

Jariya Chernchaiyaphum 2015: The Development of Seventh Grade Students' Understanding of Nature of Science by Explicit and Reflective Approach on Weather Phenomena. Master of Education (Science Education), Major Field: Science Education, Department of Education. Thesis Advisor: Miss Chittamas Suksawang, Ph.D. 146 pages.

The purposes of this research were to 1) study seventh grade students' understanding of nature of science (NOS) for pre and post instruction of Explicit and Reflective Approach on Weather Phenomena. 2) study the effective ways of implementation of Explicit and Reflective Approach to enhance students' understanding of nature of science. The participants were fifty one seventh grade students from a private school in the Secondary Educational Service Area Office 2 in Bangkok. The research design is action research. The research tools according to students' understanding of NOS consisted of View of Nature of Science Form D questionnaire and semi – structured interview form. Student responses of nature of science were categorized into three groups: informed, transition and naïve views and then quantified into percentages of each groups for pre and post instruction. To study the effective ways of this approach, multiple data sources consisted of researcher' reflective journals, student journals and document review. Inductive analysis was used in this study. The findings indicated that 1) for pre instruction of Explicit and Reflective Approach on Weather Phenomena, the majority of students hold transitional view for all aspects of NOS, especially, the observation, inference and theoretical entities, creative and imaginative and tentative and social and cultural. However, the almost students developed their understanding of NOS. They hold more informed view of NOS of these aspects: the empirical, the tentative and social and cultural. 2) The effective ways of implementation of this approach consisted of integrating the aspects of NOS into the instruction and supporting the students to reflect their understanding of NOS for each of aspect, and using several learning activities and materials to enhance students' understanding of NOS.

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Thesis Advisor's signature