

Creating Professional Learning Pathways

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Project Title	Creating Professional Learning Pathways for Teachers of Science, Mathematics and Technology in Rural Schools
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Funding Agency	SiMERR
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Description

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The aim is to identify, with some rich case study data as examples, the issues facing rural schools in maintaining a healthy professional learning environment in the sciences, and the different professional learning arrangements that are successful for secondary and primary rural schools in different settings. The outcome will be a report that theorises the major dimensions through which professional learning in rural settings can be projectively viewed, and provides policy advice to schools, government, and professional development providers. In particular, it will address issues facing rural schools related to teacher professional learning in the sciences, particularly around implementation of current thinking in regard to pedagogy and curriculum, and approaches that have proved successful.

The research will draw on interviews with regional project officers with a responsibility for science, mathematics and technology education, and an established history of acting as critical friends to schools, and providing support, in relation to professional learning planning. From these interviews, we will gain insights into the issues facing rural schools, ways in which schools have arranged for effective professional learning, and recommendations of schools and clusters which have successfully implemented a variety of approaches. Case studies will be constructed of these schools, using interviews with a range of participants including principals (7), coordinators and teachers (37).

Participants

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- 6 Regional Project Officers for science, mathematics and technology
- Beaufort Secondary College
- Commercial Road Primary School, Morwell
- Edenhope College
- Glenrowan Primary School
- Mirboo North Secondary College
- Nanneella Primary School
- Yarrawonga Secondary College.

Findings

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The analysis is currently ongoing and the following findings are partial and preliminary:

- The interview data suggests that the climate within smaller schools (and most rural schools are small) supports either informal professional development, or projects in which the whole school staff can participate and from which they can all learn. Thus, school-organised subject specific PD is not often supported and this can be a problem for teachers of science, mathematics and technology;
- There are features of working in smaller rural schools which limit opportunities for effective participation in professional development: a greater likelihood that secondary teachers will have to teach outside their fields of expertise; the tasks that need to be done are shared amongst a smaller group of people; there are fewer people with whom teachers are able to interact at a specialised professional level; and small schools generally have less physical resources than larger schools.
- School clusters, a funded Victorian initiative, featured largely in the teachers' thinking about professional development. However, the focus of such activity varied significantly across the clusters and an important issue is the selection of a focus which can be seen by both secondary and primary teachers as relevant to their work.
- The imposition by the Departmental Regional Office of central policy initiatives often worked against the needs of subject specialist teachers.
- Communication technologies are seen as significant for teachers both in terms of teaching and in terms of their own

professional development but that pathway is fraught with challenges. One of the challenges is accessing professional development in the new ICT developments, that is, learning the technology in the first place. This can be thwarted by issues associated with time, funding, and replacement teachers but there are other aspects to be considered as well, for example, a preference for the time to be used in furthering their knowledge and skills in their curriculum area, or a dearth of professional support for the in-house professional developer.

- The study raised a number of implications of the distance from centres where professional development activities are happening: the cost of travel and accommodation, time away from family, and the risks associated with travel at night in regional areas.
- Teachers gain their sense of professionalism and support from three discourse communities: the school team consisting of the principal, teachers and students; the wider community of science, ICT and mathematics educators; and the local community. Some key points arise from this:
 - The key focus of teacher professional learning needs to be the 'teacher as a professional', working within specific professional discourse communities;
 - Professional learning agents can be a range of types and the resources drawn on are different in rural areas;
 - There are diverse ways of delivering PD into schools but in each case the culture of the school and it's links is critical; and
 - The tension between local and central PD imperatives play out differently in rural schools because of distance.

Outcomes

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Conference presentations

- Malcolm, C., Symington, D., & Tytler, R. (2007, November). Professional development models for rural teachers. Presentation at the National Summit of the Centre for Science, Information and Communication Technology, and Mathematics education for Rural and Regional Australia, Canberra, ACT.
- Malcolm, C., Symington, D., & Tytler, R. (2008, March). Professional development models for rural teachers. Presentation at the SIMERR Victoria Forum, Geelong.

Impact

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It is intended that this research will impact on Victorian government and regional policy in relation to PD provision in rural schools.

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