

Rungnapa Iangubol 2012: Development of Junior High School Students' Conception of Acids and Bases Using Scientific Inquiry Approach. Master of Education (Science Education), Major Field: Science Education, Department of Education.

Thesis Advisor: Assistant Professor Phongraphan Phongsophon, Ph.D. 162 pages.

This research aims to 1) develop the conception of acid-base among grade 7 students using 5 Es learning cycle as process for learning and 2) study and propose a guideline of implementing this instructional approach based on practical knowledge and critical reflection. This research is an action study being conducted in classroom environment.

The sample group of the study comprises on class of Grade 7 students (N = 40) in first semester, academic year 2011 from an extra-large school in Phetchaburi Province. The tools included 7 learning plans (15 periods), acid-base Concept Test, student journal, and teachers' post-lesson journal. Student's written responses were thoroughly read and categorized into five based on degree of congruence with expected answer. To determine the success of the approach initially, percentages of each group before and after the intervention were compared. Then, the total scores of an individual student over pre and post intervention are calculated and evaluated using 60 percent criteria for post-test and relative gain scores. The latter scores were used to determine the extent of change in their ideas. To synthesize the best practice, the critical points in student journals. Teacher reflective journals and peer teacher's observational data were identified and generalized using inductive analysis.

The findings indicated that 5 Es learning cycle can improve all concepts of Acids-Base, with average post-test score exceeded the criteria at 81.98 and the high level of relative gain score at 66.54. The researcher as a practitioner provided suggestions and tips in teaching Acids-Base by 5 Es learning cycle in great details in the report using based on theoretical and practical knowledge for the sake of science teachers.

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Student's signature

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Thesis Advisor's signature