

Jittima Domhom 2010: The Effect of Inquiry-Based Learning on Development of Concepts and Attitudes Towards Learning on Cells and Cell Division of Grade 10th Students.

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The objectives of this study were 1) to investigate the concepts of grade 10th students on cells and cell division 2) to compare cells and cell division concepts between before and after using inquiry-based learning and 3) to study attitudes towards learning using inquiry-based learning.

The groups of study in this research were 41 grade 10th students in second semester of 2008 academic year and 43 grade 10th students in first semester of 2009 academic year at school in Suphan buri province. The instruments used in this study were the open-ended questions test on cells and cell division, attitudes towards learning using inquiry-based learning questionnaire and students' journal. The data was analyzed by content analysis, means and standard deviation.

The results were 1) the grade 10th students had specific misconceptions from scientific concepts in all topics. Most of students, 56.10 percents, had specific misconceptions on meiosis in living organisms. And about 20 percents of students had no understanding on almost every topics. 2) the grade 10 students' concepts on cells and cell division were developed to sound understanding after using inquiry-based learning. After learning process, percentage of concepts was greater than before learning process on every topic. Students had sound understanding more than ninety percents: 97.67 percents on cell definition, 93.02 percents on prokaryotic cell and eukaryotic cell, 95.35 percents on nucleus, 93.02 percents on mitosis occurs in living, 90.70 comparison of chromosome number between parental cell and daughter cell and 100.00 percents on perceiving of cell division. 3) students had highest level of positive attitudes towards learning using inquiry-based learning supported with data collected from students' journal.

Student's signature

Thesis Advisor's signature