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Establishment of the National Centre of Science, Information and Communication Technology, and Mathematics Education for Rural and Regional (SiMERR) Australia

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The SiMERR National Centre was established at the University of New England (UNE) involving a collaborative model of groups (referred to as state/territory Hubs) of at least four academics in nine universities throughout Australia. Each state and territory is represented. The Hubs together with the SiMERR National Centre, referred to collectively as SiMERR Australia, provide a national platform to address rural school-education issues. Generating and sustaining university collaborations requires careful administrative and personnel planning with each partner university.

This paper considers important aspects in the establishment of SiMERR Australia and has three primary foci. Firstly, we outline major processes involved in forming SiMERR Australia. Secondly, we report on evaluation and some of the successes. Thirdly, we discuss issues and challenges related to university collaborations in research and professional development for rural schools across Australia.

Creating SiMERR Australia

In 2004 the SiMERR National Centre received a \$4.95 million establishment grant from the Federal Government through its Regional Partnerships Program overseen by the Department of Transport and Regional Services (DOTARS).

Rationale

The rationale for the SiMERR National Centre was based on compelling evidence drawn from the Program for International Assessment (PISA) (Thomson et al. 2004), the Trends in International Mathematics and Science Study (TIMSS) (Zammit et al. 2002), student achievement results from states and territories, and national (MCEETYA Benchmarks) basic skills test information (MCEETYA, 2007). These data quantified the extent of inequities for rural students (as compared to their metropolitan peers) in learning outcomes in science and mathematics education. Further, these findings underscore the most significant challenge currently facing education in Australia—equity of educational opportunity for all school students regardless of location (e.g., Lyons et al. 2006; Roberts 2005; Vinson 2002).

As a consequence, SiMERR Australia was established to work with rural and regional communities to achieve improved educational outcomes for all students in the areas of science, ICT and mathematics, so:

- Parents can send their children to rural or regional schools knowing they will experience equal opportunities for a quality education;
- Students can attend rural or regional schools realising their academic potential in Science, ICT and Mathematics; and
- Teachers can work in rural or regional schools and be professionally connected and supported.

Establishment

In order to achieve improved learning outcomes for rural students, a united, collaborative organisation was needed so educational research and teacher professional development could be made complementary and directed towards common goals. To facilitate such an approach across Australia, Hubs were created in every state and territory with activities carried out by small groups of key academics. However, the establishment of collaborative partnerships meant addressing many institutional issues.

To begin with, an *Expression of Interest* document was developed and sent to all universities in Australia. The criteria included:

- Specification that each Hub consist of a minimum of four academics per institution to cover the areas of science, ICT, mathematics, and student diversity education;
- Commitment from each university that there would be in-kind support provided by the institution along with funds to meet the contribution provided by the SiMERR National Centre; and
- Contracts with universities that met all legal requirements and specifications for the Hub university and UNE over the period of the establishment grant.

At the same time an objective selection process was developed. This consisted of clear criteria for selecting the most appropriate state and territory groups (Hubs), along with a comprehensive selection panel including academics with high national credibility independent of UNE.

Once the process was completed nine universities were identified. These were the University of New England, Australian Catholic University (ACT), Deakin University, University of Tasmania, Flinders University and the University of South Australia, Curtin University, Charles Darwin University, and James Cook University.

On its part, the SiMERR National Centre provided each Hub with funds on a six-monthly basis to support research and professional development activities in the relevant state/territory. Also, each Hub was given the first right of refusal concerning involvement in any future federal, or relevant state or territory grant applications.

Communication

To facilitate communication among university teams, a program was developed to ensure that Hub members 'met' to share ideas in moving the rural research and professional development agenda forward. Initiatives introduced to enhance communication within SiMERR Australia included:

1. Development of a central SiMERR National Centre website with each Hub devising their own website within their own university. Links were then incorporated on each site to allow users to navigate across the various Hubs.
2. A video conferencing link was established via the Internet using the Tandberg system. Regular video meetings of Hub coordinators, disciplinary groups (i.e., science, mathematics, ICT, and student diversity), and project teams were developed with dates advertised.
3. A senior administrative assistant was dedicated to communicating with the members of the Hubs, particularly the coordinators, in a regular manner.
4. National Summits were held in 2005 (and will be held again in November 2007) to bring together Hub members and relevant stakeholder organisations.
5. Meetings of members across Hubs were instigated to coincide with disciplinary-based conferences or workshops within Australia.

Evaluating Successes of SiMERR

Since its establishment in July 2004 members of SiMERR Australia have been, or are currently, involved in 97 projects throughout Australia. While some of these projects involve small numbers of schools, teachers, and students, other projects span across regions or state/territory jurisdictions. Many projects have national relevance.

The progress of the SiMERR National Centre and the SiMERR Hubs is monitored carefully by DOTARS with detailed reports filed every six months. These reports summarise activities relating to projects, finances, key performance indicators, and the completion of specified milestones. A major report will be submitted to the Federal Government in 2008.

While tying down ‘impact’ in such a diverse area is fraught with problems, there are signs that some projects are having a major influence. As a result of SiMERR activities there is now:

- State Government legislation in NSW related to validating teacher professional teaching standards across four career stages;
- Recommendations to advise Federal policy as it relates to addressing inequity in rural students learning outcomes as a result of the SiMERR National Survey;
- A new state-based diagnostic test of Year 8 students for science in NSW;
- A large number of research activities (\$ millions) that have been awarded to Hubs to support rural schools, teachers and students;
- Rural concerns in education have a stronger National Profile with higher media visibility especially via radio and press;
- Impressive evidence that students at or below national benchmarks in literacy and numeracy can be supported and show considerable improvement; and
- Recommendations concerning the use of stakeholder partnerships in embedding ICT in education awaiting Federal policy initiatives.

Issues and Challenges

Ensuring the efficient functioning of the SiMERR National Centre requires the management of a suitable administrative structure, specific delegation of authority, and effective lines of communication. There are a number of issues and challenges influencing the functioning of SiMERR Australia.

At a university level, rural universities suffer similar concerns that face rural schools. It can be difficult to recruit and retain appropriate staff. There is generally an absence of a pool of qualified staff that can act as a backup to existing staff should circumstances require additional support. Also, costs for staff involvement in professional or academic activities are greater as a consequence of distances to be travelled and associated additional demands on time. Staff can feel isolated by distances from colleagues although this is less the case in universities than schools because of the availability and more appropriateness of current technological arrangements to tertiary work.

At a national level, concern focuses on engendering and maintaining a climate of cooperation and trust among universities and their staff. This is not easy and it takes time, effort and good will. However, the issues confronting rural education are so vast and complex that no single university has the experience or staff to stand-alone and still make a substantial difference. The only chance for meeting the educational challenges facing rural Australia is to pool the experiences of researchers across several universities. Consequently, there needs to be a careful balance between the recognition of the work of individual universities as well as acknowledging those organising the collaborative group.

The model of collaboration developed by SiMERR Australia is in contrast to the highly competitive practices of universities in other fields of endeavour within Australia. Staff members are encouraged to work in teams across universities. It is recognised as important in the long-term that individual universities are supported to maintain and celebrate their own integrity, identity and

successes. To address this issue the SiMERR National Centre seeks to support and highlight individual university strengths within a national framework of addressing rural inequity in student learning outcomes.

Finally, as the SiMERR National Centre draws towards the end of the establishment period, it is important to consider future plans for both the SiMERR National Centre and SiMERR Australia in relation to long-term sustainability. Challenges that are currently being considered in light of possible future directions of the SiMERR National Centre include:

- How can key academic personnel who work outside a state or territory Hub be incorporated into the activities of SiMERR Australia without compromising the integrity of individual Hubs?
- What funding avenues are available for SiMERR Australia beyond the establishment period and addressing the myth that research groups devoted to public good in education are able to self-fund?
- Associated with the previous point and building on the strong basis already created by members of the SiMERR National Centre and its Hubs, how can key research and professional development initiatives currently in place be made sustainable?
- In what ways can projects be scaled into mainstream teaching or professional development initiatives when education jurisdictions report funding is tight?
- What is an appropriate balance between small projects that have a high impact at a local level and large-scale initiatives that have national significance?
- What is an appropriate mix of pure or theoretical research versus applied or practical research for Centre activities when the needs of education in rural Australia require practical and evidenced-based answers as soon as possible to address current inequities?

Conclusion

The needs of schools, teachers and students in rural Australia require national action and commitment. The track record of SiMERR Australia over its short period of existence has already shown that universities across Australia working in partnerships can make a difference. Nevertheless, sustaining and further developing such collaborations is not easy.

Implicit in the comments above and at the heart of the success of SiMERR Australia is the personal relations that build, over time, among staff from collaborating universities. Having a genuine, significant, national issue as a focus helps provide a basis to build a community identity. However, it is people coming to know people – people you respect, who you feel you can work with and trust that is central to the successful cooperation and collaboration of a national organisation. This personal dimension has a high priority within the SiMERR groups.

Finally, running a collaborative group involving nine universities and over 50 academics across Australia means that many logistical and professional issues are confronted. SiMERR Australia meets new or evolving challenges on a daily basis. This simply reflects the complexity of the area of work being undertaken and the contexts being managed. Nevertheless, as demonstrated, with a focus on the national importance of the initiative and goodwill by colleagues, SiMERR Australia is proof that difficulties can be overcome. It is in Australia's long-term interest that such collaboration is supported, encouraged and continued.

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