

ISCIENCE – PRE-SERVICE TEACHER JOURNEYS THROUGH ENQUIRY

Kate Anderson, Louise Sutherland

Presenting Author: Kate Anderson (k.anderson@sydney.edu.au)
University of Sydney, Faculty of Education and Social Work, Camperdown NSW 2006, Australia

KEYWORDS: pedagogy, inquiry learning, pre-service teacher training

ABSTRACT

Students begin their science teacher education with a range of experiences and understandings about the nature and practice of science and how they can support students to develop an understanding of science concepts through enquiry. Many begin their teacher education programs with limited skills in planning, conducting, analysing and reporting on experiments to address scientific questions. The iScience project aims to both assist pre-service teachers to develop their skills in conducting inquiry, while concurrently supporting them to develop their understanding of the issues and skills of using experiments to support high school students' understandings of science.

In the two-month iScience project, the pre-service teachers mentor a small group of high school students, supporting them to develop, conduct and report on a research project. These mentoring activities provide opportunities for the pre-service teachers to reflect on the choices they made as teachers as well as their understanding of how to teach science through inquiry.

This paper will discuss the organisation, implementation and evaluation of the iScience project within the first semester of a pre-service teacher education course. A set of case studies will be used to illustrate the impact of the iScience experience on the pre-service teacher's understanding of how to teach science by inquiry. Implications for pre-service teacher education and the value of using scaffolded enquiry models to support the development of enquiry skills will be discussed.

Proceedings of the Australian Conference on Science and Mathematics Education, Australian National University, Sept 19th to Sept 21st, 2013, page 8, ISBN Number 978-0-9871834-2-2.