NSTA/ICASE International Conference
at the
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Anaheim, California
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Theme: Developing a World View for Science Education

Conference Proposal

Session Types: paper (15-20 minutes) **Session Focus:** Secondary (6-12)

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Title of Session: Using Historical Narratives in Teaching Photosynthesis to Illuminate Students' Conceptions of the Nature of Science

Short Description for Program (25 words or less)
Learn about how to use historical narrative in teaching for nature of science.

Abstract: This interpretive research was designed to focus on using historical narratives for illuminating a group of Grade 11 science students' conceptions of nature of science (NOS). Historical series of developing photosynthesis knowledge were presented using student booklet, classroom discussion, experimentation and role play. Three aspects of NOS were specified including scientific ideas were subject to change, science demanded evidence and science was a complex social activity. Four students in a public high school, in Bangkok suburban area of Thailand, were purposively selected. Open-ended surveys in conjunction with individual interviews and classroom observations provided opportunities for students to illustrate the conceptions. The results indicated consistency of holding the conception that scientific ideas were subject to change and *in*consistency of holding the conceptions that science demanded evidence and science was a complex social activity. The development of students' conceptions why scientists needed the evidence and the social cooperation in practicing science was found. Also, the research suggested that teaching through the historical series should directly present not only historical discovery of scientific knowledge but also historical contexts of scientists. Specifying the NOS aspects in teaching might enhance the effectiveness of illuminating the NOS. **Key words**: historical narrative, nature of science, high school students

Reference:

LaBoskey, V. (2002). "Stories as a Way of Learning Both Practical and Reflective Orientations" In Lyons, N. and LaBoskey, V. (Eds.), *Narrative Inquiry in Practice: Advancing the Knowledge of Teaching*. New York: Teaching College Press.