

Prutapom Lalitanurak 2011: Views on the Nature of Science and Teaching Practice of Student Teachers in the Project for the Promotion of Science and Mathematics Talented Teachers (PSMT). Master of Education (Science Education), Major Field: Science Education, Department of Education. Thesis Advisor: Mr. Chatree Faikhamta, Ph.D. 163 pages.

This research was divided into two phases. Phase 1 aimed to investigate the views on the nature of science (NOS) of student teachers in the Project for the Promotion of Science and Mathematics Talented Teachers (PSMT). The subjects of this study were fifty nine student teachers majoring in physics, chemistry and biology from four universities around the country. The questionnaire covering three aspects: scientific worldviews, scientific inquiry and scientific enterprises, was used to assess student teachers' views of the nature of science. Data were analyzed by descriptive statistic to determine the percentage of student teachers' answers. Case study was used on phase 2 aiming to examine the views of PMST student teachers and their teaching practice. The subjects, selected by purposive sampling, were three student teachers from one university in the central region of Thailand. Data were collected by classroom observation, lesson plans and semi-structured interview in the views about the nature of science and teaching practices. Data were analyzed by content analysis.

Research findings of Phase 1 indicated that the PMST student teachers viewed science as a knowledge and processes. They view that scientific knowledge can be changed, science needs evidences, and science and technologies are interrelated. However, they believed that scientific knowledge can be obtained from step-by-step scientific methods. In their views, the creativity and imagination are not important in the construction of scientific knowledge, and science is independent of social and cultural factors. In Phase 2, the results indicated that PMST student teachers had alternative views on the nature of science in all aspects. Their teaching practices were based on didactic implicit NOS and didactic without NOS. They told the students about NOS especially in the aspects of scientific inquiry. The research findings reflected that science teacher education programs should emphasize the importance of NOS in the teaching and learning processes which could help the student teachers to understand NOS and be able to integrate NOS in their teaching practice.

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Thesis Advisor's signature