



Parent and Family Interaction, Engagement and Perception around Mathematics



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AAMT is the leading professional organisation of mathematics teachers in Australia. The organisation is responsible for managing the Australian Government's *Make It Count* initiative.

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Parent and Family Interaction, Engagement and Perception around Mathematics was prepared for the AAMT by Dr Catherine M. Demosthenous and Dr Hellene T. Demosthenous; two women of Gamilaraay, Greek-Cypriot and Irish, who share kinship and spiritual links, and are members of the Griffith University's Indigenous Research Network (IRN) and work in the office of Indigenous Community Engagement, Policy and Partnership (ICEPP).

The cover includes photographs and images from St Peter Claver College, 10 Old Ipswich Road, Riverview, Queensland, with permission from the College Principal, Mr Diarmuid O'Riordan. The cover also includes the logos of stakeholder parties on the project, which are presented in the following order, the AAMT's *Make It Count*, Griffith University's Indigenous Research Network and Griffith University. The cover, design and typesetting are the work of the authors.

“2 + 3 = 5 is a bunch of symbols. Separately, they have their own meaning. Together, they tell a story.”

Dr Christopher Matthews

Acknowledgements

We acknowledge the traditional owners of our lands; past and present.

We acknowledge the Griffith University Aboriginal and Torres Strait Islander Council of Elders.

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We would also like to acknowledge:

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- Mr Derek Kinchela, Teacher;
- Mr Menessia Nagie, Indigenous Liaison Officer;
- Mr Benjamin Potts, Literacy and Numeracy Improvement Teacher;
- Mrs Cheryl Quelhurst, Indigenous Teacher Assistant;
- Mrs Jo-Ann Soos, Principal’s Secretary,
- Mr Rajaratnam Vasanthakumar, Subject Coordinator Maths Years 10-12; and
- Mrs Gloria Wilson, Indigenous Teacher Assistant.

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Executive Summary

The Australian Association of Mathematics Teachers Inc (AAMT) is the nation's premier organisation of mathematics educators and federation of associations of teachers of mathematics from all Australian States and Territories. With funding from the Australian Government, the AAMT has established a four-year project, *Make It Count: Numeracy, Mathematics and Indigenous Learners*. Make It Count, as it has come to be known, has been working in clusters of schools across regional and urban Australia to develop an evidence base of practices to inform the improvement of "learning outcomes of Indigenous students in mathematics" (Morris and Matthews, 2010, p.31).

In late 2011, Make It Count Ambassador, Dr Christopher Matthews, invited the authors to apply to AAMT to tender to conduct research in the Make It Count project. As per the submission documents, the AAMT were interested to understand (i) interaction and engagement between the school community and Aboriginal and Torres Strait Islander parents/families; and (ii) Aboriginal and Torres Strait Islander parents/families' perception of mathematics and its use in the community. The current report is the culmination of our successful bid to provide that research service.

The report has been driven by the AAMT's commitment to understanding the involvement of Aboriginal and Torres Strait Islander parents and families in their child/ren's school community, and particularly as that applies to mathematics education at St Peter Claver College, Riverview; a Catholic, co-educational secondary school in the Nerang, Queensland Cluster, which is committed to best practices and quality education for teachers and students, both Indigenous and non-Indigenous.

People participating in our data collection activities were of Indigenous (i.e., Aboriginal and Torres Strait Islander) and non-Indigenous backgrounds, and included: (i) Aboriginal and Torres Strait Islander parents/families and other interested community members, (ii) the school and its community, and (iii) Critical Friend(s) of the Project. Data were collected in meetings and yarning circles, and these were held in different settings in the school and the wider community. The stories and comments shared were audio-recorded and later transcribed, which enabled us to respectfully present selected examples of the talk verbatim in the way that the words were actually, originally spoken.

The report forms part of a range of qualitative and quantitative research by the AAMT, which is funded by the Department of Education, Employment and Workplace Relations (DEEWR).

Key Findings

The key findings around interaction and engagement between the school community and Aboriginal and Torres Strait Islander parents and families, and Aboriginal and Torres Strait Islander parents and families' perception of mathematics indicate that:

- The common message from participating groups in the research was to strongly endorse the objectives of the AAMT's Make It Count project – to improve learning outcomes of Indigenous students in mathematics education.
- The College is leading the way in terms of its approach to Indigenous education in general, as evidenced in its implementation strategic initiatives across teaching and learning, including its extracurricular activities for students, teachers, and parents and families, as well as its increase in Indigenous student retention and participation rates and increase in Indigenous staff numbers.
- The College is committed to improving the learning outcomes of Indigenous students in mathematics education, as demonstrated in its involvement with the Make It Count culturally-responsive approach to mathematics and numeracy, the provision of mathematics training of Indigenous and non-Indigenous teaching staff, the involvement of teachers in reflective research practices to improve pedagogical practice, proactive participation of teachers and students in mathematics workshops and camps, and attitude to and reverence for the significance of culture in meeting the needs of Aboriginal and Torres Strait Islander learners.
- The College uses a wide range of new and emerging technologies to interact with its Aboriginal and Torres Strait Islander parents and families, which included the internet, social media platforms, mobile phone technologies and in face-to-face mode, however the costs, skills and access required to communicate via these technologies means that some parents and families may miss out on important information.
- Interacting with Aboriginal and Torres Strait Islander parents and families is typically a responsibility of the Indigenous staff of the College, who are seen as essential in engaging parents and families of Indigenous students in their children's education and the life of the

College and in the provision of information about students to teaching staff, and vice versa, which included information around Indigenous culture and Indigenous issues to the College.

- There are a number of variables that constitute engagement between the school community and its Aboriginal and Torres Strait Islander parents and families, which include: the attendance of parents and families at College gatherings and functions; College-parent/family co-involvement in benevolent and other activities in the wider community; the support provided by the College to students' families in times of need; and the provision of culturally-respectful practices and activities such as those initiated through Make It Count.
- The effect of parent and family engagement on Aboriginal and Torres Strait Islander student outcomes is essentially positive, and is reflected in an increase in attendance and retention rates, as well as in the numbers of Aboriginal and Torres Strait Islander students taking on leadership roles, though there is a way to go to engaging Indigenous parents and families at whole-of-school events alongside non-Indigenous parents and families.
- The College's non-Indigenous mathematics teachers would like to be more involved with the parents and families of their Indigenous students and feel that this will help build better relationships and improve student learning outcomes.
- Indigenous people have a collective history of institutionalisation and educational disadvantage, and parents and families generally feel comfortable in engaging with Indigenous staff about their children's education and school life.
- Aboriginal and Torres Strait Islander parents and families are happy to send their children to the College.
- Aboriginal and Torres Strait Islander parents and families have an impression that mathematics is hard to understand, but see being numerate as necessary for everyday life, further studies, future careers and success in adult life;
- Indigenous people can be good at mathematics.
- Aboriginal and Torres Strait Islander parents and families see that the AAMT's Make It Count initiative has made a great impression on the College and its approach to mathematics education for improving the outcomes of Indigenous learners by teaching mathematics in a culturally-responsive way to Indigenous and non-Indigenous teaching staff, building the learning and teaching leadership capacity of Indigenous staff for the benefit of Aboriginal and Torres Strait Islander learners, and to exposing their children to culturally-discrete ways of grasping mathematics and numeracy in new and empowering ways.

Abbreviations, Acronyms and Glossary

AAMT	Australian Association of Mathematics Teachers Inc
ABS	Australian Bureau of Statistics
ACARA	Australian Curriculum, Assessment and Reporting Authority
AHMAC	Australian Health Ministers' Advisory Council
APAPDC	Australian Principals Association Professional Development Council
ATSI	Aboriginal and Torres Strait Islander
Close the gap	Often used in the context of Indigenous issues, but specifically refers to the gap in health and life expectancy. It is also more generally used to refer to the inequalities that exist between Indigenous and non-Indigenous people
Cluster	Refers to a group of schools in a particular region
Country	A place of belonging and a way of believing (from Aboriginal English)
Critical Friend	Academic working closely with Clusters
DEEWR	Department of Education, Employment and Workplace Relations
DEST	Department of Education, Science and Training
Indigenous	Aboriginal and Torres Strait Islander Australian persons
IRN	Indigenous Research Network
LGA	Local Government Area
MCEETYA	Ministerial Council on Education, Employment, Training and Youth Affairs
NAIDOC	National Aboriginal and Islander Day Observance Committee
NAPLAN	National Assessment Plan – Literacy and Numeracy
OESR	Office of Economic and Statistical Research
QLD	Queensland
Sorry Business	Refers to a period of mourning accompanying expression of deep sorrow when someone dies, and typically involving cultural conventions

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1 The Project

The Australian Government is committed to reducing disadvantage in education for Aboriginal and Torres Strait Islander students through a number of programs and initiatives aims to improve reading, writing and numeracy achievements of Aboriginal and Torres Strait Islander students (DEEWR, 2012). In partnership with other Australian Government departments and state and territory governments, the Department of Education, Employment and Workplace Relations (DEEWR) is committed to reducing disadvantage in education for Aboriginal and Torres Strait Islander students by putting in place policies and delivering programs that work towards:

- halving the gap in reading, writing and numeracy achievements within a decade
- halving the gap in year 12 attainment or equivalent attainment rates by 2020.

Funded by the Australian Government, the Australian Association of Mathematics Teachers (AAMT) is a federation of associations of teachers of mathematics from all Australian States and Territories. The AAMT:

- publishes hard copy and electronic newsletters for members;
- publishes three refereed journals (available by subscription), as well as other books, statements and conference proceedings;
- provides selected Australian and international mathematics education resources through its mail order catalogue;
- acts as a consultant and lobbyist on mathematics education issues;
- facilitates the professional networking of teachers and educators;
- conducts national conferences; and
- advocates the development and use of its *Standards for Excellence in Teaching Mathematics in Australian Schools*.

The AAMT also conducts and supports a variety of projects and activities, such as the *Make It Count: Numeracy, Mathematics and Indigenous Learners* project, which informs the focus in this report, entitled: Parent and Family Interaction, Engagement and Perception around Mathematics.

1.1 Make It Count

Make It Count was officially launched at the National Indigenous Education Conference in Hobart on 23 November, 2009. It is a four-year project that is developing an evidence base of practices to improve Indigenous students' learning in mathematics and numeracy. It is:

- documenting and sharing effective models of teacher professional development, whole school change and community engagement in relation to mathematics and numeracy;
- developing whole school approaches to mathematics and numeracy that result in markedly improved achievement by Indigenous students;
- building and participating in networks and professional learning communities;
- a catalyst and support for action by others and is influencing others on mathematics and numeracy learning of Indigenous students; and
- running until the end of 2012.

Make It Count is building learning communities:

- within schools;
- within Clusters, and across Clusters;
- between practitioners and researchers;
- between Indigenous communities, schools and academics;
- at a national level (Network NING), includes analysis of NAPLAN data, attitudinal surveys, teacher/school/Cluster generated data, student work samples;
- collaboration with Critical Friends; and
- project evaluation considering: student achievement; student experiences in mathematics/numeracy; student attitudes, beliefs and self-concept; teacher and school change; cultural competency of teachers in schools; and school-community partnerships.

Make It Count is 'intersecting community with mathematics to develop culturally responsive mathematics pedagogy' (Morris and Matthews, 2010). The diagram shows the Make It Count focus (see fig. 1.1).

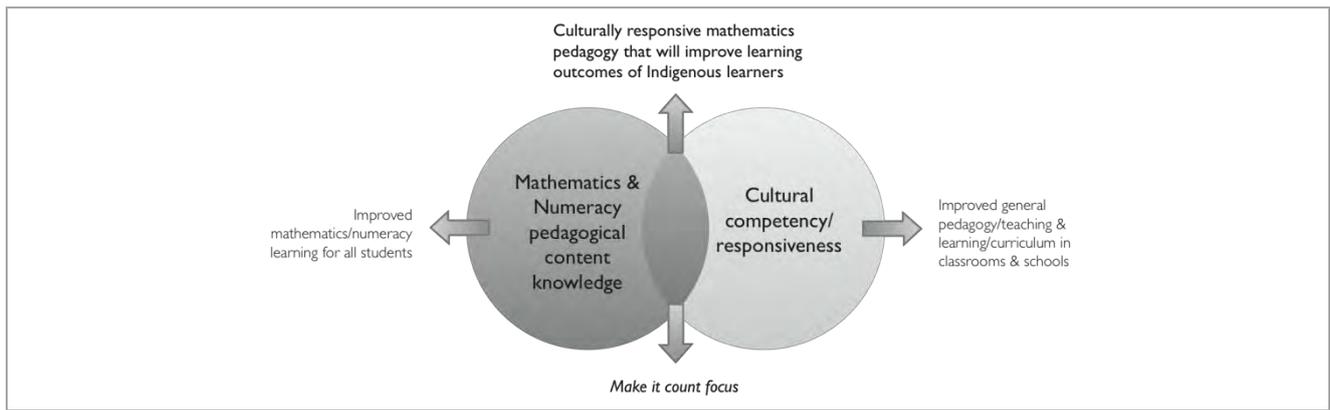


Figure 1.1 Finding the Intersections

Source: Make It Count, 2012a

Morris and Matthews (2010) have explained,

We’re working with clusters of schools, that’s our focus, and based on listening to educators and other leaders in Indigenous communities we really want them to take on community engagement because we believe it’s crucial to improving learning outcomes of Indigenous kids.

In total, eight clusters have been “established across Australia”: (1) Swan Valley, Western Australia; (2) Alberton, South Australia; (3) Noarlunga, South Australia; (4) Healesville, Victoria; (5) Orange, New South Wales; (6) Dharug, New South Wales; (7) Nerang, Queensland; and (8) Gladstone, Queensland (Make It Count, 2012b).

Initial discussions with the AAMT identified (7) Nerang, Queensland as the Cluster in which data collection activities were to be carried out.

1.2 Definitions

In the English language, “make it count” is a phrase that refers to someone giving his or her best effort to something, usually an opportunity. In other words, “make it count” is a saying that aims to encourage and empower the listener to do his/her best in a particular endeavour, such as the opportunity for teaching/learning mathematics, which is its intended meaning here.

“Math” and “maths” are short-forms for the word “mathematics”. We understand that the word “mathematics” is a collective noun (as is “linguistics”) and considered singular, which indicates that the grammatically correct short-form is “math”. However, this report uses the short-form “maths”; in keeping with British English, which underpins the standard English used in Australia.

The concept “numeracy” is often used to refer to literacy relating to mathematics. In this report, we use the term numerary to refer to being numerate; to being able to use mathematics effectively to meet the general demands of life, at home, at work and in the community and civic life (AAMT, 1997, p.10).

“Indigenous” is commonly used to refer to persons of “Aboriginal and Torres Strait Islander” descent. The report uses the terms “Indigenous” and “Aboriginal” and “Aboriginal and Torres Strait Islander” interchangeably; particularly where we are quoting the Australian literature and speaking about “Indigenous education”. We understand that use of the term “Indigenous” conflates the unique, richness of diverse clans and communities who share the status of First Nations people of Australia and a history of similar treatment following colonisation, and use the term in line with its common usage in “Indigenous education” (Demosthenous, 2010).

1.3 Terms of Reference

The terms of reference for this project require the documentation of data collection results for the AAMT across the following themes:

- Interaction (reciprocal action or mutual influence) between the St Peter Claver College community and their Aboriginal and Torres Strait Islander parents/families;
- Engagement (involvement, commitment, and satisfaction) between the St Peter Claver College and their Aboriginal and Torres Strait Islander parents/families; and
- Aboriginal and Torres Strait Islander parents and families’ perception of mathematics and its use in the community.

Note that the scope of the project is to present the findings of data collection activities, which does not include analysis of the findings. Note further that the focus in this report remains on St Peter

Claver College's interaction, engagement and mathematics education as that relates to its Indigenous students and staff.

Data collection activities, which involved five meetings and three yarning circles, were held across a variety of settings in the College and the wider community. Participants were of Indigenous and non-Indigenous backgrounds, and included: (i) Aboriginal and Torres Strait Islander parents/families and other interested community members, (ii) the school and its community, and (iii) Critical Friend(s) of the project, and particularly those with involvement in the Nerang, Queensland Cluster.

The stories and comments shared in the meetings and yarning circles were audio-recorded and transcribed. We recognise that Aboriginal and Torres Strait Islanders parents and families are made up of different people with their own unique experiences, and understand that the findings presented in this report do not stand in for the experience of all Aboriginal and Torres Strait Islander parents and families, though there may be aspects that have meaning for others.

The AAMT were granted ethical clearance for the project by Catholic Education

2 The Nerang, Queensland Cluster

This section presents information on the Nerang, Queensland Cluster. It provides readers with information on its location and schools in the Cluster.

2.1 Location

The Nerang, Queensland Cluster is located at no. 7 on the on the map of Australia (see fig. 2.1). A closer look at the Cluster reveals that it includes the Gold Coast City Local Government Area (LGA) and the Ipswich City LGA, which have diverse geography, socio-economic status, and Indigenous and non-Indigenous populations.



Figure 2.1 Make It Count Clusters

Source: Make It Count, 2012

At the time of the 2011 Census the Gold Coast's 6,196 Indigenous peoples comprised 1.3 per cent of the total population (Queensland Treasury and Trade, 2012a), while Ipswich's 6,416 Indigenous peoples made up 3.8% of the total population, compared with 3.6 per cent in Queensland (Queensland Treasury and Trade, 2012b). The Ipswich City LGA has the poorer economy. For details see section 3 *Ipswich City* and the OESR website (<http://statistics.oesr.qld.gov.au/qld-regional-profiles>). Ipswich City has a considerable number of schools, including St Peter Claver College, which we look at next.

2.2 Schools

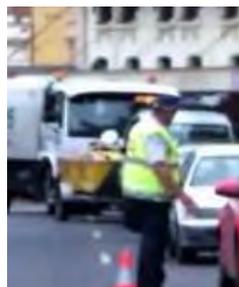
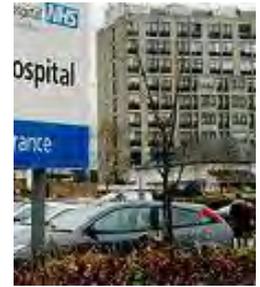
The Nerang, Queensland Cluster comprises six schools, that is five in the Gold Coast City LGA and one in the Ipswich LGA). The schools cover all year levels and include government and non-government schools. See Table 2.1 below for details about the schools, including the number of enrolments and percentage of Indigenous enrolments.

Table 2.1 Nerang, Queensland Cluster, Make It Count 2011

School	Total Enrolments	Indigenous Enrolments %
Gold Coast LGA		
Gilston State School	593	2
Nerang State High School	927	4
Nerang State School	376	9
St Brigid's Primary School	510	1
William Duncan State School	611	4
Ipswich LGA		
St Peter Claver College	924	6

Source: My School Website, 2012

It is interesting to note that St Peter Claver College, which is the school that was selected for this research project on parent and family interaction, engagement and perception around mathematics, is situated in the Ipswich LGA.



3 Indigenous People of Ipswich City

This section of the report presents a picture of the Ipswich City Local Government Area (LGA) in Southeast Queensland. Its purpose is to provide readers with a ready reference to information on Ipswich City's Indigenous people on a range of topics, including: population; age and sex; language, internet connection and education. The data are population censuses from the Australian Bureau of Statistics (ABS) and reported data from Queensland Treasury and Trade. These data are supplemented with photographs, images and observations (above and below).

Before presenting the data, it is important to say that there are some well-documented problems with the quality of Indigenous statistics (AHMAC, 2008; Demosthenous, 2012). And that these problems have to do with the uncertainty of the size, characteristics and circumstances of the Indigenous population, as well as the inconsistency of data collection methods across datasets.

That said, it is thanks to the efforts of Elders like Uncle Ken Dalton who have called on Indigenous people "to stand up and be counted" (Korner, 2011) that more Aboriginal and Torres Strait Islander people taking part in the five-yearly census, and that we are in a position to provide a more accurate picture of the Indigenous community residing in Ipswich City.

3.1 Population

According to 2011 ABS Census data, 6,416 people or 3.8% of the residents in Ipswich City were Indigenous (see Table 3.1 below). The overwhelming majority (91.5%) were non-Indigenous, and the remaining 4.7% did not state their Indigenous status.

Note that since a portion (4.7%) of all people residing in Ipswich did not answer the question about their Indigenous status, there is no way of knowing how many Indigenous people have not stated their Indigenous status. For this reason, analysis by Indigenous status excludes people for whom Indigenous status is unknown, unless otherwise stated.

Table 3.1 All People by Indigenous Status, Ipswich City, 2011

Indigenous Status	Census Counts of All People in Ipswich	Proportion of All People in Ipswich (%)
Indigenous(a)	6,416	3.8
Non-Indigenous	152,661	91.5
Not stated	7,827	4.7
Total	166,904	100.0

(a) Comprising Aboriginal and Torres Strait Islander Peoples.

Source: Queensland Treasury and Trade, 2012b

Of the 6,416 Indigenous people in Ipswich City, 5,825 identified as Aboriginal only. An additional 307 identified as Torres Strait Islander only, and the remaining 284 identified as being of both Aboriginal and Torres Strait Islander origin (see fig. 3.1).

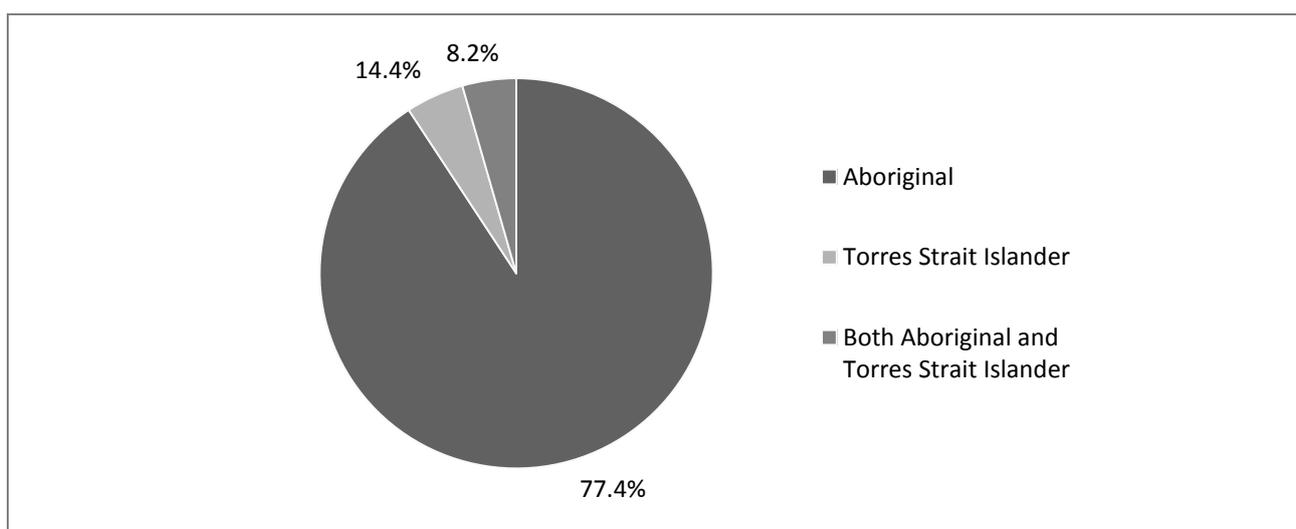


Figure 3.1 All Indigenous People by Origin, Ipswich City, 2011

Source: ABS, 2011b, Census of Population and Housing, Indigenous Profile

3.2 Age and Sex

The Indigenous population in Ipswich City has a young age structure, with proportionately larger numbers of younger persons and smaller numbers of older persons (see fig. 3.2, below). In the 2011

census count, just over half (51.4%) of the Indigenous population were under 20 years of age, an additional 15.4% were between 20 and 30 years of age and only 2.6% were 65 years of age and older.

Further, the Indigenous population was fairly evenly divided into males and females, though note that there were generally slightly more males the age categories in the younger years, and slightly more females in age categories in the older years in Ipswich in 2011 (see fig. 2.2). This shows that Indigenous males tend to die earlier than Indigenous females.

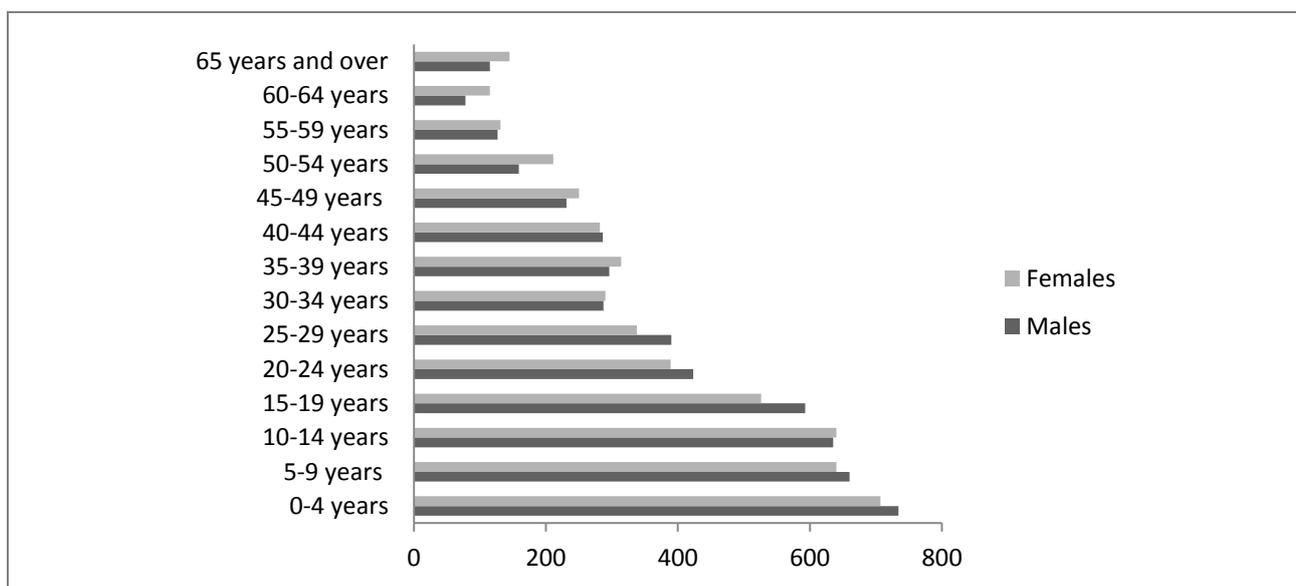


Figure 3.2 Age Structure of All Indigenous People by Sex, Ipswich(a), 2006

(a) Census counts of persons based on place of usual residents

Source: ABS, 2011b, Census of Population and Housing, Indigenous Profile

3.3 Language

In Ipswich all Indigenous people reported speaking English very well or well.

3.4 Internet Connection

Of the 4,000 households with one or more Indigenous people in residence, 2,874 Indigenous people reported having one or more Internet connection(s), that is, 71.9 per cent of all households with Indigenous people living there. Of those Internet connections, 2,486 were broadband connections and 120 were dial-up connections and 268 reported having other connections. Note that 928

reported having no Internet connection and 198 did not state whether they had an Internet connection or not.

3.5 Education

At the time of the 2011 Census, Ipswich City had 2,318 Indigenous persons aged 15 years and over whose highest level of schooling was Year 11 or 12 or equivalent (see fig. 3.3 below). On the other hand, 48 Indigenous persons or almost one per cent of the Indigenous population in the area reported that they did not go to school at all.

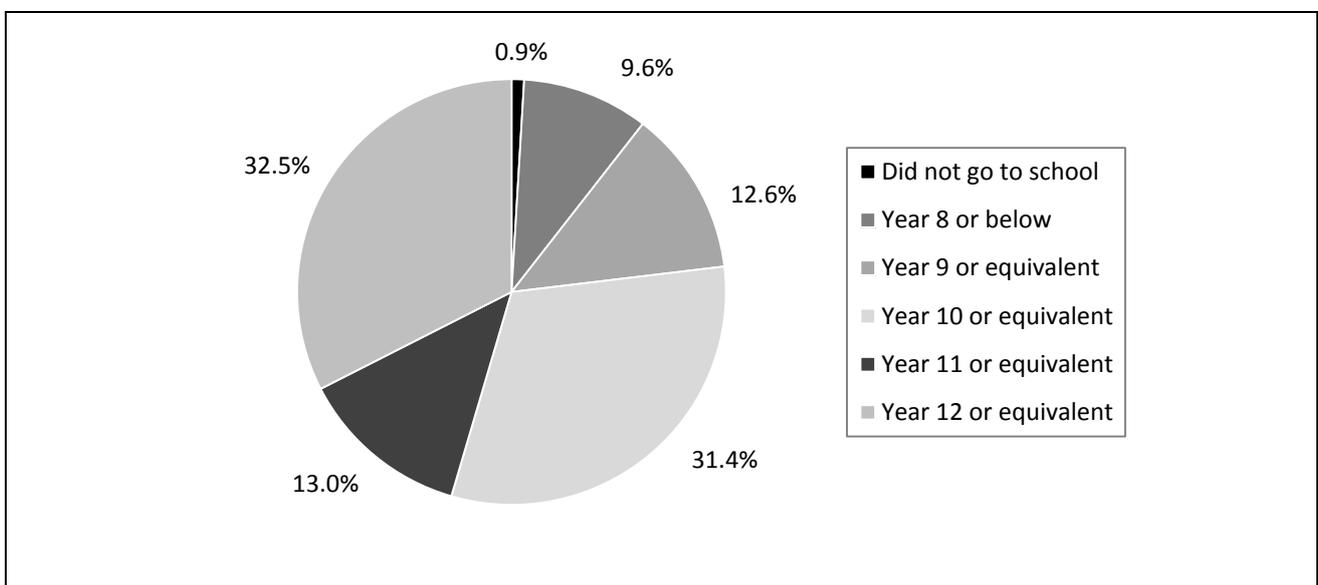


Figure 3.3 Highest level of Schooling of All Indigenous People Aged 15 or more Years, Ipswich(a), 2006

Source: ABS, 2011b Census of Population and Housing, Indigenous Profile



St Peter Claver College



4 St Peter Claver College

This section of the report presents information about St Peter Claver College, Riverview: the College in which the research was conducted.

4.1 The College

As made clear earlier, St Peter Claver College is a secondary college in Make It Count's Nerang, Queensland Cluster. The College is located at Riverview (in Ipswich City) and sits on the traditional lands of the Ugarapul clan, Yuggera Nation. Under the auspices of the Archdiocese of Brisbane, the stated mission of the College is:

[T]o provide a Catholic co-educational learning environment which celebrates the uniqueness of each individual, strives for excellence, and acknowledges the values of *Concern, Love and Justice*. (St Peter Claver College, 2012)

The College has a diverse ethnic mix of staff, who embody the principles of Concern, Love and Justice. The authors appreciate that the College is committed to best practices and quality education for teachers and students, both Indigenous and non-Indigenous, and remind readers that the report has been driven by the AAMT's commitment to understanding the involvement of Aboriginal and Torres Strait Islander parents and families in their child/ren's school community, who remain the focus in this report.

At the time of data collection, there were approximately 927 enrolled students from "40 different cultures", 6% of whom identified as being of Aboriginal and/or Torres Strait Islander descent. Commenting on the Aboriginal and Torres Strait Islander student body, the Principal of St Peter Claver College, Mr Diarmuid O'Riordan, said:

I'm very proud of the fact that we have the highest number of Aboriginal and Torres Strait Islander students in a Catholic secondary college in the Brisbane Archdiocese. That's a source of great pride for me. I'm very proud that the community want to enrol their children here and feel that they are welcomed here and feel that their children can realise their goals here because my sense is the Aboriginal and Torres Strait Islander families that we work with are very

aspiring. They definitely value education, and they see the College as a place that is going to provide opportunities for their children and they see the teachers and community as very much supportive of their aspiring goals for their own children. I see it as a blessing for the College.

In 2010, the College received national recognition for its strong, collaborative leadership with the local Indigenous community and for its work in improving targeted outcomes for Indigenous students when it was awarded a *Dare to Lead* certification from The Hon Julia Gillard MP. *Dare to Lead* is a Commonwealth-funded, national initiative of the profession and specifically of Principals Australia (formerly, Australian Principals Association Professional Development Council, APAPDC). *Dare to Lead* schools commit to improving the educational outcomes of all Aboriginal and Torres Strait Islander students, and also to ensuring that all their students develop an informed understanding of Australia's Indigenous (Principals Australia Institute, 2012).

In 2012, the College launched Indigenous Literacy Day on behalf of the Indigenous Literacy Foundation (ILF). The ILF aims to raise literacy levels and improve the lives and opportunities of Indigenous children living in remote and isolated regions across the country. Children's author Andy Griffiths helped launch celebrations at the College, together with Children's Laureates Alison Lester and Boori Monty Pryor, who joined guests, students, parents and community Elders for the breakfast ceremony that included a Welcome to Country by Purga Elder Aunty Sheryl Thompson and a performance by the college Aboriginal Students Dance Troupe. The Principal said,

We are raising awareness of the remote communities where our indigenous brothers and sisters don't have access to the resources we have here at the college. We are very fortunate to have these opportunities, but we must recognise what we can do to support foundations like the Indigenous Literacy Foundation and their efforts to raise funds for those kids in those remote communities (Brisbane Catholic News, 2012).

The College, which was named in honour of the Spanish, Jesuit priest, Saint Peter Claver, has been experiencing a period of unprecedented growth over the past eight years, and has enrolment waiting-lists through all year levels; summed up in the sentiment expressed by parents and families of the College, which shows strong support of the College.

We want our kids having the best chance. That's why we send them there. It's a good school, with good teachers and good programs.

5 Interaction

This section presents the main findings of our meetings and yarning circles on interaction (reciprocal action or mutual influence) between the St Peter Claver College community and its Aboriginal and Torres Strait Islander parents and families. Data were collected from three key groups of participants:

1. Aboriginal and Torres Strait Islander parents and families of the community;
2. Indigenous and non-Indigenous staff of the College, i.e., both administrative and teaching bodies; and
3. Other relevant stakeholders of the Make It Count project, particularly those with involvement in the Nerang, Queensland Cluster.

The findings relate to: different types of interactional media; different types of connections in interaction; and connections between teachers and Aboriginal and Torres Strait Islander parents and families.

5.1 Different Types of Interactional Media

There are different types of interactional media between the College and Aboriginal and Torres Strait Islander parents and families, and the College appears to be using all available and existing forms of media and communications to interact with its parents and families.

One way in which the College and Aboriginal and Torres Strait Islander parents and families interact is online through the College website at <http://spcc.qld.edu.au/index.php>. The website offers a wealth of information to the community, as an Indigenous Teacher Assistant explained:

We have lots of information online. Basically, it's advice for parents about how they can support their kids.

The website has a Parent Login, which parents and families can use to contact staff at the College. The homepage also lists the physical and postal addresses of the College, as well as phone, fax and

email contact details, which provides a variety of channels for parents and families to contact the College.

The Australian Curriculum, Assessment and Reporting Authority (ACARA) also provides online information relating to the College for parents and families through its My School website, at <http://www.myschool.edu.au/MainPages/SchoolProfileRep.aspx?SDRSchoolId=47883&DEEWRId=0&CalendarYear=2011&RefId=46OwL53pLkrdFhwTx51XmQ%3d%3d>.

Interaction between the College and Aboriginal and Torres Strait Islander parents and families can also take place through email, which is used to “update parents on important matters” and as a channel for sending home the College Newsletter.

“Ringing up” was also an important means of interaction between the College and parents and families. A former student said:

Parents have always felt comfortable ringing up the School and the School has no problem ringing those parents. They have a really close relationship and the School’s not that big; so it’s very personal.

Mobile phones were also seen as an important medium in interactions between the College and Aboriginal and Torres Strait Islander parents and families, as one of the Indigenous Teacher Assistant’s put it:

Most people have got a mobile phone these days. We just call them up.

One of the parents said:

I usually ring up or I go in and see them [Indigenous staff] and talk to them. We don’t go up to the office, just straight to the staff [Indigenous staff].

In addition to talking with staff face-to-face and on the phone, the College also uses SMS (i.e., “Short Message Service”), which allows short, typed text messages to be sent from one mobile phone to another mobile phone. SMS is typically used for interactions relating to “day-to-day” matters.

We use SMS to send out invitations too, especially if we're short of time, because we have an SMS program here to just send out bulk.

In addition to "the telephone" and "mobiles", the College also uses social media platforms, such as "Facebook" at <http://www.facebook.com/peter.claver.108>. Facebook provides 24/7 information and a point-of-interaction to parents and families. Another social platform that the College is using to interact with its community is Twitter (at <http://twitter.com/claverriverview>), which also provides 24/7 access. Twitter "followers" are typically students (and teachers), who interact on a moment-by-moment basis to provide "simultaneous" commentating on sport carnivals and other dynamic events, as they are happening, which fits well with this discrete form of social media. An additional point here is that both the Facebook and Twitter platforms are secured sites and can only be accessed by "confirmed followers".

On the whole, the College is using a range of new, emerging and existing technologies and social media platforms to interact with Aboriginal and Torres Strait Islander parents and families. This indicates a greater ease of access and flow of interaction between the College and its parent and families, and a 24/7 availability of information about the College. While the greater majority of parents and families own mobile phones and reported using them on a regular basis, some of the comments and stories shared by parents and families indicate that interacting with the College is not always so straightforward.

I don't always ring 'em 'cause I don't always have credit [on the mobile phone].

I'm with [service provider] and there's no service where we are.

A couple of community members that we spoke with mentioned that some parents and families might not have the internet at home.

Some of our mob aren't on the internet.

Sometimes it's hard to get onto the homepage. We're sitting there waiting to connect, you know, maybe not the School's page, but, it's slow and costs a lot, and with everything else, you just have to prioritise.

Further, some parents and families with the internet were on low-data packages and/or minimal-data packages, which only allowed for limited browsing and/or download time. This slowed up the delivery of information, and the online experience became “painful” and “frustrating”. One parent offered the following as a solution to the problem of “being able to jump online”:

It be good to have an email account with the College, or internet connected up through the College.

For some parents and families, a lack of skills and familiarity with the new and emerging technology made interaction via the College website problematic.

The kids like it [Facebook] but I’ve never been on it.

I’m an Elder with [name of organisation] and I work with [organisation]. I always tell the community, ‘don’t use these emails and this internet because there is a lot of fraud my dear’. Our Elders and the old people are very trusting. I’m telling them to be careful with internet.

The College is using a variety of ways to interact and connect with Aboriginal and Torres Strait Islander parents and families. Indeed, there is a good proportion of information being made available via new and emerging technologies and social platforms and software applications. However, the findings from meetings and yarning circles suggest that not everyone has adequate or equal access to information in electronic formats, due to the cost of the technology, infrastructure problems associated with service providers, and the requisite knowledge required to use the technology.

5.2 Different Types of Connections

Generally speaking, there are two key types of connections linking the College with Aboriginal and Torres Strait Islander parents and families, and vice versa, which are: (i) Aboriginal and Torres Strait Islander students; and (ii) Aboriginal and Torres Strait Islander staff.

The first type of connection linking the College and Aboriginal and Torres Strait Islander parents and families is the children of Aboriginal and Torres Strait Islander parents and families, who are the students of the College. Like all school students, Aboriginal and Torres Strait Islander students

are an important link between the College and home. On any given day, students might connect with any or all of the College community, which includes: administration staff and administration support staff; pastoral, subject and special coordinators; teaching and support staff; and performing arts extension staff; and others. In other words, the students themselves are involved in a constant process of interaction and interacting between their school and their home, and (can) play a significant role in interactional connections between their teachers and their parents and families.

The second type of connection linking the College and Aboriginal and Torres Strait Islander parents and families is the Indigenous staff at the College, who one parent described as, “wonderful people, really supporting our children”. The Indigenous staff, most of whom work in the classroom in the role of teacher or teacher assistant, work closely with non-Indigenous staff at the College. The College’s Indigenous Liaison Officer explained:

See we need to take the pressure away from our teachers, and our supporting staff. I’ve been talking to a number of teachers and supporting staff, administration, families; everybody. It’s about everybody’s perspective so we can work on solutions and resolutions for any issues ‘cause a lot of the issues with our kids are coming from the outside. It’s about having the time to unpack all of that. Teachers don’t have it. They do a wonderful job working in their own expertise.

Speaking about the roles performed by Indigenous support staff at the College, a couple of non-Indigenous teachers said:

They work very closely with the Indigenous kids.

We usually speak to them if we have a problem or need to contact the family.

This was also the case for Aboriginal and Torres Strait Islander parents and families that we spoke with.

At school, I’d only go there, and I’d only say ‘is [name of staff] in there?’. See that wall is still there. ‘No, I’ll see her’. ‘She’ll be in tomorrow’. But I could of asked those other women. It’s triply hard for people who don’t work to walk up to the schools, to go up’.

In other words, the Indigenous members of staff tend to perform the role of interactional “go-betweens”; that is, a third party in teacher-student interactions, and teacher-parent interactions.

A key aspect of being an interactional “go-between” was said to be “continuity in the job”; which was explained as the practice of “employing the same person” in a given role for long period of time to enable:

That person to get to know kids and their parents and the teachers, and to make sure they [student and parents/families] don’t get completely lost.

Parents and families felt comfortable where there was continuity of staff.

I’m happy with my grandson being there. [Name] is happy with her grand kids being there. We know they are looking out for them.

We’re happy with our kids there at Peter Claver.

The fact that the College’s “cultural coordinator” and “two Indigenous Teacher Assistants” had been with the College for approximately five years meant that they had established long and strong partnerships with the Indigenous parents and families of the College, and had established direct and open lines of communication with those parents and families. Thus, the findings from the meetings and yarning circles show that, apart from the students themselves, interactions by the College community with Aboriginal and Torres Strait Islander parents and families were typically conducted by the Indigenous staff of the College, and, as a non-Indigenous teacher put it:

So, they’re doing a very important role as being a bridge to the community; an essential role for the school and the community. That’s very good.

A final point to note with regard to this second type of connection linking the College and Aboriginal and Torres Strait Islander parents and families is the broader Indigenous community. The broader community comprises Indigenous individuals, who circulate and share information about the College with Aboriginal and Torres Strait Islander parents and families. For instance, one of the Indigenous teachers explained:

We ask [name of student's parent], who works in [name of organisation], to put an email to all his networks. He's one of the liaison officers up there. There's a huge Murri [Aboriginal person from Queensland] network, and we can also use that network as well.

5.3 Connections between Teacher and Parent/Family

The findings presented above have shown that there are a diverse range of media that the College is using to interact with Aboriginal and Torres Strait Islander parents and families, and that there are two key points of connection and contact linking the College with Aboriginal and Torres Strait Islander parents and families, and vice versa, which are Aboriginal and Torres Strait Islander students, and Aboriginal and Torres Strait Islander staff. In other words, the findings indicate that “Indigenous [people] are the point of contact and communication for school and the [Indigenous] community”. This tended to leave non-Indigenous members of the College community out of College-family-home connections, at least where Indigenous members of the College were concerned. As one non-Indigenous member of staff said:

Because we have liaison officers here, as well as the cultural coordinator, that makes it easier for us, you know, the contact with the parents and us, makes it a bit easier, our job easier.

For all intents and purposes, these Indigenous-Indigenous associations “make it easier for [non-Indigenous teachers] to access families”, because “dealing with the parents” is “left up to” the Indigenous staff, which subsequently enables non-Indigenous teachers to concentrate on the job of teaching. One of the Indigenous members of staff explained:

Now I've just had the opportunity to sit down with a mother the other day, and she told me a lot. I've worked in a lot of areas, disabilities, homelessness, department of child safety, and it's about having the ability and the time to unpack all of that and about understanding the issues that our communities face outside of the school gates. The teachers just don't have the time to do that.

One of the Indigenous member's of the community that we spoke with understood that although parents “are just so busy”, there were benefits for “parents” in meeting “with maths teachers”.

It's hard now because modern parents are just so busy. But it's great for that one-on-one conversation or even in a group where parents come in and meet with maths teachers and also for parents to give their feelings about school and things like maths.

A non-Indigenous mathematics teacher said:

We work mostly with the students. We work mostly in the classroom or we work individually with them. Um, they can come and see us if they've got a problem or something else.

On the one side, non-Indigenous teachers were thought to be concerned about doing the "wrong thing".

I guess the fear for a lot of teachers who are not from Indigenous backgrounds is they're sometimes scared they're going to do the wrong thing or they find that the parents don't necessarily want to engage with them. There's always a little bit of nervousness I suppose about doing the wrong thing.

Note: Readers are encouraged to access What Works: The Work Program website, which provides a wide range of information and materials to help schools and teachers plan and support Indigenous student outcomes, which includes a section on the importance of forming partnerships with parents and communities.

(<http://www.whatworks.edu.au/dbAction.do?cmd=homePage>)

On the other side, some felt that Indigenous parents and families were left out of the "goings on".

Just getting them in and also working with them. At the moment you got lot of parents that are unaware of what the school's doing.

The school's trying to get parents involved, but they can't always afford to be involved. The parents need some help too.

Non-Indigenous teachers need to understand that it is important for them to speak with us about our kids. They need to make the effort. They're the ones that know the school and the homework, and maths, not us.

We want our kids having the best chance. That's why we send them there. It's a good school, with good teachers and good programs.

Although there were pros and cons when it came to Indigenous staff acting on behalf of the non-Indigenous teaching staff, a non-Indigenous stakeholder held that:

For all kids, there's a real value if you can make a connection with home. When you've got your parents onside, it's one of the factors that can help.

5.4 Summary

Section 5 presented the main findings of our meetings and yarning circles on interaction (reciprocal action or mutual influence) with Aboriginal and Torres Strait Islander parents and families of the community; Indigenous and non-Indigenous staff of the College, i.e., both administrative and teaching bodies; and other relevant stakeholders of the Make It Count project, particularly those with involvement in the Nerang, Queensland Cluster. It showed that there are different types of interactions in everyday use at the College, and that these occur mainly via the internet, through social media platforms and through mobile phone technologies, and in face-to-face individual and group interactions. It further showed that interacting with Aboriginal and Torres Strait Islander parents and families is typically a responsibility of the Indigenous staff of the College, who also play an important role in the provision of information around Indigenous culture to the College.

6 Engagement

This section presents the main findings of our meetings and yarning circles on engagement (involvement, commitment, and satisfaction) between the College and Aboriginal and Torres Strait Islander parents and families. Data were collected from three key groups of participants: (i) Aboriginal and Torres Strait Islander parents and families of the community, (ii) Indigenous and non-Indigenous staff of the College, i.e., both administrative and teaching bodies, and (iii) other relevant stakeholders of the Make It Count project, particularly those with involvement in the Nerang, Queensland Cluster. The findings relate to the effect of engagement of Aboriginal and Torres Strait Islander parents and families on (i) student outcomes; and (ii) educational assistants.

6.1 Effect on Student Outcomes

The findings indicate that the effect of parent and family engagement on Aboriginal and Torres Strait Islander student outcomes is a positive one. A non-Indigenous teacher explained:

I remember when I first came to this school, maybe 15-16 years ago, we had some Indigenous kids. We tried to talk to them and they had their head down like this [demonstrates]. They were shy. There's a huge change in this school now. They are all up there. They feel very comfortable and confident. That's the positive feel we have.

An Indigenous teacher explained:

The students have the feeling of being welcomed and accepted and respected here. And that's sort of been the big push to achieve good educational outcomes.

The Principal of the College explained:

When you talk about educational outcomes, there are things that are not measured in NAPLAN, but are more about community connectedness and a sense of responsibility and a sense of 'how do you measure confidence? How do you measure self-esteem?' I think all of those things do make a difference, and parents are important in this.

The Principal went on to speak about how Aboriginal and Torres Strait Islander parents and families in the College had positively impacted his own sense of self, and connectedness.

The Aboriginal and Torres Strait Islander kids and families are a wonderful gift to the College because they have that great sense of claiming their identity and our students are involved in dance and art and they are very public and proud to dance and to express their identity, their culture, and to witness that only fills me with deep connection with my own culture and it's a gift that they give.

The "big push" to encourage Aboriginal and Torres Strait Islander students' self-esteem and connectedness to the College has also positively impacted attendance and retention rates, which has snow-balled into other positive student outcomes, as the sentiment shared in a meeting of Indigenous and non-Indigenous staff shows.

We did some stat[istic]s and they show the Indigenous kids' attendance and attention rates were higher here than the non-Indigenous kids. Although they're a smaller number, as a percentage of the whole group, the rates for Indigenous kids were higher. Yeah that's the thing. In the last four or five years, we've had at least three school captains who are Indigenous kids. So that has given a huge positive feeling.

Yeah that's right. It has made a difference. Yeah, and there's been a few house captains.

And house captains. We've had a few role models, and the parental support has been really positive, not only for these few kids, but really other Indigenous kids, as well.

We also currently have an Indigenous student in the Queensland youth parliament.

The Indigenous kids feel very, very positive and very happy being here and that has created an atmosphere where parents are interested in coming here. Among the community it's known. Our school is known as very good.

Parents obviously appreciate and enjoy sending their kids here.

I just think it gives hope to the other students they think they can achieve something. 'Cause [student's name] was a great example last year. He was good academically and with sports. He was just a great kid all round and highly energetic as well; well organised obviously. [He] probably had a lot of parental support too, to be able to do that. Otherwise he might not have been able to get to all of his practices on time and achieved what he did.

In a separate meeting, the Principal also spoke about the increase in student success rates and the leadership opportunities available to Aboriginal and Torres Strait Islander students.

The basic numbers following the maths camp indicate our retention has improved. Our attendance has improved, markedly. Our uptake into leadership has improved, markedly. Last year's School Captain was an Indigenous boy, this year's Vice Captain is an Indigenous girl. We have two Indigenous students on our school council. We have a proportionally over-representation of Indigenous numbers in that group, compared to others.

The College was also providing opportunities in other areas. The opportunities on offer "for the kids" had "grown over the years" through "the dance group", the delivery of lessons on Aboriginal and Torres Strait Islander "culture and history" and projects like Make It Count. This was having a positive effect on student outcomes, as one of the Indigenous teachers that we spoke with put it:

It seemed as though parents are engaging because of the opportunities that the Indigenous kids have here. We had the Liaison Officer Uncle Joe Kirk. He started dance and culture here. So he started the dance group, which was the trigger of it. At that stage, when I started, there were about 30 odd kids. We've got double that now. The dance group started it and started people recognising it. The dance group was in here, in this room. Yeah that's what's started it. And, as I said, Uncle Joe started that group and that, I guess, was the start of other opportunities with the kids, and that's grown over the years, like with the kids in leadership and having senior roles in the College. Yeah for the parents and the kids just to see the culture and the history taught to all kids, and all the non-Indigenous kids get to see it and learn it and witness it. We've seen that over the years anyway. We see the kids obviously enjoying that and the activities, but having these opportunities has been a big factor in them coming here and staying here.

In fact, providing opportunities for Aboriginal and Torres Strait Islander parents and families to introduce their own cultures into the College was reported to be influencing teaching and learning practice in positive ways, as the comments below indicate.

The maths camp was very positive.

That was really good for the kids. Engaging them in maths through dance and culture.

Curriculum change: Camping out with mathematics

One of the Clusters held a mathematics camp to build and connect both mathematics and cultural identity in Indigenous students. There were several activities at the camp, but one notable activity was learning mathematics through Aboriginal dance – a new approach being trialed for the first time. Students, working in groups, were challenged to create stories from mathematical equations (Matthews et al., 2007) and create a dance about these stories. From a survey conducted at the end of the camp, ten students from a total of 28 made explicit statements about ‘a new way with maths’. Some of the statements from the students were:

‘I like dance and the culture of the maths we are learning.’

‘I learnt that maths does not have to be about sitting at a desk looking and copying off a board.’

‘We mixed our culture and maths together and it surprised me. I can now walk away with a different understanding of Math and my Aboriginal heritage.’

From the evaluation of the camp we also know that not all students respond positively (5/28) and more needs to be done to engage non-Indigenous teachers in activities, to explicitly and specifically identify and draw out the mathematics in cultural activities and how such activities translate into the classroom. (Morris & Matthews, 2010, p. 32)

While allowing people to be proud of their culture and themselves was said to have a very positive effect on student outcomes, some people that we spoke with in meetings and small-group yarning circles felt there was a way to go to engaging Aboriginal and Torres Strait Islander parents and families in the fuller life of the College, for different reasons.

The way I look at it for me, the children and Make It Count are teaching the parents and, they are introducing parents to new concepts to get the parents to cross that line, that school boundary line.

It's great for that one-on-one conversation or even in a group where parents can come in and meet with maths teachers or whatever, and also for parents to give their feelings about school and things like maths. You know, a lot of our parents didn't go to school and don't understand the education system. I understand it because I've been through and I've successfully done it. But our parents don't fully understand that kids need the maths for them to succeed not just in school but in life.

Black fellas are very interested in educational concepts; even though a lot of memories will come up. For a lot of the parents coming in, they walk into the school grounds and that would bring in memories of their own school history and how they were differentiated within that sort of environment. So, there's always a tug of war going on. They can see things, as adults, from their childhood memories.

At the moment, you got parents that are unaware of what the school's doing and the school's trying to get them in, but because their kids go home and their parents are like do you have maths homework, the kid goes 'no, I don't', the parents' gunna believe the kids. So just a communication and maybe just helping the parents understand they are important and they matter.

Although the College "have been positive about philosophically bridging that gap", the findings indicate that Aboriginal and Torres Strait Islander parents and families were more inclined to attend "Indigenous specific" events, at the College, rather than whole-of-College events. One of the Indigenous staff that we spoke with explained:

Well, how we get the parents in is by having Indigenous barbeques, and we do have a good turn ups for barbeques. Once a term we try for. We put it on for them and sometimes we combine it with like an awards night or something, a specific awards night for the kids. We have Indigenous awards night as well for parents.

Others explained:

Also, they have set nights to come in and talk about options for grade 11 and 12.

They get a general idea about the information and then come and talk to the Indigenous liaison or the [Indigenous] tutors specifically about their children.

At the Make It Count Summit Meeting in March 2011, Emeritus Professor Paul Hughes said, Engaging with parents of all students is really just a part of a teacher's normal duties, so there ought not be a 'big deal' about teachers engaging with the parents of their Indigenous students. In fact I would have thought that your school would have these processes in place already because you have had Indigenous students in your schools for many years. However, if teachers aren't doing their job, that is one thing. It is another matter if Indigenous parents aren't reciprocating and becoming engaged – that could indicate that the strategies for engaging those parents need to change.

There is a long history of efforts at 'social inclusion' of Indigenous students through barbecues, family days and the like. However, if these do not get beyond 'feel good' outcomes to creating academic inclusion then we are wasting energy and effort. I am not aware of any definitive research which demonstrates that the inclusion of cultural matters or cultural relevant curricula actually produces best outcomes. Also - remember that cultural matters are not what is tested in outcomes for Indigenous students in mathematics.

In the end, the only measure of success for the project – and justification for all the work – is what pedagogy is best for achieving real improvements in Indigenous students' learning in mathematics.

(<http://makeitcount.aamt.edu.au/Publications-and-statements/Summit-meeting>)

6.2 Effect on Educational Assistants

When asked if there was a benefit to educational assistants when Aboriginal and Torres Strait Islander parents and families engaged with the College, one person commented "oh, 100 per cent. 100 per cent". This 100 per cent was said to provide:

A solid foundation, number one. Number two, it brings non-Indigenous people understanding of the relationship that we have and clarifying some of that, the misconceptions, I guess.

It's really good having [name of Indigenous staff]. It's not that we need [the person] 24/7, but just havin' [the person] there.

Further, comments and stories shared in meetings and yarning circles show that Indigenous

educational assistants are core to engaging Aboriginal and Torres Strait Islander parents and families in their children's school.

The initiative to get parents in are things that probably would not have happened without his [Indigenous] initiative to say 'Let's do this'.

Parents and families are offered a range of opportunities to engage with the College.

The school also provides opportunities for parents of the school to engage with the broader Indigenous community. Like [parent's name] was involved with tuckshop and then also we had a street van, the Claver Cares Street Outreach, which she was involved in to help the homeless in Ipswich. So we did that once a week. And so the parents are on the team with that. And [parent's name] actually played a greater role in actually preparing the food for the afternoon for that. And she's also helped out a lot with dance concerts and stuff like that you know.

In a separate meeting, an Indigenous, former member of staff said:

We give a big understanding for the mob, for the mainstream mob [non-Indigenous College staff]. For the black mob, that's like a given. If there was a problem it'd go to administration and administration would deal with it 'in their way' [said in inverted commas]. I put in a process, if any of our kids were um receiving any accolades or had any problems, if there was any communication to go any which way, it had to come through me, so I was aware of it and I could be part of that process and that communication.

Uncle Joe Kirk used to say, 'be a firefighter. Don't just wait for the fire to go out. Be proactive.' You walk up the driveway [of a student's family]. You go, 'oh, your kid's got problems', you know. Then, every time you walk up the drive, they're like, 'oh, here comes problems'. You've got to see the potential of what might be outside of that. So it's important to acknowledge all the good things that are going on as well.

A lot of the times, it's the too hard basket; kids mucking up or there are some social problems going on. So, it's like, 'here comes a fire. There's a fire! There's a fire! There's a fire!' And they think, 'let's control him, let's put him in that basket'.

I think the good stuff at the school is the iceberg thing; you can see the twenty per cent, but the eighty per cent is hidden. I'm not ignoring the good stuff that they're achieving, like the effort some of them put into our kids, or the maths camp, and the good people out there, and parents

like [name] are involved in helping out with dance concerts and different things. I'm acknowledging the stuff that we know about to help them out. So how do we, how do we, how do we change that. That's the hard part.

6.3 Factors and Determinants of Effectiveness of Engagement

Whereas the findings of the meetings and yarning circles indicate that the effect parent/family engagement has on Aboriginal and Torres Strait Islander education assistants in the College is a positive one, they also indicate that there are a number of factors that constitute parent/community engagement or determinants of effectiveness. For instance, one person we spoke with said:

Our buses go out and pick parents up sometimes if they've got difficulty getting into the school. If we needed a parent to come in we'd go out. We'd take the mini bus or something and go and get them all, or go and get them ourselves. If there is a BBQ and if we want to get all the Indigenous parents and if we need the bus there is no problem getting the bus. You know we have family, at a funeral up in [name of Aboriginal community], and the school was willing to run the bus up for the family. And they actually gave some money to the family for fuel and all that up there. It was the grandmother of one of our kids. The school, you know, gave money to help get the family there and all that you know. There are a lot of things like that here. The school is really living its motto, its values of Concern, Love and Justice.

Another effective way to engage Aboriginal and Torres Strait Islander parents and families was through the provision of training to Indigenous educational assistants.

Getting training helped me to explain to parents what their kids were doing in the classroom, and to understand why the kids we work with can't do something and to know how that feels to learn new things or be stuck. Now that we've done that, we can explain to parents what the kids are doing. That was through Make It Count. I really enjoyed it.

The experience of being involved in the Make It Count First Steps in Mathematics training was something that education assistants thought Aboriginal and Torres Strait Islander parents and families might also benefit from, as the following comments make clear.

Some of the parents might be interested in doing a maths course. I'm sure I know the ones that would be would. [Person's name] would definitely come up. I'm not sure about the other ones. I'm sure they'd be interested if they had some support.

I think that'd be very beneficial to have something that parents know what their kids are doing at school to know how to be able to help them. It can be a bit scary for parents I think at times, they don't know what their children are doing, they feel shame you know like 'I don't know how to help my kids'. And if they got a little bit of a beginning on it you know they don't have to become mathematicians or anything but just to help out.

We'd like to do programs where the parents come here and they can learn something if they want. We've often talked about adult education up in our language centre, maths would be good too. We haven't got any started yet but we have spoken about it and have thought it was a really good idea.

So we've started with building a trade training centre, for the senior subjects but that's a way that you could start something up there as well. That's obviously down the track. And are there are parents that have said I need to learn how to use the computer, whatever.

The non-Indigenous staff were also in support of opening up teaching and learning opportunities for Aboriginal and Torres Strait Islander parents and families, and made the following comment in support of that.

I felt one of the reasons sometimes they don't perform well it's because of some continuity of the lack of continuity in the home environment, maybe. So, personally, I felt maybe do something about it and then we started that tutorial, and that was quite helpful. And also I think with the Indigenous kids you need to build that relationship and um, that created a positive feeling with the kids and the staff and the parents.

A critical friend of the College, who had been working with teachers at the College and felt that "teachers are trying to build relationships with kids at the moment" and was concerned with engaging "ATSI kids in ways that are meaningful re[garding] mathematics", said:

If they [teachers and education assistants] see themselves as actually being able to have an impact on these kids lives in meaningful ways, then, all of a sudden, that's like having a feather in your cap, and something to take seriously. Those are some of the sorts of things we can do, and that's where guys like Chris [Matthews] are important because they can engage with an Aboriginal person who is a mathematician. It's about changing perception.

One way in which teachers are working to improve mathematics education is through a Reading to Learn initiative that they are implementing at the College. According to the College's Literacy and Numeracy Improvement Teacher, Mr Benjamin Potts, one project under the Reading to Learn initiative that is currently underway draws on Dr Tyson Yunkaporta's 8 Ways of Learning; a framework that combines Aboriginal pedagogies with western pedagogies for quality teaching in mathematics.¹ According to Potts (2012),

8 Ways of Learning is not a numeracy program. It is a new way for us to think about Maths at Claver, as we focus on the core curriculum content which needs to be taught. In the Australian Curriculum, Aboriginal and Torres Strait Islander histories and cultures are a priority in all learning areas. However, Aboriginal perspectives are not an add-on and they are not found in Indigenised content, but in the processes students use to learn. There is a rich overlap between Aboriginal learning process and the best mainstream pedagogies. Teachers will be exploring innovative ways we can apply this common-ground knowledge in the maths classroom.

The 8 Ways framework is expressed as eight interconnected pedagogies involving narrative-driven learning, visualised learning processes, hands-on and reflective techniques, use of symbols and metaphors, land-based learning, indirect and synergistic logic, modelled and scaffolded genre mastery, and connectedness to community. Throughout Terms 3 and 4, a group of Math teachers will be developing an approach to teaching students with these ideas at its core. The school has received funding through the Make It Count project for teachers to collaboratively design, implement and observe lessons which use the 8 Ways of Learning as their basis. Professor Peter Grootenboer from Griffith University will be assisting teachers. It will be interesting to see what they come up with, and hopefully the project will produce a model for learning that all school stakeholders can own, share and be proud of together.

While the findings indicate that there is a way to go to engaging more Aboriginal and Torres Strait Islander parents and families in the College, Make It Count's sponsorship of the 8 Ways of Learning not only offers further evidence of the College's commitment to improving outcomes for

Indigenous learners, it reiterates the College’s commitment to the inclusion of Indigenous culture and world views in its teaching and learning practices; which can also serve to positively impact the engagement of Aboriginal and Torres Strait Islander parents and families in the College.

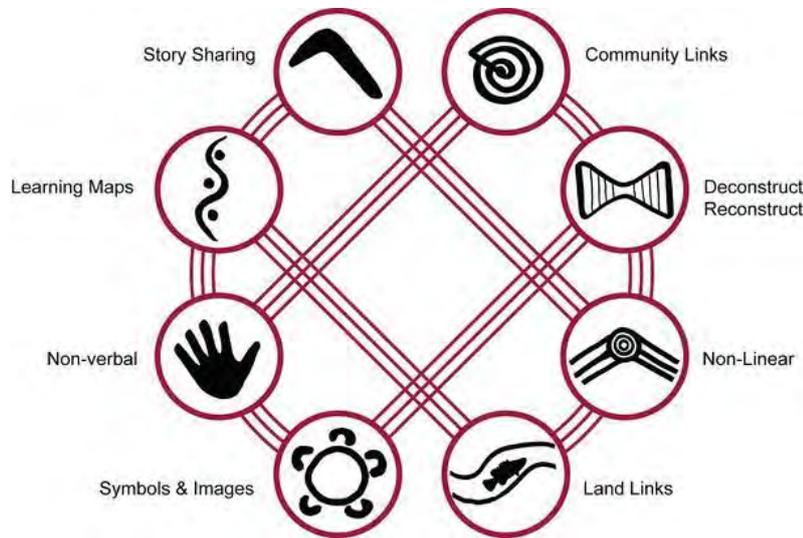


Figure 6.1 The 8 Ways of Learning

Source: Potts 2012

6.4 Summary

Section 6 presented the main findings of our meetings and yarning circles on engagement (involvement, commitment, and satisfaction) between the College and Aboriginal and Torres Strait Islander parents and families. Data from the three key participant groups identified a number of variables that constitute engagement between the school community and its Aboriginal and Torres Strait Islander parents and families. Further, it showed that the effect of parent and family engagement on Aboriginal and Torres Strait Islander student outcomes and educational assistants is essentially positive. The findings further indicate that parents and families generally appreciate being able to engage with Indigenous staff about their children’s education and school life, and the College’s non-Indigenous mathematics teachers would like to be more involved with the parents and families of their Indigenous students and feel that this will help build better relationships and improve student learning outcomes.

7 Perceptions and Use of Mathematics

This section presents the main findings of our meetings and yarning circles on Aboriginal and Torres Strait Islander parents and families' perceptions of mathematics and how mathematics is used in the community. Data were collected from three key groups of participants:

1. Aboriginal and Torres Strait Islander parents and families of the community;
2. Indigenous and non-Indigenous staff of the College, i.e., both administrative and teaching bodies; and
3. Other relevant stakeholders of the Make It Count project, particularly those with involvement in the Nerang, Queensland Cluster.

7.1 Perceptions of Mathematics

One of the key findings around perceptions about mathematics, according to some of the mathematics specialists / experts that participated in the meetings and yarning circles, is that:

Most people can't do maths.

People often say, 'I can't do maths',

They don't tend to do it because they're too scared to do it.

People get confused when it comes to numbers and calculations.

Maths is in the too hard basket for most folk.

According to one of the participants, "the fact that people tend not to be able to do maths influences their kids".

I felt one of the reasons sometimes they don't perform well it's because of some continuity or the lack of continuity in the home environment maybe.

Parents might not be able to do the particular maths, although they probably could if they allowed themselves or could get over that confidence hurdle to do it, but it's about not building

up the barriers up to stop the kids from even participating in mathematics which is historically the problem.

Part of the problem we get in maths is the kid will come in and say, 'aw, I couldn't do it and dad couldn't really do it', and opt out of doing it. It's more than a content thing. It's more of an attitudinal or a heart thing.

While a key perception around mathematics is that "most people can't do maths", a related perception is that not being able to do maths is not something people are embarrassed to let others know. According to the Critical Friend,

Generally speaking, people are okay with saying, 'I can't do maths'. They [parents] listen to their kids read but when it comes to their maths, they'll say 'oh, I don't really know how to do the maths', instead of 'I've got this maths thing and let's have a look at it together and let's try'. Because there's almost a perception, no one'd ever say, 'I can't read'. There's a perception that we all can read and we're all learning about reading together, but people are quite happy to say, 'I can't do maths. And it's okay to opt out of doing it.

Perceptions held by the Aboriginal and Torres Strait Islander parents and families presented a somewhat different impression. In contrast to the non-Indigenous person's understanding that people were comfortable reporting that they could not do mathematics, some of the people that we spoke with indicated that they would be uncomfortable announcing this, and went on to talk about the importance of mathematics and associated difficulties with reading maths problems.

Some people can't read. If you can't read to learn it, and no one shows you, you can't work it out, like the kids. You have to read. You can look at it, and you think, 'I'm glad I don't have to do that', but feel bad you can't help them, and just don't know what to do'. So I tell' em 'you better ask your teacher'. That's what they're there for'.

I was never real good with school, not with sums and my reading is a bit behind. I think that's what makes it more harder for me.

One of the Elder's that we spoke with said:

We learnt the arithmetic, not really this mathematics they are teaching the kids today.

Others' said:

Yeah, 'cause I was always good at adding up and times. But they do all sorts of things at school now, you know, I don't even know anything about that.

My mum never got used to the new money; always taking about two-n-six, and shillings, the old money. She was never taught maths or how to read and write, and she got by without it. A lot of people do. A lot of our mob was never given the chance to learn, but you can't get by without the maths today.

An Elder said:

See we weren't shown this things. Our schooling was basic. Many of our old people never got this. When we got work we got pocket money, not paid wages. We never had a bank book. They managed this, and this is what is a problem many of the old people are facing now. You see, with the pension or something like that, we see a lot of the old people being tricked because they don't understand the money, and a lot of our people are living day-to-day and pay-to-pay. We need to keep our accounts. We learnt the arithmetic, not really this mathematics they are teaching the kids today.

Our history is not being allowed to manage our own money. We never were allowed to have our own business, or buy a car, or buy a house. Even today, you get those stereotypes about us if we buy a new car or what have you, but we use mathematics in our culture too.

They've forgotten where their parents and great grandparents couldn't do anything about it - either be sent out to woop woop or killed.

As the talk unfolded, it became clear that mathematics was generally associated with numeracy, and being numerate about managing money and personal finances in daily life. A former student of the College said:

When you're at school you probably don't realise but you use it in everyday life, everyday life. As you get older, you know you need it in pretty much any situation. The thing is, a lot of people don't realise that they're using maths and they don't understand it. They see it as school work. It's education. It's boring; counting money, counting food, you know, 'I've got eight kids at home. I need eight chicken legs for dinner'. So they don't realise but you tell 'em that its education that's what they're doing and they guess it's not that bad.

At the end of the day, maths is a subject that's part of life. It's not separated from life. So, if you don't understand the big picture, you'll never get the detail.

7.2 Use of Mathematics in Community

When considering perceptions about the use of mathematics in the community, the findings show a range of different understandings about the use of mathematics in the community. A former student of the College said:

My brother went to uni[versity] as an accountant, and they [the College] suggested accounting because he loved maths. So he chose that 'cause they spoke to my parents. The school's really supportive, finding out what kids are good at, and give them the opportunity for their students. I loved doing maths and stuff but I was never the kid to sit there and do my work. You know, I couldn't find the point. So I had a few teachers that sat me down and said, 'you're gonna be doing this everyday. You're going be doing this. You're going be doing that.' So I started doing this, and have a few cousins now trades people. School made classes that were suitable for them, pre-vocation maths; helping them become trades people. So, I suppose, grades 8, 9 and 10 just stick with it 'til you get to the senior level. Then you can pick whatever maths suits you with what you're gonna do after school, whether it's B or C. You gotta find a point of doing it.

A couple of the parents that we spoke with also spoke about the importance of mathematics education for use in the broader community and for being numerate in daily life.

Maths is really, really important because it's something you do in everyday life. Something you do automatically. If you've got 10 bucks you've got to be able to add up in your head: how much I got, how much I can buy, and how much change you got, if you got any.

Pythagoras Theorem, you know, three is to four is to five, the right-angle triangle. Trades [trades people] use that all the time. They use that in carpentry and concreting. I believe maths teachers need to not do maths willy, nilly, but need to show the kids the practical application of the theories. A Pythagoras Theorem is what the hell do I need to know this side-squared stuff for. They need to learn about right-angle triangle so they can make their slabs square. Kids need to know why they're learning something to learn it. They need to be able to add up things, in their head. My dad used to say, 'if you don't use it - you'll lose it'.

Work hard. Like most things in life, once you figure out the formula, it's a light-bulb moment. It just clicks and everything feels good. The Maths Camp was good for that.

One of the teachers that attended the Math Camp said,

I've talked to a spattering of the parents of the kids that came to the maths camp, and there was a big surge of new energy of understanding of ways to perceive things through Make It Count, and kids through, number one, identity for themselves, and then their identity with others, and number two, the way those numbers on the board translated in a different way. And, it was a little bit weird because they were seeing those numbers in a different way and they had an affinity with them, instead of it being a foreign language, sort of thing, where the thought, what do I do with these. So, that was interesting. I think the bottom line is, as it is with anything, and this is why we are meeting each other and sustaining ourselves culturally and surviving, so to speak is, how does one give something, a password to get into that door, once, and then it's shut, so the kids can't get back in that room. Yes, there's an understanding the kids wanna get back into that room, but there's no back-up, there's no follow on. It was what it was. Those kids that came to it got the experience. It's like havin' a best toy that you can't touch again. So, it's like, you've had the experience, it's a romantic ideal that you can't have again. You give some money to something, but it's like it's not carried on. I'll be blunt. You're talking 5 years, it's like a band-aid. It's like that healthy weekend you got coming up, it's a good starting point, but how do you back that up.

While there was concern about the future of a culturally-response approach to teaching mathematics and numeracy beyond the Make It Count initiative, the general perception among parents and families was that Make It Count had achieved a number of inroads into building the learning and

teaching leadership capacity of Aboriginal and Torres Strait Islander teachers and educational assistants for the benefit of Aboriginal and Torres Strait Islander learners.

Make It Count did a cultural competency workshop with all teachers from those different schools in the Cluster; the ones that are part of Make It Count. At Nerang High School in the basketball courts, they put on a one day workshop with about 300 teachers to give an Indigenous perspective, and help them to connect with the kids.

Nerang maths & culture camp

The *Make it count* Nerang Cluster recently held a very successful camp for their Years 5-9 Indigenous students at Currumbin Park near the Gold Coast. The Cluster's goal was to connect mathematics with culture and, with Elders and leaders from communities and Project Patron Dr Chris Matthews helping them, they switched students on to mathematics through a variety of cultural immersion activities. When



Community Elders Aunty Pat Leavy, Aunty Isobel Kent, Dr Chris Matthews (Project Patron) & Kargun Fogarty

students were building homes from branches and bark, they were engaged in conversations about size, angles, symmetry, stability, capacity, measurement and shape and where numeracy became mathematics and mathematics became numeracy.

The Cluster has paved the way for some potentially very interesting developments in the teaching of mathematics in their schools.

People also spoke about the Make It Count “maths camp”.

Make It Count also put on a maths camp for the kids. That was two or three days, black kids only, with the majority of staff Aboriginal, and they had teachers from other schools. They did things like showed algebra [in which letters and other symbols representing numbers are combined], how to interact with people. They did stuff about the stolen generations [Aboriginal and Torres Strait Islander children who were forcibly removed from their families and communities] with two different groups, so put the kids into different groups to give them a hands-on practical experience of the history on the stolen generations and used maths to do that, and they made up dances in relation to the maths, and put on a *didge* workshop for the boys [didgeridoo, a musical instrument for males only].

Yeah Make It Count is doing a lot of good things. Indigenous maths conference, clusters and all the maths teachers, there was one day overnight, just teachers, that was last year. And the Indigenous maths day at the Titans, with other schools, the year before a maths camp for three days, so it brought a lot of people together.

While the parents and families that we spoke with about the use of mathematics in the community expressed a desire to be in a position to help their children with their maths homework, there was a general belief that Aboriginal and Torres Strait Islander people were good with maths, and saw being numerate as necessary for daily life and future success (see Morris, 2006).

Maths is great.

Indigenous people are good at maths.

I want my young fella to do well at Maths an' get a job, a good job when he finishes up. That's all you can ask for; your kids to grow up being decent people, being fulfilled. Who doesn't want that for their kids?

7.3 Summary

Section 7 presented the main findings of our meetings and yarning circles on Aboriginal and Torres Strait Islander parents and families' perceptions of mathematics and how mathematics is used in the community. The findings show that parents and families have an impression that maths is hard to understand, but see being numerate as necessary for everyday life, further studies, future careers and success in adult life, and that Indigenous people can be good at mathematics. It further found that the Make It Count initiative has made a great impression on the College and its approach to mathematics education for improving the outcomes of Indigenous learners by teaching mathematics in a culturally-responsive way to Indigenous and non-Indigenous teaching staff and building the learning and teaching leadership capacity of Aboriginal and Torres Strait Islander staff for the benefit of Aboriginal and Torres Strait Islander learners through exposing students to culturally-discrete ways of grasping mathematic and numeracy in new and empowering ways.

8 Closing Comments

This case study informs AAMT on its Make It Count project. Driving the case study was the AAMT commitment to understand the involvement of Indigenous parents and families in their child/ren's school community, and particularly as that applies to mathematics education. The findings presented in this case study are based on data from parents, families and the College community of St Peter Claver College, Riverview, Ipswich and relevant stakeholders of the Make It Count's Nerang, Queensland Cluster.

Overwhelmingly, while parents and families differed in their priorities, all felt it was important for their children to have a happy school life, and saw education, including mathematics education, as a route to success in adult life. Make It Count was seen as a means of supporting that success. The case study found that the common message from participating groups in the research was to strongly endorse the objectives of the AAMT's Make It Count initiative – to improve learning outcomes of Indigenous students in mathematics education.

Participants expressed the view that the College is leading the way in terms of its approach to Indigenous education in general, as evidenced in its implementation strategic initiatives across teaching and learning, including its extracurricular activities for students, teachers, and parents and families, as well as its increase in Indigenous student retention and participation rates and increase in Indigenous staff numbers.

The findings also indicate that the College is committed to improving the learning outcomes of Indigenous students in mathematics education, as revealed in its involvement with Make It Count's culturally-responsive approach to mathematics and numeracy, the provision of mathematics training of Indigenous and non-Indigenous teaching staff, the involvement of teachers in reflective research practices for improving their pedagogical practice, proactive participation of teachers and students in mathematics workshops, seminars and camps, and attitude to and reverence for the significance of culture in meeting the needs of Aboriginal and Torres Strait Islander learners.

In terms of interaction between the school community and Aboriginal and Torres Strait Islander parents/families, the main findings are:

- That there are different types of interactions in everyday use and these occur mainly via the internet, through social media platforms and through mobile phone technologies.
- That these forms of communication enable the school community to interact with Aboriginal and Torres Strait Islander parents/families virtually 24/7, however the costs, skills and access required to do so means that some parents/families may miss out on important information.
- That interacting with Aboriginal and Torres Strait Islander parents/families is typically a responsibility of the Indigenous staff of the College, rather than the non-Indigenous teaching staff, and that Indigenous staff of the College, who are seen as essential in engaging parents and families of Indigenous students and to providing information about those students to non-Indigenous teaching and administration staff, and vice versa, while playing an important role in terms of their provision of information around Indigenous culture to the College.

In terms of engagement between the school community and Aboriginal and Torres Strait Islander parents/families, the main findings are:

- That there are a number of variables that constitute engagement between the school community and its Aboriginal and Torres Strait Islander parents and families, which include: the attendance of parents and families at College gatherings and functions; College-parent/family co-involvement in benevolent and other activities in the wider community; the support provided by the College to students' families in times of need; and the provision of culturally-respectful practices and activities such as those initiated through Make It Count.
- That the effect of parent and family engagement on Aboriginal and Torres Strait Islander student outcomes is essentially positive, and is reflected in an increase in attendance and retention rates, as well as in the numbers of Aboriginal and Torres Strait Islander students taking on leadership roles, though more needs to be done to engage Indigenous parents and families at whole-of-school events alongside non-Indigenous parents and families.
- That the College's non-Indigenous mathematics teachers would like to be more involved with the parents and families of their Indigenous students and feel that this will help build better relationships and improve student learning outcomes.

- That Indigenous people have a collective history of institutionalisation and educational disadvantage, and parents and families generally feel more comfortable engaging with Indigenous staff about their children's education and school life.
- That Aboriginal and Torres Strait Islander parents and families are strong supporters of the College, and are happy to send their children to school there;

In terms of Aboriginal and Torres Strait Islander parents/families perceptions of mathematics and how it is used in the community, the main findings are:

- That parents and families have an impression that mathematics is hard to understand, but see mathematics and being numerate as necessary for everyday life, further studies, future careers and success in adult life;
- That Indigenous people can be good at mathematics.
- That parents and families see that the AAMT's Make It Count initiative has made a great impression on the College and its approach to mathematics education for improving the outcomes of Indigenous learners by teaching mathematics in a culturally-responsive way to Indigenous and non-Indigenous teaching staff and building the learning and teaching leadership capacity of Aboriginal and Torres Strait Islander staff for the benefit of Aboriginal and Torres Strait Islander learners through exposing students to culturally-discrete ways of grasping mathematic and numeracy in new and empowering ways.

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