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ICT to Support Literacy and Numeracy

Project Title	Using ICT to Support Literacy and Numeracy in Rural Schools
Project Team	Dr Coral Campbell, Dr Gail Chittleborough, Dr Peter Hubber, Professor Russell Tytler, Associate Professor Elizabeth Stacey, Dr. Karin Barty (research fellow) (SiMERR Victoria)
Period	March 2006 – March 2007
Funding Agency	SiMERR and Association of Independent Schools of Victoria
Organisational Base	SiMERR ACT

Description

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This project grew directly from the SiMERR National Summit of 2005 and involved a partnership between SiMERR Victoria and the Association of Independent Schools of Victoria to evaluate a professional development (PD) model for rural independent schools.

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 five 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 workshop, 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 workshop, 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.

Participants

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15 Independent schools in Victoria, in three hubs; Two Coordinators/workshop leaders from AISV.

Findings

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The PD intensive workshop focused on teaching and learning, on productive ICT resources including web resources and interactive whiteboards, mathematics learning objects, and literacy related resources. The participants were often challenged and frustrated but overwhelmingly all felt a sense of achievement. The blogs that were set up for the workshop 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 in their own classroom practice the ideas and skills they had gained, 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 take-up 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 generative.

Student learning

Analysis of the questionnaires showed that measurable changes occurred in the majority of classes. 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 to improve their access and use of ICT to improve student learning in key curriculum areas. The PD 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 workshop.

The variability in degree of change in schools, and implementation of the intended training model, was due to a range of factors in the schools. Attention to these factors will make this model of PD for distributed rural schools even more successful.

Outcomes

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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. Available at http://www.ais.vic.edu.au/schools/research/index.htm Refereed publication
- Hubber, P., Campbell, C., Chittleborough, G., & Tytler, R. (In press). Supporting ICT based pedagogies in science in rural school settings, Teaching Science.

Conference 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.
- Chittleborough, G., Campbell, C., Hubber, P. and Tytler, R. (2007, April) Technology and teachers in rural schools: Diversity and similarity. Paper presented at Narrowing the Gap: Addressing Educational Disadvantage, The National Centre of Science, Information and Communication Technology, and Mathematics Education for Rural and Regional Australia, University of New England, Armidale.
- Hubber, P. Tytler, R., Chittleborough, G, & Campbell, C. (2007, August). Supporting ICT based pedagogies in science in rural school settings, Paper presented at the conference of the European Science Education Research Association, Malmo, Sweden.

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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.

Related documents

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