E-TOOLS USE IN AN INQUIRY APPROACH

P. John Williams

Technology, Environmental, Mathematics and Science Education Research Centre, University of Waikato, New Zealand

* E-mail for Corresponding Author; E-mail: pj.williams@waikato.ac.nz

Abstract

Teaching science can be challenging, particularly if it involves teachers developing inquiry approaches. Claims are being made that an inquiry approach that is supported through online networks can facilitate the investigation of scientific problems, the collection and processing of data, the construction of explanations and conclusions, and that such an engagement can address the challenges of making school science more relevant. However, collaboration, sharing ideas and co-construction of ideas and understandings requires changing teaching and learning practices that allow students to learn how to collaborate 'inquiry style'.

This presentation is concerned with how electronic networking tools such as the Internet or mobile technology can support authentic science inquiry in junior secondary classrooms. Networking tools create hybrid spaces where students and teachers merge old and new practices for interaction and knowledge construction to legitimise new kinds of discourses.

The findings from a 2 year study of six science classrooms suggest that use of the e-tools supported students growing ideas and understanding in science. Specifically, the tools afforded opportunities for collaborating, sharing ideas and co-constructing ideas as part of the science inquiry learning process. As a result, students began to undertake more responsibility for their learning to think, talk and share ideas critically in the classroom. Over time, the teachers also developed their understandings and skills in the application of inquiry pedagogies to facilitate an increased level of student ownership of their own learning.