

# **‘There's not enough offered to country areas and ... so much emphasis on going to Adelaide for PD’**

## **Report from SiMERR South Australia**

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### **INTRODUCTION**

Schooling in regional, rural and remote South Australia is predominantly a government enterprise, with a few substantial non-government primary<sup>2</sup> and secondary schools in some major centres, and small Catholic primary schools in a number of towns. Many of the schools in the country are Area Schools which cater for students from Reception (R – the year before Year 1) to senior secondary. Some of these are in towns; others are located between towns (‘in the middle of nowhere’) to avoid fuelling local rivalries. Only in the largest centres are there dedicated high schools.

Many towns have a primary school, with students being bussed to a secondary school. Travel to school by bus is a fact of life for many young people in country SA. Some have up to two hours’ travel a day. Schools can be quite small, and whilst there have been some closures of schools, this tends to be resisted by the communities. Another limit to school closures is access – within reasonable travel time – to an acceptable alternative.

Indigenous students are present in most areas and schools, but tend to be a significant part of the student population in the north and west of the state. In the very north-west corner of the state are the Anagnu-Pitjanjatjara (AP) Lands containing around ten schools with virtually 100% Indigenous student. These schools have special arrangements within the government sector in terms of staffing, resources and curriculum. The four schools selected for focus group interviews are described below and in Table 4.

### **THE SCHOOLS**

#### **The Bay Area School**

The school is located on the coast significantly more than two hours by road from Adelaide. The school caters for students from R-12, with a significant number of Indigenous students. The town has a population of around 4000 people supported by a number of local industries

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<sup>2</sup> Primary Schools include Year 7 in SA.

including wheat farming, gypsum mining, salt mining, and commercial fishing. The school offers vocational education subjects like Aquaculture, Retail, Hospitality, Conservation and Land Management and Doorways to Construction.

**Table 4. Schools and focus group participants**

School*	Sector	Type	MSGLC Category	Student population	No. Teachers	No. Parents	No. Students
The Bay Area School	Government	Area School (R-12)	3.2 Very Remote	450	6	2	7
Flower Valley Primary School	Catholic	Primary R-7	2.2.2 Outer Provincial Area	68	6	3	8
Greenview Area School	Government	Area School (R-12)	2.2.2 Outer Provincial Area	239 (139 prim., 100 sec.)	11	6	8
Sandy Grove Primary School	Government	Primary R-7	3.1 Remote	438	5	9	10

\* School names are pseudonyms

### Flower Valley Primary School

This is a small Catholic parish school, catering for boys and girls from Reception to Year 7. It is situated in a rural community a little more than two hours by road from Adelaide. Horticulture, farming, tourism and winemaking are significant local industries.

### Greenview Area School

Greenview is an Area School serving a stable agricultural region several hours' drive from Adelaide. Greenview itself is a small rural hamlet located between several more major centres. The school has a focus on agriculture, aquaculture and viticulture, and has its own boarding house for students taking the Certificate of Agriculture course (currently 15 residents). One unusual feature of the school is that numbers actually increase from year 9 upwards due to the influx of boarders. There were some 18 students in Year 12 in 2005.

### Sandy Grove

The school is situated several hours' drive from Adelaide in a relatively large centre. Local industry is dominated by fishing and farming. The school community is characterised by cultural diversity, with a significant Indigenous population (12% of enrolments). The region offers a wealth of recreational activities including fishing, surfing, swimming and boating in local national parks and beaches. Approximately 60% of the students are School Card holders<sup>3</sup>.

<sup>3</sup> This is the measure of socio-economic disadvantage in SA schools — the card provides funding relief for the costs of schooling.

## RESULTS

### How participants came to rural SA, and why they stay

#### *Teachers*

The reasons teachers gave for teaching in a rural/regional school tended to put them in one of two groups. A significant number of the first group are individuals who have lived in the community for an extended period of time (perhaps ten or more years), while others are relatively new to the community. In some cases this group of teachers was originally from this or some another rural area and wanted to live in a similar location:

I grew up in the area, I went to Adelaide to study and now returned. I've been here for the last 13 years. (Year 7 male teacher, Flower Valley)

Being a local, I just came back here I suppose. I enjoy the community and family and friends and a job came up, so I took it. (Secondary teacher, The Bay)

For others, the main influence has been the working life of their partners – either they moved to the town because of their partner's work, or they moved to the area as a single person and subsequently formed a life partnership with someone whose work keeps them in the area ('married a farmer'). This group clearly appreciates the 'rural lifestyle', with some teachers citing benefits of living and working in a small community that include being able to make a positive contribution. Juggling family and work needs was identified by some as being easier in a small community where both parent and child could work and attend the same school.

In general, this group of teachers currently choose to live and work in a rural area. However, many indicated that they would seek employment in the city should the needs of their children not be met as they progress into higher levels of schooling.

I've been a teacher in the region for probably ten years and I've got four small children and I wanted to make my life easier as a parent, to be working in the same community as my kids were in, then I could see them both at school and I could work and be successful there. I am unsure as to whether I will continue to live here; eventually my plans are that I'll move back to Adelaide to offer other things for my children. (Female junior primary teacher, Flower Valley)

I don't know if we'll be here forever and ever amen. It will depend on what our children do when they go to school in Adelaide, whether they need us down there or not. (Female primary teacher, who had lived in Flower Valley for 13 years)

The second group was characterised by newly appointed teachers who had lived in the region for a relatively short time (one to three years) and who did not see themselves as staying for an extended period. They are teaching in a rural/regional school because it is where they had obtained employment when they could not find a position in the city.

I had an interview here and I was selected, it was the only school I was offered a job at, at the time, so I came straight from uni and I don't plan to continue to live here for ever, but I'll be here for another year or two I suppose. (Male middle primary teacher, who had lived in Flower Valley for two years)

I took a year off uni and received this job in the country, and I don't plan to live here forever, but I plan to go overseas and work there and I'm not sure what to do after that. (Female junior primary teacher, who had lived in Flower Valley for two years)

In other words, they are teaching in the region more by chance than by design, and most said that they would move on after a couple of years. Clearly some teachers of this kind do stay on in the country. There is something of a belief that 'if a teacher stays for three years they are likely to stay permanently'.

### ***Parents***

Parents' reasons for living in country areas are generally related to lifestyle, employment and marriage. In some cases they have 'always lived here'. One set of parents had moved to the country for a change of lifestyle, with the availability of a particular type of school (Catholic primary) being pivotal in the choice of actual location.

We decided to have a life change and try out the country, my husband was pretty keen to change work and change lifestyle, so that's why we came up to the country... Why did we make the choice of school we did? Well we were Catholic and wanted a Catholic school, that's the background I come from. One of the things we looked at in the towns ... was accessibility of a school (Catholic) and the town we liked the best was Flower Valley, so that's why we came here. (Female parent at Catholic primary school, Flower Valley)

Several expressed views along the lines that the prospect of living 'in a large metropolitan city holds no favour' for them. In general these parents intend to stay living in the area, even though, in some cases, they are concerned about lack of choice in schools, given the lack of non-government schools in the area.

...we're from Adelaide originally, my husband is actually from another rural centre ... and we will try to continue to live here as long as work works out ... schooling may end up being a bit of an issue ... because we don't have a follow up school (Catholic secondary) that we can feed into and whether that proves to be difficult for us, we may have to transfer back, but we plan to stay. (Second female parent at Catholic primary school, Flower Valley)

This is our home town so the kids naturally started their schooling here. We did consider sending them away to do their high school years, either private boarding school or much like I did. My son had plans of going to university at a very young age, that was his goal and in the end we decided if he was going to aim to go to uni he should be able to get the marks he needed from his own home town and we'd support him through his university years. (Parent, The Bay)

***Students***

Most of the students in the focus groups enjoyed living in a rural setting. They were able to enjoy locally-based activities and did not see themselves as significantly disadvantaged by isolation and lack of services in general. Some – especially those on farms or in very small communities – would like to live in the bigger centre in which their school is located as this would, among other things, avoid the long time to travel to school (45 minutes – one hour in some cases).

That being said, many of these students also indicated they would move elsewhere when they were older – perhaps to a capital city. This was because they felt that there was ‘more stuff to do’ in the city than in the country.

I wouldn't really like to live here in the future, because there's not much shops, there's not much to do and it's too little a town. (Year 6 female, Catholic primary school, Flower Valley)

I don't really live in Flower Valley; I live out from here. Well it's good because all my friends and that ... live here but when I get older probably I'd rather move, somewhere like Melbourne or Brisbane or something... There are things to do here, but there'd be more somewhere else. (Year 6 male, Catholic primary school, Flower Valley).

For some, moving to the city would, in the first instance at least, take the form of being sent to Adelaide to boarding school from about Year 10.

When you go away a lot you get, like, more responsible, 'cause like you go to work everyday and your Mum doesn't do your washing. (Primary Student, The Bay)

While students said that this ‘makes you more independent’ they were also aware of disadvantages of living away from home at a young age.

**Perceptions of science, ICT and mathematics education in these schools*****Teachers***

Teachers in several of the schools noted that the staff was generally cohesive, with a ‘strong sense of collegiality...many staff are willing to share skills, knowledge and equipment’. In one of the smaller schools it was noted that the size of the school made it easier to ‘focus the curriculum’, although at the same school there was some unease that mathematics and science, in particular, had been somewhat neglected as a result of the school's focus on literacy over several years. This ‘neglect’ of mathematics and science was also reported in one of the larger schools where there has been a focus on literacy, PE and health in recent years. Overall, a number of teachers feel that they are ‘spread too thinly’ and ‘wearing so many hats’ that their capacity and time to be involved in professional development and other projects is limited, even though they are aware of needs. These include middle years, not ‘losing ICT in the integration process in the middle years’ and, generally, upgrading skills in areas of perceived weakness such as science for a number of the primary teachers.

In some ways I think there's a lot of those subjects, as a teacher, that you try and teach your best, but there're so many other things to teach in literacy and maths, and when you're talking about a junior primary class, everything sort

of links in, so I don't feel that I'm probably doing my best in science. (Female junior primary teacher, Flower Valley)

There was something of a difference between the R-12 schools and the primary schools in relation to availability of resources. Whilst all were generally satisfied with the ICT resources (albeit with a sense in the largest school – The Bay – that teachers needed to do too much of the 'technical' work due to isolation). Teachers in Flower Valley (the small school) mentioned concerns about the lack of resources to teach science in the school.

You probably find though that, because you haven't got the resources for the students, science might not be as exciting as it could be. (Female primary teacher)

I think parents ... are concerned that their children need numeracy skills and they need the ICT because they realise that's the way it works here, but science hasn't had much of a play so they're not, you don't normally get parents just saying "and how are they going in science?", it's always "how are they going in maths?, how are they doing in language?, how are they doing...?", you never get the science, "how are they doing in science?" it's always the big ticket items, "how's the computer going, how are they doing, what are they reading?" whereas science is sort of like the poor cousin. (Female primary teacher)

What all agreed on was that distance was an issue in terms of access to facilities located in Adelaide (e.g., Investigator Science Centre, Nature Education Centre, etc.). Teachers from Sandy Grove suggested that it would be more appropriate for these outreach organisations/centres to spend a more extended period of time in country centres. Teachers mentioned a range of locally initiated programs and activities. These included an agriculture program that 'provides a practical focus for students as well as underpinning science courses in the later years' (Senior science teacher, Greenview), local mathematics fair, programmed ICT time, linking science curriculum to the local community (oyster farming and aquaculture, viticulture). These activities reflect the schools' efforts to enrich their students' experiences in science and mathematics through their local efforts. The impact of programs that seek to utilise local resources for the learning of science, in particular, seems to be limited due to the teachers not having sufficient time to develop the links and build the possibilities into the curriculum. Hence, students' experiences of these opportunities and exposures are not linked in ways that help make what they have seen and experienced relevant to them.

Several teachers mentioned that class sizes were generally small. While this was clearly seen as an advantage in the compulsory years, it created issues of viability and quality in senior secondary. In The Bay, for example:

The subject options available for Year 11/12 students are often limited. For example, chemistry has not been offered for 13 years. The on-site availability of biology, physics and specialist mathematics and mathematics studies<sup>4</sup> is determined by student demand from year-to-year. For example, students currently in Year 12 have to study biology via open access (where they speak with a teacher over the phone for 45 minutes per week). Students are then limited in their tertiary options. (Science teacher)

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<sup>4</sup> These are the pre-tertiary mathematics subjects intended for students anticipating further study in the 'quantitative' sciences.

A further issue across both the schools with secondary components was ‘the loss of kids to private city schools, not so much the numbers as leaders (lynchpins of the courses) who would encourage and support others’. (Senior science teacher, Greenview).

Access to professional development during school time<sup>5</sup> was a problem mentioned in all schools. The cost and time spent in attending sessions in Adelaide, and the difficulty of getting suitable (or indeed any) replacement teachers to cover their absence from school were the key issues in all schools. This is even the case in one of the schools with two permanent relieving teachers who are theoretically available to relieve for teachers absent at a professional development session. In practice, these teachers were most often assigned to contract positions (for a term or so).

There’s not enough offered to country areas and there is so much emphasis on teachers going to Adelaide (for PD) in school holidays, and 4:30 to 6:30pm every Wednesday for six weeks, and it’s just not an option, not an option for me. I have a family and things like that; and I think there’s so much offered in school holidays, which is great, but you’re so exhausted in school holidays and you’re thinking about what you’re going to do next term, that it’s just not viable at that sort of time. (Female junior primary teacher, Flower Valley)

In general, the more isolated schools found it difficult to attract staff, particularly those required to fill short-term contracts. As a result, teachers need to teach outside ‘their area of expertise and this can be a real disadvantage to the students’. Distance can also result in lack of access to support services for students with learning needs and behavioural problems, and dealing with these students adds further to the things the school needs to do.

Teachers also highlighted some characteristics of the students that, in their view, militate against them reaching their full potential. In particular, ‘the majority of students lose interest in science subjects by Year 9. Many of the students do not perceive a need for the study of science or mathematics.’ Many Indigenous students do not have continuity in their schooling for a variety of reasons. This results in them doing a lot of ‘one off’ work and, generally, achieving well below their potential.

I teach all the middle school – six, seven, eight, nine, and student drift is mainly an issue with the Indigenous students. They have a high mobility and transience from different communities in the area, so on any given day, I’ll have maybe four or five Indigenous students on my roll but usually they won’t be there. But every now and then they’ll come ... it’s hard to get any consistency going with the students that randomly and infrequently turn up. I mean, you can’t carry something on that the rest of the class is doing, so they end up doing a lot of one-offs. I don’t think it benefits them a whole lot, but there’s no other strategy you can do, unless you set something up that they can chip away at each time they do attend, which is what I’m trying to organise now. (Teacher, The Bay)

### ***Parents***

Parents seem to be supportive of the work and efforts of the teachers. Overall, the sense gained from parents’ responses in all schools was that ‘the teachers do the best they can in the

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<sup>5</sup> This seems to be the preferred mode for professional development, with little support for ‘two-hour, after school sessions’ in at least one school.

circumstances'. They appreciate the efforts of most teachers and the effects of special programs established by the schools (e.g. agriculture program). While parents generally thought that smaller class sizes assisted their children's learning in the compulsory years, they see the same problems in the senior secondary level as recognised by teachers.

The main problem is lack of access to many science and mathematics subjects in Year 11 and 12. Students are never certain what subjects will be available and may not plan on taking subjects such as physics. (Parent, The Bay)

Parents indicated that they were much more content with the mathematics, science and ICT programs in the primary years, based largely on the size of classes and the satisfactory level of student access to computers, although in one case (Flower Valley, the smallest of the schools) the lack of a dedicated science or mathematics co-ordinator resulted in a sense of isolation '... because you don't really know whether you're doing what other schools are doing'.

Like the teachers, when considering the secondary years, the parents were 'concerned about appropriately qualified teachers for specialty subjects, on-site teaching and other resources', the number of students who leave school between Year 10 and year 12 and 'the need for more flexible access to Open Access courses'. Some parents also felt that because there was not a wide range of employment opportunities in the area, students 'probably do not see a need to study science or mathematics'.

Some parents, particularly in the smaller primary schools, mentioned a lack of access to resources. At Flower Valley, a parent observed:

... we don't really have ... even a shelf for science. We don't have anywhere where they can set up experiments that take some time, leave them there or have special equipment to use that you couldn't use in the classroom.

For a number of these parents distance from Adelaide caused difficulties with other resources that could support teaching and learning in mathematics, science and ICT. They cited a number of activities such as science competitions, excursions, information workshops for parents etc., that were mostly held in Adelaide. The prohibitive cost of entering multiple competitions was also mentioned in one school.

The issues of attracting teachers to country schools, and retaining them, were not mentioned explicitly by the parents. The only comment about staffing was made in one school where the issue, for the parents, was something of the reverse – frustration that a teacher they see as under-performing could not be moved out of the school.

### ***Students***

The primary students' responses to questions about their experiences with particular subjects at school reflect what might be expected from their peers in the city.

For mathematics, they mentioned traditional topics such as decimals and fractions, but talked mostly about liking or disliking the subject – quite a number tended to dislike mathematics, although this was not universal. The Sandy Grove students indicated that they tend to like mathematics. Whatever their feelings for the subject, the students – like many of their counterparts in metropolitan centres – thought that teachers should '(m)ake maths more fun ... turn maths into sort of a game', and cited examples of hands-on activities that they had enjoyed.



In discussing their experiences of science, this preference for hands-on activities was emphasised by several students. One said: ‘I like science, and because I like making stuff and a little while ago we made phones out of cups and strings ... and we did candles.’

Other topics mentioned by one group included sound, water, measuring time, making and racing land yachts, and the solar system. The emphasis on ‘doing’ was underlined by one student who suggested: ‘I think we should just do experiments and not have to write it in our book, because you forget.’

Nevertheless, there was general agreement in all groups that they do not do science very often. Indeed, it seems that some younger students tended not to recognise that they were even ‘doing’ science. On the other hand they enjoyed doing the experiments and activities, and possibly saw that as the ‘science’, rather than acknowledging the science concepts that are associated with, and explored in the experiments. Their view was that if they were not doing experiments, then they were not doing science.

For most of the primary students, ICT was associated with working on the computer using software programs (e.g., Publisher, Microsoft PowerPoint), playing games and researching on the Internet. Many students said they had access to the Internet at home, although teachers at The Bay indicated that Indigenous students had significantly less access from their homes. Barnes (2003) reports that the use of computers can have a strong, positive effect on Indigenous students’ learning. Finding creative ways to address the shortfall in home ownership of computers would thus seem to be a useful strategy.

One group described a structure for working with computers in class that is common in primary classrooms:

...half the class will go on and then the other half will stay off and do work. We do that by pulling names out of the bucket. (Year 6 female, Catholic primary Flower Valley)

This group, unlike their parents, were somewhat dissatisfied with their access to computers at school and noted that ‘apart from the library not every classroom had access to the Internet’.

Responses and thoughts about mathematics, science and ICT at school from the secondary students also, to a large extent, reflected those typical of students their age.

Mathematics was tolerated by some students and disliked by others. Attitudes to the subject were mainly practical with students generally feeling that they needed to do it. One student saw it as necessary and was determined to gain sufficient mathematical skills for a career choice. Most other students had little idea of the mathematics requirements of any career preferences.

Dispositions to science in school mostly ranged from neutral to negative. Various students expressed opinions about the focus of work in science lessons (‘I’d like to have less notes to write in lessons’) and questioned the practical value of science. The textbook was seen as ‘boring’ by one group, and teachers and students ‘preferred the laboratory to the textbook’.

As with their primary counterparts, these students’ experiences with ICT in their learning are mainly through using proprietary, generic software tools. Some instances of specialised software in mathematics were cited. Only at Greenview was there mention of an ICT specific component (as opposed to ICT being integrated as a learning tool across the curriculum)

though this was not offered as an option until Year 10. Access to computers for these students was satisfactory, but on the whole there was an impression that the use of computers in mathematics and science was not exciting, and students were not coming to appreciate the role of ICT in personal productivity in general, or in their own learning in particular.

The key area in which these students' experiences of mathematics and science in particular differed from those of their city counterparts was the small numbers in the senior classes. Students were frustrated by the lack of on-site access to some higher-level topics in mathematics and science, and the inadequacies of studying these by distance means.

Doing, and learning from science practicals was particularly difficult and in mathematics it was 'more difficult to get help when something is not understood'. Several of the students had been unable to take chosen subjects at school and study through Open Access College. This meant that they had one phone call with their teacher each week which they found inadequate. Lack of face-to-face contact made some aspects of studying difficult, for example, doing practicals. An advantage was small class sizes in Year 11/12 and easy access to computers. Lack of local technical help was frustrating when computers had problems, but the teachers managed to solve most of these.

One group also mentioned difficulties with computer reliability and the lack of local expertise to overcome these ('there is no-one available in town'). This was much less likely to be the case in the city and larger centres, as illustrated in this conversation from The Bay:

Student: At the moment, the server keeps dropping out. They bought, like, two brand new ones.

Researcher: And are there people in the town that are able to service them?

Student: Not really. The teachers do it.

## **Educational aspirations for young people**

### ***Parents***

Parents' hopes for their children's future varied from those with clear expectations of tertiary study, through to those whose aspirations were for their children to have some sort of trade qualifications (apprenticeship; traineeship). A small number 'didn't mind what their children wanted to become'. In general, the major goal was for the highest level of education attainable for the individual. Parents at Sandy Grove indicated that they want their children to have a selection of careers but were not concerned about which ones they chose as long as they wanted to do it. Although it was not a universal aspiration for their children, parents indicated that they would let them go to university if that was what they wanted to do. For the parents in Greenview there was a sense that educational aspirations were higher for girls than for boys.

It was of interest to note that one set of parents in Flower Valley, with definite tertiary aspirations, expect to move back to the city for their children's secondary education as they did not believe the local education provision would meet their requirements<sup>6</sup> due to the lack of a local Catholic secondary school. At the other end of the spectrum was a fear that a child would leave the local area for work or education. For this parent, keeping the child nearby seemed a more important outcome than educational attainment. In general, most parents accepted that many of their children would leave home for study or work.

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<sup>6</sup> This family had recently moved to the country for the lifestyle advantages.

One parent noted that they have a child undertaking an apprenticeship, despite having had aspirations to go to university when at school. This young person did not achieve a high enough TER score to pursue that pathway. The parent believed that ‘the difficulties of studying in a remote location without access to particular subjects and the need to study via open access... caused the low TER.’<sup>7</sup> This anecdote supports the views expressed elsewhere that young people can be disadvantaged in the senior years.

### *Students*

Primary students were generally unable to answer questions about their aspirations, or did so from a fairly superficial base (footballer, pet shop owner, fashion designer, secretary, etc.).

There was more substance in the older secondary students’ responses. There were those with particular pathways in mind (vocational and tertiary), and these young people had an appreciation of the need to take certain mathematics and science subjects while at school. In one case, at least, a student was taking a particular mathematics subject because he needed it for an apprenticeship, not out of any preference. Younger secondary students tended not to see science, mathematics or ICT as relevant careers.

## **Influences on learning outcomes in science, ICT and mathematics**

### *Teachers*

The focus groups elicited teachers’ views on attracting and retaining good teachers in general, and good science, mathematics and ICT teachers in particular.

Some schools did not experience problems with attracting teachers, while others such as The Bay did:

Researcher: Is teacher attraction or retention an issue in the school?

Teacher 1: Attracting teachers, yes.

Teacher 2: Attracting, yes. But we’ve got Jack as a prime example. If we keep them for any more than three or four years, we usually can’t get rid of them.

Teacher 2: But we’ve found with a lot of teachers that once you get them over the hurdle and get them into the community and get them known around the place, and that sort of stuff, then they seem to stay for a long time.

Teacher 1: Yeh, I suppose in my first three or four years here, we’d probably have about a 40% staff turnover. That’s not unusual to have, you know, up to a dozen new staff, and very few of those would have been permanent appointments; a lot of contracts. We also used to have a lot of contracts starting throughout the year which makes things difficult. We struggled to fill part-time vacancies and this is why, to a certain extent, we targeted Dick after his successful prac. He was from here, he had a successful prac, so we knew that he could teach, so yes, we grabbed him straight away. Sometimes the people that you’re picking up through a general recruitment process have not been successful in obtaining jobs elsewhere, which makes it difficult. ...a couple of years ago we had a new graduate in maths and science. She did

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<sup>7</sup> While this was a comment across all subjects it was in part related to less access to science and mathematics subjects that tend to result in a higher TER scores.

twelve months here and then got a position in a private school in Adelaide, so we spent a lot of time and effort getting that person up to speed in the way in which the school operates, and to lose those skills and expertise after twelve months...

In these cases, some of the suggestions included encouraging more pre-service teachers to do their practicums in rural areas, employers providing country incentives (financial, housing) and giving teachers in mathematics and science permanent appointments in their schools, rather than short-term contracts.

All schools except Sandy Grove reported problems with retaining new teachers for more than one or two years. For Sandy Grove, there had been a significant changeover 'a few years ago', but since then the staff had been quite stable. For this school the problems of staffing related more to attracting short-term contracts and relieving teachers.

### *Parents*

In response to questions about the community's attitudes to science, mathematics and ICT, one group indicated that these subjects are not perceived as having a lot of practical uses in the community as a whole. Despite the parents' aspirations (as outlined above) another community was noted as giving:

very little recognition to academic pursuits in science, maths, ICT.  
 "Those people are just nerds." Most attention in the community is given to sport. (Parent, Flower Valley)

Other concerns raised indicated that the remoteness of the town diminishes opportunities and student aspirations. In these smaller communities there were few role models seen as able to inform and inspire young people in relation to careers that involve science, mathematics and ICT. In addition, concern was expressed that it was hard to keep good teachers since career opportunities for teachers lay in larger regional centres or in the city.

## **SUMMARY OF FINDINGS**

The findings from these interviews need to be viewed in the South Australia context. The population is highly centralised in Adelaide, with no centres classified as 'Provincial City', that is, having a population between 50000 and 100000. In fact, there are few centres of any significant size (say, pop. >10000). Even in the relatively populous regions, the density of population remains low in real terms. Hence, Adelaide is seen as the central – and only – repository of resources to support young people's learning in science, mathematics and ICT beyond what is feasible within the schools themselves. In many respects this is the current reality, as is the necessity for students to move to Adelaide to pursue tertiary study in these areas.

This, then, is the face of 'isolation' in this state – everyone outside greater metropolitan Adelaide or its close environs can be seen to be isolated, and these respondents perceive that they are isolated, in various ways. Clearly there are degrees of isolation that relate to distance from Adelaide, but teachers, students and parents in all these schools identified issues that can be seen as direct consequences of their isolation within the context of this state. While they are generally proud of their schools and what is being achieved, they feel that, because of their location, they are in some way inferior to schools in Adelaide.

Teachers in these schools felt they weren't aware of what was happening in education in mathematics, science and ICT. Their core concern was lack of access to professional development. Given that most professional development outside schools is held in Adelaide, the costs of travel – both monetary and in terms of teachers' time – are always large and in many cases prohibitive. The other practical constraint on their participation in professional development was the capacity of the school to replace them in their classes. In many areas of the state there simply aren't people available for casual relief teaching. This is a major constraint on participation in both in-school and out-of-school professional development. While on-line delivery of professional development may have the potential to overcome the issues of travel and associated costs, none of the teachers related successful experiences with this mode of professional development. Similarly, no teachers referred to professional associations, despite these organisations providing teacher support in a variety of ways. Clearly programs must be put in place to improve access to professional development and connections with professional organisations.

Staffing would appear to be critical for most of the schools, although it is true to say that the difficulties vary with the context and location of each individual school. For more remote schools, there are basic difficulties in recruiting and retaining appropriately qualified staff and having access to relieving teachers. Other factors can be staff 'complacency', often seen as a negative outcome of longevity in a school. Resources and materials appear to be a difficulty in smaller (primary) schools. Staff in these schools can also feel very 'stretched' as they try to work simultaneously on several fronts. In the face of the demographic challenges, it would appear that education systems need to examine new and novel responses to staffing concerns.

Several key findings emerged in relation to teaching and learning in these schools. Teachers in the two primary schools felt they did not have access to suitable facilities for science teaching and to advice to support them. This was not such a problem for teachers in the primary years in the Area Schools. They appreciated the access to facilities (including substantial numbers of computers in at least one case) and expertise that working in an R-12 setting provides.

Other more specialised resources, in particular, science education 'outreach' programs were highly valued for their capacity to extend and enrich teaching and learning in science. Again, however, isolation creates significant problems of access. Even when these organisations tour country centres it is found that the visits are too short to enable substantial gain in the students' learning and attitudes to science. Rural and regional schools must be supported in connecting the science that already exists in their surroundings with their curricular practices. This process should involve making links with local businesses and industry.

A core issue in the senior years is access to science, mathematics and ICT courses appropriate for students aspiring to undertake further study in these areas. In many cases the numbers are so low that studying these courses by distance mode is the only possibility. This was viewed by the teachers, students and parents as being inferior to learning in face-to-face mode. This seems to be a major factor in some families' decisions to send young people to boarding school in Adelaide and this, of course, further reduces the 'pool' of students in the senior years in these smaller schools. Nevertheless, there is emerging evidence of improved distance learning via new technologies.

The key concern in relation to the educational progress of Indigenous students is transience. From these findings the challenge for teachers and schools is to develop programs that account for the reality of irregular school attendance in these young people, and which serve

to maximise their progress. These students also tended to have less access to computers in their homes. Skills of Indigenous students with multimedia have been identified in other projects, but such depend on extensive access. Attention should be directed to appropriate curriculum and teacher practices for needs (including transience) of Indigenous students.

The parents involved in the focus groups had a similar range of aspirations for their children to those which might be found among parents in metropolitan locations. However, for those with expectations and hopes that their children would undertake higher education, there was a sense that the local provision may not maximise the chances of this happening and that boarding school (or moving to the city as a family) would be a better solution. Many parents also expressed the view that while achievement in sport is clearly celebrated in their communities, academic achievement attracts far less public recognition.

It was clear from these focus schools that many resources exist to support improved learning in mathematics, science and ICT. It will be important to provide communities the capacities to develop and utilize these resources.

## **REFERENCE**

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