World Academy of Science, Engineering and Technology
International Journal of Educational and Pedagogical Sciences
Vol:10, No:01, 2016

Thai Student Teachers' Prior Understanding of Nature of Science (NOS)

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Abstract : This research aims to study the understanding of 8 aspects of nature of science (NOS). The research participants were 39 General Science student teachers who were selected by purposive sampling. In 2015 academic year, they enrolled in the course of Science Education Learning Management. Qualitative research was used as research methodology to understand how the student teachers propose on NOS. The research instruments consisted of open-ended questionnaires and semi-structure interviews that were used to assess students' understanding of NOS. Research data was collected by 8 items-questionnaire and was categorized into students' understanding of NOS, which consisted of complete understanding (CU), partial understanding (PU), misunderstanding (MU) and no understanding (NU). The findings reveal the majority of students' misunderstanding of NOS regarding the aspects of theory and law(89.7%), scientific method(61.5%) and empirical evidence(15.4%) respectively. From the interview data, the student teachers present their misconceptions of NOS that indicate about theory and law cannot change; science knowledge is gained through experiment only (step by step); science is the things that are around humans. These results suggest that for effective science teacher education, the composition of design of NOS course needs to be considered. Therefore, teachers' understanding of NOS is necessary to integrate into professional development program/course for empowering student teachers to begin their careers as strong science teachers in schools.

Keywords : nature of science, student teacher, no understanding, misunderstanding, partial understanding, complete understanding
Conference Title : ICE 2016 : International Conference on Education
Conference Location : Singapore, Singapore
Conference Dates : January 07-08, 2016