

Using ICT to Support Literacy and Numeracy in Rural Schools

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Project Description

This project grew directly from the SiMERR national forum of 2003 and involved a partnership between SiMERR Victoria and the Association of Independent Schools of Victoria to evaluate a PD model for rural independent schools. The initiative was that of AISV and the Deakin team conducted a formative and summative evaluation.

The focus was on improving the ICT capabilities in rural schools to support literacy and numeracy teaching. It was run in three hubs in Gippsland, Northern, and South Western Victoria, and involved 15 schools. The program specifically targeted groups of schools that included small and relatively isolated schools.

The project involved initial visits to schools to ascertain their needs, then a 5 day intensive workshop in each hub, attended by a coordinator from each school, focusing on improving knowledge and skills in ICT resources and their use in supporting teaching and learning. After the intensive, coordinators returned to their schools to implement their ideas and run training sessions for teachers. Follow up visits were used, and the program ended with a showcase event in each hub. Blogs were set up to allow reflective comment during the intensive, and to support a learning community subsequently.

The evaluation involved questionnaires of coordinators and teachers, interviews with coordinators, teachers and students, focus group discussions, and field notes from school visits and the pd events.

Project Participants

- 15 Independent schools in Victoria, in three hubs (the schools' names are suppressed for ethical reasons)
- 2 Coordinators / workshop leaders from AISV.

Project Activities

- A series of meetings with PD providers to discuss the model and its evaluation
- Design of evaluation questionnaires, interview protocols and other approaches to data collection
- Attendance at an intensive workshop
- Visits to project schools
- Monitoring of cluster blogs

Project Findings

The PD intensive focused on teaching and learning, on productive ICT resources including web resources and interactive whiteboards, mathematics learning objects, literacy related resources. The PD was very well received with positive evaluations on all aspects and participants particularly focusing a) learning of technical knowledge and skills, b) learning of pedagogy and c) the support structures used. Participants were often challenged and frustrated but overwhelmingly all felt a sense of achievement. The interaction between coordinators was a very positive point, and the workshop leaders were given very positive reviews.

The blogs that were set up for the intensive were valuable as a reflective tool, and provided insight into participants' experience.

Implementing change in schools

Coordinators were expected, on return to their schools, to implement the ideas and skills they had gained in their own classroom practice, and to train and support fellow teachers in ICT implementation. The experience of coordinators varied. Most engaged with new ICT resources in their teaching, and a number developed their ICT practice into innovative directions.

The degree of support from the principal, and the energy and leadership skills of the coordinator were critical factors affecting the wider takeup of ICT innovation in the school. Leadership skills included coordinators' strategic sense of how to seed interest and gain the commitment of teachers, a commitment to implementing ICT and confidence in having something to contribute, the capacity to galvanize support from the school leadership, and a sense of responsibility for providing ICT leadership in the school. The provision of hardware for schools in need of resource support was very fruitful and quite critical in supporting implementation.

Student learning

Analysis of the questionnaires showed that measurable changes occurred for 13 of the 17 classes surveyed, for time, and frequency of classroom computer use, variety of types of use, and /or attitude to computers. Evidence for improved student learning through ICT was gathered through tracing the extent of productive and engaging activities described by teachers, samples of student work that provided evidence of quality learning and engagement, and interviews with students to ascertain their perceptions.

In summary

This PD program was designed to support rural schools with highly varied backgrounds and degrees of disadvantage, improve their access and use of ICT to improve student learning in key curriculum areas. The PD was very well managed and run, and resulted in significant change in many of the schools, and some change in almost all schools. There was a feeling of energy and commitment during the PD intensive, and participants were very positive about most aspects of the program.

The variability in degree of change in schools, and implementation of the intended training model, was due to a range of factors some of which were beyond the control of the project itself. However, there were particular respects in which a refinement of the program is justified, to anticipate some of the challenges experienced by coordinators. With such changes, this model of PD for distributed rural schools should prove even more successful.

Project Outcomes

A report to the AISV:

Campbell, C., Chittleborough, G., Hubber, P., Tytler, R., Barty, K., & Stacey, E. (2007). Using ICT to Support Literacy and Numeracy in Rural Schools: Evaluation report of a project of the Association of Independent Schools of Victoria. Can be accessed at <http://www.ais.vic.edu.au/schools/research/index.htm>

Refereed journal article

Hubber, P., Campbell, C., Chittleborough, G., & Tytler, R. (submitted). Supporting ICT based pedagogies in science in rural school settings, *Teaching Science*.

Conference publications/presentations

Campbell, C., Chittleborough, G., Hubber, P. and Tytler, R. (2007) Technology and teachers in rural schools: creating future advantage, in G. Venville & V. Dawson (eds), Sustainable, responsible, global: Proceedings of CONASTA 56 and ICASE 2007 world conference on science and technology education, pp. 1-15, STAV, Perth

Chittleborough, G., Campbell, C., Hubber, P. and Tytler, R. (2007) Sharing good teaching practice: Practical strategies to integrate ICT into the classroom, in Venville, G. and Dawson, V. (eds), Proceedings of CONASTA 56 and ICASE 2007 World Conference on Science and Technology Education, pp. 1-4, Science Teachers Association of Western Australia, Perth, Australia

Chittleborough, G., Campbell, C., Hubber, P. and Tytler, R. (2007) Technology and teachers in rural schools: Diversity and similarity, in University of New England (ed.), The National Centre of Science, ICT and Mathematics Education for Rural and Regional Australia, Book of Abstracts, pp. 1-20, University of New England Printery

Hubber, P. Tytler, R., Chittleborough, G, & Campbell, C. (2007). Supporting ICT based pedagogies in science in rural school settings, Paper presented at the conference of the European Science Education Research Association, Malmo, Sweden, August.

Impact

The research has led to changes in the AISV PD program for its rural schools, and the papers and report have hopefully influenced other providers of PD in rural schools.

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