science Education, Department of Education. Thesis Advisor: Mr. Ekgapoom Jantarakantee, Ph.D. 198 pages.

The purposes of this study were 1) To study ways in organizing of structured inquiry learning for developing the experimental skill of grade 10 students in the topic of Force and Newton's Law of Motion; 2) To examine the effect of structured inquiry learning in students' experimental skill in the topic of Force and Newton's Law of Motion; and 3) To study the students' attitude toward inquiry learning in the topic of Force and Newton's Law of Motion. The participants was a class of grade 10 students (N=42) in a school situated in Phetchabun province under the Secondary Educational Service Zone 40. This study was a classroom action research. The research instruments were teacher's journal, student's journals, an experimental skills test, an attitude test, and semi-structured interview. The data was analyzed in both quantitative and qualitative methods.

The results showed that that effective ways to implement structured inquiry learning had the characteristic as follows 1) Finding problem stage, students should work in group and the teacher should introduce situation that closed to the students' life. The situation should have enough complexity for students that cannot solve immediately and involve the lesson. 2) Brain storming to generate the hypothesis stage, students should exchange ideas in their group for formulating the hypothesis and the teacher should use question to help the students formulated the hypothesis. 4) The conclusion stage, teacher should use questioning techniques to guide the students in analyzing data for making the conclusion. The result of experimenting skilled show that most of the students pass the criteria of 70 percent all in part of the experimental skill with the following details, 91.67 percent in identifying question, 88.10 percent in formulating hypothesis, 75.00 percent in experiment and 79.76 percent in conclusion. Finally, the students showed the structured inquiry learning show the high attitude toward structured inquiry learning.

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Student's signature

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Thesis Advisor's signature