

INITIAL DATA ANALYSIS OF TEACHER AND STUDENT USE OF LAPTOPS IN SCIENCE IN 14 SYDNEY SECONDARY SCHOOLS

Simon Crook, Manjula D. Sharma

Presenting Author: Simon Crook (simoncrook@ceosyd.catholic.edu.au)
School of Physics, University of Sydney, Camperdown NSW 2006, Australia

KEYWORDS: 1:1 laptops, Australian schools, Bloom's digital taxonomy, computers in science classroom, digital education revolution, science

ABSTRACT

In Australia, since 2008, 1:1 laptops have been introduced into secondary schools through the Federal Government's Digital Education Revolution. This study examines survey responses from 1245 science students and 47 science teachers from 14 secondary schools in Sydney in 2010. The initial data analysis is in two parts. Firstly, teachers' and students' reported frequencies of use are compared through 'bubble graphs' and a generated 'Misalignment Index'. Results show student and teacher perceptions of use were usually relatively aligned though sometimes very contrasting. Some 30% of teachers were highly aligned, 55% had medium alignment and 15% were substantially misaligned with their respective students (Crook, Sharma, Wilson, & Muller, in press).

Secondly, the types of teacher and student use of laptops are examined. The activities are differentiated from lower- to higher-order using Bloom's Digital Taxonomy. It is found that the modal practice for students is the lower-order paradigm of note-taking and working from textbooks through electronic means by word processing and electronic textbooks, plus simple online searching. Students would like to engage in more higher-order activities such as blogs and video editing but these are not favoured by teachers. Datalogging is a rare experience. Most science teachers appear to use simulations but students do not report the same experience.

REFERENCES

Crook, S. J., Sharma, M. D., Wilson, R., & Muller, D. A. (in press). Seeing eye-to-eye on ICT: Science student and teacher perceptions of laptop use across 14 Australian schools. *Australasian Journal of Educational Technology*.

Proceedings of the Australian Conference on Science and Mathematics Education, University of Sydney, Sept 26th to Sept 28th, 2012, page 12, ISBN Number 978-0-9871834-1-5.