

Nara Keawlalim 2013: The Development of Grade 12 Students' Scientific Conception of Hydrocarbon Compound through Inquiry-Based Learning in Combination with Concept Mapping. Master of Education (Science Education), Major Field: Science Education, Department of Education. Thesis Advisor: Mrs. Akarat Tanak, Ph.D. 143 pages.

The purposes of this action research were to study the guideline of Inquiry-Based Learning in combination with Concept Mapping about Hydrocarbon Compound and to investigate the development of thirty seven grade 12 students' scientific conception. Research instruments consist of teacher field notes, students' journals, a hydrocarbon concept test, and worksheets. The data collected by a hydrocarbon concept test were analyzed by grouping into 5 categories and then calculated by using percentage. In addition, the content and inductive analyze were used to discern meaning from teacher field notes, students' journals, and worksheets.

The finding showed that Inquiry-Based Learning in combination with concept mapping for teaching Hydrocarbon Compound should following characteristics; 1) a teacher should engage students by material with scientifically oriented questions 2) teacher should ask students to investigate and find out evidence. 3) a teacher should encourage the students to discuss by using the guide questions. 4) a teacher should provide the students to present and discuss in order to get the correct conclusions. 5) learners communicate and justify their proposed explanations by writing concept mapping. Moreover, the results revealed that after participating in Inquiry-Based Learning in combination with Concept Mapping, the majority of student (49.18%) held sound understanding, 21.92% of student held partial understanding, 17.87% of student held specific misconception, 9.38% of student held partial understanding with a specific misconception and 1.65 % of student held not understanding. The concept which students held sound understanding the most was the definition of Hydrocarbon Compound, while the one that students held sound understanding the least was the definition of Alkane Compound.

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Student's signature

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Thesis Advisor's signature