Testing Models of Collaboration among High School Science Teachers in an Electronic Environment

A Dissertation

Presented in partial fulfilment of the degree of Doctor of Education

Murdoch University, Perth, Western Australia

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Declaration

I declare that this dissertation is my own account of my research and contains as its main content work which has not previously been submitted for a degree at any tertiary institution.

Punipa Suntisukwongchote

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Teacher collaboration is one of the strategies for encouraging teachers to work together to achieve their common ends. In a complex modern world, teachers rarely have time to collaborate with each other. E-mail and Internet technology encourages teacher collaboration to emerge with personal interaction. E-mail is rapid, permitting responses within the same day or even a few hours. On the network, teachers can seek advice from teachers on other campuses and around the world, and at the same time, they can build their relationship with other users. In Western Australia, an e-mail network for science curriculum leaders was established in both primary and secondary schools. In 1998, a study showed that 93 heads of science departments in government high schools were connected to this e-mail network, and more than two-thirds of them had their computers connected to the World Wide Web.

This study aims to: firstly, test Fishbough’s models of collaboration among high school science teachers in an electronic environment (e-mail and Internet); and secondly, presents a detailed science web site analysis in terms of the potential of these websites to foster collaboration. The investigation is divided into two distinct studies: Study One is a survey of the teachers’ perceptions of collaboration via the Internet and Study Two is a detailed science website analysis.

Study One employed both mail questionnaire and face-to-face interview techniques as methods of data collection. The Science Teacher Collaboration via E-mail and Internet Questionnaire was developed and used to collect data on models of collaboration and interaction perspective of collaborative relationships via the Internet of science teachers at the selected schools. The information from quantitative analysis was used to compose the
interview schedule. The follow-up interview was conducted with science teachers who agreed to be interviewed at the sample schools.

Study Two adopted a content analysis technique for analysis of data collected from the two kinds of science websites, specific science websites for science teachers and science websites for general audiences from five chosen continents, Australia, Asia, Europe, America and Africa.

The study found that the Consulting model of collaboration is frequently used by science teachers and science web sites from five chosen continents.
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