

CONCLUSION

The SiMERR hub reports provide a wealth of detail about rural school education in general, and science, ICT and mathematics education in particular. The geographical and educational contexts are too diverse to allow comparisons, although a number of recurrent themes can be clearly discerned in the report. To a large extent, these themes are consistent with those identified from analysis of questionnaire data in the first phase of the National Survey.

Staffing

There was a clear convergence of opinion across states/territories and school types that rural schools offer real advantages to students and teachers. They are seen as friendly, safe and caring places, where teachers and students are familiar with each other and pastoral care plays a big part. There is a sense of belonging to, and identifying with, the school and community. Parents are generally appreciative of the quality of their children's teachers and feel teachers are able to provide students with a greater degree of individual attention than would be the case at larger city schools.

Teachers feel there are genuine professional advantages to working in rural schools, where they are challenged to be more flexible, show more leadership and greater responsibility than would be possible in larger schools with more established staff. This is particularly the case for younger teachers who are on a steep 'learning curve'. Many teachers feel that their rural experience may also be of advantage to them in terms of promotion or permanent employment. A further advantage is the sense of collegiality reported by teachers in many states and territories, a quality arising in some cases from shared adversity.

In the smaller scale of rural towns there appears to be a strong sense of identity with the school and the community. Teachers and parents recognise each other in town, and there is potential for creative links between schools and community organizations and businesses. For many young teachers from the city, rural communities and schools represent an adventure, with the challenge of an unfamiliar learning environment. The impression from these reports is that rural communities provide a cheaper alternative to working in the city, with inexpensive accommodation and, in some cases, a package of financial incentives. There was some agreement that education authorities do not do enough to promote the positive aspects of rural teaching.

Despite these advantages, all research teams except SiMERR Victoria reported difficulties in attracting and retaining quality teachers to the study schools. The annual turnover rates varied substantially, depending upon a range of factors including degree of isolation. The staffing difficulties appear to be particularly acute for secondary teachers of science, ICT and mathematics, a finding consistent with the results from Phase One of the study. Several of the reports expanded on the lack of continuity and leadership resulting from high staff turnover. In five of the reports, teachers, and in some cases, community members, commented on the absence of effective orientation and mentoring programs for beginning teachers. Interviews in six of the reports raised the issue of improved incentive packages to attract both young teachers and experienced teachers with families, and to encourage them to remain. In at least two cases (WA and NT) the incentives would need to include improved housing. Other suggestions for attracting teachers included a greater emphasis by universities on rural

experience for pre-service teachers (SA, NSW, Qld), longer term appointments (SA), and an extension of the period for which current incentive packages apply (Qld).

Professional Development

The sense of professional isolation was apparent in all the reports. Teaching is essentially a gregarious endeavour, and the need to ‘bounce’ ideas off other teachers was expressed in several studies. Yet the situation of many of the teachers conspired to stifle opportunities for informal professional development, such as sharing ideas and advice. It is ironic that in the current system, the further away teachers are from centres of professional support, the fewer colleagues they have to consult with and, in many cases, the less experience those colleagues have had.

The studies reported a similar situation with regard to formal professional development opportunities. The extra time required to attend city-based professional development was inversely proportional to the availability of relief teachers to cover their classes. The additional costs required for travel and accommodation add to these obstacles. Teachers, and in some cases, parents suggested that a good start would be the provision of professional development funding commensurate with real costs to schools and individuals. Several states and territories have introduced online professional development options, although in South Australia at least, this strategy was felt by some teachers to have limited success at present. An alternative suggestion from the West Australian study was to bring more experts to rural areas to conduct professional development in context.

Resources

Concerns about resourcing focused on two areas – science materials and ICT support. Many teachers saw city primary schools as advantaged in being able to access science resources from local high schools or share resources among nearby primary schools. Unfortunately, rural primary schools do not always have these options and yet funding formulas in some states do not take this into account.

On the other hand, teachers in two states (Qld and SA) considered that resources were sometimes wasted or underused in schools with high teacher turnover rates, due to the lack of continuity of staff and knowledge about local resources. The development of strategies to maximise the usability of available resources was suggested as a priority.

There was a general agreement that rural schools require improved access to technical staff in ICT. Even schools with reasonably new equipment were hampered in maintaining the serviceability of computers and peripherals. Teachers with expertise in this area were required to devote valuable time to maintenance and technical work since technicians were few and far between. A suggestion from two of the reports (SA and Qld) was for strategic alliances between government departments (e.g., police, health, education, etc.) in maintaining and repairing technology, rather than having technicians employed by each of these departments to cover the same, large, districts.

Teachers in three of the studies emphasised the motivational value of ICT among Indigenous students. Concerns about low school attendance highlight the importance of exploring ways in which ICT, rich tasks and activity-based science and mathematics can best serve the educational needs of Indigenous communities.

Learning Experiences

Parents/caregivers, students and teachers in several of the reports emphasised the capacity of small schools to provide students with individual attention from teachers. Parents/caregivers in particular felt that teachers in rural schools were able to monitor the progress and address the individual needs of their children at the primary level. This appeared to be all the more important in predominantly Indigenous communities where the strength of community relationships influenced rates of attendance.

The cost, distance and time associated with excursions to conventional resource centres such as zoos and museums were regarded as the biggest obstacles to providing extended learning opportunities. Visits by mobile resources and outreach programs, especially for science, were appreciated, although in some cases they were a rare occurrence. Four of the reports (Vic, Qld, SA, WA) commented on the brief, one-off nature of these experiences and, in some cases, questioned their educational value in current form.

The more remote schools praised the flexibility of school-based curricula as suiting the specific needs of students. In states/territories where this flexibility was not available, teachers decried the inappropriateness of mandated, city-centred curricula, calling for greater recognition of local contexts and for the opportunity for contributions by community members. Again, this concern was greatest in schools with large Indigenous populations (Qld, WA, SA, NT) where it was considered that culturally and contextually appropriate curricula would increase attendance and better suit the transient nature of the student population.

Another commonly reported limitation on student learning experiences was the lower number of course options available to students in small rural secondary schools, particularly in the senior classes. This was generally due to the smaller number of specialist teachers available to take these classes and the difficulties of running classes with very low numbers of students. Composite classes, while regarded by some parents as a positive experience in lower grades, were not seen to be suitable options for seniors, and several of the studies reported a drift to city schools among senior students.

While school factors such as staffing, professional development, resources and learning experiences might be associated with the lower student achievement in rural and remote schools, interview respondents also pointed to parental, community and teacher expectations and aspirations as affecting student outcomes. In addition, a number of respondents considered that the lack of a critical mass of academically committed students, able to interact with and support each other, reduces the likelihood of students achieving their academic potential in these subject areas.

Final Comment

Implicit in the interview data is the mindset of many rural teachers, parents/caregivers and students who recognise a single location (e.g. Perth, Adelaide) as the font of education, the repository of all resources and professional development, the destination of excursion pilgrimages, and the seat of university learning and pre-service education. This is a missionary perspective, with teachers as the missionaries, trained in the city, supported by the city, travelling back to the city for PD sabbaticals, and in many cases hoping to eventually return to the city. Education authority is based in the city, exams are set and marked in the city, and syllabuses are generally designed by and for city residents. Rural teachers are often 'out of the loop' with regard to professional development opportunities and, in the words of one South Australian interviewee, 'aren't aware of what is happening in education in mathematics, science and ICT.' There is a perception among many parents that city schools

provide a superior education and that senior students benefit in moving from rural schools. In the more populous states this centrality is dispersed, with regional universities providing centres for teacher professional development, outreach, and teacher education. However, in other states and territories this is not the case. While this missionary perspective prevails there can be little sense of ownership of educational endeavours by rural people. Instead, there is sometimes a sense of alienation, and perhaps even condescension felt by teachers in rural areas.

It is problematic to submit general recommendations based upon case studies and this is not the point of this document. Nevertheless, the issues that emerged here are in most cases consistent with the findings from Phase One of the National Survey and are addressed in the recommendations of that report. In particular, any consideration of the breadth and interconnectedness of issues raised in the case studies leads to a recognition that concerns about rural education in science, ICT and mathematics cannot be addressed by limited, piecemeal approaches, but need to consider the wider context of rurality. The development of a National Rural Education Strategy, with the roles outlined in the National Survey Report, should be the next step in recognising and addressing the concerns of teachers, families and students in rural Australia.