

‘What makes a good teacher? They have respect for our culture’

Report from SiMERR Queensland

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DEMOGRAPHICS AND DIVERSITY

Queensland is a large, diverse state and, not surprisingly, the rural and regional schools cooperating in this study demonstrated this diversity. To classify schools as rural or regional really only serves to say that they are neither urban nor suburban, and the differences between schools in this category are much greater than differences between them and city schools. The nine schools studied for this report sample the diversity of communities and school structures, but they cannot be considered as representative of all rural and regional schools in Queensland.

We faced two problems related to diversity in providing an overview of the state of science, mathematics and ICT in rural and regional Queensland: the diversity of schools, and the diversity within schools. Combined, this meant that it was not possible to ensure that such a small study would provide a representative sample of the views of parents, students and teachers about these three learning areas. Nevertheless, our case studies have provided rich data that allow exploration of the important issues for education in these schools as well as indicating areas for further research.

Diversity between schools

The study deliberately sought out diversity within the school system in three important areas: the communities served by the schools, the economic and cultural contexts of the schools, and the age groups served by the schools.

Communities

While the study was limited to communities of fewer than 25000 people, communities approaching that number were very different from communities of half that size which still served as regional or educational centres; and these were very different from communities where a primary school was a major, or *the* major focus of the community. Both primary and high schools for this study were drawn from each group (see Table 11), although it was difficult to locate high schools that service very small communities.

Economy and Culture

The geography and ecology of Queensland is diverse, with coastal communities well connected to a ribbon of large regional centres along Highway 1, inland communities linked to smaller centres to the west of the Great Dividing Range, and island and Indigenous communities without bitumen access to any major regional centre. Again, high schools and primary schools were drawn from each of these three types of community.

Age Groups

The study encompasses the schooling needs of students from early primary to late secondary. The schooling system within Queensland includes schools that service primary levels (P-7) only, schools that service secondary levels only (8-12) and those that bridge the primary-secondary divide (P-10 and P-12). Since each situation has its own unique features, we chose to include schools of each type. We also endeavoured to select schools by clusters, where one was a feeder for another school in the study or cooperated with another school, to provide a means for participants to compare and contrast their experiences of schools.

The Schools

Table 11. Schools and focus group participants

School ¹²	Sector	Type	MSGLC category	Student population	No. Teachers	No. Parents	No. Students
Frigate Island Secondary	Government	8-12	3.2 Very Remote	340	5	7*	7*
Frigate Island Primary	Government	P-7	3.2 Very Remote	457	3	3	-
Talawa Island Primary	Government	P-7	3.2 Very Remote	147	5	5	8*
Mimosa Secondary	Government	8-12	2.2.2 Outer Provincial Area	298	8	4	7
Osborne Primary	Government	1-7	2.2.2 Outer Provincial Area	21	1	3	21*
Arial State School	Government	P-12	3.2 Very Remote	285	2	-	6*
Banora State School	Government	P-10	3.2 Very Remote	65	6*	4	12*
Sawtooth Bay School	Government	P-12	3.2 Very Remote	650	6	1	8*
Blackrock State School	Government	P-10	3.2 Very Remote	326	3	2	21*

*More than one focus group involved

¹² pseudonyms

Frigate Island Secondary is a government high school servicing a community of islands (population 2480). The population of the islands is primarily Indigenous but there is also a large number of public servants and their families, usually on two or three year secondments to the area. A large proportion of the students come to the school from surrounding islands. Some come by boat daily while others board in accommodation adjacent to the school. A TAFE college and a University outreach campus are available on the island.

Frigate Island Primary is a government primary school servicing the main island of a group. It was a feeder school to Frigate Island Secondary, situated nearby. A Catholic primary school also serviced the island. As in Frigate Island Secondary, the students were primarily Indigenous, but there was also a significant number of children of seconded public servants from the surrounding area.

Talawa Island Primary is a government primary school servicing an island community. It was a feeder school to Frigate Island Secondary but a considerable distance from that school. The students were almost exclusively Indigenous and the staff included several teachers and aides from the community.

Mimosa Secondary is a high school in a medium sized regional centre (population 8990) on the coastal seaboard about an hour's drive from the nearest major regional centre that contains several private boarding schools. Popular tourist destinations are located nearby. The school is fed from a number of government and non-government primary schools within the town and government primary schools (including Osborne Primary) in the surrounding agricultural areas.

Osborne Primary is a one-teacher primary school in the centre of a small landholder agricultural community. While the school is the only apparent sign of a town, its students are drawn from agricultural families within a few kilometres. The teacher/principal is a secondary-trained science teacher.

Arial State School is a regional school with a secondary department in a pastoral centre (population 1590) in the west of the state. The town has a number of government departments, although in recent years several have been relocated to a larger centre about two hundred kilometres away. The railways and a medium-sized engineering firm mean that mathematics, ICT and science command a higher profile in the town than might otherwise be expected.

Banora State School is a small regional school an hour away from Arial State School in the same pastoral country (population 342). There is little commercial activity in the town and the school is the major focus for the area. There are roughly 60 primary students and seven secondary students. The secondary students are bussed to Arial State School one day each week. A number of students from Banora State School choose to transfer to Arial State School at the end of Year 7.

Sawtooth Bay School is a government school servicing a large mining community usually accessible by air and road (wet season permitting). The population is estimated at 3000 depending on the time of year and mining workload. It has a significant Indigenous community. Education Queensland configured a college out of four different schools across the district. Sawtooth Bay School is the largest campus in the centre of town and provides early childhood through to senior secondary schooling. Many of the Indigenous communities send their students to board in the town to complete senior studies.

Blackrock State School is a small government school servicing an Indigenous community accessible by road (wet season permitting) or by air. The community and surrounding area record a population of approximately 1000 people. The school has a significantly young population but caters for a vocational and academic stream for older students. Students either move to Sawtooth Bay School or go to boarding schools in Cairns, Townsville, Toowoomba or Brisbane.

Diversity within schools

Even for relatively small schools there is a wide diversity of perspectives within the local community. Of particular importance in the schools we visited were differences in the language and culture of families that make up the community and the duration of their residence therein.

Culture and Language

A number of the schools visited had large Aboriginal and Torres Strait Islander enrolments (Frigate Island Secondary, Frigate Island Primary and Talawa Island Primary). For the majority of these students English was a second language. Within the same class, however, there could be students who were the children of public servants transferred to the area for one to three years and who spoke only English. Mimosa Secondary had a substantial group of students from Indo-Chinese ethnic groups whose parents came to the community for farming. The students spoke English as a second language with a range of fluency.

Duration of residence

Predictably, the Aboriginal and Torres Strait Islander communities in the schools described above were concerned that local issues should be addressed in the local curriculum, while the short term residents were concerned that their children would easily integrate into other schools following future transfers. Similar situations occurred in other areas (Osborne Primary, Arial State School and Banora State School) where the community was composed of a mixture of long-time residents running agricultural and commercial businesses, mixed with short term residents where the income earners were public or private employees with little intention of staying in that location.

Diversity in the sample

The sample comprised three sub-groups: students, teachers and parents.

Students

Since we were interviewing students on the school sites, we were unable to access students who did not attend school. In particular, students who rely on distance education were difficult to reach. However, we did manage to include past students of distance education (and several parents) who were able to make comparisons.

Schools may tend to select more articulate students for interviews and often these students can be more academically successful than other students. However, in several cases (Osborne Primary and Banora State School) we were able to interview the entire cohort and in one case (Mimosa Secondary) our sample was drawn from the non-academic stream.

Teachers

Teachers in the study reflected the full range that might be found in rural and regional schools. New teachers were present in all schools visited except Mimosa Secondary, the high

school in the larger centre, and the one-teacher school (Osborne Primary). We were able to interview experienced teachers in each school. A special situation arose in Frigate Island Secondary, Frigate Island Primary and Talawa Island Primary where a number of teachers had entered the profession through alternative routes, and in one case without formal qualifications.

Parents

Since parents were co-opted by the school, most of their focus groups tended to include those who were most often in the school (such as teacher's aides and assisting parents), those who interact most with the school (such as members of the Parents and Citizens Association), and those who were available during school times (such as non-working parents). Thus, it could be anticipated that these groups would be most familiar with the working of the school. Familiarity, while resulting in more reflective, informed comment, may give an overly optimistic view of communication between the school and the community. Selection of parents by convenience may exclude the voices of those who, for whatever reason, feel detached from the education system.

WHY HERE?

Choice or no choice?

Small communities have only one primary school (Talawa Island Primary, Osborne Primary and Banora State School). Larger communities have only one high school (Frigate Island Secondary and Arial State School). Even in towns with more than one primary school, church-run alternatives may not be considered acceptable to some parents (Mimosa Secondary). So for most parents in the schools visited choices were accepting of the local school, sending children to boarding school (which is not an alternative for very young children), using distance education or relocating the family. Our sample included individuals with experience of each practice.

Frequently parents perceived the choice between local or distant schooling as the choice between a local, friendly, caring environment with lower academic standards and fewer curriculum options and a distant, large, impersonal environment with more academic opportunities. This is discussed further in the section 'Where are you going?' below. Three sets of motivations were offered by parents and students for 'staying local': lifestyle, economic considerations and community support.

Whatever the size of the primary school, or its relative remoteness, the vast majority of students interviewed during this study lived within five minutes of the school. This was also generally true in secondary schools, although at one island school accommodation was provided adjacent to the site for students from more remote islands, while students from nearby islands commuted by ferry.

Lifestyle choice

Students and their parents in all the communities visited rated the lifestyle of the area highly. Feeling 'isolated within the community' revolved more around proximity to family and friends. This was equally true for teachers.

Family stability

Family stability was an important factor in school choice for parents and students in each community:

Well, this school is the only state high school in this place; we never considered private schools and we never considered boarding because we didn't want to destroy our family life – which we thought it would. (Parent, Mimosa Secondary)

For some students it was seen as a negative factor, since 'there is not that much opportunities up here and there is not much freedom to get away from my family'. (Student, Frigate Island Secondary). But most valued the support gained from their families. This was particularly important to the Torres Strait communities visited (Frigate Island Secondary, Frigate Island Primary and Talawa Island Primary) despite there being a general expectation that students would eventually go away to boarding school or higher education.

Safety in the community

Most small communities were considered to be safe communities with low crime rates by students and their parents:

It's a lot safer than cities and stuff and you can practically do whatever you want here. There's not like bad people to like hurt you and stuff out here, all the people are nice and that. (Student, Arial State School)

You can move freely. You can do what you want to do, go where you want to go. (Parent, Talawa Island Primary)

This was not always true in all communities.

Yeah, alcohol and other things there. Where [B] will go [C] will go but he'll come home – you'll give him a time limit and the time limit is 11 o'clock and he's usually home 'bout the 10 o'clock mark. So, you know, he's made his own decisions that it's getting a bit rough or the Police have turned up and he's opted to come home. (Parent, Sawtooth Bay School).

Freedom

In the agricultural communities visited (Osborne Primary, Arial State School and Banora State School) the students and their parents linked the safety of their small communities with freedom. The students reported feeling less restricted in their leisure activities, while their parents felt this freedom gave them life skills that would be unavailable in larger communities: 'The bush is able to give them what they want and also teach them other things that you can't learn in the cities, and that's independence.' (Parent, Banora State School)

Safety in the school

An appreciation of the family-like support within the small school, coupled with a fear of bullying in larger schools, was important in the primary schools visited. The students in the smallest schools reported the highest levels of satisfaction with the social support of classmates and teachers: 'I like little schools because at big schools they've got other kids that you don't know and they like bully you around.' (Student, Osborne Primary)

Parents reported similar observations, but in terms of the recognition given by teachers and students to the individual social needs of their children. One parent from Osborne Primary commented that ‘mainly because here they relate to the students and the teachers as a family. There’s no differences there, there’s no trouble, there’s no problem.’

As with safety within the community, this was not universal.

Teasing and fighting, turning around, getting up the teacher, stuff like that. The teachers here, they do their best. Maybe it is the attitude they have, behaviour at home and they bring it to school instead of leaving their behaviour at home, then pick up another behaviour at school. (Parent, Sawtooth Bay School)

Economic Factors

Family employment

Some parents selected the school because of their employment situations – the students went to school where the family had work. While this was particularly important for primary students it appeared to be less so at the secondary level where an appreciable number of parents reported planning to relocate to larger centres when their children reached secondary school age.

Different demographics and different needs

The focus studies suggest there may be quite different factors influencing choice for subsections within a single community. Families of public servants and those with similar occupations who have been seconded for specific short-term periods expected to move to larger centres where their children would attend state schools. Children of people with ongoing businesses in the area expected to remain in the schools or other educational institutions in the area. This was less noticeable in communities where funding was available to send their children to boarding schools. Some isolated communities favoured specific boarding schools for their children.

WHICH TEACHERS?

Parents and teachers both had strong opinions about what made a good teacher for rural and remote schools, but the views showed considerable divergence. For many parents the important part was forcing experienced teachers to come to the country, and the mark of good teachers would be whether they settled permanently:

If they are fully committed, they will stay longer. You need the older ones, not the younger ones because the younger ones are only experiencing the lifestyle up here and once they have seen it, they have done it, they are going to go. They are not going to stay. (Parent, Frigate Island Secondary)

For the teachers it was a matter of who should be enticed to the country, and how frequently they should move between schools:

I think one of the better strengths that our school has possibly comes from one of its problems – its high staff turnover. With that, what that does for us in a positive sense is that we never get bogged down with teachers that are here with long periods of time and who are caught in teaching the way that they did 15 years ago and not changing. (Teacher, Frigate Island Secondary)

Systemic control

For most teachers who grew up in larger centres, systemic control was critical in their decisions to teach in a rural or remote school. Control was exerted through a range of incentives and disincentives.

Incentives

New teachers were appreciative of the various financial rewards offered by the educational authorities to teach away from major centres.

There are financial incentives to stay here; it's cheap accommodation and I'm on \$30 a week rent; electricity's paid for and all you do is spend your money on socialising and so it's a good place to get an investment property somewhere where I want to go. (Teacher, Arial State School)

In some cases teachers considered it an opportunity to develop their professional competence in ways they thought would be difficult in the more regulated environment of a larger centre:

In the area I'm teaching, Marine Studies, there is a huge amount of potential here. There are things that can be done here. There are opportunities I wouldn't get in any other school. Its because of the accessibility to funds from being up here. There is no way in another school I could ... we are looking at, for example, getting something like a sea cage of barramundi next year at the pearl farm up around the island. (Teacher, Frigate Island Secondary)

Disincentives

Nevertheless, the majority of new teachers were motivated by the requirement for all teachers to undertake country service:

I got sent here by Education Queensland. I was at uni last year, so for some reason I'm quite unsure of, I ended up here. They rang me up and said there was a job up there, and I wasn't sure whether I would get offered another job so I said OK. ... I was actually in shock because we number our preferences, like one to thirty and this was my last preference, so I don't really know what happened there. (Teacher, Frigate Island Secondary)

Teachers generally considered that the time spent 'in the bush' would be limited to something close to the mandatory period. For example, two teachers who expressed enthusiasm about their experience during our interviews celebrated, later that day, the imminent completion of their required time and forthcoming return to a suburban school.

Locus of control

Whether motivated by carrots or sticks, teachers needed to feel that they were in control of their employment opportunities by choosing the place, the timing or the duration. As one teacher at Banora State School concluded: 'The rent's good and you can save a lot of money but, realistically, you're trading off lifestyle for money and it's up to you whether you think it's worth it or not.' Some experienced teachers chose to return to a rural or remote school because they retained tenure in a suburban school and therefore did not feel that they would be trapped into staying:

I was here for four years in the late eighties. This time I have come under a program called Remote Area Relieving Teacher Program which is part of Partners for Success where it encourages senior teachers to come back to isolated schools under the same conditions as a transfer but you get a guarantee of going back to your base school. (Teacher, Frigate Island Secondary, shortly before leaving, but planning to return in a few years time).

External Factors

While the conditions of employment within the school were important to most teachers in this study, factors beyond the school frequently had the most influence on them.

Relationships

Teachers from other areas, particularly young teachers, were often separated from friends and family for extended periods. This was a major consideration for them:

I've been here three years now. I moved from the Sunshine Coast. It is my first posting as a qualified teacher up here. ... I have enjoyed it ever since. I don't really want to go but I want to go home for my family. ... Yeah, I miss my family and friends. (Teacher, Talawa Island Primary)

Within small communities these teachers shared more with colleagues and were often recognised as an homogeneous bloc within the local community:

The town gets divided, you've got your engineers, you've got your teachers, you've got the railway, nurses, and you're stereotyped as who you are. It's like the other day, he wants the teachers down at the club more often so it's a bloc of people he wants in there to help support the thing. (Teacher, Arial State School)

This in turn isolated teachers from the community. For their part, the parents wanted teachers to be active in local events both in the non-Indigenous and primarily Indigenous communities. Two parents in Talawa Island Primary commented:

What makes a good teacher? They have got respect for our culture and they understand our culture. We have got a lot of cultural things, and they respect that and understand that. That's what makes them really good. They will take time to put into our culture too. Like, have a go at our culture and just trying to work with our culture in the school, trying to have it in the school too. (Parent, Frigate Island Secondary)

Or even in the community when there is a tombstone opening or a funeral or anything, they turn up. The teachers show their respect. They turn up. They get involved and help out and stuff like that. (Frigate Island Primary)

Social integration often appeared more important to parents than teaching ability or discipline knowledge. Most new teachers felt poorly prepared in university for this. For example, 'Nothing you learn in uni prepares you to teach in a remote school. The teachers who come out here either make it or don't make it.' (Teacher, Banora State School)

Teachers in the community

Teachers who had grown up within the community felt they received the support of the community and felt their personal history in the community assisted their work. In contrast, teachers who did not come from the community reported various levels of oppression resulting from their inability to escape the classroom after hours.

Yeah, you've got to be prepared to be involved in the community, prepared to put in the extra hours because it's not just school stuff that we do. Some of the other teachers either do swimming or they do after-school sport and all those things because wherever you go you see kids from school or their parents will bail you up and want to talk about their kids because they can, because we socialise with them. (Teacher, Banora State School)

Parents felt that teachers needed to be part of the community and take part in community activities, but often failed to recognise that the teachers were actually separated from other important networks, including their own families.

Activities

Teachers from outside the local community came to the school not only with a set of social relationships, but also with a history of activities and interests beyond their teaching. Often these interests did not match those of the local community, but in some cases, such as fishing in island communities, it was an attraction of the school. 'Good resources and the fishing is unreal, that is what basically I was concerned about. So I said "yeah, I'm going".' (Teacher, Frigate Island Secondary) Conversely, where teachers did not share the activities of the community they were criticised, but where they did value the local opportunities they could be criticised for not taking their teaching seriously enough.

How long?

A major concern for parents in many schools was the rapid turnover of teachers, even within the school year, that resulted in disruption of the teaching program and disadvantages to their children.

We are always like a dog I think, chasing its tail. We have got a huge turnover of staff again. Luckily we have got some good staff to stay behind, but we just never seem to be able to catch up because we have got so many different staff members. (Teacher, Sawtooth Bay School)

It was the view of the parents that the longer teachers stayed, the better they were for the school and the community:

It's not always a positive place because of change; not everybody wants the change. The type of teachers we get in the school also may not be embraced by the community, not deliberately but because people are constantly coming and going. Often the community is not as open to that because you know, as soon as I put my arms around and hug you, you're gone and they've got to start all over again. (Parent, Frigate Island Primary)

Local communities favoured long-term teachers, but it was noteworthy that teachers lose the special entitlements that are used to induce them to rural and remote areas if they stay for more than a certain time!

Experience

Inexperienced teachers treat rural service as a rite of passage:

If I want to get home to the Sunshine Coast and maintain my position down there it is what you have to do, and so I just went. My frame of mind was to go and do my remote service and then come back home and take it from there. (Teacher, Talawa Island Primary)

On the other hand, parents were dismissive of new teachers and felt that too many inexperienced teachers came, and then left, before they were fully competent. Experienced teachers who choose rural or remote schools frequently do so as a temporary lifestyle change. Parents appreciate these teachers, and some have made major impressions on the schools in their areas. Particularly useful in one school cluster was the secondment of a senior mathematics teacher whose responsibility was as an agent of change providing professional development within the cluster, rather than acting as a single classroom teacher or administrator.

Cycling teachers: cycling curriculum

The continual turnover of teachers (one primary school parent reported seven teachers for her child in one year) can lead to disruptions in the curriculum, with new teachers re-teaching the same material or assuming prior knowledge. This seems to be particularly prevalent in the ICT area:

I know one particular teacher that was new to the school [who] thought the kids would know what he was teaching, but they didn't so he then had to go back and revisit it and then continue on. New teachers come in not knowing where the kids are at [is a problem]. (Parent, Sawtooth Bay School)

Local Indigenous teachers serving in Indigenous communities felt supported by their communities and able to relate to them.

Yeah, it has been sensitive as well, because certainly for my end it needs to be that network to other teachers that come into the region to understand the do's and don'ts and the customs and the ways of the community... And how the families here will see an Indigenous teacher as that person to provide consultation to family members. I guess it's partly the reason I am here at this point. It is most important, the extended family in the region. (Teacher, Talawa Island Primary)

Cycling teachers: static resources

The cycling of teachers also leads to inefficient use of resources. A teacher may have a well-developed, and well-resourced unit of work (often created following attendance at a Professional Development offering) that falls into disuse when he or she leaves the school:

There is probably one thing, the turnover of teaching staff, that always forces issues here. For example, we have got in the science room kits that have been put together obviously by a person who is very keen with science. They have got together kits in the past but because that person has left, those kits don't look like they have been touched very much in the last few years and the knowledge about them even being there often isn't passed on. (Teacher, Talawa Island Primary)

RELEVANT CURRICULUM

Three themes emerged when participants discussed the science, mathematics and ICT taught within the schools:

- whether the contexts should be local or broader
- whether the approach should be to teach ‘the basics’ or allow students the opportunity to become involved in their own investigations
- what curriculum extensions were currently offered by the school.

Viewpoints were frequently so different between teachers, students and parents that it was sometimes difficult to believe that the three groups were talking about the same set of experiences. This disparity will be discussed further in the section on communication below.

Mainstream or local?

Many parents, particularly in the Indigenous communities, were aware of the need to provide an academic education that would prepare their children for life in larger centres. This was invariably termed ‘mainstreaming’. However, schools were also required to provide practical skills that were of value within the rural community. The majority of parents in the Indigenous island communities both wished their children to obtain university education but also to continue to live in the community. Their children were much more ambivalent usually assuming that, as adults, they would live in large cities. Non-Indigenous secondary students in the regional towns seemed more likely to aspire to local apprenticeships. At the same time, some teachers suggested that there was a failure to appreciate life beyond the local community.

Because we are isolated out here they don’t know what it’s like outside. They don’t realise that at all the other schools they still have to write and read and listen to the teacher, all those sort of things. I think they could never go into the real world to competitions or anything like that ... They just have no knowledge of life outside [this town]. Yes, they can go out on a property and ride motor bikes and round up cattle and do all of those things and probably tell you how a GPS, a Global Positioning System works and they can probably gut a 'roo in however many minutes, but they just have no knowledge of any of that other sort of stuff like different life skills; and they are terrified of bigger towns. (Teacher, Banora State School)

Some schools were highly innovative in providing academic content, particularly in science, with one island high school providing science classes that included outboard motor maintenance, barramundi and crayfish farming, and a primary school that was preserving its own piece of rainforest and had its own agriculture plot. Often these innovations were able to utilise external expertise with considerable skill.

With the marine science I get [name] and [name] from James Cook University but also the CRC [Cooperative Research Centre] and the DPI [Department of Primary Industries], I integrate a lot of their stuff into my class. We do the CRC seagrass watches through my senior marine studies classes. We regularly visit the DPI Fisheries guys. We are going next week. We are going to Cairns for four days to visit their aquaculture facilities at Innisfail and Cairns as well as the DPI research places. There have been a few places, like JCU, which has an interest in a couple of my students to

share areas in aquaculture and marine science once they finish school. There is a guy there at DPI Fisheries... in Cairns who regularly comes up and talks with my kids. And all the kids are extremely interested. (Teacher, Frigate Island Secondary)

English as a Second Language (ESL)

A particular issue for parents and teachers in primarily Indigenous schools was the need to cater for the majority of students for whom English was not the primary language. 'There are examples of high attendance but low outcomes so it is not just that. You have to address the issues of these kids coming here where English is not spoken by these children.' (Teacher Sawtooth Bay School) There was an awareness of the need for smaller classes and support staff to assist teachers to prepare materials for these students.

Down in Brisbane, Cairns or wherever they don't see how many ESL speakers we have ... we are very, very different because 90 per cent of our kids have English as a second language, so then when you are talking about class size and how we can actually improve the student outcome in any subject, then ...you are struggling when you have got 25 kids ...EQ have this special formula for staffing. They use that formula when they are sending teachers out to school ... in migrant education, the ratio is 1:15 or 1:12 so why are we different even though our kids don't speak English; English is a second language. So why can't we have that formula in our schools? (Teacher, Talawa Island Primary)

English as a second language was frequently cited as a reason for poor performance in science in these schools.

When they do the Years 7, 5 and 3 tests, the kids from here haven't achieved any outcomes because of the understanding. Because their English is a second language and they find it difficult to understand what is written. (Parent, Talawa Island Primary)

Activities, or learning the basics?

While many teachers were trying to make their subjects as relevant as possible, the recurrent theme from parents was the need for more time to be spent on 'the basics'. 'Basics' were seen as working through standard textbooks which parents felt would provide a visible benchmark to compare their children's performance with those of city children.

Rote learning of mathematics

The parents' perception that there was insufficient attention being paid to basic skills was particularly true in mathematics. This was related to the widespread perception that students were performing below the level of their city counterparts.

In many schools worksheets were the main form of activity in mathematics, but there were noticeable exceptions. A small one-teacher primary school divided the class into multi-age workgroups to perform measurements and calculations using the opportunities available outside the classroom and schoolyard. The similarly innovative use of the local environment by the seconded high school mathematics specialist has already been mentioned.

Both parents and teachers generally viewed mathematics as an aid to shopping calculations but in some cases parents had carefully considered how mathematics (and ICT) could be

integrated into essential business skills as situated learning. One difficulty seemed to be that teachers, particularly novices from large centres who expected to stay for only a short time, would be unaware of the contexts that could be used in these programs.

ICT as time on the computer

ICT was seen by many students as time on the computer:

Oh, we just mainly use the computers when we're doing assignments ... if anyone needs to use it in a lesson, the teacher will just let us go to the computer lab and do research and we've got the Internet and everything. It's good because it's a change from writing down stuff. (Student, Arial State School)

In all schools visited almost every child had one or more computers at home with (usually broadband) access to the Internet. These were used to download and play music and games, write assignments, and talk to friends in chat-rooms.

Computers at school were generally used to write assignments, look for materials on the Internet, and prepare power-point demonstrations. ICT teachers often lacked formal training, but this did not prevent them providing creative relevant programs. In one island primary school the teacher's interest in meteorology translated into a computer-linked weather station. In a high school the business teacher was contemplating using an accounting package to teach business skills during computing lessons.

Science as activity

Despite being mandated within the curriculum, science was sometimes not taught in schools – a situation not unique to rural and remote schools. Where it was taught, teachers chose traditional content themes that were rarely specific to the physical or cultural environment of the school. Although some situations lent themselves to local perspectives, the challenge was not taken up. In one school the study of dinosaurs used generic worksheets while omitting any reference to the world-renowned local palaeontology.

One primary school student did not see school science as relevant to his future. 'You don't need to really know science and stuff like that for electrician ... because science is like being a science teacher or something like that and that's what I don't want to be.' (Student, Arial State School) This same student enjoyed pulling video players apart at home, but did little practical work at school: 'I have science at 10 o'clock in the morning, so we don't do prac.'

Where there was a failure to capitalise on local scientific teaching opportunities, it may have been the product of transitory teachers who were not aware of local content and expertise that could be used in classrooms, or of existing materials and programs developed by previous teachers.

On the other hand, it may be due to the inexperience of teachers who have a limited science background, and a limited range of teaching strategies upon which to draw.

In one primary school where the experienced teacher/principal had a secondary science background, the curriculum used the local agricultural industries, the surrounding rainforest and a variety of other regional resources to make teaching relevant to the students. There was evidence that students benefited from this approach:

What they learn at school sort of comes home and they're using it all the time. Anything that they do learn here they do bring it home and they're using that to share information. They do challenge each other ... because of what they learn here because [principal] does try to put in a lot of hands on. (Parent, Osborne Primary)

In secondary schools, science was generally taught by trained science teachers. As mentioned in the previous section, some of these schools provided rich, locally-relevant programs.

Marine studies is really easy to do ... we can talk about things, about crayfish or the [local area] and what is happening in the last ten years and they can tell stories of their parents, get them involved in say marine conservation. What are we going to do about it? And I'm telling them, 'Look you are the people of the future, you are going to be making decisions and if you understand this you will deal well with this.' Also showing them that what they are doing leads to somewhere as well. They will do the seagrass watch stuff or the scientist will come and will be telling them, 'This is the path you can take to do what we are doing for a job in the future, but you need to do this and this.' Other people come in and tell them what they are doing. They feel pretty good about that. (Teacher, Frigate Island Secondary)

Curriculum extensions

Parents and teachers both regarded curriculum extensions as important. These took the form of visitors to the school, and excursions by students away from the school.

Visitors

Schools in larger regional centres and those serving Indigenous communities seemed relatively well-served by visits, according to teachers and students, although not all provided adequate student involvement. Schools in smaller centres, felt less well provided for.

Excursions

Regional and rural areas are not devoid of local resources for excursions and many schools in our sample made use of them. However, teachers and parents are keenly aware that their local communities do lack diversity of resources and some of the more attractive opportunities for excursions provided by government and industry. 'It does take a lot of time getting a trip organised, I went to [regional centre] last week and it is a lot of work ... it took like three or four weeks just to organise that.' (Teacher, Talawa Island Primary)

The teachers felt that their students faced significant disadvantages, both in cost and time, to utilise these resources. 'Accommodation is probably the killer; it's always pretty expensive to put 30 odd kids or 20 odd kids somewhere.' (Teacher, Banora State School) Visits to centres needed to be financed by the extended community, and it was seen as the teachers' role to coordinate the fundraising.

They'll fund travel, as in the bus and hire of the bus to a certain point and accommodation to and on the way back if you've got to stay somewhere overnight while you're travelling ... the rest is pretty much put in through the P&C; the kids pay and the school pays and fundraising. It's a drain on the community too. This year it was about an eight thousand dollar camp and we got fifteen hundred from PCAP ... and then the rest has got to come from the community and it's a big job. (Teacher, Banora State School)

Visits normally involved extensive and expensive travel and accommodation with travel time lost from other school activities. As a result, excursions tend to be timed for administrative convenience rather than pedagogical effectiveness. Many schools visited did offer a range of curriculum extensions, particularly in science. In some cases neither students nor parents associated these extensions, particularly those involving camps, with the core subject matter taught in the schools. This may be partly attributed to the need to juggle administrative and pedagogical priorities.

RESOURCES

None of the focus groups felt that resources were an issue in mathematics, but funding, materials and professional development were all issues for science and ICT.

Participants considered the Internet to be an essential research tool, largely replacing the library. As stated earlier, virtually all the students in all schools had access to computers at home, and almost all had access to the Internet. Students frequently complained that computers within the school were slow, or that they had limited access to them. These concerns were not always shared by their teachers and may simply indicate unrelated issues. For example, Internet access from a laboratory with an entire class simultaneously accessing a single site will be slower than for an individual accessing that site from home.

Distances between high schools can make it more difficult, but not impossible, for schools to buy expensive science apparatus that might be shared for occasional use by each school within a cluster.

I think we do extremely well with what we have and we have some nice pieces of glassware and stuff, but it would be lovely to have a few pieces of scientific equipment that the kids might see on a CSI show and yet a lot of them are way out of our reach but even to have a piece of equipment at this school and a piece of equipment in a school in [nearby town], that we could access on a field trip or something would be a really good thing. (Teacher, Mimososa Secondary)

Special funding

Various forms of special state and federal funding are being used by schools to obtain equipment for science and ICT. Teachers were generally satisfied with the amount of funding available to purchase general use items. ‘The curriculum areas just buy whatever they want but we’re very, very well resourced.’ (Teacher, Arial State School)

Material Resources

Installing and maintaining (ICT)

A major concern for all teachers charged with responsibility for computers was the related issue of hardware and software maintenance. They found it relatively easy to find information about computing equipment (in contrast to science equipment), but it was not possible to get expertise for non-standard installations or repairs. In many instances the departmental technical support staff have vast distances to cover and thus fly or drive in only irregularly:

Our technician, our official school technician is a district technician who goes from [place] which is many ks down that way up to Doomadgee and all the way down to Birdsville. That's his area. And he's got to cover all of the schools in that area and it's just ridiculous to expect one person to do it. [name] will only get him out when she thinks it's something she can't fix. I think we're one of the better schools in the area at getting access to him. And the other schools, well they call him up and can't wait but he's got such an area to cover that it takes him ages to get to them. (Teacher, Arial State School)

As a result, the available equipment may lie idle for extended periods causing disruption to the teaching program.

To do something as simple as a printer is not working from the server, and it could be down for about two to three weeks, because the tech was busy with the other schools in the [area] ... You can't print out your work... I've known teachers to assess tasks by actually doing it on the screen, because they couldn't print it out. (Teacher, Talawa Island Primary)

Some towns had half a dozen or more government departments relying on their own technical staff, each covering roughly the same range of over a million square kilometres. Teachers suggested that aggregating maintenance across departments would provide more than one full time technician for the town, although they also recognised that 'we've got the problem that government departments don't talk to each other'. (Teacher, Arial State School)

Ownership of Science resources

During interviews in several of the schools visited teachers discovered from other staff that their school actually owned a range of science equipment of which they were not aware. Sometimes a teacher who developed a program failed to leave sufficient documentation on how it could best be used. Furthermore, teachers tended to feel more comfortable formulating their own units of work and so were reluctant to use material that they felt appropriate to another teacher's style or expertise. In these circumstances it may be more cost-effective for teachers to be given limited ownership over their teaching resources. It would also mean that teachers arriving in rural and remote schools may have materials available immediately.

Equipment was expensive to obtain. A teacher (Talawa Island Primary) remarked:

The cost. For example, a third of anything we buy goes in freight.... The replacement costs of resources. The cost of buying storage equipment for example is just very extravagant, to buy cupboards here, to get them sent up by freight.

Additionally, teachers, particularly new teachers, found difficulty in finding equipment especially in the area of primary science. There were few experienced resource people available and they found it difficult to find time to scan the Internet to find suppliers for simple items like thermometers and magnets. They suggested a central Internet catalogue of science and other school equipment suppliers, rather than materials, be maintained centrally.

Human Resources: Professional Development

The teachers generally felt confident in their ability to do a good job with their classes, but felt hampered by difficulties in obtaining professional development and support staff.

Professional Development

With some exceptions, teachers were not unduly concerned about the finance available for professional development, but they expressed varying degrees of concern about what form the professional development might take and how it could be accessed by rural and regional teachers. This was raised as an issue relevant to teacher registration requirements in Queensland as the state moves to a system of mandatory professional development.

Extra time and extra money

Unlike professional development in large centres, in rural and regional schools the teacher has to be released for travelling time, usually at least a day each way, but sometimes more depending on plane and boat schedules, as well as the time of the workshop. Costs of travel, accommodation, subsistence and extended relief teaching are much higher, and the teacher's workload in preparing lessons for the relief teacher is much greater than for city teachers. The availability of suitably qualified relief teachers is also a difficulty. These factors combine to discourage teachers from applying for professional development.

Some schools really, really struggle with spending that money ...because people don't want to go away. Because for us to go to regional [centre], that's a three day trip because it's a day to get there, we go there for our PD for one hour, we have to overnight, and then we drive home the next day, or drive to [place] and then come home. So that's three days for what could be a two hour conference. (Teacher, Arial State School)

Content or process?

Teachers could be Heads of Department and be required to prepare programs of study for the whole school despite teaching outside what they perceived as their area of expertise (such as science in primary schools) or in rapidly changing subjects (such as secondary ICT). 'I'm freaking out a bit because I'm teaching the technology elective subjects... but I'm normally teaching just general, across English and science and maths. ... hopefully I'll have a PD next year.' (Teacher, Arial State School) These experienced teachers felt a need for more professional development in disciplinary content, as opposed to educational policy and curriculum structure:

In my maths as a teacher, never once have I actually had any in-service in maths. So as in computer literacy, all of that has been off my own bat and never, like rarely if ever, has there been one available nearby. (Teacher, Mimosa Secondary)

Primary specialist teachers

Parents and teachers in the primary schools felt that science would be better taught by specialist teachers, and that the lack of this specialist knowledge within the school was putting their children at a disadvantage. For example: 'We have probably let the science area go, wrongly so, but that has been an area where I think the children have missed out a little bit.' (Teacher, Frigate Island Primary) Other teachers preferred a model where a visiting science teacher-in-residence could provide ongoing support for all staff.

Support Staff

Teachers, and to a lesser extent parents, highlighted the need for additional rural and regional support staff in five key areas:

Relief Staff: While there may be funding for relief teachers, the reality for many of the more remote schools was that there were no qualified staff available. For example:

Sometimes we ... have the funding but we don't have supply teachers, so if we have the funding, we have got some PD happening but we can't send teachers down because then we have no replacement teachers. (Teacher, Frigate Island Primary)

This did not seem to be an issue in the larger regional centres.

Computing Technicians: Both primary and secondary schools frequently had specialist ICT teachers, but none had the exclusive services of a computer technician. As a result the ICT teachers reported working out of their field of expertise as technicians while struggling to maintain the quality of their teaching:

Money for [equipment] is no problem, it's just getting the people in there. We had the same problem at [town], 680 kids there and there were four computer rooms plus all the admin network and no official technician – it was the Head of Department, Technology ... and they were just lucky they had a student who was great with all that stuff ... but that's what it boils down to as a teacher... it just gets too much. (Teacher, Arial State School)

ESL: In schools with high proportions of Indigenous students, the teachers and parents stressed what they felt to be a desperate need for specialist ESL teachers to support the classroom teachers and to provide assistance in program planning. No school visited had support of this kind.

Aides: Several of the schools with large Indigenous populations had teachers' aides and tutors from the local community. These were valued and served an important function both in bringing the school and community together, and in dealing with cultural and linguistic barriers affecting the children's learning. The aides felt the training provided by the universities to be extremely valuable and in some cases provided a route to upgrade to full teacher registration:

It was a young program, a process of getting the Indigenous teachers ready to become qualified teachers [and] certainly attracted Indigenous teachers to come into the Dip Ed or the BEd. At that point I saw it as a ...chance in a lifetime to fulfil my dream and after several years as a teacher's aide and assistant teacher working at the [small island] school, and the opportunity came there and then so I took it without any hesitation at all, and had marvellous support from people. (Teacher, Talawa Island Primary)

Visiting seconded experts: A number of schools have made use of special funding to provide experts such as artists-in-residence or mathematics innovators. These teachers, when freed to collaborate with teachers throughout a cluster of schools, were appreciated by other teachers and the local community. For example:

I know that the coordinator from the high school came over to my Year 7 class and has done a couple of sessions with them and that has proven to be extremely successful. So that sort of develops and keeps developing. I think next year that will be an extremely successful program. (Teacher, Talawa Island Primary)

COMMUNICATION

Parents were concerned about their children's education, but were often unwilling to become actively involved with the school. As previously reported, this cannot be attributed to distance between school and home. However, as we found when schools tried to arrange meetings with parents, most had commitments during the day.

Communicating systemic change – dialectic or directional?

Parents in Indigenous communities were reluctant to commit to their children's school until the teachers showed their involvement in local cultural events. Teachers often realised this expectation:

I think initially you get involved in the community by doing a lot of listening. That is what I did when I first got here. I did a lot of listening making sure that when there are events on, whatever it might be, NAIDOC Week or Mabo Day or those other things, that you don't just sit at home, or whatever, and do nothing. That you try and get involved and that is how you meet different people along the way. (Teacher, Frigate Island Primary)

For other teachers who do not involve themselves in the community there is an element of unidirectional communication where the teachers see their role as telling the community about education department policy on the macro level, and how their child is performing on the micro level. In contrast, parents wanted to make suggestions as to how the school could better serve their child's individual needs by contributing to school curriculum policy.

Success does seem to follow where teachers find ways to collaborate with parents. The principal of one island school with a particularly productive dialogue between parents and teachers, attributed the success of the relationship to a tragedy within the community where students' poor behaviour in school mirrored the friction at home and in the community. A joint meeting away from the school where the teachers and parents collaborated to form a new behaviour management policy, created a bridge that has been extended with the employment of teachers' aides from the community.

Teachers as part of the community?

Parent evenings were not well attended in most schools visited. Their formality seemed out of place for some parents when teachers could be more easily approached in the shop or on the street. However, less experienced teachers who grew up in larger centres found this informality threatening.

...it's pretty intense coming into a small community and having to deal with those parents, not only do you meet them in the shop but you socialise with them and you get attacked, you do get attacked – and these young teachers find that very hard. (Parent, Banora State School)

This is not without reason. Teachers of long-standing in a community related stories of how young teachers became ostracised as early as their welcoming barbecue through ignorance of community expectations.

You can have preconceived ideas about what sort of time you'll have and it's very much two types of people come out – one person comes out, goes straight over to the barbecue, meets everyone and has a great time. Another

person comes out, goes to the same barbecue and bags country living ... And we just say right, ... okay, if that's the way you feel, it will be a while before you get another invite to a barbecue. This other person will say, 'Let's have the barbecue at my place next time' and that's the difference. You've got to come out with the right attitude. (Deputy Principal, Arial State School)

Indigenous parents did not welcome new teachers until they had participated in important cultural events. At the same time teachers who had not lived in rural and remote communities often felt that they had little in common with the community and tended to form their own cultural groups. This in turn isolated them further from the local community which they felt was insular and inward-looking. The most effective way for teachers to become part of the community was to form close relationships with members of the community. 'Yeah, you've got to be prepared to be involved in the community, prepared to put in the extra hours because it's not just school stuff that we do.' (Teacher, Banora State School)

FUTURE PLANS AND ASPIRATIONS

Parents and students across the schools had expectations as diverse as could be imagined in any large city school. As might be expected, primary school parents and children were relatively vague about future plans, and parents were most concerned with their child's social development while at school.

By secondary school, however, there was much more awareness of employment-related purpose amongst parents and teachers. Students in specific schools appeared to form blocs of academic or trade orientations. Schools where teachers repeatedly stressed the high academic performance of their past students provided large blocs of academically-orientated students with ambitions to study scientifically-linked careers in medicine, pharmacy, veterinary or forensic science. Where teacher focus groups concentrated on the trade possibilities (or limitations) in the town, the students seemed more inclined towards considering apprenticeships.

This may indicate that teachers were in tune with their students, or it may suggest that teachers are influencing student choices. Whichever is the case, it was noticeable that teachers tended to use deficit models to describe trade careers. Parents on the other hand cited the economic returns in non-academic occupations, such as, 'roo shooting [where] they earn probably twice as much a year as a teacher does, and a teacher's been to uni.' (Parent, Banora State School). They felt the university education of teachers blinded them to non-academic careers: 'We introduced agriculture college ... it was great for the students but the biggest boost there has been the teachers seeing what these kids' jobs might be. The teachers here perceive all kids must go to university ... and that's not the case.' (Parent, Banora State School) However, a teacher at Arial State School claimed, 'We also have flexibility with our senior schooling too, we encourage kids to take non-tertiary pathways.'

Reasons to stay in rural communities

Where teachers indicated that they intended to stay in rural and remote areas for a prolonged period it was because of lifestyle, fear of inadequacy, and family. Many liked the relaxed lifestyle and recreation opportunities, such as fishing. Sometimes teachers raised in rural areas expressed doubt how they would cope with the stress of city teaching.

That has been my challenge and I still have to adapt myself to set a goal in order to apply to get that opportunity to go down south and teach in the metropolitan schools, down in Brisbane. It would be a big challenge for me. (Teacher, Talawa Island Primary)

Teachers raised locally had their family and social networks in the area, while some, particularly women, married into the local community.

Where parents indicated they intended to stay for a prolonged period it was because of lifestyle, business and family. Among non-Indigenous parents, those with established businesses were most definite about staying. Indigenous parents cited family and history as reasons to stay.

Students indicated that they would stay where job opportunities were available. Many of the students seeking trade qualifications were expecting to gain employment through family or friends in the district. Family and friends were another important reason to stay, although many primary Indigenous students were expecting to go to the same boarding school as their peers.

Reasons to leave rural communities

Where teachers indicated that they intended to leave rural and remote areas it was because of lifestyle, professional opportunities, and family. Most important in all schools were family reasons. Young teachers reported putting relationships on hold for the period of their country service. Young teachers from the suburbs missed the organised sport and other recreational activities of the city. Many felt that during country service they lacked opportunities to develop networks within their discipline and throughout the profession.

Experienced teachers often came to the area to give their own children an experience of the lifestyle, but intended to return to the city where there were more choices for their children's secondary education.

Likewise, parents who expected to move often cited perceived opportunities in city schools that they did not feel would be available in their nearest rural school, and were prepared to relocate the family so their child would have access to a city school. For instance:

We have a boy in Year 9 we would like educational opportunities for him. We are concerned about that. He has more choices down south and probably a higher standard of education in high school.... Also he has peers that are very academically able and we would like him to achieve the highest standard he can. Here he is towards the upper end of the academic group but down south he wasn't at the top end in subject areas, so we are wanting him to push himself a little harder while he is at school here. (Parent (who was also a teacher), Frigate Island Primary)

A move to the city was perceived by parents and students as having a number of specific academic advantages. For example TAFE opportunities were available, and some high schools had incorporated articulations into their programs when the range of TAFE and university courses available locally was felt to be limiting. Furthermore, city high schools were believed to offer more courses and to have a more academic orientation than local schools. For example:

I was talking to parents who had sent their children to private schools and that's how I gauged the standard ...because sometimes there's a problem with what teachers in private schools teach and what the teachers here are teaching our kid. (Parent, Mimosa Secondary)

City schools were also seen by parents as offering easier access to more interesting resources outside the school and as being bigger, newer and faster: Parents and students believed that city schools had bigger, better equipped science laboratories, and faster computers with more up-to-date software.

Finally, a few parents identified the greater capacity of city schools to provide special needs support. For example, a parent of a child with an intellectual disability praised the rural school for the individual attention given to her child. Nevertheless, she intended moving her child to the larger school to utilise the special education programs available. At the time of the interview she was driving the child to the next town to attend a mathematics program. She explained that if she were unable to drive him he would not be able to access the program.

Educational choices

Parents and students envisaged, or had tried, a number of alternatives to maximise what they saw as the educational opportunities. These included moving the child, moving the family, moving the school, or accepting the local school.

Move the child: Parents who were intending to move their children to boarding school came mainly from Indigenous communities where funding was available. In these areas the private boarding schools actively recruit in the area. However, one principal pointed to the high drop-out rate of students (said to be 50%) from the surrounding Indigenous communities who went away to boarding school, but returned within a year. Non-Indigenous parents interviewed considered boarding school beyond their means.

Move the family: A number of parents without established businesses planned to move to a larger centre when their children reached high school or university.

Move the school: Several families had tried, or were trying, distance education. In each case the mother took on the role of home tutor, sometimes resulting in additional stress within the family.

I found it a challenge, I found it horrible and yet I found it rewarding ... Horrible because they wouldn't work for you. They wanted to be out with dad all the time. I had two boys and they both had learning problems and they just hated it and we hated each other at times and we loved each other at times and it was probably the best thing I've ever done. (Parent, Banora State School)

There was no feeling that the student suffered from lack of social contact with peers or 'direct' contact with the teacher.

The maths program at School of Distance Ed. is really very good. They're issuing the kids with textbooks and one-on-one teaching and if she ever had any trouble, they were there to help her work through that problem and she could learn to understand it more ...And she feels a lot more comfortable because she actually gets to know the teacher one-on-one and it's a bit more

personal than what they would get in a big classroom with the other kids.
(Parent, Frigate Island Primary)

Accept available schools: While some parents and children interviewed were intending to continue their education in larger centres, there were many parents and children who were satisfied with what their school had to offer and would continue to support local schooling. For example:

I have sent my children away to a boarding school and they had exactly the same subjects as this school has and my children had one party the whole time and didn't study and the other boy got very sick and homesick so we brought him home. And that's why I've chosen to bring them in here and drive in and out every day because I'd rather have my children at home with me. It was really hard. I thought, at the time, that this is what they both needed, to go away and grow up and to send them together so they had each other but it was probably the worst decision I've made in their schooling life. I'm one of the lucky ones, I have a choice and I choose to come here. (Parent, Banora State School)

In many cases parents felt that country life also made their children more self-reliant and independent.

RECOMMENDATIONS

While recognising the implications of the limited sample in this study, the SiMERR Queensland team are aware of the consistency of many findings with what has been identified in other research. On the basis of our findings, we suggest that education authorities consider the following recommendations:

Which teachers?

Recommendation 1: Seconding of specialist resource staff to school clusters. This appears to be particularly important in primary science and ESL for Indigenous communities. Science resource teachers could be centred in the local high school, but provide professional development for a cluster of adjacent primary schools. Allowing experienced teachers a two-year secondment with a reserved place would be attractive to enthusiastic teachers who want to 'try something out'. It could also be attractive if it were linked to promotion.

Recommendation 2: Provide project-based 'Scientists in residence'. A similar concept has been successful with artists-in-residence in Talawa Island Primary, and informally in Frigate Island Secondary, which created a partnership with university marine scientists. These resource personnel would not need to be teachers. They could come from universities, industry, or government departments (for example using an agronomist to help a school create a cashew industry in the Torres Strait where the trees grow wild).

Recommendation 3: Ensure remote allowances for teachers are not time-restricted to encourage experienced teachers to stay in rural and remote schools.

Relevant curriculum

Recommendation 4: Encourage collaborations between parents and teachers to create teaching modules. Communities contain considerable local expertise that can be used to enhance mathematics. There are numerous studies of situated cognition that could provide direction. *Small Business Mathematics* (including ICT) or *Farming Mathematics* would be examples. Teachers could provide the learning pedagogy and parents the case studies in these collaborations.

Resources

Recommendation 5: Resources follow the teacher. Where teachers develop units of work and collect materials for it, they should retain control over those materials, on transfer, while they stay employed by the same body. This would reduce the wastage of resources. This would not be applicable where the content is specific to the school.

Recommendation 6: Share ICT technicians on a town rather than a departmental basis. Many towns could share a technician between their hospital, school, roads and other government departments. This would make technical assistance more readily available and make the local community more sustainable.

Recommendation 7: Cluster primary feeder schools with the appropriate secondary schools for specialist subject support. Many, but not all schools do this to some degree. High school science, ICT and mathematics teachers should be provided with release time to work with primary schools in the area. This would improve communication between the high school and the community and provide expert support for generalist teachers in the primary schools.

Recommendation 8: A central database of school equipment suppliers should be maintained. This would enable teachers quickly to find suppliers for primary science and mathematics in particular.

Communication

Recommendation 9: Include parental expertise into contextual curriculum development. As with Recommendation 4, parents have expertise unavailable to teachers who have been in the district for only a short time. Collaboration would enhance ownership of the school by the community.

Recommendation 10: Show how ‘the basics’ are being taught. Parents are often not aware that students’ projects are teaching the more familiar generic skills. Schools should consider attaching explanatory sheets with homework for parents to explain why the project is important to the students’ education.

Recommendation 11: Communicate information about student achievement. If parents are not provided with accurate information about the achievement of their children in the school in relation to other students in the state, they may rely on inaccurate or irrelevant information, such as that from the more sensational media outlets.

Recommendation 12: Disseminate local innovation to the community. Schools cannot assume that students will inform parents of the activities of the school. Rural and regional schools need to promote actively the many exciting and innovative things happening therein.