

Surayot Supprakob 2010: Pre-service Science Teachers' Understanding of the Nature of Science in Five-year Teacher Education Program. Master of Arts in Teaching, Major Field: Teaching Science, Department of Education. Thesis Advisor: Associate Professor Sunan Sung-Ong, Ph.D. 259 pages

This research aims to study understanding the nature of the students among pre-service science teachers in five-year teacher education program. The subjects consisted of 22 (1st year), 14 (2nd year), 17 (3rd year), 15 (4th year) and 21 (5th year) pre-service science teachers from one university in Bangkok who enrolled in the first semester of academic year 2552. The subjects were selected by purposive sampling. The research tools were questionnaire of the nature of science which comprised both optional and written types of response, semi-structured interviews covering five aspects of the nature of science, including definitions of science, scientific knowledge, scientific inquiry, characteristics of scientists, and scientific enterprise. The qualitative data were analyzed by categorization analysis and constant comparison. The quantitative data were analyzed in percentage.

The results indicated that pre-service science teachers' understanding are neither clearly traditional views nor clearly constructivist views. They held mixed views about the nature of science. Most of pre-service science teachers held mixed views which were related to the definitions of science and held traditional, mixed and constructivist views which related to the scientific knowledge and held constructivist views which related to the scientific inquiry, characteristics of scientists, and scientific enterprise. Pre-service science teachers held 4.7 and 93.4 percent of traditional and mixed views in definitions of science, respectively. For scientific knowledge, the teachers held 31.0 and 27.2 percent of traditional and mixed views. For scientific inquiry the teachers held 16.9 and 16.6 percent of traditional and mixed views. For characteristics of scientists the teachers held 7.4 and 15.3 percent of traditional and mixed views. For scientific enterprise the teachers held 6.3 and 9.4 percent of traditional and mixed views. It could be concluded that pre-service science teachers held traditional and mixed views 13.3 and 32.4 percent. The result showed that 45.7 percents of pre-service science teacher had alternative conception.

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Student's signature

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Thesis Advisor's signature