Giftedness from an Indigenous Perspective

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Introduction

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One of the biggest challenges for the field of gifted education is to ensure that our identification procedures, programs, curriculum models, and educational practices are:

1. supported by the best research evidence available;
2. inclusive of all social and cultural groups; and,
3. respectful of different knowledge and belief systems.

Giftedness is not a static construct. Over the course of the twentieth century, we have observed a shift from views that conflated giftedness with IQ to the broader and dynamic perspectives reflected in Gagné's (2003) Differentiated Model of Giftedness and Talent, Sternberg's (2003) model of successful intelligence, Gardner's (1983) theory of Multiple Intelligences, and Ziegler's (2005) Actiotope Model of Giftedness. Percentages of the population that may be regarded as gifted have likewise shifted from around 2% to 10%. A key message in this broadened and dynamic view of giftedness is that potential needs to be cultivated. In Australia and New Zealand, Gagné's model has been widely adopted in state and school policies and has been useful in drawing to the attention of educators, the need to provide conducive environments for talent to flourish.

Sadly, giftedness is still viewed in many quarters as an elitist undertaking, which does not sit well with egalitarian nations such as Australia and New Zealand. While giftedness, by definition, exists equally in all populations, we are still a long way from recognising this in practice. Indigenous students comprise one group that is still under-represented in educational programs for gifted students. This collection of papers focuses the spotlight on giftedness in indigenous populations.

The first chapter is a transcript of the keynote address delivered to the 11th Asia Pacific Conference on Giftedness, held in Sydney in mid-2010, by Professor Paul Chandler. Drawing on his own experience of perhaps being seen as more a problem child than a gifted student, Chandler reminded the audience that giftedness is a social construct. Thus, what is known and valued in one culture may not be exactly the same as that of the next culture. He challenged prevailing stereotypes of indigenous students and proposed that educators cultivate giftedness through programs that respect indigenous knowledge and belief systems. Such programs can respond to giftedness while being the "rising tide that lifts all ships".

In the following chapter, Jill Bevan-Brown examines indigenous conceptions of giftedness and draws comparisons among Mäori, Navajo and Australian Aboriginal perspectives. This paper provides an important backdrop for the chapters that follow in the remainder of this book. In particular, Bevan-Brown's paper reminds us of the importance of understanding and respecting indigenous conceptions of giftedness in education. Like Chandler, she argues that including indigenous concepts of giftedness will benefit all gifted students, but also benefit general education. To assist schools in determining whether their practices reflect such an inclusive approach, Bevan-Brown provides a questionnaire to guide teacher reflection.

Chapters 3 to 7 focus on indigenous giftedness in Australia. John Munro focuses on the identification of gifted indigenous students, providing a strong rationale for the use of authentic assessments. He demonstrates the utility of such an approach in African populations and outlines how this can be adapted for use in Australia. Michael Christie's paper reports on his collaborative work with elders from the Yolŋu community in the Northern Territory. Christie's chapter sheds additional light on Aboriginal perspectives on gifted children and their education. Particularly important is the need for indigenous communities and mainstream school personnel to work together for the sake of the children. Again, the importance of understanding indigenous conceptions of giftedness is critical. The fourth chapter reports on a gifted program designed to engage indigenous primary school students so that their gifts can be realized. The Achievement Integrated Model (AIM) was developed by Bousnakis and colleagues at the Sydney Catholic Diocese for use in their schools and is currently being evaluated for its effectiveness. AIM builds on Graham Chaffey's Coolabah Dynamic Assessment model for identifying giftedness, and combines cognitive and affective components in its delivery. The following two chapters outline Chaffey's work and are reprinted from the *Australasian Journal of Gifted Education.* Chaffey's research indicates that a dynamic model is effective in identifying gifted Aboriginal children.

The final chapters examine indigenous giftedness in the New Zealand context. A strong theme running through all these papers is the importance of identity and connection for indigenous gifted people. The first of these presents Melinda Webber's work, which attempts to reverse the negative stereotype of Mäori academic outcomes. Webber draws on social identity theory to point to the synergy between Mäori identity and high academic performance. Graeme Miller then draws on his experience in New Zealand secondary schools to consider some of the issues educators need to confront in meeting the needs of gifted Mäori and Pasifika students. In addition to the importance of identity, Miller suggests that teachers and schools need to value the conceptions of giftedness held by differing cultural groups and to understand the home contexts of all students. Another practitioner, Taemanuolo Faaea-Semeatu, focuses on the cultural identifiers of giftedness for Pasifika students in New Zealand schools.

The final chapter in this book is not focused on indigenous gifted students per se. Rather, it looks at young people from low socioeconomic (SES) circumstances. The paper is included here because some of the challenges faced by children from low socioeconomic backgrounds share common ground with those experienced by indigenous students. Under-representation in gifted programs is one shared

experience. Nadine Ballam critiques the assumptions about the impact of low SES on the academic outcomes of young people. Again, the importance of identity is confirmed by Ballam's research.

References

Gagné, F. (2003). Transforming gifts into talents: The DMGT as a developmental theory. In N. Colangelo & G. A. Davis (Eds.), *Handbook of gifted education (3rd ed.,* pp. 60-74). Boston: Allyn and Bacon.

Gardner, H. (1983). *Frames of mind: The theory of multiple intelligences.* New York: Basic Books.

Sternberg, R. J. (2003). Giftedness according to the theory of successful intelligence. In N. Colangelo & G. Davis (Eds.), *Handbook of gifted education* (3rd *ed.,* pp. 88-99). Boston: Allyn and Bacon.

Ziegler, A. (2005). The actiotope model of giftedness. In R. J. Sternberg & J. E. Davidson (Eds.), *Conceptions of giftedness* (pp. 411-436). Cambridge: Cambridge University Press.

Prodigy or Problem Child? Challenges with Identifying Aboriginal Giftedness

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NOTE: The following is a transcript of the keynote address delivered on 30 July, 2010

I spent a lot of my academic and professional life working with gifted people, gifted educators, and I'll trace some of that history to see how a cognitive psychologist ended up in a gifted education space. But first, as protocol would demand, I would like to acknowledge that we meet today on traditional Aboriginal land. I'd like to acknowledge that we are on the land of the Cadigal people of the Eora nation and many other language groups that sit in this beautiful city area. I am from Cadigal land, although it is a suburb that people know as Maroubra, which is about five kilometres east of here.

People always wonder what acknowledgements are and what welcomes are to country and I really think that it is problematic that they have lost their value in modern life. But it is very important that when Aboriginal people were moving from country to country — and remember, Australia was made up of hundreds of countries and thousands of language groups — part of the protocol that was always exchanged was that when you walked onto new land you announced yourself as being there, as arrived. And an elder from the nation on which you had just arrived would come along and welcome you to their land and ask you to abide by the laws of the land and respect the laws of that country. And I think that is going to be woven in the theme today, about the respect of Aboriginal knowledges and respect of Aboriginal perspectives. So, that is what an acknowledgement is and I acknowledge and pay my respects to elders past and present.

Regarding the title "Prodigy or Problem Child", people might wonder where that came from. My first non-Aboriginal mentor was somebody called Miraca Gross, the founder of GERRIC[1]. When I first met Miraca at the School of Education at the University of NSW as a PhD student, she indicated to me that she felt that I was a child prodigy, that I was a gifted child who was never identified at school. I indicated to her that I was more like a problem child and, as evidence, showed her all my school reports. Those indicated that Paul was making good progress towards entering Long Bay Juniors[2], up the road in Malabar. Two very different perspectives.

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[1] The Gifted Education Research, Resource and Information Centre located at the University of New South Wales

[2] A reference to Long Bay Correctional Centre, located in Malabar, NSW.

How could somebody who was the first person in their family to finish primary school end up being one of Australia's ten top researchers? Miraca said that it was because I was gifted. I said I worked hard. And that rigorous and academic debate went back many years. In fact it was a very vibrant place to work, UNSW, in the late eighties and early nineties when we exchanged some very great discussion in gifted education. I have seen it evolve from its genesis to the place it is today and I have come across some outstanding people along the way: Karen Rogers, Wilma Vialle, Catherine Wormald, Jennifer Rowley, Katherine Hoekman, and many more.

We face a real challenge in this country. Gifted children, Miraca used to say this to me all the time and Wilma always insists (Wilma is now my mentor at the University of Wollongong), "Gifted children are some of the most disadvantaged and disengaged people on this planet." It was said to me in the late eighties, "Oh this is utter nonsense. A pack of middle-class kids, overachieving, in their classrooms, this is absurd." But over the decades, I've come to truly believe that our most gifted and talented people *are* unrepresented in our society, chronically unrepresented. And particularly in Australian society that puts a very high value on sporting prowess. If you ask people in schools to name their role models, very rarely will you get anybody who has reached the heights of academic or educational achievement. It is a very sad picture. It is a lot better than it was a couple of decades before you [audience members] started getting in the space, identifying this group of people and putting in curricula that would challenge and enhance their abilities, and truly take them to the next level. Without that, I think we'd be even in further disarray. So it is great what is happening.

The biggest challenge of all is that not all cultural groups or racial groups have the same opportunities to fulfil their real potential. The oldest living civilisations on this planet are Aboriginal people, and Aboriginal people lie behind non-Aboriginal people in this country by a massive amount. With all the good work and all good intentions that have been put in the space of Aboriginal education, we are no better than we were decades ago. In fact I had the pleasure of sitting through a plenary talk yesterday, and I just want to acknowledge that person, Melinda Webber. She was speaking on Maori initiatives and Maori techniques for identifying gifted indigenous people, and I only realised then how many decades we still lie behind our friends across the creek[3], that we really have a long way to go. That is the real reality for many Aboriginal children.

[Shows photo of a group of Aboriginal children] The grim reality is if I had a hundred of those beautiful Aboriginal kids up there, at best, on the current averages, only one, one, will make it university. One out of a hundred of those people, of our people, of Australian people, no matter if they're Aboriginal or non-Aboriginal, one out of a hundred of a group of those people make it to university. Until this situation is rectified, that is unfinished business for Australia and it is unfinished business for gifted education. It is unfinished business for gifted education because part of your important, underlying philosophy is that giftedness and talent knows no boundaries. Giftedness is a condition that can 'afflict' anyone. Is that not the philosophy? So, by

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[3] The 'creek' is a colloquial reference to the Tasman Sea, which separates Australia and New Zealand.

definition, it must afflict all racial groups, all cultural groups, all socio-economic groups. If that is the case, then we are under-identifying Aboriginal people.

What is giftedness from an Aboriginal perspective? Of course there is no such thing as an Aboriginal perspective because of the numerous nations and language groups. We are not one people, we are many, and there is a lot of rivalry between us. Especially at State of Origin[4] time. But, what is valued as giftedness in Aboriginal culture is a little different to what is known as giftedness in Australian non-Aboriginal culture. But first, I want to give you a test. I've got my own little gifted program running and I want to ask you all a couple of items. First question is, and I'll exclude our international audience because I won't expect you to answer this one, but you can try if you like, no iPhones allowed! Okay, question one, what is mutton fish and where would I find one? Hands up, does anybody know? Yes? [Audience member answers] No. Yes? [Audience member answers] Yes, it is abalone. A mutton fish is abalone. Where do you find it? Along the east coast of Australia, and all parts of Australia actually, but every one of those kids [pointing to photo of Aboriginal children] not only knows what a mutton fish is, they know how to get them. From an Aboriginal perspective, this person [who correctly answered the question] can join my talented group. I've got another question. How many second cousins do you have and can you name them? [Audience member answers] You can? Okay. How many have you got? [Audience member answers, "I've got 18"]. And can you quickly give their first names? [Audience member begins to list names. Names a few and then stops. "Oh no! Can I be half-gifted?"] I'll tell you what, I'll put you on the reserve list because you show potential for giftedness.

Now I hope I'm not being trivial, because I'm not meaning to be, and I'm not trying to belittle anybody or any system. Those kids know who their second cousins are, every single one of them, and third cousins; they know them by name, know their genealogy, know every single relationship with each of their cousins. In fact, if you're ever in a class with Aboriginal kids and they're doing circles with connection lines to them, they're not doing art. They're connecting up their kin. That is an extremely important part of being an Aboriginal person, knowing your kin. Kinship is one of the predictors, one of the variables that is seen as gifted in an Aboriginal community, knowing who your family is. In an Aboriginal structure, of course, they're not really regarded as second cousins, they're regarded as brothers and sisters. There we are, we have one person, I won't go any further, we have one person for our program, we'll do some intensive work later on. I will have a couple more down the track but I just wanted to make the point that from an Aboriginal perspective, giftedness is a measure of your knowledge of your ancestry, your land, your kin, and your respect for your community and elders. That is what giftedness is. And with being identified as a leader or a gifted person of any kind, comes an enormous responsibility. You are expected to care for certain family groups, you're expected to care for certain totems, and for your natural environment. This is a big weight on anyone's shoulders. Certainly I'm glad that I was a problem child. It is an enormous responsibility.

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[4] State of Origin is a series of rugby matches played between the states of new South Wales and Queensland.

You already know all this. What is regarded as giftedness from a western knowledge system and an Aboriginal knowledge system are quite different. The reality is, we are working in one Australia, and the best way to work together is to respect each other's knowledge systems and schooling systems. From that, a couple of things follow. Misconception number one: Aboriginal people do not value school or academic achievement – wrong! Aboriginal children respect and value mainstream non-Aboriginal education and schooling as much as their own, in general. This is a common misconception and it is one that is not based on evidence. Young Aboriginal children do value teaching, they value learning, and they value what's available in a non-Aboriginal framework. The other side of the coin is whether what they bring to the task is valued equally.

I started a learning centre called Myimbarr Learning Centre at Wollongong, about two or three years ago. Included were some high-potential Aboriginal young people and also Aboriginal young people who were struggling at school. I was told that I was mad, that I would not have these young people turn up after school to do more school work. But they travelled for up to an hour in a bus to come to the culture centre – we didn't bring them into a university, we brought them to the culture centre at Wollongong, which is an Aboriginal space – we brought them there to do a combination of two things. One: we did some extended curricula following the school, basically worked in with the schools with what they were doing, but more challenging activities. We used university mentors to do that, but intertwined within the two hours, we had one hour of school-based work and we had an hour of Aboriginal knowledges, Aboriginal languages, Aboriginal activities, conducted by recognised elders and recognised significant people in the community. When I drove the bus around – well I didn't drive the bus but I was on the bus – I was getting very nervous because my Vice-Chancellor invested money in this and all the education experts were telling me that it was going to fail, I still remember the day we drove around Barrack Point, down nearly Berkely in the south parts of Wollongong, and I looked up and I saw kids and their families all the way down the street. And I said to myself, our biggest problem now is getting more buses. Aboriginal kids want to learn just as much as any other kid. What we need to do, however, is respect their knowledge systems. Indigenous knowledges are now taking a very high prominence in educational systems. In fact Charles Darwin University has just had forty-five million dollars to build and create an indigenous knowledges centre. Indigenous knowledges are part of respecting and acknowledging what Aboriginal kids bring to the classroom, their knowledge of their natural environment, their knowledge of their family, their knowledge of their culture, their knowledge of language, their approaches to learning. These all need to be valued if we want to really, seriously narrow the gap.

Prodigy or problem child? Our young people need to be our first, they are our first nation people, they need to be given our attention so they can realise their talents and their gifts like all children. This society [Australian Association for the Education of the Gifted and Talented] is clearly one of the groups that do that, we only have to look at yesterday's conference program to see that that is part of the space. What are we doing about it in universities that you may or may not wish to tap into? Well, the first program is one you may have heard a bit about and it is called the Australian Indigenous Mentoring Experience, I have to declare a conflict of interest here, I am a

board director. The greatest resource our young people have, the greatest resource that our university has, is also our cheapest resource (don't tell them I said that). Our greatest resource is our students. One of the best ways that we can capacity build Aboriginal young people is to pair them up with a mentor, Aboriginal or non-Aboriginal, we are in this journey together. This is not new, mentoring schemes are certainly not new and it needs to be over a sustained period of time. Not this one-off of football players going into schools, kicking a ball around, signing it and then darting off; they have no penetration into their educational lives. For many years in schools you'd have Aboriginal role models come in — generally from sporting backgrounds — kick a ball around, tell the kids good stuff such as "stay in school, eat well, see you later, I'm off to the match". No effect. Absolutely no effect.

Within our programs we've actually got what we call the Dragons[5] in the Classrooms, a program where they have actually their role models sitting in the class reading books with them. In fact I told them if I see a football anywhere near any of my schools, I'll kick it out of the paddock. In fact the first time I did and I kicked it straight into the wall and nearly broke the window at Jervis Bay School, so sporting prowess is probably not my forte. The Australian Indigenous Mentoring Experience partners Aboriginal children from low socio-economic, high population Aboriginal schools with university mentors over an entire year. Students come into campus, are transported into campus during the week and throughout that one hour per week they build up a rapport and an understanding with those mentors and the mentees. It becomes a very strong bond. In fact many of the mentors who have been in the program tell me that they've learned more than the mentee. They've learned that some people mightn't have breakfast until four in the afternoon, they've learned that their books that were there at night mightn't be there in the morning, they also have learned how we engage Aboriginal kids in their community and have become a part of that community. In fact, some of the mentors have done their year and I still see them back years later. I say, "What are you still doing here?" I didn't mean it like that, of course, but they're still at the homework centres, they're still in the learning communities, you still see them at events, and they say, "Oh I'm working for this smaller firm, I'm helping doing some pro bono work for your organisation." So, the long-lived effects of that mentorship are outstanding. The mentee builds a sense of worth, builds a sense of capacity and builds a sense that this is not somewhere that I can't go. Universities, opportunity, gifted and talented programs are very foreign to some groups of people, and particularly intimidating to Aboriginal kids and a lot of other kids too, especially from low socio-economic groups who haven't had the family history, family genealogy, of lots of people going to university; it can be a very intimidating place. This program is designed to break that down. All those kids of course won't end up in gifted and talented programs, but as Wilma always says to me, "A rising tide carries the most ships." There's no point looking for ships in an empty harbour. If you create capacity in an entire community, you are lifting all ships and allowing the ones with the most potential and the gifts that you want to excite in this world to be able to be achieved. I believe this is one of the programs. It operates from seven universities in Australia and will probably take on more next year, which will be part of the strategy – it's not the answer – it is part of the holistic strategy we need to work with. So, that is an example of a program that capacity builds Aboriginal

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[5] The Dragons are a Rugby League team.

students to then be able to identify those and be able to work with those groups to identify the most talented and gifted in all communities.

The other initiatives I want to very quickly talk about while I've still got time are the Myimbarr Learning Centre, which is a cluster of fourteen schools that comes together and provides a blend of extended school-based learning and emphasis on indigenous knowledge systems. There is research that has shown (see the work of Caroline Jones and Jenny Munro) that just the teaching of traditional languages in schools has a pronounced impact in terms of English acquisition and encoding and engagement and academic performance. And, when compared to high population Aboriginal schools that don't have the program, there are clear differences. In fact the whole language program actually showed clear acceleration of non-Aboriginal students, as well, who've learnt the traditional languages; so it's best for everybody in that program.

The other example is the University of Wollongong, which is the first university in the world to have a presence on a naval site, to actually be part of a naval community. I won't tell you the story of how that came about. Does anybody know where Jervis Bay is? [*Audience say yes. Audience member talks.*] We have a representative from the Jervis Bay community here, Allyson Whiteoak, she actually works in the school that I'm talking about, what they have done to engage Aboriginal students and make them realise their true potential, along with non-Aboriginal students. It is a very unique school, Jervis Bay school. It has the most diverse student body I've ever seen. It sits on ACT (Australian Capital Territory) land which is strange because it's in the middle of NSW (New South Wales), and it's a closed military site. The new principal of the school invited me down to visit the school there. He said, "Paul you've never seen such a unique group of students." And I said, "I've seen them all, I tell you." And he said, "Come down here." On the way [to the school] I noticed that these houses were sitting there, not being used. I said [to the navy personnel], "What are these houses for?" And they responded, "They're for the navy officers and the navy personnel's families, their children and families." And I said, "Oh yes, well why aren't they being used?" They said, "Some of the families like to live off site so they don't have to live and breathe the same thing." So I said, "Oh, can I have one of them?" "What do you want?" And I said, "Can we have a couple of them for our interns coming down and living here in the community? Our fourth year students who have been on three or four professional experiences, who are going to be teachers, ones that can make a real impact, can they come and live down here?"

Fortunately we have a new commander named Fiona McNaught who, being female and in the navy was a great feat to get to that height, would've had to deal with a lot of nay-sayers, and she and the whole school made it happen. In this school that has some of the most disadvantaged people in this country. The navy community, in many ways they are far more disadvantaged than Aboriginal people in that community. If you've had to move three, four or five times before you are ten years old, you've had such a sense of disengagement, and such social interaction issues — they bring one culture, the navy personnel's kids; then, the kids from the Wreck Bay community. They come to school and they all follow the ACT curriculum and we have some NSW kids thrown in just to make it nice and diverse. So in that school, one of the programs that has excited Aboriginal kids and released their talents is the Booderee Junior Ranger project, which puts an emphasis and respect on indigenous knowledge

systems but all its outcomes are expected to be educational outcomes, traditional western outcomes. They are expected to excel in literacy and numeracy and they are expected to excel in all aspects of school education. And they have.

Also, to return to the Myimbarr Learning Centre in Wollongong, three of those students from that homework centre who were not identified before have now been identified as gifted and talented students. "A rising tide lifts all ships." The best way that we can engage indigenous young people is to invest in them through structured mentoring programs, through school-based extension programs that respect and bring to the table their community and their knowledge systems and celebrate what is beautiful about learning in everybody's culture. The outcomes, of course, need to be school based and school focussed and that is all I've got to say on that matter. Thank you.

Chair: I'm not letting him get away that easily. Once again I would just like to acknowledge that the Department of Education Employment and Workplace Relations sponsored the Indigenous Strand as well as the Dual Exceptionality Strand in this conference and so they were responsible for Paul's presentation this morning. So I do want to thank you Paul, for your presentation, I'm aware that we have a little bit of time so I'd like to throw it open to the floor if anybody has any questions or comments that they'd like to make.

Audience member: Urban aboriginal children are often absent from school because they go home to be with the mob when there is a problem, when there's been a death, or something of a catastrophic nature to the group. I don't think that we know what to do with those absences and I don't think we know what to do and I think there might be a little bit, or a lot of, misunderstanding by our schools as to how to manage that in a positive manner. What do you think we should do?

Paul Chandler: With even the best intentions, absenteeism from school is a real problem. It is a problem and it's sort of an eggshell. Generally it can be a community responsibility to be around deaths and funerals and stuff like that or domestic issues that are going on. And there is a degree of cultural sensitivity where the teachers feel that they can't tread, an eggshell. Walking through those cultural eggshells is hard work, my way of doing it is just walk straight through it. I'd say, "Is there anything the school can do to support you?" I would try, the best outcome is to try and communicate with the family, emphasise the importance of the young person being at school and working on those issues. They shouldn't need to take on the massive responsibilities that are often placed on young people, but I think, it's about working, the conference theme, the reason why I've picked the programs that I've picked, is because the theme of the conference says "effective partnerships". And that's why I picked the AIME, the Booderee and the Myimbarr Learning Centre. It's about partnerships. It's about the school getting in a partnership with the family. What happens at Jervis Bay, if one of the kids don't show up because of a domestic issue, he's down there banging on their doors, "K, come on, what's for breakfast, let's get on with it." Of course, in some schools you can't go round banging on people's doors, but you don't know Bob who's about six foot eight tall, so he goes banging on any door he wants. But I think the answer to your question is, it's an effective partnership. And having a conversation with the family, early intervention is always the best. Get the

family in early and say, "Look, I know that there's a lot of family issues going on but I'm worried that little Mary's learning is going to be affected by this."

Audience member: I think it's an urban problem.

Paul Chandler: I think it's a problem. Often the common myth is that people like to have this romantic notion that Aboriginals exist only in remote, rural communities and that we're still running around with loin cloths on and hunting at night. The fact of the matter is the majority of Aboriginal people are in urban areas. The most, the largest population of Aboriginal peoples sit in the south-west of Sydney, the north coast of NSW and the south east of Qld, but of course they're quite diverse and all over the country but when people think of engaging Aboriginal children…what was the first picture that came into your head? Did you have a picture of a kid, you tend to think of Aboriginal as remote but it's actually, it is also, an urban issue. And in urban issues there are problems with absenteeism. Also you have to hold people accountable, because you have to ensure that you don't lower the standards in terms of using the absenteeism not for just not showing up at all. Just like lots of kids do, Aboriginal and non-Aboriginal.

Audience member posed question about scholarships.

Paul Chandler: First point is I would go to your local AECG and start there. AECG is your Aboriginal Education Consultative Group. You can check to see if you've got one in your region, that is the first protocol step. If you get nothing back, you get nothing back, but that's the first protocol step and then they will communicate through their regional networks. The bush telegraph is also a very, once you tell them, some of the members tell the others and it really happens quickly. The old bush telegraph is a lot faster than email I'll tell you.

Audience member: I've come from experiencing more boys, indigenous boys in boarding school. Is there much research about engaging those kids who do come from those very rural communities?

Paul Chandler: The closest I think I've seen is the remote community of Jervis Bay, because that is still counted as an isolated, rural community. I think there's similarities in the research that what inspires Aboriginal people in one place inspires them elsewhere. In an all-boys school? I think a program that would look at their knowledge systems and their links to the natural environment would probably be one that would be successful. An outdoor program, something of a junior ranger program background, I'm expecting to also have some challenges in an all boys, rural Aboriginal school.

Audience member: Lots of different communities, so lots of language groups. Lots of different boys from lots of different islands, including Palm Island. Certainly a diverse group of indigenous kids plus other kids.

Paul Chandler: What was the common theme of engagement where the young people from different language groups, where do they like to intersect?

Audience member: Football.

Paul Chandler: I'd put them in the natural environment, where the owners of the land, the young people of the land show off their land and talk about their land, their totems, their knowledge systems, and use that as a benchmark to engage all the students.

Audience member: I'm just wondering what's happening here, in support of what's happening up north? The fact that indigenous languages have been told that they cannot be used as language of instruction in schools, it's meaning the people who have trained as teachers are not being felt to have an importance in the schools and I'm just wondering what's happening down here, in terms of support for the people up there?

Paul Chandler: Well politically Aboriginal groups are supporting the notion of bilingual and trilingual education. It's interesting what's happening up north, the reverse is happening down south. They're trying to implement more, in NSW for instance they're trying to put in more traditional languages into the curriculum and up north they're taking them away.

Audience member: I'm saying there isn't support, in terms of funding, for these programs and I'm wondering what people down here are doing to help those programs that exist for people that do have their own language, who have had this culture to have it continue within a process, it's great what's happening as far as things being built up, I'm just wondering what's happening down here.

Paul Chandler: The place we go for that is Canberra. It's basically DEEWR are the people.

Audience member I just mean indigenous groups.

Paul Chandler: Most of the lands councils in this state and many other states support the north in the use of traditional languages in classrooms, but they provide their political support but it's a change of government policy which is required, which is outside our jurisdiction.

Chair: Paul, thank you for sharing your passion for indigenous education with us and for creating a space within your passion for our passion, gifted education, I think the way you spoke with such passion certainly touched the hearts of many people here.

Indigenous Conceptions of Giftedness

Jill Bevan-Brown
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Abstract

Giftedness can be found amongst people from all cultural, ethnic and socio-economic groups. However, what is understood as giftedness, and how it is provided for, can differ considerably between these groups. This paper briefly examines the concept of giftedness from Mäori, Navajo and Australian Aboriginal perspectives. It discusses similarities and differences between these indigenous concepts of giftedness and also between indigenous and western, majority culture concepts. Problems associated with the identification of culturally diverse gifted students are outlined, three strategies to facilitate the inclusion of diverse cultural concepts of giftedness are described and ways indigenous views on giftedness can contribute to both gifted and general education are mooted. The paper concludes with a 25-item questionnaire to help teachers assess how well their school is providing for gifted students from minority cultures.

Introduction

Diversity abounds in the gifted arena. Although it is universally accepted that gifted individuals are found amongst people from all cultural, ethnic and socio-economic groups, there is continuing debate over how giftedness should be conceptualised, identified, demonstrated, fostered and provided for (Colangelo & Davis, 2003). This diversity and debate is not surprising given that giftedness is a social construct (Gardner, 1983; McAlpine, 1991; Sternberg, 1985). From a cultural perspective, the concept of giftedness is shaped by a group's beliefs, customs, needs, values, concepts, attitudes and language and as these differ between cultural groups then so too will their concepts of giftedness differ (Bevan-Brown, 1993). Different worldviews will result in different perceptions of giftedness (Phillipson, 2007). This is supported by Sternberg (2007), who, drawing on his research with children in rural Kenya and Native American Yup'ik Eskimos, concludes "that gifted can differ from one culture to another. There is no one-size-fits-all conception of giftedness" (p. xvii). McAlpine (1991) goes as far as stating that giftedness only has meaning in terms of how it reflects different social and cultural values and contexts. This paper considers how giftedness is perceived in three different indigenous cultures: Mäori, Navajo and Australian Aborigine. It discusses similarities and differences among these indigenous concepts of giftedness, and between indigenous and western, majority culture concepts. It also outlines problems associated with the identification of culturally diverse gifted students and suggests strategies to incorporate different cultural concepts of giftedness.

Three indigenous conceptions of giftedness

Mäori [1]
Similar to other cultural groups Mäori are a diverse people; tribal and individual differences abound. Despite this, research has shown the following (see Table 1) to be components of giftedness that are supported by many Mäori (Bevan-Brown, 1993, 2002).

Table 1. Components of a Mäori Concept of Giftedness

1. Giftedness is widely distributed in Mäori society. It is not bound by social class, economic status, lineage or gender
2. Giftedness can be exhibited in both individual and group contexts. Also, an individual's gifts and talents can be 'owned' by a group
3. The areas of giftedness and talent recognised are broad and wide-ranging
4. Importance is placed on both 'qualities' and 'abilities'
5. The concept of giftedness is holistic in nature and inextricably intertwined with other Mäori concepts
6. There is an inherent expectation that a person's gifts and talents will be used to benefit others
7. The Mäori culture provides a firm foundation on which giftedness is grounded, nurtured, exhibited and developed
8. Mana tangata[2] is frequently accorded to people with special abilities especially in the areas of traditional knowledge and service to others

These components show many areas of convergence with western, majority culture concepts of giftedness. There are, however, some notable differences, for example, group giftedness. This refers to the notion that giftedness emerges as a result of people working together. Individuals may have expertise but it is only when working in a particular group context that their expertise becomes collectively heightened to an outstanding level. The gifted ability is perceived as belonging to the group rather than to individuals within it. Collective giftedness is in keeping with the strong group orientation of Mäori culture (Barlow, 1991; Mead, 2003).

An associated belief is that of group ownership of giftedness. This is related to being

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[1] Mäori are the indigenous people of New Zealand. They are of Polynesian origin and represent approximately 15% of New Zealand's population.

[2] Mana Tangata is authority or prestige bestowed on an individual or group by others.

'handed down' a quality or ability that one's whanau (extended family) or hapü (subtribe) are celebrated for. It is also related to acknowledging the contribution others have played in nurturing and enabling a person's giftedness to develop. The 'self-made man' does not fit comfortably in Mäori philosophy. While individual effort is applauded especially if it involves battling against adversity, individuals themselves are viewed within the context of their whänau (Barlow, 1991; Mead, 2003). They were conceived, raised and their abilities recognised and nurtured by family members, some of whom have made personal sacrifices to provide opportunities for a relative's gifts and talents to be developed. As one research participant explained:

> The talent in a person is the talent you see encapsulated in that individual, but it is a talent that belongs to the group and that's the difference. It's just the perception, how you actually view the thing. (Bevan-Brown, 1993, p. 122)

A second notable difference relates to the importance placed on intangible 'qualities' mainly in the affective, interpersonal and intrapersonal domains. These areas of giftedness are given top priority and include qualities such as: love, caring and sensitivity to others; courage; bravery; hospitality; familiness; industriousness; determination; patience, honesty, integrity, open mindedness, humility, serenity, reliability, selflessness, moral courage, humour and strength of character.

Service to others is also accorded a high priority. This ranges from service to humanity to service at a local and family level. For gifted Mäori there is an inherent responsibility to use their gifts and talents to benefit others. This stems back to traditional times when it was believed that gifts were handed down from the gods, not for personal aggrandisement but to help one's whänau, hapü and iwi (tribe). A person so endowed was considered to be the guardian of a taonga (valued possession). If a gift was abused in any way, it could be withdrawn (Marsden, 1992). A contemporary interpretation of this belief was provided by a research participant:

> If you share [your gifts] they go through other people and so it transcends time and keeps going, but if you keep it all to yourself, that's where it is going to stay and once you're gone, it will probably go after a while as well. (Bevan-Brown, 1993, p. 123)

In addition to the affective and social domains discussed above, other areas of giftedness valued by Mäori are: spiritual, cognitive, aesthetic, artistic, musical, psychomotor, intuitive, creative, leadership and cultural knowledge and skills. Such a broad, wide-ranging concept of giftedness echoes the multicategorical approach popular in western society today and exemplified by Gagné's (2003) differentiated-talent model and Gardner's (1993) Multiple Intelligences theory. There are, however, important differences in the way the various abilities are interpreted and demonstrated. Leadership ability provides an example. While many western definitions and models include this ability, in a Mäori concept of giftedness 'leadership' is interpreted from a Mäori perspective. Similar to many other cultural groups, Mäori have their 'up-front' leaders, and those that lead by example, but they also have a unique, unassuming 'behind-the-scenes' style of leadership described in the following quote.

People who have and hold this type of mana (prestige, charisma) are not always seen in the public eye, but are often consulted and approached within the privacy of their own kinship group. Today, people from other cultures often approach Mäori people who appear to be carrying leadership roles within the formal context of the marae-atea (formal meeting ground) only to be told to approach someone else who is working quietly behind the scenes. People familiar with this type of mana have little or no difficulty recognising or 'feeling' it within other people. (Pere, 1982, p. 32)

Navajo (Dine')[3]
According to Begay and Maker (2007) the Navajo (or Dine') concept of giftedness is extremely complex.

People are each endowed [by the Holy People, the deities] from prebirth with a gift, and at birth it is the responsibility of the parents, grandparents, extended family and kinfolk to identify and cultivate this unique gift, ability and talent...giftedness is thus not only an individual existential experience but rather a complete, communal experience similar to the 'whole being greater than the sum of its parts.' The Dine' epistemic conceptualisation, identification, and cultivation of giftedness are deeply embedded in the spiritual world. It is not just an academic construct but is accorded the utmost profundity in respect, reverence, and observance. (Begay & Maker, 2007, p.160)

The communal experience of giftedness for Navajo can be likened to the previously described communal ownership of giftedness by some Mäori whanau. Similar also is a Navajo obligation to use one's gifts to help others: "where and when geniuses fail, that is where exceptional talent and abilities are used to only one's benefit" (Begay & Maker, 2007, p. 131). There is a "form of collective cultural governance of individual exceptionality" which, together with a "balanced personal and collective conscience" serves to steer gifted individuals away from using their outstanding abilities for self-interest to using them to benefit their people and make a better world (Begay & Maker, 2007, p. 132).

The highly valued talents, abilities and wisdom contained in the Navajo conceptual framework of giftedness are grouped into four areas:

1. Purity in thought; spiritual; identify interests; good memory skills (ability to store vast amount of information, cultural knowledge; interpersonal skills (personal/social perspective, share knowledge skills); abstract thinkers (arts, patterns, math);
2. Awareness and sensitivity (kinship, community, nature etc); shows respect and reverence (kin, all people, nature life forms etc); has strong spirituality, reverence;

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[3] The information on the Navajo (Dine') concept of giftedness is taken from a chapter in *Conceptions of giftedness: Sociocultural perspectives.* This chapter was written principally by a Navajo man, Harold Begay. He was assisted by C. June Maker. I thank and acknowledge them for the information in this section.

3. Excellent problem solvers (convergent, divergent thinking); intrapersonal skills (spiritual, moral, ethical, reflective); adaptability (insightful, practical); maturity (responsible, disciplined work ethic);
4. Leadership (altruistic); language usage, verbal skills; listening skills (tolerance, patience, not boastful etc); highly motivated to learn; musically/artistically inclined (Begay & Maker, 2007, p. 156).

Notable in this list is the emphasis placed on affective, intrapersonal and interpersonal skills — another similarity to the Mäori concept of giftedness. Begay and Maker (2007) note that, "Dine' traditional giftedness as applied to every day life is identified most with people who are traditional healers, peacemakers, leaders and family providers, and those who possess cultural skills, knowledge and teaching" (p. 144). These same areas of expertise featured prominently in Bevan-Brown's (1993) research on Mäori giftedness.

Australian Aborigines⁴

In discussing the Australian Aboriginal view of giftedness, Gibson and Vialle (2007) acknowledge the difficulty of constructing a single aboriginal concept for people who have diverse cultures, represent 28 major language groups and speak literally hundreds of different dialects. They contend that, "any conceptualisation of giftedness from an Australian Aboriginal perspective must incorporate intellectual strengths that are inherent in their worldview" (pp. 219-220). Drawing on a variety of research into Aboriginal concepts of giftedness and their own extensive experience of working with Aboriginal communities, Gibson and Vialle (2007) propose four intellectual strengths that typify the diverse indigenous groups in Australia and should be included in an Aboriginal concept. These are:

1. Linguistic intelligence. Aboriginal languages are more syntactically complex than English (Fesl, 1993). Traditionally, Aboriginal people were multilingual, and when exposed to other languages they learned them quickly and well ...
2. Spatial intelligence... studies have emphasized the strength of Aboriginal children in learning through observation... Spatial abilities have had their most notable expression in the exceptionality of Aboriginal trackers and the world acclaim for the work of traditional and contemporary Australian Aboriginal artists.
3. Interpersonal intelligence. Australian Aboriginal cultures constitute an egalitarian society where everything is shared. Kinship is central and Aboriginal children are born into groups, not nuclear families... [They] are raised to be independent and autonomous, both qualities being pivotal in the realization of giftedness.
4. Naturalist and spiritual intelligence. The connection and respect for the land that is central to the Aboriginal worldview embraces two of Gardner's (1998, 2000) more recent additions to his theory of multiple intelligences (although

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⁴ The information on the Australian Aboriginal view of giftedness is taken from a chapter in *Conceptions of giftedness: Sociocultural perspectives.* This chapter was written by Kay Gibson and Wilma Vialle. These authors are not Aboriginal however they have worked extensively with Aboriginal communities and drew on research studies conducted either by Aboriginal Australians or in close collaboration with them. I thank and acknowledge the authors for the information in this section.

he does not accept spirituality as a full intelligence at this stage)[5]. (Gibson & Vialle, 2007, p. 220)

Gibson and Vialle could have added intrapersonal intelligence to their list above as 'inter/intrapersonal ability' was the top scoring category in a research conducted by Gibson to "determine the conceptions of giftedness held by Aboriginal people living in urban areas of Southern Queensland and to establish the usefulness of Frasier's (1992) 10 traits, aptitudes and behaviours (TABs) to identify gifted Aboriginal students in Australia" (Gibson & Vialle, 2007, p. 211). An analysis of the frequency of culturally-specific examples in this study revealed that 20 examples of inter/intrapersonal ability were given compared to 34 examples in total of Frasier's 10 traits of communication, motivation, problem-solving ability, memory, reasoning, imagination/creativity, humour, insight, interests and inquiry.

Based on these findings it would appear that, similar to Mäori and Navajo concepts, interpersonal and intrapersonal skills have a high priority in an Aboriginal concept of giftedness. However, there is one interesting point of difference. Research into an Aboriginal concept (eg. Kearins, 1983 & Malin, 1990 cited in Gibson & Vialle, 2007) consistently identifies independence, self-reliance and autonomy as valued characteristics. For Mäori (and arguably for Navajo) interdependence is more highly valued.

Two further points of similarity between Mäori, Navajo and Aboriginal views of giftedness relate to the inclusion of naturalist and spiritual components of giftedness. While these two areas are included in some western, multicategorical conceptions of giftedness, there are relatively few examples of associated provisions in the gifted literature and the existence of spiritual giftedness remains a controversial issue (Piechowski, 2003).

Providing for gifted students from minority cultures

Before considering the educational implications of varying cultural concepts of giftedness, it is pertinent to ask: Exactly how well are gifted students from minority cultures being provided for in our schools? A comprehensive review of international and New Zealand literature relating to gifted education for students from minority cultural groups (Riley, Bevan-Brown, Bicknell, Carroll-Lind & Kearney, 2004a) revealed that, with a few exceptions, gifted and talented minority students are considerably under-represented in gifted education. This under-representation was reported for minority cultures in general (Bernal, 2003; Fletcher & Massalski, 2003; Mills & Tissot, 1995; Sisk, 2003; Worrell, Szarko & Gabelko, 2001) and for particular ethnic groups, namely:

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[5] Gardner has still not accepted spirituality as a full intelligence however it has since received support from a number of eminent academics and researchers and has a "demonstrated neurological basis" (Piechowski, 2003, p. 413). It should also be acknowledged that Gardner's naturalistic intelligence extends beyond connection to the land. It has a strong focus on discerning patterns and differences in natural objects.

- Native Hawaiian (Martin, Sing & Hunter, 2003);
- African-American (Ford, Harris III, Tyson & Trotman, 2002);
- Hispanic (Ford, 1998);
- Australian Aborigine and Torres Strait Islanders (Gibson & Vialle, 2007; Harslett, 1993; Vasilevska, 2003);
- Pacific Island and Arab-speaking students in New South Wales (Vasilevska, 2003).

In New Zealand there are both anecdotal reports of the under-representation of Mäori in gifted education (Bevan-Brown, 1993, 2002; Cathcart & Pou, 1992; Galu, 1998; Moltzen, 1998/1999; Reid, 1992) and empirical evidence of such (Keen, 2001, 2002). In respect to gifted Navajo students, while Begay and Maker (2007) do not specifically mention their under-representation in gifted education, they do state that these students are not adequately provided for in conventional schools.

Causes of under-representation

Numerous causes have been given for this under-representation of gifted minority students. In the main they are related to discriminatory assessment practices such as culturally biased assessment measures and narrow selection criteria. Table 2 summarises problems identified in the literature in relation to the identification of culturally diverse students.

Table 2. Problems Associated with the Identification of Culturally Diverse Students

1.	Low teacher expectation
2.	Teacher bias
3.	Low teacher referral rate
4.	Inadequate teacher preparation in testing, assessment, multicultural and gifted education
5.	Cross-cultural misinterpretations and misunderstandings
6.	Inadequate home-school communication about gifted education opportunities
7.	Narrow concepts of giftedness
8.	Negative stereotyping of minority group students
9.	Characteristics associated with cultural diversity that may obscure giftedness
10.	Reluctance amongst parents of students from diverse minority cultures to identify their children as gifted and nominate them for gifted programmes
11.	Students unmotivated to perform in test situations
12.	Students inhibited by conditions of poverty or psychological stress
13.	Geographic isolation
14.	The pervasive deficit orientation in society and educational institutions

(Riley et al, 2004b, p. 25)

A number of these problems relate directly or indirectly to differing conceptions of giftedness. The most obvious is 'narrow concepts of giftedness.' In New Zealand, despite most schools having a multicategorical definition, a national questionnaire completed by 48% of all schools showed that cultural, spiritual and emotional giftedness were often overlooked and that "many of the reported definitions, identification practices, and provisions did not embody Mäori perspectives and values" (Riley et al, 2004b, p. 3).

Similarly, Gibson and Vialle (2007) describe a number of research studies concerning Aboriginal students which show "the fallibility of using narrow conceptions of giftedness and correspondingly limited tools for identification such as IQ tests" (p. 219). While Begay and Maker (2007) also note that no provision for incorporating Dine' traditional conceptions of giftedness is made in either English American or federally funded 'self-determination' grant schools.

Incorporating differing cultural concepts of giftedness

In order to provide effectively for gifted minority students, differing cultural concepts of giftedness need to be acknowledged, valued and provided for, but how can this be achieved? An important first step is to address the 'inadequate teacher preparation in testing, assessment, multicultural and gifted education' listed in Table 2. All pre-service and in-service teacher education should include information about diverse cultures and diverse cultural concepts of giftedness (Ford, 2003). After all, if teachers do not understand the Mäori concept of 'mana tangata' how can they recognise it in their pupils? Similarly, if they are unaware of the Navajo obligation to use one's gifts to help others or the Aboriginal emphasis on spatial intelligence, will they provide educational programs that incorporate these components?

A second step is for teachers to provide culturally responsive school environments. These are environments where diverse cultures and values are acknowledged and celebrated, where the content and context of learning are relevant for all students and where a wide range of assessment and teaching approaches is utilised. In a supportive learning environment which reflects and values cultural diversity, gifted minority students will feel 'safe' to reveal their gifts and talents (Banks & McGee-Banks, 2006; Bishop & Glynn, 1999; Ford, 2003). For Mäori, the concept of giftedness is holistic and intertwined with other Mäori attitudes, beliefs, needs, values, customs and concepts, so encouraging and developing students in their Mäori culture goes hand in hand with developing their giftedness. A similar situation is expressed by Gibson and Vialle (2007) in respect to Aboriginal students:

> We suspect that many Aboriginal children fail to realize their gifted potential because they are unable to find that harmony with their identity. The challenge for educators, then, is to help Aboriginal children in negotiating the process of developing self-confidence and a strong sense of identity. (p. 221)

What would a culturally responsive environment look like for gifted Mäori, Navajo and Aboriginal students? The physical environment would incorporate culturally

meaningful icons; culturally appropriate measures and processes would be used to identify their areas of giftedness; and, once identified, these students would be provided with extension programs and activities that incorporated relevant cultural content, processes, values, and accommodated preferred learning styles. For example, a group of Mäori students gifted in science might investigate together the chemical properties of Mäori food and rongoä (medicine); a Navajo student might research traditional astronomical knowledge and consider its contemporary application (Begay, Maryboy & Sakimoto, 2008) including ways this knowledge might benefit their own community; and an Aboriginal student might compare and contrast the Dreamtime stories of various Aboriginal nations or trace the linguistic evolution of different Aboriginal dialects noting their similarities and differences.

Given the importance of interpersonal and intrapersonal skills and abilities to Mäori, Navajo and Australian Aborigine groups, a culturally responsive environment would include many learning opportunities in these domains. It is acknowledged that in some particular areas this will present a challenge for teachers: How does one foster bravery, sensitivity to others or spirituality? In respect to the latter, some may ask whether this is, in fact, an area that teachers should address. While certain components of spirituality are not appropriate for the classroom and should be left to parents, families and certain members of the cultural community to foster and develop, other more general aspects can be included in the classroom program. For example, for Mäori students, Bevan-Brown (2009) suggests studies of Mäori spiritual leaders, analysis of the specific roles of traditional atua (gods), and journaling and creative writing to develop reflective thinking and nurture emotional and spiritual intelligence. An excellent example is provided by Fraser (2002) in her work with gifted and mixed ability students. After exploring metaphorical expressions taken from literature, the students chose a particular human emotion or quality to write about as if it were a real person. This activity provides gifted students with the opportunity to reveal mature moral awareness and spiritual sensitivity, to develop personal insights and to deepen interpersonal and intrapersonal understandings. Further noteworthy approaches are discussed by Sisk (2008) in an article on "Engaging the spiritual intelligence of gifted students to build global awareness in the classroom."

A third step towards the inclusion of diverse cultural concepts of giftedness is the greater involvement of parents, families and the community (Ford, 2003; Gallagher, 2003). In her research, Bevan-Brown (1993) found the development and utilisation of strong school-family-community networks an important means of supporting and encouraging gifted Mäori children. It is likely that such networks would also benefit gifted Navajo and Aboriginal students. Parents and family members are the experts on their respective cultural concepts of giftedness and so can assist teachers to identify gifted children and incorporate cultural concepts into educational programs. They can also be involved as resource people, advisors, volunteers, audiences, mentors, role models, and program evaluators. In fact, parents, family and community members can be consulted and included in all relevant decision-making pertaining to their gifted children.

A win-win situation

The previously discussed steps for incorporating differing cultural concepts of giftedness will not only benefit gifted education but also education in general. This contention has literature support — researchers and educationalists acclaim the advantages of: teachers being better trained to teach in multicultural schools (Banks, 2006; Banks & McGee-Banks, 2006); learning environments and approaches that reflect, cater for and value cultural diversity (Bishop & Glynn, 1999; Gay, 2000); and the involvement of ethnic minority parents, families and communities in the education of their children (Howland, Anderson, Smiley & Abbott, 2006; Muscott, 2002).

In addition, teachers would do well to consider what indigenous beliefs can contribute to both gifted and general education. The importance Mäori, Navajo and Australian Aborigines place on interpersonal, intrapersonal and spiritual qualities, for example, could prove beneficial in a world where racial and religious conflict is rife. Certainly, programs that seek to identify and nurture potential Nelson Mandelas and Mother Theresas would be welcomed internationally. Similarly, the indigenous emphasis on respecting nature and identifying and nurturing students with outstanding naturalist intelligence could contribute to solving problems such as global warming and food shortages in developing countries.

Conclusion

In gifted education one size does not fit all. Diversity exists across a range of dimensions including the very nature of giftedness itself. While this diversity is complex and complicating, it is an asset and needs to be recognised, provided for and valued. In doing so, teachers will not only be catering for gifted students from minority cultures but they will also be providing a model for accommodating alternative perspectives that can be used in all multicultural educational contexts to benefit all students regardless of their ability level.

Research cited previously shows that, internationally, students from minority cultures are under-represented in gifted programs and that a wide variety of causes contribute to this situation. The following questionnaire[6] is offered to help teachers assess the extent and quality of their own school's provisions for gifted students from minority cultures. Its purpose is to identify changes needed to enable these students to have their gifts and talents recognised, affirmed and developed. Hopefully, use of this questionnaire will play a small part in eliminating the under-representation of gifted minority group students.

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[6] This questionnaire has not been field tested as yet. The writer would appreciate receiving feedback from any person who uses it.

How well is your school providing for gifted students from minority cultures?
Twenty-five questions for you to consider.

Demographics
1. What is the cultural composition of the students in your school? (Give percentage of overall school population for each cultural group)
2. Does your school have a gifted register and/or programme?
3. If so, what is the ethnicity of the students identified/involved?
4. Do the numbers from each cultural group reflect their proportion within the whole school?
5. If not, which groups are over or under-represented and why is this so?

Concept
6. What are the conceptions of giftedness of the various cultural groups represented in your school?
7. What is your school's definition of giftedness?
8. Does this definition include the essential elements of the cultural conceptions described in question 6?
9. If not, what elements need to be added?

Identification
10. What methods and measures are used to identify gifted students in your school?
11. Do these include a variety of culturally appropriate approaches that ensure gifted minority students are not overlooked?
12. Are students identified in areas that are highly valued by their cultural group including cultural skills and abilities?
13. Is both gifted performance and gifted potential identified?
14. Are parents, family and community members involved in a culturally appropriate way in identifying gifted students?

Provisions
15. What areas of giftedness are recognised and provided for in your school?
16. Do they take into account differing cultural perspectives, interpretations, values, behaviours and practices?
17. Do they include the arts, crafts, music, skills, traditions, knowledge and languages of minority cultures?
18. Do they include abilities and qualities that are highly valued by minority cultures?
19. Are parents, family and community members: Consulted about gifted provisions; involved in decision-making relating to these provisions and to their children's participation in them; invited to contribute their expertise and involved in the evaluation of these provisions?

General
20. In what ways does your school provide a culturally responsive, supportive learning environment which reflects and values cultural diversity?
21. Does the identification and fostering of giftedness in minority culture areas and from multicultural perspectives receive the same priority, status, funding and time commitment as majority culture input?
22. Are teachers adequately trained to provide for gifted students from all cultures?

23. If not, what in-service education is offered to up-skill and update teachers in respect to testing, assessment, multicultural and gifted education?
24. Does your school have equity measures to ensure gifted students do not miss out on extension opportunities because of socio-economic factors?
25. Do gifted students from minority groups have access to role models/ mentors (real or virtual) from their own culture?

References

Banks, J.A. (2006). *Diversity in American education: Foundations, curriculum and teaching*. Boston: Allyn & Bacon.

Banks, J.A. & McGee-Banks, C. A. (Eds.)(2006). *Muticultural education. Issues and perspectives* (6th ed.). Hoboken, NJ: John Wiley & Sons, Inc.

Barlow, C. (1991). *Tikanga whakaaro. Key concepts in Maori culture.* Auckland: Oxford University Press.

Begay, D., Maryboy, N, & Sakimoto, P. (2008). *The coyote and the astrophysicist: Learning to teach together.* Paper presented at the World Indigenous People's Conference on Education, December, 2008, Melbourne, Australia.

Begay, H. & Maker, CJ. (2007). When geniuses fail: Na-Dene' (Navajo) conception of giftedness in the eyes of the holy deities. In S.N. Phillipson & M. McCann (Eds.), *Conceptions of giftedness. Sociocultural perspectives* (pp. 127-168). Mahwah, NJ: Lawrence Erlbaum Associates.

Bernal, E. M. (2003). Delivering two-way bilingual immersion programs to the gifted and talented: A classic yet progressive option for the millennium. In J. F. Smutny (Ed.), *Underserved gifted populations. Responding to their needs and abilities* (pp. 139-140). Cresskill, NJ: Hampton Press, Inc.

Bevan-Brown, J. (1993). *Special abilities: A Mäori perspective.* Unpublished master's thesis, Massey University, Palmerston North.

Bevan-Brown, J. (2002). *Culturally appropriate, effective provision for Mäori learners with special needs: He waka tino whakarawea.* Unpublished doctoral thesis, Massey University, Palmerston North.

Bevan-Brown, J. (2004). Gifted and talented Mäori Mäori learners. In D. McAlpine & R. Moltzen (Eds.), *Gifted and talented: New Zealand perspectives* (pp.171-198). Palmerston North: Kanuka Grove Press.

Bevan-Brown, J. (2009). Identifying and providing for gifted and talented Mäori students. *APEX, 15*(4), 6-20.

Bishop, R. & Glynn, T. (1999). *Culture counts: Changing power relations in education*. Palmerston North: Dunmore Press.

Cathcart, R. & Pou, N. (1992). The gifted child who is Mäori. *NZAGC Gifted Children Their Future: Our Challenge, 17* (3), 13-17.

Colangelo, N. & Davis, G.A. (2003). *Handbook of gifted education* (3rd ed.). Boston, MA: Allyn and Bacon.

Doidge, G. (1990). Mäori children, Mäori studies: A special giftedness. *APEX, 4* (2), 36-39.

Fletcher, T. V., & Massalski D. C. (2003). Poised on the threshold of a new paradigm for giftedness: Children from culturally and linguistically diverse backgrounds. In J. F. Smutny (Ed.), *Underserved gifted populations. Responding to their needs and abilities* (pp. 157-178). Cresskill, NJ: Hampton Press, Inc.

Ford, D. Y. (1998). The under-representation of minority students in gifted education: Problems and promises. *Journal of Special Education, 32* (1), 4 –14.

Ford, D.Y. (2003). Equity and Excellence: Culturally diverse students in gifted education. In N. Colangelo & G.A. Davis (Eds.), *Handbook of gifted education* (3rd ed.) (pp. 506-520). Boston, MA: Allyn and Bacon.

Ford, D. Y., Harris III, J. J., Tyson, C. A. & Trotman, M. F. (2002). Beyond deficit thinking: Providing access for gifted African American students. *Roeper Review, 24*(2), 52-58.

Fraser, D. (2002). *Emotional knowing through creative writing.* Paper presented at the 10th International Conference on Thinking, June, 2002, Harrogate, UK.

Gagné, F. (2003). Transforming gifts into talents: The DMGT as a developmental theory. In N. Colangelo & G.A. Davis (Eds.), *Handbook of gifted education* (3rd ed.) (pp. 60-74). Boston, MA: Allyn and Bacon.

Gallagher, J.J. (2003). Issues and challenges in the education of gifted students. In N. Colangelo & G.A. Davis (Eds.), *Handbook of gifted education.* (3rd ed.) (pp. 11-23). Boston, MA: Allyn and Bacon.

Galu, M. (1998). *Gifted and talented perceptions of Mäori and Polynesian students educated in segregated classes*. Unpublished master's thesis. University of Waikato, Hamilton.

Gardner, H. (1983). *Frames of mind: The theory of Multiple Intelligences.* New York: Basic Books.

Gay, G. (2000). *Culturally responsive teaching: Theory, research, and practice.* New York: Teachers College Press.

Gibson, K. & Vialle, W. (2007). The Australian Aboriginal view of giftedness. In S.N. Phillipson & M. McCann (Eds.), *Conceptions of giftedness. Sociocultural perspectives* (pp. 169-196). Mahwah, NJ: Lawrence Erlbaum Associates.

Harslett, M. G. (1993). *The identification of gifted Aboriginal children.* Unpublished doctoral dissertation. University of Western Australia, Perth.

Howland, A., Anderson, J.A., Smiley, A.D., & Abbott, D. (2006). School liaisons: Bridging the gap between home and school. *School Community Journal, 16*(2), 47-68.

Keen, D. (2001). *Talent in the New Millennium. Research Study, 2001-2002, into gifted education in the Bay of Plenty, Otago and Southland regions of New Zealand*. Paper presented at the AARE conference, Fremantle, Australia.

Keen, D. (2002). *Talent in the New Millennium. Bay of Plenty-Otago-Southland regional research study into gifted education*. Progress Report on phase 4 of the project: Outcomes of the April-May 2002 regional workshops.

Marsden, M. (1992). God, man and universe: A Mäori view. In M. King (Ed.), *Te ao hurihuri. Aspects of Mäoritanga* (pp. 118-138). Auckland: Reed Books.

Martin, D. E., Sing, D. K. & Hunter, L. A. (2003). Na pua no 'eau: The Hawaiian perspective of giftedness. In J. F. Smutny (Ed.), *Underserved gifted populations. Responding to their needs and abilities* (pp.179-204). Cresskill, NJ: Hampton Press, Inc.

McAlpine, D. (1991). Issues in the education of the gifted and talented. In *Proceedings for the 1991 NZAGC Teachers' Conference 'Education for the Gifted and Talented Child'*, pp.12-19. Auckland: NZAGC.

Mead, H.M. (2003). *Tikanga Maori. Living by Maori values*. Wellington: Huia Publishers.

Mills, C. J. & Tissot, S. L. (1995). Identifying academic potential in students from under-represented populations: Is using the Raven's Progressive Matrices a good idea? *Gifted Child Quarterly, 39*(4), 209-217.

Moltzen, R. (1998/1999). Young, gifted and living in New Zealand. *APEX, 11/12* (1), 57-68.

Muscott, H.S. (2002). Exceptional partnerships: Listening to the voices of families. *Preventing School Failure,* 46(2), 66-9.

Piechowski, M. M. (2003). Emotional and spiritual giftedness. In N. Colangelo & G.A. Davis (Eds.), *Handbook of gifted education.* (3rd ed.) (pp 403-423). Boston, MA: Allyn and Bacon.

Pere, R.R. Ako. (1982). *Concepts and learning in the Mäori tradition. Working Paper No.17.* Hamilton: University of Waikato.

Phillipson, S. N. (2007). Preface. In S.N. Phillipson & M. McCann (Eds.), *Conceptions of giftedness. Sociocultural perspectives* (pp. ix-xiv). Mahwah, NJ: Lawrence Erlbaum Associates.

Reid, N. (1992). Correcting cultural myopia. In E. Le Sueur (Ed.), *Proceedings of the Guiding the Gifted Conference,* July 6-7th (pp. 49-63). Auckland: Conference Publishing Limited.

Riley, T., Bevan-Brown, J., Bicknell, B., Carroll-Lind, J. & Kearney, A. (2004a). *The extent, nature and effectiveness of planned approaches in New Zealand schools for providing for gifted and talented students.* Report to the Ministry of Education. Palmerston North:

Massey University, IPDER.

Riley, T., Bevan-Brown, J., Bicknell, B., Carroll-Lind, J. & Kearney, A. (2004b). *Gifted and talented education in New Zealand schools.* Wellington, New Zealand: Ministry of Education.

Sisk, D. (2003). Maximizing the high potential of minority economically disadvantaged students. In J. F. Smutny (Ed.), *Underserved gifted populations. Responding to their needs and abilities* (pp.239-260). Cresskill, NJ: Hampton Press, Inc.

Sisk, D. (2008). Engaging the spiritual intelligence of gifted students to build global awareness in the classroom. *Roeper Review, 30*, 24-30.

Sternberg, R.J. (1985). *Beyond IQ: A triarchic theory of human intelligence.* Cambridge, MA: Cambridge University Press.

Sternberg, R.J. (2007). Forward. In S.N. Phillipson & M. McCann (Eds.), *Conceptions of giftedness. Sociocultural perspectives* (pp. xv-xviii). Mahwah, NJ: Lawrence Erlbaum Associates.

Vasilevska, S. (2003). *Cultural conceptions of giftedness: Examining the myths.* Paper presented at the 15th World Conference on Gifted, Adelaide, August 1-5.

Worrell, F. C., Szarko, J.E., & Gabelko, N. H. (2001). Multi-Year persistence of non-traditional students in an academic talent development program. *Journal of Secondary Gifted Education, 12*(2), 80-89.

Identifying Gifted Knowledge and Learning in Indigenous Cultures: Africa and Australia

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Introduction

Gifted knowing and thinking are manifested in different forms in different cultural groups. The aptitudes, attributes, and characteristics associated with gifted knowledge are culturally embedded and cultures differ in the ways of knowing and thinking they recognise and value. To identify gifted potential, the sociocultural context needs to be taken into account. Attempting to understand the key interactions that characterise the life of a culture in particular environments will contribute to this.

Identifying gifted and talented learners is a challenge for formal education provision. Given that this provision in 'developed countries' such as Australia is from a Western cultural perspective (Tannenbaum, 1986), the challenge is greater when the gifted knowledge and thinking are in socio-cultural forms not readily accessible to the conventional 'Western' assessment tools and formats. Some educators (for example, Borland, 2004) argue that "giftedness, as it has been constructed within American society has embedded in it the basis for the under-representation of certain groups outside the White middle-class and upper-middle-class mainstream" (Borland, 2004, p. 15). The term 'gifted knowledge in culturally and linguistically diverse cohorts' has been used increasingly in recent years to refer to the plurality of forms of gifted knowing and thinking.

This paper describes the use of an identification procedure that provides gifted and talented students the opportunity to display their gifted knowledge and thinking regardless of their cultural dispositions. The procedure has been used successfully to identify gifted and talented Kenyan adolescents who had attended regular state primary schools in Kenya (Munro, 2009). It proposes that the procedure is particularly appropriate for indigenous Australian students.

The paper begins by showing the link between the culture and the identification of gifted knowledge and thinking. It reviews the research relating to this identification in 'culturally and linguistically diverse' students and introduces the authentic problem-solving task as one means of doing this. It describes how these tasks were used to identify gifted knowing and thinking in African cohorts and draws implications for their use with indigenous Australian students.

The identification of gifted knowledge and thinking in 'culturally and linguistically diverse' students

Cultures differ in how they construct intelligence

Cultures differ in how they categorise and form concepts (Sternberg, 2007). While Western cultures generally see taxonomic hierarchical classifying as more complex and sophisticated than perceptual and functional classifying, African cultures value more the latter. Several Asian and African cultures value social intelligence more than do Western cultures. Rural Kenyan conceptions of intelligence identify four types of intelligence: knowledge and skills (rieko), respect (luoro), comprehension of how to handle real-life problems (winjo), and initiative (paro).

Cultures also differ in how they value the thinking strategies used to solve problems (Sternberg, 2007). Anglo Australians used verbal (school-appropriate) strategies to remember visuospatial displays while Indigenous Australians used visual imagery strategies. Some cultures favour number computations in real life contexts (the 'Brazilian street children' or Berkeley housewives shopping in the supermarket) while others favour number computations in more symbolic forms.

The challenge: The need for effective identification procedures

Formal education seeks to identify these students so that given appropriate differentiated educational opportunities they will learn and achieve optimally. While there is little systematic data relating to the identification of indigenous gifted students in Australia, international evidence suggests that educators systematically under-select and under-refer culturally and linguistically diverse students for gifted education services (Saccuzzo, Johnson, & Guertin, 1994). Teacher judgements vary in their efficacy and are influenced by students' ethnicity (Elhoweris, Mutua, Alsheikh, & Holloway 2005).

Traditional intelligence and achievement tests used to identify middle-class white gifted students are less effective for gifted students from African American, Hispanic/Latino, and Native American backgrounds (Ford, Orantham & Whiting, 2008), for a number of reasons. These students may

- not be accustomed to answering questions simply for the purpose of showing knowledge; rather, they display their knowledge in response to authentic problems or issues;
- perform poorly on paper-and-pencil tasks conducted in artificial lab-like settings;
- not perform well on culturally loaded tests, particularly those that are referenced on cultures other than their own;
- have learning and/or cognitive styles that are different from white students;
- have test anxiety or suffer from stereotype threat; and
- have low academic motivation or engagement while being assessed.

Educators commenting on indigenous gifted education in Australia note similar trends.

Identification procedures that take account of cultural differences and environmental contexts differ from the traditional psychometric models in the following ways (Passow & Frasier, 1996):

1. They are based on a broad concept of giftedness that reflects "multifaceted, multicultural, multidimensional perspectives and is defined by traits, aptitudes, and behaviors to be nurtured rather than by static test performance" (p. 199).
2. While core attributes of giftedness may exist across cultures, the behaviours through which they are displayed may differ, because of the social and cultural contexts in specific cultures.
3. The identification process needs to recognise variability within a culture and avoid stereotypes and characterisations about a culture.
4. The use of multiple criteria and non-traditional measures — instruments and assessment tools other than intelligence and achievement tests is recommended.

How giftedness is displayed in diverse cultures

Through his theory of successful intelligence and giftedness, Sternberg (2007) identifies cultural concepts of giftedness, and draws attention to the problems that arise when conceptions that are relevant in one culture are transferred to others. Individuals are gifted "if they have the abilities needed to reach their own goals within their sociocultural context. They are intelligent successfully to the extent that they capitalize on strengths and compensate for weaknesses in order to adapt to, shape, and select environments. They do so through a combination of analytical (traditional academic), creative, and practical abilities" (Sternberg, 2007, p. 160).

Ford (2005) synthesises the outcomes of several investigators to compile a set of characteristics that describe how gifted culturally diverse students use their gifted knowledge. These characteristics include the following. These students are likely to

- display advanced reasoning, creative, divergent and innovative thinking that often generates unexpected and unusual ideas and high level problem solving strategies.
- be resourceful and adaptable; they can 'read' and relatively easily adapt to situations and respond adaptively.
- be strongly self motivated to learn and to understand their world.
- have comparatively well developed vocabularies in their mother tongues.
- learn new concepts quickly, look for and construct deeper meanings and make unusual and subjective links between ideas.
- spontaneously generate challenges, enquiries and questions about their world. They show critical, evaluative thinking and synthesise ideas in unique ways.
- assemble a comparatively large memory for both school and extracurricular topics.
- be aware of building their own interpretations and understanding of topics and their own points of view.
- have a keen sense of justice and morality, recognise and pursue inconsistencies and perceived unfairness.

- display leadership skills in a range of ways, for example, they may persuade others to their point of view, take the initiative in joint activities.
- show an intense interest in their world and in understanding it.
- comprehend and use humour beyond their age.

These lists of characteristics illustrate the universality of knowledge we call 'gifted' across cultures. They could assist in identifying gifted indigenous students.

The purposes of assessing knowledge and skills is also culturally defined. Western cultures assume that knowledge and skills are located within individuals and an assessment task examines what they know. Collaborating to respond to test items is not encouraged. In other cultures, knowledge is assumed to be shared and is located in a group, such as a family or a tribe. Collaboration is encouraged (Greenfield, 1997).

The criteria to be met by the identification process
Passow and Frasier (1996) recommend that the identification protocol take account of the following criteria:

- It allows individual students to display optimally their knowledge, dispositions and attitudes and ways of thinking.
- It is sufficiently objective; the display and interpretation of student knowledge needs to be, within limits, independent of the assessor and sufficiently 'transparent' that educators in gifted education would generally agree they are indicative of giftedness and talent.
- It recognises the agreed nature of gifted and talented knowledge.

The identification process needs to be flexible enough to compensate for the limitations of educational measurement.

Procedures to identify gifted culturally and linguistically diverse learners
Several qualitative and quantitative instruments are recommended for identifying culturally and linguistically diverse students and may include ethnographic or dynamic assessment, portfolios, test scores, teacher observation, behavioural checklists, writing samples, teacher ratings, and interviews and input from parents and community members. Certain student traits may alert teachers to consider further assessment (Castellano, 1998; Ford, Orantham & Whiting, 2008). Identification using multiple measures is recommended.

The use of authentic problem solving tasks for the identification of gifted knowing and thinking
One approach, developed by Sternberg and associates (Sternberg & Grigorenko, 1997; Sternberg, Nokes, et al., 2001), is to assess students' practical or 'successful' intelligence. This is the knowledge they have gained in adapting to their indigenous environment; their informal, tacit knowledge about topics such as natural herbal medicinals in Kenya; or hunting, fishing, dealing with weather conditions and picking and preserving plants in Alaska. This knowledge is not usually taught explicitly and is used regularly in real life contexts. The better developed an individual's practical intellectual skills, the better they can adapt to everyday environments.

Tacit knowledge tasks tap abilities separate from those measured by traditional intelligence or ability tests and account for performance beyond that explained by tests of general cognitive ability (Hedlund, Wilt, Nebel, Ashford, & Sternberg, 2003). The correlations range from negative to moderately positive (Sternberg et al., 2000, Sternberg et al., 2001).

Practical intelligence can also be assessed using 'performance tasks'. These tasks require students to "demonstrate advanced understanding and thinking on challenging problems. The tasks also require students to articulate their problem-solving and thinking processes" (VanTassel-Baska, Xuemei Feng & de Brux, 2007, pp. 14–15). These tasks have been more useful than traditional tasks in identifying gifted students in low-income and minority cohorts and offer a new approach to identification that will "recognize the different ways in which students display giftedness". This is referred to as 'authentic assessment'.

Sternberg (2006) describes two types of authentic problem solving tasks for identifying gifted successful intelligence: longer, more detailed 'case scenario' problems and shorter 'situational judgment' problems or SJPs. Individuals were presented with a problem situation that afforded them the opportunity to demonstrate a range of problem-solving skills, including the ability to recognise and frame up a problem, generate and justify a solution, identify the information to be used to do this and to evaluate the solution and recognise obstacles.

These tasks provide an avenue for gifted individuals to translate their knowledge and thinking into routines that lead to high level problem solving and decision making in everyday contexts. Sternberg and Spear-Swerling (1996) note a number of characteristics displayed by individuals who have high successful intelligence. These individuals:

- can translate thought into action by contextualising and applying it.
- know what they know and can use it to maximum advantage to work for them and can take steps to resolve what they don't know.
- are goal setters and set explicit, measurable goals and action plans to achieve them.
- are highly motivated, but know when to 'change direction' as well as to persevere.
- persist with solving a problem and show 'follow through'.
- believe they can achieve their goals successfully; they have high self-efficacy.
- can 'read', unpack and clarify problem solving situations to identify the problems that are theirs to solve.

Using SJP tasks to identify gifted knowing and thinking in African cohorts

The present paper draws on a study that investigated using the situational judgment problem context to identify gifted adolescents (Munro, 2009). Students attending state schools in Kenya completed SJP tasks as part of the following multi-step identification process, recommended by Lidz and Macrine (2001) for gifted culturally

and linguistically diverse learners.

The 'first phase' procedures identified a student's capacity to learn academically and to reason at a high level using earlier school-administered tasks and school, teacher and parent nomination procedures. The 'second phase' procedures sought to identify evidence of gifted and talented thinking. These comprised verbal and nonverbal cognitive tasks to assess fluid intelligence and provided objective and comparable measures of gifted thinking. Verbal cognitive tasks included vocabulary, creative story writing and personal story writing. The nonverbal cognitive task was the Ravens Standard Progressive Matrices (Raven, Court & Raven, 1992). The 'third phase' procedures sought to identify gifted and talented thinking and leadership potential. This entailed greater focus on analysing and evaluating each student's multiple ways of knowing, high level thinking, creativity and leadership thinking. This phase included the SJPs, a leaderless problem-solving task, and an interview. For the SJP tasks, the students initially generated a solution to a real-life, open-ended situation problem. They were then engaged in dynamic assessment (Munro, 2009). This used 'clinical interview' techniques to probe students' thinking about the open-ended problem solving.

Students' scores on the various assessment scales in the second and third phases were converted to standard scores (z-scores) and these were used to compute a 'composite gifted rating score'.

The characteristics of SJPs
The SJPs used to identify gifted knowledge and thinking have the following characteristics (Munro, 2009):

1. they are ill-defined, may need to be clarified and lack a single solution path.
2. they need adaptive responses to new or changing situations.
3. they are solved in "real-world" settings with time constraints and competing demands.
4. they may interact with other issues in the context; some solutions may not be consistent with the broader goals and values of the collective.
5. the information needed to solve them may not be obvious or readily available.

They assess students' ability to:

1. link ideas in richer, more differentiated and elaborated ways, with evidence of 'far transfer' links between concepts.
2. reflect on what they know and link problems or issues with what they know in multiple ways.
3. think about problems that are referenced in their cultures.
4. think about the problem in multiple ways and so to respect and acknowledge different learning and/or cognitive styles.
5. maintain appropriate motivation and engagement.

Preparation of the diffuse problems

Problem situations judged to be familiar to adolescent students in Kenya were selected and a description of each in English was written. Each draft was revised to have a Flesch-Kincade readability index in the fifth-sixth grade range.

The descriptions were trialled with sixth grade students in Kenyan schools in terms of their comprehensibility and readability, and the extent to which they discriminated among students. The trialling was also used to select the conditions that permitted students to answer the tasks most efficaciously. This included using practice problem-solving tasks and allowing students to receive assistance in expressing their thinking in English. The instruction in the practice sessions was in both English and Kiswahili and students could ask a Kiswahili-speaking teacher to translate their ideas into English.

Administration of the diffuse problem

The SJPs were administered as follows (Munro, 2009). Students were guided to solve a practice problem by applying the following steps:

1. Work out what exactly was causing the situation.
2. Imagine what it would look like when it had been 'fixed'.
3. What things might you need to know, questions you might need to ask, to find out more about the situation?
4. What they could do to 'fix it'.
5. What obstacles or barriers could stop them from fixing it or could slow them down?
6. How they could overcome these obstacles.
7. How their problem solving activity could affect others and influence the community in which it was done.
8. How they could tell if the actions they were taking were actually working.

They received feedback for their responses to each aspect in both Kiswahili and English.

Prior to beginning to solve the problem, the children saw a short video of the Kibera slum. This was intended to reduce the likelihood that differences in students' experiential knowledge of the Kibera slum could influence student outcomes. Each student wrote their response. While doing this they had the opportunity to ask in Kiswahili for assistance for expressing an idea they had or for comprehending English.

The assessment of problem solving skills

Each student was cued to show evidence of the following aspects of problem-solving activity (Munro, 2009):

1. identify the problem.
2. identify a plausible solution.
3. construct a plausible problem-solving pathway and specify the actions necessary to attain the solution.
4. specify the information/assistance they would need to solve problem.

5. identify obstacles and difficulties in implementing their solution and to suggest ways of overcoming them.
6. identify individuals likely to be affected by the problem-solving activity.
7. identify how your solution would affect the community.
8. suggest how to monitor the effectiveness of the solution.

Each student's response to each aspect was scored in terms of two dimensions:

1. the number of relevant ideas (one versus more than one aspect); and,
2. the complexity of the thinking (literal versus inferential, mention of plausible ideas not explicitly stated, divergent reasoning, evidence of far transfer).

The cueing of each aspect of the solution was in the context of the whole problem. The students were encouraged to first think through the problem and its solution and to collate their ideas and to describe it prior to identifying each aspect.

The extent to which problem solving performance identified gifted knowing and thinking

Students' responses and solutions on the SJP tasks correlated strongly with their fluid intelligence scores on the Ravens Progressive Matrices and moderately with performance on the Creative Writing task (Munro, 2009). They also correlated strongly with the composite gifted rating scores. The correlation between Ravens Progressive Matrices and the Creative Writing task was not significant.

These findings support the interpretation that the open-ended problem-solving task was effective in identifying gifted thinkers and that the Ravens Progressive Matrices and Creative Writing scores contributed independently to it. As well, the open-ended problem solving task contributed approximately 60% of the variance on the composite gifted rating scores.

The quality of the responses of the higher problem solving students differed from those of the lower achievers in:

1. the breadth and depth of ideas displayed;
2. the complexity of links;
3. the relevance of ideas;
4. evidence of lateral or divergent thinking;
5. the fluency and flexibility of reasoning; and,
6. the display of leadership potential.

The relevance of the complex problem solving tasks for identifying gifted indigenous learners

The purpose of this paper is to examine the issue of whether social problem solving may provide an appropriate means of identifying gifted knowing and thinking in indigenous students in Australia. We know that indigenous constructions of giftedness differ from their Western counterparts. The gifted and talented children workshop conducted by the Aboriginal Consultants Initiative (n.d., see http://www.cdu.edu.au/centres/yaci/gt/keyfindings.html) provides clear evidence

of how giftedness in a Yolŋu community is associated with leadership of the community. It is a synthesis of a 'head thing' and a 'guts thing' and children are 'born with their gifts and talents'. The key concepts associated with being a gifted indigenous learner (see http://www.cdu.edu.au/centres/yaci/gt/keyconcepts .html) are associated with a well-developed capacity for solving social and cultural problems.

Chaffey, Bailey and Vine (2003) cite observations that individuals from cultural minorities often score lower than the general population on tests of general ability due to socio-emotional issues and inefficient metacognition rather than lower cognitive potential. One might expect, therefore, that referencing the identification of gifted knowledge in social problem solving, in part from a 'leadership of culture' perspective may provide a useful context for gifted indigenous students to show their gifted knowing and thinking.

SJPS tasks and indigenous gifted learners
Situation judgment problem-solving tasks take account of cultural plurality in how giftedness and intelligence are constructed in a range of ways. They ask students to think about and to solve problems that are relevant and familiar. The tasks have a conceptual organisation and that is consistent with the orientation to knowledge in their culture. The students are not asked to think about a culturally-different conceptual network.

The tasks assess the comparative breadth and elaboration of the ideas synthesised by students in solutions and ways of thinking about them. They differ in significant ways from the traditional intelligence and achievement tests that are used to identify middle-class Western gifted students and that discriminate against gifted students from other cultural backgrounds (Ford, Orantham & Whiting, 2008).

They provide an opportunity for indigenous Australian students to show to others their understanding and thinking about real life authentic problem situations that are relevant to them rather than on paper-and-pencil tasks related to culturally unfamiliar topics in artificial lab-like settings. One might expect that gifted indigenous students would show higher motivation and engagement on these types of tasks. The dynamic assessment component reduces the extent to which this display of knowledge is influenced by literacy and oral language differences. The students can show their knowing and thinking initially in familiar oral language, pictures and/or models and then be assisted to express this in English.

They also provide the opportunity for educators to 'see' the more advanced understanding and thinking of those indigenous students who are gifted. They meet the criteria specified by Passow and Frasier (1996): (1) that identification procedures recognise that students from different cultural backgrounds may display core attributes of giftedness in pluralistic ways; and (2) that the identification process recognise variability within a culture and avoid stereotypes and characterisations about a culture. The SJPs offer the identification protocol an objective, 'transparent' estimate of students' giftedness and talent. They are likely to add to information gained from the use of identification checklists such as the Harslett Rating Scales and the Academically Gifted Aboriginal Students (Department of Education Western

Australia, 2010).

The SJP tasks may be expected to allow the gifted indigenous students to display various characteristics of their gifted knowledge (Ford, 2005). These include showing (1) advanced creative, divergent and innovative thinking, (2) critical, evaluative thinking in unique ways and, (3) being strongly self motivated to learn and to understand their world. They encourage students to generate unexpected and unusual ideas and to be resourceful and adaptable in their thinking. The students can also show their sense of justice and morality and display leadership skills through the problem-solving activity.

Providing the opportunity for the students to show their understanding and thinking for topics that are relevant to their culture communicates to the students that their knowledge and culture are valued by the educational provider. The students can 'see' that issues that are important to their culture are recognised and valued as worthy of analytic and creative thinking by the dominant culture. The tasks reflect a broad 'multifaceted, multicultural' concept of giftedness (Passow & Frasier, 1996).

The future development of SJP tasks in a multi-step gifted identification process
This paper recommends the inclusion of SJP tasks in a multi-step identification process for gifted indigenous students. Validation of their efficacy is necessary. A design similar to that used for Kenyan cohorts would provide a starting point. As noted earlier, the Kenyan data suggest that they can contribute significantly to identification. In the 'three phase' identification process described earlier, the SJP tasks can be included in the third phase, where individuals construct an initial solution to the problem and then explain and elaborate their solution in the dynamic assessment component.

Appropriate authentic SJP tasks could be drafted with the characteristics noted earlier and administered in a similar way, with guidance through practice problems preceding the actual identification task. Problem contexts can come from a range of domains relevant to indigenous culture, such as music, fine arts, narrative, the environment, sport, health, history or drama. Students' responses can be assessed in terms of the aspects of knowledge described above, using a scoring system that takes account of both the number of relevant ideas and the complexity of the thinking. The tasks can allow students to respond in multiple formats, for example, orally, visually, technologically, through action and demonstration and through model construction, as well as through writing.

It is possible in the future that the emerging electronic information technology could be used to identify indigenous students using protocols that included SJP tasks. Situations could be presented on-line and students could generate possible solutions using e-technology. The dynamic assessment of students' initial problem-solving activity could also be implemented on-line.

In summary, the SJP tasks provide the potential for identifying gifted and talented indigenous students in ways that allow them to display their exceptional understanding and thinking. They offer an insight into gifted students' knowledge that is not provided by the conventionally-used tasks.

References

Borland, J. H. (2004). *Issues and practices in the identification and education of gifted students from under-represented groups.* Storrs, CT: The National Research Center on the Gifted and Talented, University of Connecticut.

Castellano, J. A. (1998). *Identifying and Assessing Gifted and Talented Bilingual Hispanic Students.* ERIC Digest. Report: EDO-RC-97-9.

Chaffey, G. W., Bailey, S. B. & Vine, K. W. (2003). Identifying high academic potential in Australian Aboriginal children using dynamic testing. *Australasian Journal of Gifted Education,* 12, 1, 42-55.

Department of Education Western Australia, (2010). *Harslett Rating Scales and the Academically Gifted Aboriginal Students.* Downloaded on 2 September 2010 from http://www.det.wa.edu.au/curriculumsupport/giftedandtalented/detcms/navigation/inclusivity/aboriginality/?page=2&tab=Main#toc2).

Elhoweris. H., Mutua, K., Alsheikh, N., & Holloway, P (2005). The effects of the child's ethnicity on teachers' referral and recommendations decisions in the gifted/talented programs. *Remedial and Special Education, 26,* 25-31.

Ford, D. Y., Orantham T. C. & Whiting, G. W. (2008). Culturally and linguistically diverse students in gifted education: Recruitment and retention issues. *Exceptional Children*, 74, 3, 289-306.

Ford, D. Y. (2005). Ten strategies for increasing diversity in gifted education. *Gifted Education Quarterly, I9* (4), 2-4.

Greenfield, P. M. (1997). You can't take it with you: Why abilities assessments don't cross cultures. *American Psychologist*, 52, 1115-1124.

Hedlund, J., Forsythe, G.B., Horvath, J. Williams, W.M., Snook S. & Sternberg, R.J. (2003). Identifying and assessing tacit knowledge: Understanding the practical intelligence of military leaders. *The Leadership Quarterly,* 14, 117–140.

Hedlund, J., Wilt. J. M., Nebel, K. R., Ashford, S. I., & Sternberg. R. J. (2006). Assessing practical intelligence in business school admissions: A supplement to the graduate management admissions test. *Learning and Individual Differences*, 16, 101-127.

Lidz, C. S. (1996). Dynamic assessment approaches. In D. P. Flanagan, J. L. Genshaft, & P. L. Harrison (Eds.), *Contemporary intellectual assessment: Theories, tests, and issues*. New York: Guilford Press.

Lidz, Carol S. & Macrine, Sheila L. (2001). An alternative approach to the identification of gifted culturally and linguistically diverse learners: The contribution of dynamic assessment. *School Psychology International,* 22 (1), 74-96.

Munro, J. (2009). *Identifying gifted and talented African students who display leadership potential.* Seminar Paper 37. Melbourne: University of Melbourne, SELAGE.

Passow, A. H. & Frasier, M. M. (1996). Toward improving identification of talent potential among minority and disadvantaged students. *Roeper Review*, 18 (3), 47-63.

Passow, A. H. (1986). Educational programs for minority/disadvantaged gifted students. In L. Kanevsky (Ed.), *Issues in gifted education* (pp. 147-172). San Diego, CA: San Diego City Schools GATE Program.

Raven, J. C., Court. J. H., & Raven, J. (1992). *Manual for Raven's Progressive Matrices and Mill Hill Vocabulary Scales.* Oxford, England: Oxford Psychologists Press.

Saccuzzo, D. P., Johnson, N. E., & Guertin, T. L. (1994). Information processing in gifted versus nongifted African American. Latino, Filipino, and white children: Speeded versus nonspeeded paradigms. *Intelligence,* 19. 219-243.

Sternberg, R. J. (2005). WICS: A model of giftedness in leadership. *Roeper Review, 28*(1), 37-44*.*

Sternberg, R. J. (2006). Explaining intelligence. *BizEd,* January /February, 22–27*.*

Sternberg, R. J. (2007). Cultural concepts of giftedness. *Roeper Review, 29,* 160-165.

Sternberg, R. J., & Grigorenko, E. L. (1997, Fall). The cognitive costs of physical and mental ill health: Applying the psychology of the developed world to the problems of the developing world. *Eye on Psi Chi*, 2(1), 20-27.

Sternberg, R. J., & Spear-Swerling, L. (1996). *Teaching for thinking*. Washington, DC: American Psychological Association.

Sternberg, R. J. (1997). *Successful intelligence*. New York: Plume.

Sternberg, R. J., & Subotnik, R. F. (2000). A multidimensional framework for synthesizing disparate issues in identifying, selecting, and serving gifted children. In Heller, K.A., Mönks, F.J., Sternberg, R.J., & Subotnik, R.F. (Eds.), *International handbook of giftedness and talent* (pp. 381-388). Elmsford: Pergamon Press.

Sternberg, R. J., Nokes, K., Geissler, P.W., Prince, R., Okatcha, F., Bundy D.A. & Grigorenko, E.L. (2001). The relationship between academic and practical intelligence: A case study in Kenya, *Intelligence* 29, 401–418.

Tannenbaum, A. J. (1983). *Gifted children: Psychological and educational perspectives.* New York: Macmillan.

Tannenbaum, A. J. (1986). The enrichment matrix model. In J. S. Renzulli (Ed.), *Systems and models for developing programs for the gifted and talented* (pp. 391- 428). Mansfield Center, CT: Creative Learning Press.

VanTassel-Baska, J., Xuemei Feng, A. & de Brux, E. (2007). A study of identification and achievement profiles of performance task-identified gifted students over 6 years*. Journal for the Education of the Gifted, 31* (1), 7–34.

Some Aboriginal Perspectives on Gifted and Talented Children and Their Schooling

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Australian Aboriginal elders in very remote places seldom have the chance these days to collaborate with teachers and curriculum developers thinking through and planning for formal education for the new generation. Even more uncommon is collaborative work over how we should understand and provide for those children who are deemed gifted within the different worlds they inhabit. Over the many years I worked in remote Arnhemland Aboriginal schools as a teacher linguist, I became conscious of the ways in which young men and women were growing up to reveal themselves as leaders, and to be selected by their elders for particular responsibilities. It was often the case that the school attendance and participation of these emerging leaders had been at best spasmodic. Their participation in school was often watchful and stand-offish. They were not the bouncy students full of energy and questions. They carried themselves differently. I was often told that asking questions of an elder was unwise and impolite, and it concerned me that these young people were becoming leaders in spite of, rather than because of the pedagogical practices of the schools where I worked.

I came to see this issue of the dislocation between Yolŋu and Balanda (western, white Australian) knowledge practices as an epistemological problem. The ways Balanda conduct schooling reveal particular commitments to understandings of knowledge and of truth, which are quite different from the commitments of Yolŋu. I was keen to discover more about the theory of knowledge which produces such a different pedagogy, and such different indicators of a good education.

After working at Charles Darwin University (CDU) on issues of Indigenous knowledge and pedagogy for about 12 years, I found the opportunity to come together with some consultants from the Yolŋu Aboriginal Consultancy Initiative (YACI) to talk quite specifically about what giftedness means in traditional Yolŋu society, and what schools and departments of education might do to support the work of growing up young leaders for the next generation. Yolŋu (north east Arnhem land Aboriginal) elders have a long history of working collaboratively with western educationalists dating back to the mission era, to the days of bilingual education (sadly over, at least for the time being), and in the Yolŋu studies program at Charles Darwin University (CDU).

Eight Yolŋu elders from remote communities who form part of the YACI team, came together at the School of Australian Indigenous Knowledge Systems at CDU for a two-day workshop. As is the case in many other of the consultancies this group has

Giftedness from an Indigenous Perspective

worked on, they discussed some key questions among themselves for two days in their own languages, and then recorded their findings on video. (Details of other collaborative consultancy work and the transcriptions and translations of the videos, and excerpts from the videos for this project can be found at www.cdu.edu.au/yaci). What follows is a summary of the key ideas with a few referenced quotes from other Yolŋu philosophical work. Much of it has to do with metaphors from the land and the body, which help us understand knowledge and identity (Christie 2006). Statements in quotations are direct from the original transcriptions and translations[1].

Giftedness and leadership

Giftedness, first of all, is associated with leadership. The gift is not there for the child. 'It belongs to everybody'. How do we tell when a child is gifted? Dhäŋgal began her video recording with a rather strange story: "In days gone by, when many boys go through initiation ceremony, they get painted on their chest. The painting that they put on the boys are their own traditional paintings, the land where they belong to, or what creatures their totem is. That is painted on the chest of every boy." At some stage before the ceremony begins, "the boys stand up, and they stood in a line, and the elders used to observe them then. If a painting peeled off the boy's body, that boy was never chosen to be a leader, because the painting really told the elders how the boy was going to grow up and do other things rather than being a leader. And to the boy whose body painting wasn't peeled, that was the leader for the future. And during the time they used to know who those leaders were going to be."

This story requires explanation. First of all, the paintings are sacred images, they must be executed perfectly. The clan elders make sure they are done carefully, and certain members of a completely different clan group (who call the boy's clan 'mother'), have complete supervisory power. The 'managers' must be completely satisfied before the ceremony can go ahead. Ceremonial preparations take several days during which time the boys are made into ceremonial objects through the painting and singing processes. In a very real sense they *become* their totems, ready to be made into men. Some boys manage to sit quietly, thoughtfully, respectfully for days on end, to sleep quietly straight on their backs while the ceremonial singing goes on all day and all night, and to protect the paint work which makes them who they are. These are the boys of the story whose leadership potential is demonstrated in their calmness, their respectfulness, their patience, and their dedication to the religious practices of their elders. The boys who wriggle around, who lose concentration, who are not taken up by the totemic power of the ancestral songs, images and objects, whose paintings get messy are those who will "grow up to do other things rather than being a leader".

The conditions under which someone *attains* an ancestral reality is much theorised in Yolŋu philosophy. One instrument of this metaphysics is the notion of *gakal*. When a person behaves properly — sings or dances appropriately in a ceremonial context for example — they become one with their ancestors and their land. There is no

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[1] Complete transcriptions and translations from which the quotes are taken can be found at http://www.cdu.edu.au/centres/yaci/gt/whatemerged.html

separation between man and country, or time and space. *Gakal* is wonderful to see, and much celebrated — often at a public ceremonial performance, but also out in the environment. Any Yolŋu hunter, male or female, will often find themselves in places which are actually mentioned in their ancestral song cycles, at the same tide, at the same time of day, seeing the same glimmering in the water or the colours of sunset specified in their songs, collecting the food which their ancestors collected in the same place, and in the same manner (Garnggulkpuy, 2002). That also is their *gakal*.

People refer to other people's *gakal* approvingly, indicating it as the appropriate way for them (as members of this or that descent group) to behave in particular circumstances. *Gakal* is not confined to traditional practices. It can be manifest through a boat or a gun or a rock'n'roll band. A wise community leader brokering between the government and clan elders, will be said to have *gakal* if she negotiates according to accepted protocols which preserve the separations as well as the unities and keeps everyone together in good faith.

The origins of the gift

So in a sense, *gakal* understood as a process, could be translated as 'self-actualisation'. But we would need to be very careful about how we understand the nature of the self. The self of a western educational philosophy and practice is entirely different from the Yolŋu self. Yolŋu reject out of hand the notion of *tabula rasa* — the 'blank slate' — that babies are born without any built-in mental content and that all knowledge comes from experience and perception. This *tabula rasa* theory of the child's mind is at least as old as Aristotle who wrote of it in his philosophy text 'On the Soul'. The notion remained mostly unchallenged by western theorists for two millennia, the only real challenges coming from those who rejected the doctrine of *tabula rasa* on the grounds that children are born inherently evil, or selfish or at least in need of strict and careful discipline. More on discipline later.

Our western understanding of the blank and innocent child powerfully informs the ways in which we understand and organise formal education, including our identification, understanding and provision for the gifted. Yolŋu reject the notion of *tabula rasa*: "We have our own theory of learning." "In the Yolŋu culture, within each clan group, each tribe, we know that when a child is brought into this world, it's already got its role, that child already has a role to play." Young babies are born with water in their heads, which comes from the sacred wells of their ancestral land. Different clan groups have different sacred water sites, and thus different identities. There are special words for the water in one's brain which links the identity of a person to their particular ancestral connections with land, sea, totems, and other people and groups. It may be sacred images of those waters which are painted on the boys' chests before their ceremonies. Whatever it is, it is a sign of that child's identity being already formed, *in potentia*, at the moment of birth, and before.

Two descriptions from two sides of the Yolŋu world. First, the Dhuwa moiety. Many Dhuwa clan groups have waters left in place by the Djaŋ'kawu sisters. Raymattja told the story of her clan water called *milŋurr*, already inside the newborn's head:

This water is *milŋurr*....The two sisters created the fresh water as they travelled. Fresh water...left behind the foundations for the clans and tribes....This place, this land is our bone place, containing foundations, customs and laws. (She points to the top of her head.) We can feel this with a newborn baby when it is young, a very young baby. On a child we will feel that soft...area. And when we grow, our head is used for thinking. Growing up we develop this, our cognitive development. This *milŋurr* water determines how we will develop our mind for work and for living. That *milŋurr* also determines our feelings, how we feel...for our thoughts and our spirit. And also it will explain knowledge, this water....Our bodies are like this. Our thoughts and ideas...develop like this. Growing up so that we can hold on to our proper ancestral ways. This is how our heads become clear thinking and productive. Yes and also, if we are having to learn new ways of doing things, difficult things to learn, they will be held in the head through that *milŋurr* water[2].

Then some years later and hundreds of kilometres to the west, Garŋgulkpuy told a story of her clan water from the Yirritja moiety.

We Wangurri clan Yolŋu, we call our minds our 'Gayilinydjil'. If we got into a fight, and someone hits us on the head, then people will say of us: "They have seen her Gayilinydjil." By speaking that way, a Yolŋu can work towards a peaceful solution which keeps everyone united, tied together by good faith, trust and confidence. They are not going to say: "She got bashed in the head." That would be asking for trouble. People could get really angry. This principle applies to all Yolŋu groups. To make our law work, we have to bring our heads back to thinking about our ancestral land, using those sacred ancestral names which take us back each to our own place[3].

Garŋgulkpuy's husband told the story of the baby's bones, and how from the moment of birth until the moment of burial, they are sacred objects because of the connections they perform and produce:

When a child is born she already has sacred names for her bones...a sacred 'knee' name, and a sacred 'elbow' name, all related to her bones, her head, her back, her eyes, her hair, all of her. Any adult we see, when she was small and newborn, and when she was crawling around, she always had those connections, and now she is old. And later when she dies, she still has all those connections....Ever since a baby, she has connections, it doesn't matter how old she is when she dies, middle aged or old, she is still connected. Born connected, dies connected. That's why when funerals are made, everyone will gather and join together to do the right thing for finishing that sacred bone connection properly.

Much of the way that Yolŋu children and their parents live out their daily lives exemplifies this philosophy of identity. The land itself plays a key role in growing up

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[2] http://learnline.cdu.edu.au/yolngustudies/communication_research.htm
[3] http://learnline.cdu.edu.au/yolngustudies/docs/garnggulkpuy.pdf

young children. It is not the inert background against which human beings play out their lives. "Most of all Yolŋu children learn from what the landforms hold, from hunting, turtle, whatever they go for, shellfish. That's where the children do their first learning."

From our western anthropological point of view, we think of the great freedom children enjoy in Aboriginal Australia. They determine for themselves when they sleep and wake, when they eat, whether they attend school, go off with their mates, or participate in ceremonies. But they also learn very early to observe strict avoidance taboos associated with particular close relatives. They grow into a particular discipline.

 "They come to a certain age those young people, where they start to make decisions, where they look at themselves, who they are, where they stand." We can recognise their behaviour. They use language carefully and correctly. They are very deferential, and respectful, especially around older people. They often prefer to sit with the old people, to "take part as his own future". They have a certain discipline, called *raypirri'*, which means in English something like conformity to proper ancestral ways of seeing and doing things. It's a discipline which comes not so much from adult supervision or instruction, but from within the child himself, in an always progressing, always developing actualisation of *gakal*. One elder spoke specifically of gifted children as coming up to take the place of the deceased leaders of yesterday. There is also a certain quick-wittedness involved in *raypirri'*, called *djambatj* – which can mean a good hunter, an observant bystander, or a clever mind. "When they hold *gakal*, and *rom* (culture, law), when they get them from their kinfolk, and carry it, where they go, through ceremonies, singing, they reveal their thinking, they think, and look and internalise it."

"All adults need to help, that child, those children, who *already have that gift* and *gakal*...Bring them into the *gakal* role...first – without fear, and then take them into the mainstream. They lead him or her into their *gakal*."

The gifted Yolŋu child at school

Most of the consultants we worked with, while elders and knowledge authorities in their different ancestral groups, were also well experienced in western education — particularly in the mission and bilingual schools. They were at pains to point out the grave error — so common in Balanda education — of believing giftedness is something that happens inside a child's head. Yolŋu have a definite sense of the head (*liya*, or *mulkurr*) as being the centre of intellectual work. That is after all, where we find the waters from the ancestral wells which make each person a sacred object. But there is also an understanding of *birrimbirr*, what we might call *spirit,* as well as a further notion of *ŋayaŋu* — what since mission days has been translated as "the seat of the emotions". It is through your *ŋayaŋu* that you feel your connectedness to kin and country.

Balanda education may focus too heavily on the head. If the gifted child's head is not invested in his or her feelings towards connections, "his [her] spirit will become

weak". There is a particular investment here, where we find our *gakal* as we relate to and reflect upon and act within our land, the environment and kin. It is this investment which is the source of empowerment. For an example of a turtle hunter performing *gakal* in a way which elucidates a Yolŋu pedagogy, see Marika-Mununggiritj and Christie (1995).

"We just learn, we just learn as we go, it just appears to us, not going questioning the old people. They will teach us. But the Balanda way says: Ask many questions, and ask in order to learn, children should ask old people. But if they were doing it the Yolŋu way, it's not good for him to ask."

The elders could clearly see a painful dislocation between the assumptions at work in the classroom, and their goals for the new generation. We talked for a long time about schooling and the Yolŋu leaders of tomorrow. Schooling in general seems to be failing Aboriginal people in remote communities these days, but more poignantly, schools seem to be undermining the work of the elders producing new leaders by supporting the sorts of behaviours which lead to young people who are self-interested, who see the new and outside things as more attractive than the difficult work of keeping traditional culture and governance alive in a hostile world.

What is a school to do? The elder-consultants were quite clear that we have two education systems, two philosophies of education and two pedagogies. Kids these days are just as smart as they were in the old days, but these days the education department is 'pretty confused'. The practices make us like babies. Maybe he is quite a clever kid, but the Balanda teaching completely misses the giftedness of the child. How are we to identify the gifted children? You can tell the gifted children said one elder, also an experienced teacher — they are the ones who help the other kids when the teacher is not watching. They are not competitive. They already know that they are people with destiny. They know the authority of their elders (each in a specific and significant kin relationship with them). They also know how to pay attention to significant people, and also places, things and moments.

> Their foundations stand strong in who they are, already gaining knowledge from over there, still learning both sides, balancing them, finding a path, like choosing, that's how a true Yolŋu leader will emerge, from a child.

The school and the elders must work together. They must sit down together and talk about all the children. Schools must understand and do the work of kin nurturing the *gakal* first, and use that basis to bring strong, relevant, effective and embedded Balanda education. It is for all the children. They must agree on classroom and community practices, which will recognise the gifts the children were born with. "We need to work to help, that child, those children, who already have that gift and *gakal*... Bring them into the *gakal* role first — without fear, and then take them into the mainstream."

Bilingual education was good, it brought the community into the school, and the Yolŋu teachers played an important part in nurturing the *gakal* of every young child. They know all the children, they are related to all of them, they know the ancestral connections to which each one of them belongs.

Today it's like the old days. The children's languages are forbidden for the first four hours of each school day. "The (Education) Department needs to find the path and join it." Why don't we sit down together and talk about it? We all need help bringing up the new generation of leaders for our people.

References

Christie, M. (2006). Yolngu Language Habitat: Ecology, Identity and Law in an Aboriginal Society. In G. Leitner & I. Malcolm (Eds.), *Australia's Aboriginal Languages Habitat*. New York: Mouton de Gruyter.

Garnggulkpuy, J. (2002). *Yolngu Balandi Watangumirri*, Yalu Marnggithinyraw Centre, viewed 1 Sept 2005, <http://learnline.cdu.edu.au/yolngustudies/docs/garnggulkpuy.pdf>

Marika-Mununggiritj, R. & Christie, M. (1995). Yolngu metaphors for learning. *International Journal of the Sociology of Language*, *113*, 59-62.

Achievement Integrated Model: Interventions for Gifted Indigenous Underachievers

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Introduction

> Since the mid 1990s, the context of education has changed. Currently, there is an increasingly diverse population of students in our schools and a pronounced emphasis on the need to close educational achievement gaps, especially between those students who have had all of life's advantages and those who have had less than their fair share….not only do gifted education professionals have much to offer in terms of instructional strategies to close the achievement gap, but we also have much to lose if we are not able to work with our colleagues to address another chronic gap: the under-representation of culturally diverse and low-income students in gifted education programs. (Tomlinson, Doubet, Capper, 2006, p. 224)

While increasing numbers of Indigenous students are achieving tertiary academic success, statistics show that Indigenous students as a group achieve at rates far below that of other students (Grigg, 2004). Gifted underachieving Indigenous students in particular, represent a high proportion of this population and are disproportionately underrepresented in school programs for the gifted (Braggett, 1985; Chaffey, 2008).

The Achievement Integrated Model (AIM) is a holistic approach to cater for the needs of all underachieving students. It recognises that curriculum differentiation is essential in order to meet the needs of the different ability levels within the regular classroom. However, underachieving Indigenous students may have underlying issues different from other underachievers, which even when presented with differentiated learning, prevent them from reaching their potential. Therefore, to address the underlying causes of their underachievement, in addition to curriculum differentiation, the AIM focuses on identifying and profiling students and designing affective and cognitive interventions specific to their needs.

The achievement integrated model (AIM)

Underachievement may be considered as a subjective rather than objective classification (Reis & McCoach, 2000), and is often dependent upon a teacher's capacity to first, identify a student's potential and then, determine if a discrepancy exists between ability and performance. Therefore, the AIM assists teachers in:

1. identifying Indigenous underachievers and invisible underachievers;
2. profiling these students;
3. planning interventions;
4. selecting and designing curriculum interventions aimed at enhancing their academic self-efficacy;
5. monitoring and assessing the student's progress; and,
6. evaluating the intervention program.

Objectives

For the teacher to:
- Identify the gifted underachievers and 'invisible' underachievers and plan appropriate interventions.
- Cater for the gifts, talents, strengths, interests and learning styles of Indigenous children.
- Design a curriculum that engages the students at their own level of understanding.
- Utilise strategies that enhance academic self-efficacy.
- Provide students with flexible learning opportunities within a supportive learning environment.

For the student with guidance and support to:

- Develop a belief in their ability to complete academic tasks (self-efficacy).
- Develop skills in goal setting, planning and self-monitoring.
- Explain knowledge and understanding of concepts to a variety of audiences.
- Produce quality products that demonstrate their understanding of a concept.
- Have a greater self-awareness of their learning styles and learning needs (metacognition).
- Demonstrate responsibility and initiative in the planning, designing and preparing of learning tasks.

The AIM model is illustrated in Figure 1.

1 **Identification**	2 **Profiling and Interventions**	3a **Curriculum Selection and Program Design**	3b **Program Model Selection**
Identification using objective and subjective measures.	Creation of class and student profiles. Affective and curriculum interventions based on identified needs of the students at any point from 'Curriculum Selection' through to 'Assessment and Evaluation'	Selection of syllabus outcomes based on the school's scope and sequence. Development of enduring understanding and important knowledge based on outcomes and pre-test results. Understanding By Design	Selection of a model to differentiate learning activities. These may include models such as: Bloom's Taxonomy Kaplan Williams Maker

8 **Assessment and Evaluation**	3e **Presentation of new understanding/s**	3d **Implementation of Program**	3c **Learning Activities**
May include; - post-test to assess learning gains - completion of products - self-evaluative rubrics - standardised achievement tests - learning/ reflection journals - discussions.	Students present work to a variety of audiences at the conclusion of curriculum units.	Provide opportunities for students to enhance their academic self-efficacy through utilising strategies such as; - addressing skill gaps -repeated mastery -vicarious experience -performance and attributional feedback -verbalisation, and -meta-cognitive skills. (Chaffey Provision Model,2002)	Design differentiated activities to cater for learning support, core and gifted achieving and underachieving students. Compulsory and choice tasks selected. (Adapted from Wheel Work)

Figure 1. The Achievement Integrated Model Overview

Theoretical framework

Identification

Indigenous students may not be identified when standardised tests or intelligence tests are the main forms of identification and this can result in their test performance being artificially lowered**.** Tzuriel and Feuerstein (cited in Chaffey, Bailey, & Vine 1992) suggest that this is a direct result of socio-emotional issues and inefficient metacognition, rather than lower cognitive potential. A lack of experience and exposure to enriched environments (Wright & Borland, 1993), both at home and at school, can further lower their scores. For these reasons, such students are "quite likely not to be included in gifted enrichment programs" (Kaniel & Reichenberg, 1990, p. 9). Multiple forms of objective and subjective tools cast "a wide net to find special abilities, and [are] less likely to miss the atypically gifted student" (Borland & Wright 1994, cited in Begoray & Slovinsky, 1997, p. 4). Such measures may provide further insights into the potential of these gifted students (Kolb & Jussim, 1993).

One method used in the AIM for identifying underachieving Indigenous students is the Coolabah Dynamic Assessment, which has been specifically designed to "identify giftedness in individuals who under-perform on one-off tests of cognitive ability" (Chaffey, 2004, p. 12). Indigenous students are often 'invisible' underachievers: "individuals whose assessment potential, as indicated by commonly used identification methods, is less than their actual potential and who also underperform in the classroom" (Chaffey, 2004, p. 9). The Coolabah Dynamic Assessment method, which focuses on "both cognitive and socio-emotional factors thought to contribute to underachievement in academic performance" (Chaffey, 2004, p. 13) forms an important part of the AIM identification procedure with this student population.

Profiling and interventions

Individual and class profiles
The second component of the AIM focuses on creating individual and class profiles (see Appendix 1) to assist with the selection of appropriate interventions and curriculum. Individual profiles are a necessary component of this model as underachievement may be caused by a number of factors, such as, "personality traits... family and home characteristics... school and curriculum related variables... a mismatch between student's learning style and classroom demands... (and) teacher expectations" (Kolb & Jussim, 1994, p. 26). Additionally, Indigenous students may suffer from issues of cultural stereotyping, low expectations (self, family, society), forced-choice dilemma and issues of identity. Therefore, just as there are many different causes for underachievement, there is no one common intervention response (Baum, Renzulli & Hebert, 1995; Reis & McCoach, 2000). Programs used to assist students in avoiding or reversing underachievement, need to be individualised and provide a menu of different options (Reis & McCoach, 2000). The 'Underachievement Intervention Strategies Table' (see Appendix 2) in the AIM provides a list of possible intervention strategies to suit different types of underachievers: Indigenous, selective, invisible, and double-labelled gifted students (gifted students with a specific learning disability).

When determining appropriate intervention options for each individual, teachers must consider the student's behaviour, attitudes, self-perception (Grigg, 2004; Ramsey & Ramsey, 2002) and other intrinsic and extrinsic factors which may contribute to underachievement. When profiling Indigenous underachieving students, it is important to "recognise the identities and backgrounds of all students and demonstrate that we value the life experiences they bring to the learning" (Penny & Price, 1999). The use of a number of tools (see Appendix 3), such as 'Identity Web' activities "facilitates the sharing of personal profiles and creates opportunities for sharing common attributes, and character strengths which are relationship-generating possibilities" (Grigg, 2004) (see Appendix 4).

The profiling procedures, outlined in the AIM, focus specifically on analysing the data collected and creating both individual and class profiles (see Appendix 1) and assist with the grouping of students according to their needs, ability and possible causes of underachievement.

Affective interventions
Affective interventions are particularly necessary when working with Indigenous students. After analysing results from the 'Identity Web', issues pertaining to identity may need addressing as "the significance of identity in the growth and development of each individual is of paramount importance within the learning context" (Grigg, 2004).

Affective interventions include strategies for enhancing academic self-efficacy and are embedded into the AIM, as underachieving students often have a poor perception of their ability to succeed in given academic tasks. Academic self-efficacy may be defined as "people's judgements of their capabilities to organise and execute courses of action required to attain designated types of performances" (Schunk, 1991, p. 207). Self-efficacy influences the decisions that individuals make about activity choice and how much effort and persistence they will invest in an activity (Schunk, 1991). Students who have low academic self-efficacy often "expend little effort on difficult tasks. Those who believe they are capable select tasks at which they can succeed, persist longer, and expend effort" (Schunk, 1991, p. 223). Therefore, the three major contributors to self-efficacy, "mastery experiences, vicarious experience and verbal persuasion" (Bandura, 2003 cited in Chaffey, 2005c, p. 30), in addition to verbalisation, are targeted in the implementation of the AIM affective interventions. These strategies are outlined later in this paper.

Some of the affective and cognitive interventions currently being implemented with gifted Indigenous students are detailed in Appendix 5.

Curriculum
 "The educational needs of gifted children are best served by classrooms that provide a motivating curriculum" (Goldberg & Cornell, 1998). Rea (2000) described optimal motivation as an experience in which students become absorbed in a task. "They are most likely to experience motivation when…interest and arousal are present. Intrinsic motivation builds the relationship between effort and outcome" (Davis & Rimm, 2004, p. 328). However, prior to underachieving Indigenous students

becoming intrinsically motivated and engaged, the following important issues may need to be addressed:

- low academic self-efficacy;
- the need for higher expectations of self, and by teachers, family and community; and,
- the building of sound relationships with significant others.

The overarching model used in the AIM curriculum is 'Understanding By Design' (UbD) (Wiggins & McTighe, 2005). While the aim of UbD is to create a rigorous and engaging curriculum, initially, the curriculum would need to be modified and simplified to ensure that the underachieving Indigenous students achieve success. Task complexity and challenge is gradually increased as the students become proficient learners.

The following components are essential when designing an engaging curriculum:

- developing an 'enduring understanding' (universal idea) that is transferable across more than one discipline;
- formulating 'essential questions' related to the syllabus outcomes and the 'enduring understanding';
- identifying the concepts (knowledge) needed in order for a student to be able to answer the 'essential questions' (see Appendix 6).

Program model selection
Once the enduring understanding and the important knowledge of a unit are identified, the learning tasks and assessments are then designed using models based on sound pedagogy.

Listed below are examples of models that may be used to differentiate the curriculum:

- Bloom's and Krathwohl's Cognitive and Affective Taxonomies.
- Williams' Cognitive-Affective Interaction Model.
- Kaplan's Content-Process-Product Model.
- Maker Model of Curriculum Development for Gifted Students.

These models facilitate the planning and implementation of curriculum that has a strong focus on deep understandings through which Indigenous students are able to transfer and link concepts. It focuses on skills-based learning rather than content alone.

Quality open-ended tasks allow Indigenous students of different abilities to solve tasks with varying degrees of sophistication and efficiency. However, teachers need to provide modelling and scaffolds to assist students when these tasks are undertaken. The level of support required will depend on the needs of each student.

Learning Activities

Most studies on underachievers reveal a "lack of personal locus of control (as a common characteristic) that is, underachievers do not internalise the relationship between effort and outcome, process and product" (Rimm, 1987, p. 34). Therefore, it is important that students are taught about their own responsibility for their academic success (Ogbu, 1994), and are assisted in seeing the value and possible rewards of high achievement. The AIM curriculum aims to assist students in assuming responsibility for their learning, and initiative in planning, designing and preparing learning tasks. It focuses on developing skills in goal setting, planning and self-monitoring and is achieved through:

- teaching students goal setting techniques;
- having students use learning and reflection logs (Mackay & Hoy, 2002)(see Appendix 7);
- providing skills-based lessons using the Information-Literacy Process (see Appendix 8); and,
- including activities where students design their own learning tasks using the 'Bloom's Product Wheel' (see Appendix 9).

The curriculum intervention may take several years before students are able to produce high-quality products commensurate with their level of potential, and reverse their patterns of underachievement.

The learning activities in the AIM use the enduring understanding and essential questions to link important knowledge, syllabus outcomes and pre-test results. The program model selected by the teacher, for example, Bloom's, Williams, may be used to design compulsory learning tasks in order to develop a deep understanding of a concept. Upon completion of compulsory tasks, students negotiate choice tasks selected from the Bloom's Product Wheel. The concept of compulsory and choice tasks is based on the Wheel Work Model (Mackay & Hoy, 2002). The structure of a unit of work will depend on the age group, affective and curriculum needs, ability and readiness of the students.

The Information Literacy Process (ILP) is integrated into the curriculum design and implementation of the AIM to empower students with their learning and assist in the development of metacognitive skills. Many underachieving Indigenous gifted students are lacking in skills of metacognition, which covers:

- Metacognitive controls: "planning, goal setting, selecting strategies, monitoring, using feedback and evaluating results" (Treffinger et al., 1993 cited in Heller et al., 1993, p. 556).
- Metacognitive knowledge: "knowledge about general cognitive strategies, when to use them, conditions when the strategies may be used effectively, and self-knowledge" (Pintrich, 2002, p. 159).

The ILP involves defining the focus of study or research, locating appropriate and reliable information from various sources including books and the Internet, selecting the information needed, organising the information and finally, presenting information in the most effective way. Kuhlthau (1995) maintains that to be literate is not only to recognise when information is required, but also involves the ability to

construct one's own knowledge through a process that gives meaning and self-interest to the notion of learning throughout a lifetime.

Implementation of program

"Due to long-term disengagement in class, the academic skill and knowledge levels of underachievers are often substantially below the student's real potential. With these students, flow may not be achieved by using task difficulty levels that are matched to perceived ability (i.e. potential) levels" (Chaffey, 2005b, p. 24). Flow, according to Chaffey (2005a), "describes how intrinsically motivated people feel when they are highly engrossed in their focus activity" (p. 21). The task difficulty needs to match the student's skill level for 'flow' to occur. Initially, it is unrealistic to expect gifted underachieving students to be working at the same level and pace as gifted achieving students. The degree of difficulty of the tasks increases gradually as the students achieve success and their skills develop.

To maximise the underachieving student's experience of mastery and 'flow', a number of strategies (Chaffey, 2005a) are employed by the teacher throughout the learning process. These include:

Mastery strategies
- Providing scaffolds as needed to assist in the successful completion of tasks.
- Modelling skills and tasks to assist the students in gaining a clear understanding of expectations.
- Structuring tasks and providing product choices for students using the Wheel Work model.
- Increasing task difficulty by varying the product choices when academic self-efficacy has improved.

Vicarious experience
- Providing opportunities for students to discuss their progress, successes and challenges.
- Varying groups to include individual, pair and small group options paying attention to ability level and interest.
- Allowing students to increase their understandings by observing the work of their peers.
- Using guest speakers and mentors, especially people from Indigenous communities.
- Providing field excursions to work with significant others, such as elders, field experts, scientists, artists.

Verbal persuasion
- Providing opportunities for performance and attributional feedback.
- Using teacher, peer and self-assessments that focus on skills, knowledge gained and achievement of goals.

Verbalisation
- Asking students to explain the strategies, skills and processes used upon the completion of a product i.e. "*Tell me how you did that?*"
- Allowing students to present their work to peers, teachers, parents and relevant field experts. Initially, some students may need to present their work to smaller audiences or have the support of a significant and respected person with them.

Metacognitive skills-based lessons
- Modelling metacognitive processes using skills based lessons.
- Having students monitor their progress, set goals and evaluate results using a 'Learning and Reflection Log' (Mackay & Hoy, 2002).
- Using the Information Literacy Process for students to develop effective self-monitoring skills when researching.

Presentation of new understandings
At the completion of a unit, students are given the opportunity to discuss their new understandings to their peers and present to wider audiences. Students display their work in a variety of innovative ways depending upon their preferences. Presentations to smaller groups are less threatening than standing in front of a larger audience and may be a preferred option for Indigenous underachieving students, students who have low self-esteem, and/or those who exhibit high levels of perfectionism.

Assessment
Assessment 'of' and 'for' learning occurs both formally and informally throughout the AIM and may include:

- pre-tests and post-tests using Bloom's Taxonomy and other models to differentiate questions;
- products, including compulsory and choice tasks;
- final presentation of new understandings;
- ongoing feedback from teacher and peers throughout the unit of work;
- teacher and student rubrics, including 'Achiever's Rubric' (Appendix 10);
- self-assessments in learning and reflection logs with a focus on meta-cognition; and,
- analysing learning gains.

Findings and implications

In trialling the AIM model within the classroom, the authors noted the following findings and implications. Freedom to select and negotiate tasks based on their interests gave the students a sense of ownership, increased autonomy and pride in their work. This approach proved to be particularly successful with boys and catered for a variety of learning styles. The complete list of findings and their implications are presented in the following summary table (Table 1).

Table 1. AIM findings and implications

Findings	Implications
The identification and profiling assisted teachers to better understand student needs, interests and possible causes of underachievement. The use of CDA as part of the identification process enabled the student's learning potential to be more accurately identified and this, in turn, raised teacher expectations.	As stated previously, while students may have a high learning potential, there may be skill gaps and other underlying causes for their underachievement that require targeting. Interventions would then need to be designed and administered.
The inclusion of the 'Identity Web' activity when profiling Indigenous underachieving gifted students provided valuable information.	Issues pertaining to identity may need to be addressed, as the significance of this in the growth and development of the individual is important within the learning context.
The AIM enabled teachers to streamline the planning and programming process. The use of UbD assisted teachers to design focused learning activities linked to the syllabus outcomes.	In order to differentiate the curriculum, teachers require training to familiarise themselves with UbD and other models. There needs to be ongoing professional development for this to be successful.
The learning and reflection log and teacher-student conferences supported underachieving students in developing organisational and metacognitive skills. Throughout the conference, the teachers gained information about the student's knowledge and understandings, and enabled them to give feedback specific to the tasks and level of mastery. Conferencing was a valuable informal assessment tool for the students who had not performed to expectations in traditional assessment methods.	Teachers need to take an active role in facilitating student learning and allow time for conferencing.

Findings	Implications
Initially, student products did not meet teacher expectations. However, they were true reflections of what the student could produce independently at that time. Self, peer and teacher performance feedback assisted students in evaluating and modifying the processes used and products created. It enabled them to raise their expectations of themselves and offered a wider variety of options to help them improve their future work.	Opportunities to verbalise and share understandings with a variety of audiences provides valuable vicarious experiences for the students to learn from each other's challenges and successes.
The daily mathematical intervention for Indigenous students resulted in significant improvements in numeracy results. Gifted underachieving students, in particular, benefited from this form of intervention as it provided an opportunity for students to enhance their academic self-efficacy in mathematics and fill skill gaps. It also prepared students for eventual inclusion in gifted mathematics classes. One student has been able to join the gifted mathematics group after completing several terms in the intervention program. Three other Indigenous students are being monitored and will probably be able to join the gifted class next year.	The use of a teacher who was respected by the students assisted in the large academic gains. The program worked best when the students attended on a daily basis. The intervention was a necessary step for underachieving students, as it provided a safe environment where skill gaps could quickly be addressed.
Interest based learning such as robotics has proven itself to be a very effective tool in increasing the motivation of identified Indigenous underachievers. The success students are experiencing in Robotics has enhanced academic self-efficacy and engagement. The robotics lunch club and whole class program has provided a link between 'fun' interest areas (robotics and technology) and academic areas (literacy and numeracy).	The use of a teacher who was respected (significant other) by the students assisted in developing a safe environment where the students were willing to take risks and become peer tutors and leaders in robotics. Robotics needs to be integrated slowly into the curriculum and students need opportunities to create their own challenges.

Findings	Implications
Mentoring for the Future/ Career Education Program. "The mentoring program has been an outstanding success, with each student matched to a mentor to plan their direction towards a chosen career" (Howard, cited in Zebec (ed) 2009, p. 19). The mentoring program has been a valuable source of vicarious experience for students. The program has provided opportunities for the students to consider a wide range of career paths and has assisted them in beginning to plan for their future.	It is important to carefully match each student with an Indigenous mentor who shares similar interests. Teachers co-ordinating the 'Mentor Program' need to provide ongoing training and support to mentors.
The students and teachers involved in the Leadership for Reconciliation Program have described the program as a 'life changing experience.' The program has increased student awareness of the richness of Indigenous history, spirituality, beliefs and lifestyle. The benefits have flowed over into the wider community with students sharing their learnings and experiences. The program has assisted gifted Indigenous students to grow as leaders who are proud of their Aboriginal heritage.	The program requires a large amount of corporate sponsorship to fund the program. The itinerary needs to be regularly monitored to ensure the experiences accurately highlight the richness of Indigenous history, spirituality, beliefs and lifestyle.

Conclusion

> Lost potential is not the (most important) issue here, the greater fear is loss of Self. (Silverman, 1998, p. 205)

"One of the most pervasive frustrations in gifted child education – in fact, all education – is that there are no solutions that work each time with every student" (Delisle, 1988, p. 29). When determining the strategies, interventions and curriculum which may work best with Indigenous underachievers, teachers or counsellors need to assess the students' "behaviour, attitudes and assessments that they make of themselves" (Ramsey & Ramsey, 2002, p. 104). The AIM recommends creating class and individual profiles of these students to assist when creating a plan of action. It implements strategies designed to enhance academic self-efficacy and present them with an open-ended curriculum where task difficulty matches the student's current

skill level. As previously stated, the degree of difficulty of the tasks increases gradually as the students achieve success and their skills develop.

Unhappiness and underachievement often "lies in the mismatch between children's needs (academic and emotional) at any particular time and the extent to which those needs are met" (Russel, cited in Varma, 1993, p. 14). Achieving gifted students display a higher degree of self-esteem and self-efficacy, have fewer emotional problems (Colangelo, Kerr, Christensen, & Maxey, 1993, p. 156), and are more likely to reach their potential. The aim of the AIM is to provide interventions for Indigenous underachieving gifted students, which make that realisation of potential possible.

References

Adderholdt-Elliott, M. (1987). *Perfectionism: What's bad about being too good?* Minneapolis, MN: Free Spirit Publishing.

Baum, S. M., Renzulli, J. S., & Hebert, T. P. (1995). Reversing underachievement: Creative productivity as a systematic intervention. *Gifted Child Quarterly, 39* (4), 224-235.

Begoray, D. & Slovinsky, K. (1997). Pearls in shells: Preparing teachers to accommodate gifted low income populations. *Roeper Review,* 20 (1), 45-49.

Betts, G. T. & Neihart, M. (1988). Profiles of the gifted and talented. *Gifted Child Quarterly,* 32 (2), 248-253.

Braggett, E. J. (1985). *Education of gifted and talented children: Australian provision.* Canberra: Commonwealth Schools Commission.

Chaffey, G. W., Bailey, S., & Vine, K. (1992). Identifying high academic potential in Australian Aboriginal children using dynamic testing. *The Australasian Journal of Gifted Education, 12* (1), 42-55.

Chaffey, G. (2004). Low self-efficacy: An important talent mask for 'At Risk' gifted children? *Queensland Association for Gifted and Talented Children Inc., 24* (2), 9-14.

Chaffey, G. (2005a). *Module 4: Understanding Underachievement in Gifted Students.* Sydney: University of NSW.

Chaffey, G. (2005b). *Extension Level Module 4, Understanding Underachievement in Gifted Students.* Sydney: University of NSW.

Chaffey, G. (2005c). *Specialisation Level Module 5, Understanding Underachievement in Gifted Students.* Sydney: University of NSW.

Chaffey, G. (2008). Is gifted education a necessary ingredient in creating a level playing field for Indigenous children in education. *The Australasian Journal of Gifted Education,* 17 (1), 38-39.

Coil, C. (2005). *Becoming an achiever: A student guide.* Melbourne: Hawker Brownlow Education.

Colangelo, N., Kerr, B., Christensen, P., & Maxey, J. (1993). A comparison of gifted underachievers and gifted achievers. *Gifted Child Quarterly, 37* (4), 155-160.

Davis, G. A. & Rimm, S. B. (2004). *Education of the gifted and talented* (5th Edn). New York: Pearson Education Inc.

Delisle, J. (1988). The role of the gnome in gifted child education: A response to 'In Defence of Academic Rigor. *Journal For the Education of the Gifted, 11* (2), 20-30.

Fardell, D. (2009). *Aboriginal Student Retention Rates.* Accessed at http://www.parliament. nsw.gov.au/prod/parlment/hansart.nsf/V3Key/LA20090325044

Goldberg, M. D. & Cornell. D. G. (1998). Cognitive and affective learning outcomes of gifted elementary school students. *Gifted Child Quarterly*, *51*, 359-38.

Grigg, D (2004). *Identity and Relationships, Identity Web.*

Gross, M. U. M., Macleod, B., Drummond, D., & Merrick, C. (2001). *Gifted students in primary schools: Differentiating the curriculum.* Sydney: Gifted Education Research, Resource and Information Centre.

Heacox. D. (1991). *Up from underachievement.* Melbourne: Hawker Brownlow Education.

Heller, K. A., Monks, F. J., & Passow, H. A. (Eds.) (1993). *International handbook of research and development of giftedness and talent.* Oxford: Pergamon.

Hughes. P. & More. A. J. (1997). *Aboriginal Ways of Learning Styles*. A paper presented at the AARE conference. Accessed at http://www.aare.edu.au/97pap/hughp518.htm

Kaniel, S. & Reichenberg, R. (1990). Dynamic Assessment and cognitive program for disadvantaged gifted children. *Gifted Education International, 7* (1), 9-15.

Kolb, K. J. & Jussim, L. (1993). Teacher expectations and underachieving gifted children. *Roeper Review, 17* (1), 26-30.

Kuhlthau, C. (1995). The process of learning from information. *School Libraries Worldwide, 1* (1), 1-12.

Mackay, B. & Hoy, L. (2002). *An educational approach to life long learning: Wheel Work*. Tamworth, NSW: Coolabah Publishing.

McGrath, H. & Noble, T. (1995). *Seven ways at once.* Melbourne: Longman.

Ogbu, J. U. (1994). Understanding cultural diversity and learning. *The Journal for the Education of the Gifted,* 17 (4), 355-383.

Penny. T. & Price, K. (1999). Indigenous Cultures and Education. In course notes *LEB335Week6, Semester 2*. Accessed at http://www.oodgeroo.qut.edu.au/academic_res ources/academic pape/indigenous.jsp

Peters, W. A. M., Grager-Loidl, H., & Supplee, P. (2000). Underachievement in gifted children and adolescents: Theory and practice. In K. Heller, F. Monks, R. Sternberg, & R. Subotnik (Eds.), *The International Handbook of Giftedness and Talent* (pp. 609-618). Oxford: Elsevier Science.

Pintrich, P. R. (2002). The role of metacognitive knowledge in learning, teaching, and assessing. *Theory into Practice, 41* (4), 219-222.

Ramsey, D. C. & Ramsey, P. L. (2002). Reframing the perfectionist's Catch 22 Dilemma: A systems thinking approach. *Journal for Education of the Gifted, 26* (2), 99-111.

Rea, D. (2000). Optimal motivation for talent development. *Journal for Education of the Gifted, 23* (2), 187-216.

Reis, S. M. & McCoach, D. B. (2000). The underachievement of gifted students: What do we know and where do we go? *Gifted Child Quarterly, 44* (3), 152-170.

Rimm, S. B. (1987). Why do bright children underachieve?' *Gifted Child Today, 10* (6), 30-36.

Rogers, K. B. (2002). *Re-Forming gifted education: How parents and teachers can match the program to the child.* Scottsdale, AZ: Great Potential Press Inc.

Schunk, D. H. (1991). Self-efficacy and academic motivation. *Educational Psychologist, 26*, 207-231.

Silverman, L. K. (1998). Through the lens of giftedness. *Roeper Review, 20* (3), 204-210.

Tomlinson, C. A., Doubet, K. J., & Capper, M. R. (2006). Aligning gifted education services with general education. In J. H Purcell & R. D. Eckert (Eds.), *Designing services and programs for high-ability learners* (pp. 224-238). Thousand Oaks, CA: Corwin.

Varma. V. (Ed.) (1993). *Coping with unhappy children*. New York: Cassell.

Wiggins, G. P. & McTighe, J. (2005). *Understanding by design* (2nd Edn). Melbourne: Hawker Brownlow.

Wright, L. & Borland, J. H. (1993). Using early childhood development portfolios in the identification and education of young economically disadvantaged potentially gifted students. *Roeper Review, 15* (4), 205-210.

Zebec, B. (Sept, 2009). Careers project. *About Catholic Schools,* 19.

Appendices

Appendix 1a: Individual Profile Proforma

Appendix 1b: Class Profile Proforma

Appendix 2: Underachievement Intervention Strategies Table

Appendix 3: Identifying the Causes/ Needs/ Interests of Gifted Underachievers

Appendix 4: Identity Web

Appendix 5: Interventions currently being implemented in schools

Appendix 6: Curriculum Intervention: (Section 3a-3e from the Achievement
                    Integrated Model)

Appendix 7: Learning and Reflection Log

Appendix 8: Information Literacy Process

Appendix 9: Bloom's Wheel

Appendix 10: Achiever Rubric

Giftedness from an Indigenous Perspective

Underachievers Profile:

Please record any observations or information that you think may assist in ascertaining reasons why the following student may be underachieving.

Include information about the student's work habits, preferences, interests and times when you believe they are working to their ability level.

Please refer to the following articles before completing this profile:
- Profiles of gifted and talented students (Betts.G.T, & Neihart.M. 1988, pp248-253)
- 'How can I determine if a student has low academic self-efficacy?' (Chaffey 2005b,p18)

NAME: _____   CLASS:_____

Interest Areas/ Preferred learning style:	Attitude towards school and learning: (Rogers. K, 2002,p454-455) Total Score: Mean score:	Self-efficacy: (score /10) (Chaffey 2005b,p18) **Does the student display:** - engagement - resilience - persistence - impulsivity
Identity Web (Grigg 2004) / What's on my mind activities (unknown source):	**Classroom Observation:** Engagement level - Are there any times when the student is very engaged? - Behaviours in classroom	**Problem Checklist: (Heacox 1991,p57-59)** - Learning /17 - Developing Study Habits /8 - Managing school work /4 - Setting goals /5 -Dealing with personal issues /14 - Other Total: /48

Other/ Recommendations/ Testing results

Teachers are provided with copies of the checklists and activities mentioned in this table, but are not included in this paper. However, these can be sourced from the references supplied.

Appendix 1b: Class Profile Proforma

Achievers (including indigenous)			
Gifted Achievers	Mainstream achiever	Special Ed. achiever	ESL achiever

Underachievers Gifted- including 'invisible' underachievers.				
Gifted Indigenous Underachiever	Gifted non-producer	Double-labelled	Gifted Underachiever	ESL Gifted underachiever

Underachievers Mainstream / Special Education (including 'invisible' underachievers and indigenous students)	
Mainstream underachiever	Special Ed. underachiever

Giftedness from an Indigenous Perspective

Appendix 2: Underachievement Intervention Strategies Table

NAME/ UA Type/ Other Factors/ Affective Issues	Academic Remedial Strategies	Academic Support Strategies	Academic Intrinsic Strategies	Emotional Support Strategies	Motivation Support Strategies	Social Support Strategies
Indigenous **Underachievers and Invisible underachievers**	**Celebrations:** -students celebrate achievement and mastery within the classroom/ school/ parents/ community. **Cross age tutoring** (subject strength) -Acknowledge strengths and weaknesses. Celebrate strengths through providing opportunities for the student to tutor others in their strength areas while targeting specific areas of weakness for interventions. **Identify Skill Gaps:** -identify area/s for remediation. Work on one area at a time.	**Vicarious experience** - Matching students with respected indigenous adults or other achieving students **ICT Based Learning:** -Use of technology **Cultural Resources:** -explicit teaching using cultural resources **Goal Setting** - Progress from daily learning goal setting sessions to weekly goal setting card. **Metacognitive Skills based lessons** -provide opportunities to develop metacognitive skills: Habits of Mind, DeBono	**Environmental Resources:** -environmental learning - use of culturally appropriate concrete material. **Mastery:** -set a continuum of tasks increasing in difficulty as mastery is demonstrated ***Monitoring/Goal Setting** -Regular opportunities to check progress eg. Draft work checked at regular intervals when working on a larger project. -Allow student to resubmit work -Self-monitoring of performance and behaviour (Reflective log) -Goal setting and task monitoring system for student and teacher	**Cultural Celebrations:** - Celebrating and sharing culture - encourage tolerance and acceptance **Establish relationships based on trust** **Research a well known Aboriginal person** who has achieved (Night of the Notables or Day of Excellence programs) **Enhancing Academic Self-efficacy** - Embedding the strategies that enhance academic self-efficacy into classroom programs. -Mastery -Specific performance and attributional feedback -Vicarious experience -Verbalisation **Self Awareness** -awareness of attitudes and values of self and others - Activities that assist students in developing a sense of what their interests are, learning style preferences, needs, motivation triggers, etc **Grouping within own 'set' culture where appropriate**	**Vicarious experience** - Matching students with respected indigenous adults or other achieving students **Mentoring** - Mentoring by older experienced Aboriginal Educational Assistant or Aboriginal Educational Worker (if appropriate) trusted adults or an Indigenous Adult from an academic background who has similar interests/ hobbies to the student, ie: someone they can relate to. **Basic Needs Assessment:** - Ensure student basic needs are addressed. Eg. Food,rest and emotions. - Provide opportunities for students to discuss 'What's on their mind'.	**Grouping within own 'set' culture where appropriate** **Acknowledge and celebrate past successes.** ***Conflict Resolution** Assisting students in developing strategies to deal with conflict -role playing - Co-operative learning -dealing with positive and negative situations - social stories: Addressing problem situations/ issues - Cause and effect situations in the classroom and on the playground "What was the cause of the problem? What effect does it have on my learning / interaction with peers?" ***Significant Others –** Parent/Teacher relationship - Develop a parent / student and teacher partnership to foster the student's capabilities and needs. ***Career and Higher Education Goal Setting** Expand knowledge of further education and career options. -Assist students in identifying some of the possible steps that may assist them in working towards their possible career paths or interest areas.

NAME/ UA Type/ Other Factors/ Affective Issues	Academic Remedial Strategies	Academic Support Strategies	Academic Intrinsic Strategies	Emotional Support Strategies	Motivation Support Strategies	Social Support Strategies
Gifted Underachievers and Invisible underachievers	**Identify skill gaps** -Target specific weaknesses through small group or individual intervention programs. Eg. Reading Comprehension **Self evaluation/ reflection** **Interest based projects** -independent study to develop own project of interest **Cross age tutoring** (subject strength) -Acknowledge strengths and weaknesses. Celebrate strengths through providing opportunities for the student to tutor others in their strength areas while targeting specific areas of weakness for interventions.	**Goal Setting** - Progress from daily learning goal setting sessions to weekly goal setting card. **Scaffolding** -Breaking down tasks into smaller parts. ***Learning Styles** -awareness of academic learning styles: Visual, linguistic, Kinesthetic, sequential, etc… Provide tasks that allow students to work within their own learning styles. **Reflective Thinking** -Free time to reflect and select a task (half hour-reward self-initiating behaviours) **Metacognitive Skills** based lessons -provide opportunities to develop metacognitive skills: Habits of Mind, DeBono	**Feedback** -Specific performance and attributional feedback on work completed or skills demonstrated. ***Monitoring** -Regular opportunities to check progress eg. Draft work checked at regular intervals when working on a larger project. -Allow student to resubmit work -Self-monitoring of performance and behaviour (Reflective log) **Interest Based Learning** -Negotiating area of interest with the student. Goal setting; task monitoring system for self and teacher followed by self-pacing and selection of learning task.	**Enhancing Academic Self-efficacy** - Embedding the strategies that enhance academic self-efficacy into classroom programs. -Mastery -Specific performance and attributional feedback -Vicarious experience - Verbalisation **Self Awareness** -awareness of attitudes and values of self and others - Activities that assist students in developing a sense of what their interests are, learning style preferences, needs, motivation triggers, etc. **Learning Styles** -awareness of academic learning styles: Visual, linguistic, Kinesthetic, sequential, etc… Provide tasks that allow students to work within their own learning styles. **Like Minds** --Opportunities to discuss issues with other students in informal chat groups.	**Perfectionism** -small group counselling sessions on perfectionism **Motivation** -assessment of motivation levels for learning and school **Research tasks** -Negotiating area of interest with the student. Goal setting; task monitoring system for self and teacher followed by self-pacing and selection of learning task. **Leadership Roles** - Providing opportunities for leadership, meaningful responsibilities and tasks (library monitor, lab assistant). The outcome being to develop skills and sense of self worth.	***Conflict Resolution** Assisting students in developing strategies to deal with conflict -role playing - Co-operative learning -dealing with positive and negative situations - social stories: Addressing problem situations/ issues - Cause and effect situations in the classroom and on the playground "What was the cause of the problem? What effect does it have on my learning / interaction with peers?" ***Significant Others – Parent/Teacher relationship** - Develop a parent / student and teacher partnership to foster the student's capabilities and needs. ***Career and Higher Education Goal Setting** Expand knowledge of further education and career options. -Assist students in identifying some of the possible steps that may assist them in working towards their possible career paths or interest areas.

Appendix 1b: Class Profile Proforma

Achievers
(including indigenous)

Gifted Achievers	Mainstream achiever	Special Ed. achiever	ESL achiever

Underachievers
Gifted- including 'invisible' underachievers.

Gifted Indigenous Underachiever	Gifted non-producer	Double-labelled	Gifted Underachiever	ESL Gifted underachiever

Underachievers Mainstream / Special Education
(including 'invisible' underachievers and indigenous students)

Mainstream underachiever	Special Ed. underachiever

NAME/ UA Type/ Other Factors/ Affective Issues	Academic Remedial Strategies	Academic Support Strategies	Academic Intrinsic Strategies	Emotional Support Strategies	Motivation Support Strategies	Social Support Strategies
Mainstream **Under-achievers and Invisible underachievers** **(general cohort)**	**Identify Skill Gaps:** -identify area/s for remediation. Work on one area at a time. **Group work/ Co-operative learning** -smaller group monitoring of performance - performance grouping with students of similar needs - careful selection of groups (vicarious experience) - specific roles within a group: responsible for their role as 'recorder', 'scribe' etc... **Cross age tutoring** (subject strength) -Acknowledge strengths and weaknesses. Celebrate strengths through providing opportunities for the student to tutor others in their strength while targeting specific areas of weakness for interventions.	**Scaffolding** -Breaking down tasks into smaller parts. - set specific criteria -Provide scaffolds to assist students in developing the skills and strategies required to complete tasks, short cuts, knowledge of different ways of learning, etc. **Goal Setting/Planning and organizing:** - Progress from daily learning goal setting sessions to weekly goal setting card. - assist students to develop plans for projects, tests, etc... -provide Study and organizational skills sessions. **ICT Focus** -Use of technology **Learning Styles** -awareness of academic learning styles: Visual, linguistic, Kinesthetic, sequential, etc... Provide tasks that allow students to work within their own learning styles. **Metacognitive Skills** based lessons -provide opportunities to develop metacognitive skills: Habits of Mind, DeBono	***Goal Setting/Monitoring** -Students sets their own Academic guidelines to guide learning -Introduce task monitoring system for student and teacher -Self-monitoring of performance and behaviour (Reflective log) -Regular opportunities to check progress eg. Draft work checked at regular intervals when working on a larger project. -Allow student to resubmit work -Goal setting with a focus on developing mastery based on their ability in a particular area. **Reward Systems** - Reward system negotiated with the teacher **Reflective Journals** -Reflective journal: on academic achievement **Competitions:** -Competition based learning: eg. Tournament of the Minds as part of a general enrichment program, Robocup, art, poetry and writing competitions. **Study of Eminence:** - Sport, Art, etc... - Students can identify obstacles that were faced and overcome by famous individuals. - Celebrate their findings in a meaningful way, eg. Night of the Notables and Day of Excellence.	***Enhancing Academic Self-efficacy** - Embedding the strategies that enhance academic self-efficacy into classroom programs. -Mastery -Specific performance and attributional feedback -Vicarious experience - Verbalisation ***Self Awareness** -awareness of attitudes and values of self and others. - Activities that assist students in developing a sense of what their interests are, learning style preferences, needs, motivation triggers, etc. **Learning Styles** -awareness of academic learning styles: Visual, linguistic, Kinesthetic, sequential, etc... Provide tasks that allow students to work within their own learning styles.	**Realistic Goal Setting** -Realistic Goal setting and expectation depending on the needs of the student **Motivation** -assessment of motivation levels for learning and school **Teacher/Student counselling:** - provide opportunities for students to discuss formally and informally their progress, "What's on their mind," etc. **Feedback** - provide opportunities for constructive peer feedback on task / behaviour/ performance, etc. **Student Task Selection:** - Involve students in planning / designing their own learning tasks. - Negotiating task related to unit of work with the student	***Conflict Resolution** Assisting students in developing strategies to deal with conflict - ways to stand up to peer pressure -role playing - Co-operative learning -dealing with positive and negative situations - social stories: Addressing problem situations/ issues - Cause and effect situations in the classroom and on the playground "What was the cause of the problem? What effect does it have on my learning / interaction with peers?" ***Significant Others/Vicarious experiences:** **Parent/Teacher/Student/ Community relationship** - Develop a parent / student and teacher partnership to foster the student's capabilities and needs. - Build a culture of achievement - Acknowledge and celebrate student achievement within the school and the wider community ***Career and Higher Education Goal Setting** Expand knowledge of further education and career options. -Assist students in identifying some of the possible steps that may assist them in working towards their possible career paths or interest areas

Giftedness from an Indigenous Perspective

NAME/ UA Type/ Other Factors/ Affective Issues	Academic Remedial Strategies	Academic Support Strategies	Academic Intrinsic Strategies	Emotional Support Strategies	Motivation Support Strategies	Social Support Strategies
ESL/ New Arrivals Underachievers and Invisible underachievers	Language support for ESL gifted underachiever -Select language appropriate and culturally appropriate resources for the unit of work being explored -Look at language demands of a unit or text focus: Plan accordingly -working from the known to the unknown context Learning Styles - provide opportunities for different ways of learning (visual diagrammatic, rote learning, story telling/oral traditions)	Language Support: -Development of academic language through modelling and scaffolding. - Bilingual support -Provide opportunities to move from talking to written tasks. Various Assessment methods: - Measuring achievement in various forms (oral, written, project based) ICT based work: -Use of technology and other media Goal Setting - Progress from daily learning goal setting sessions to weekly goal setting card. Metacognitive Skills based lessons -provide opportunities to develop metacognitive skills: Habits of Mind, DeBono Cultural Difference: - acknowledging cultural experience - recognition concepts already exists in their first language	Expectations -high expectations Language Support: -modelling appropriate spoken language -working from the known to the unknown context *Monitoring -Regular opportunities to check progress eg. Draft work checked at regular intervals when working on a larger project. -Allow student to resubmit work -Self-monitoring of performance and behaviour (Reflective log)	Language and cultural Acceptance: -Recognition and celebration of language background (part of school ethos) - Positive classroom environment where ESL students feel they are able to verbalise Enhancing Academic Self-efficacy - Embedding the strategies that enhance academic self-efficacy into classroom programs. -Mastery -Specific performance and attributional feedback -Vicarious experience - Verbalisation Self Awareness -awareness of attitudes and values of self and others - Activities that assist students in developing a sense of what their interests are, learning style preferences, needs, motivation triggers, etc	Celebrate Achievements. - recognition of prior learning (eg. Mathematics, Science, Literacy) - self-assessment: strengths, learning preferences Value Differences: - Value learning other languages and other ways of 'doing' - provide opportunities for students to work in different ways or demonstrate their talents. Encouraging Leadership roles: mentoring, peer group leader Cultural Perspective: - provide opportunities for students to explore/ research or identify links between curriculum content and their culture.	Encouraging Leadership roles: - mentoring, peer group leader Celebrate Gifts in all domains: Identifying giftedness other than in the academic field: eg. Dance, sport, art, music etc.... -avoid stereotyping *Conflict Resolution Assisting students in developing strategies to deal with conflict -role playing - Co-operative learning -dealing with positive and negative situations - social stories: Addressing problem situations/ issues - Cause and effect situations in the classroom and on the playground "What was the cause of the problem? What effect does it have on my learning / interaction with peers?" *Significant Others – Parent/Teacher relationship - Develop a parent / student and teacher partnership to foster the student's capabilities and needs. *Career and Higher Education Goal Setting Expand knowledge of further education and career options. -Assist students in identifying some of the possible steps that may assist them in working towards their possible career paths or interest areas.

Appendix 3: Identifying the Causes/ Needs/ Interests of Gifted Underachievers:

The following checklists, interviews or activities may be used to gain specific information about the student's interests, learning styles or possible cause/s of underachievement.
The highlighted items have been particularly useful when profiling Indigenous students.

Underachievement Cause:

Student to complete:	Teacher to complete:
1) 'What's on your mind?' Activity. (Students record on a picture of the brain anything they are thinking, worrying about, ie: anything that is on their mind.)	1) **Self-Efficacy Question list (Chaffey 2005b,p18)**
2) Achievers Rubric (Coil 2005,p104) (Appendix10)	2) **Problem Checklist (Heacox 1991,p57-59)**
3) **Student interview questions with a significant other**	3) Reflection comment sheet using the teacher interview questions as a guide. (Heacox 1991)

Student Interests/ Learning Styles:

Student to complete:	Teacher to complete:
Identity/ background information: 1) **Identity Web (Grigg. D, 2004)** (Appendix 4) *Interests:* 1) Interest Survey – Renzulli (Source unknown) or 2) Multiple Intelligence Checklist for Upper Primary and Secondary: MICUPs checklist (Yr4-6) (McGrath. H and Noble. T 1995,p49-51) or 3) Multiple Intelligences online test (use google to locate the test if the web address doesn't work) http://www.bgfl.org/bgfl/custom/resources_ftp /client_ftp/ks3/ict/multiple_int/questions/choose_lang.cfm *Attitudes or Learning Styles:* 1 '**Attitudes about school and learning** (Rogers,K. 2002, pp454-455) or **2. ' How do you like to learn?'** (Rogers,K. 2002, pp466-470) or **3.** other Checklists on the relevant subjects (Rogers,K. 2002, pp456-465) or 2) **'How do you feel about school?'** checklist or 3) Learning Style Inventory	1) Reflection comment sheet (Appendix 1)

Appendix 4: Identity Web

My history

My goals
My future

What makes
me feel safe

Character
Strengths

Family and people who are
important to me

I Love

Special Talents

IDENTITY WEB

Exciting moments

Enjoyable
moments

Rewarding moments

Favourites

Satisfying
moments
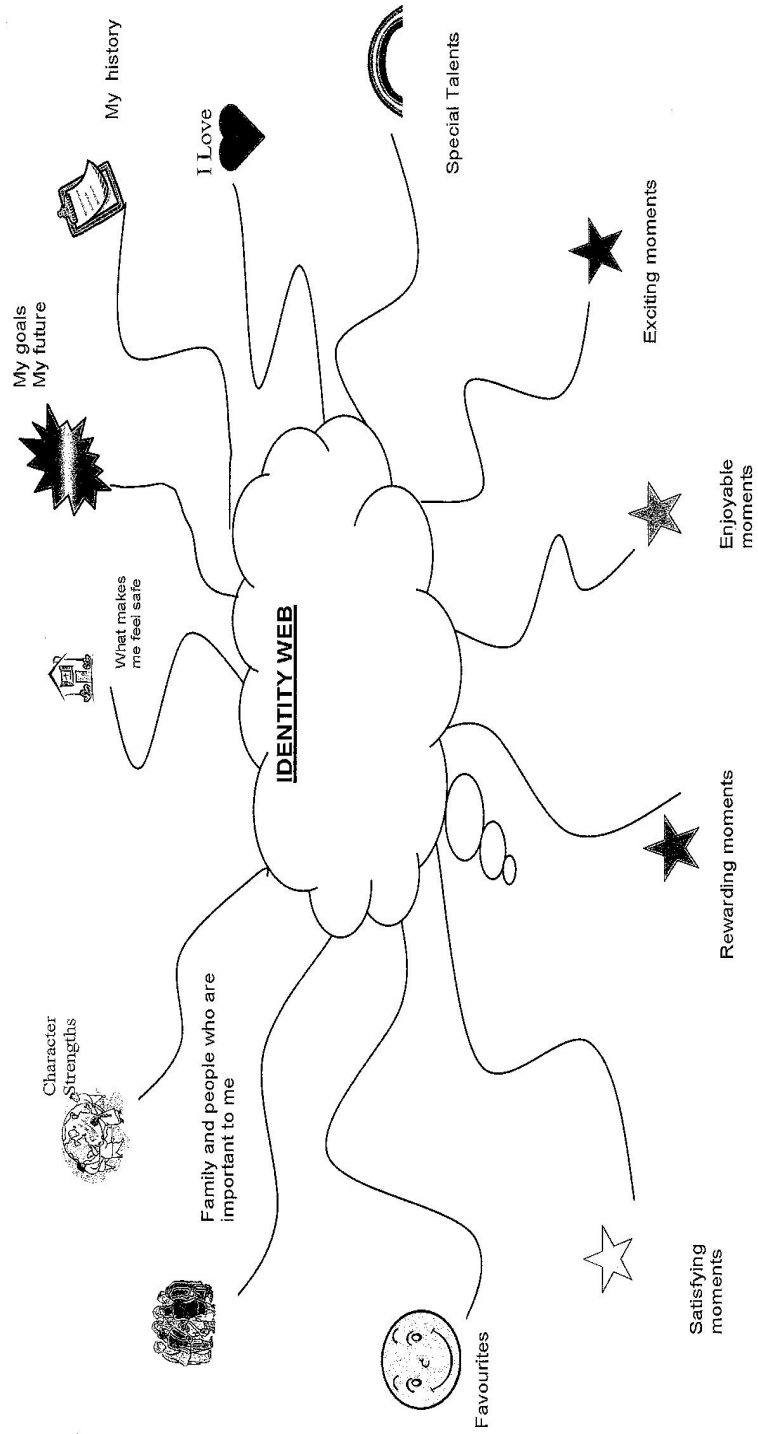
Di Grigg 2004

Appendix 5: Interventions currently being implemented in schools

1. Numeracy Project

While students may have a high learning potential, there may be skill gaps and other underlying causes for their underachievement that need targeting hence, interventions need to be designed and administered. The numeracy project designed by Michele Sunnucks and implemented by Wendy Temple at St Therese Sadleir, has been operating successfully since 2007, when initial individual assessments of the schools Indigenous students took place. The assessments indicated that the students had gaps in their understanding in the areas of counting and place value. As a result, a daily mathematical intervention was organised for Indigenous students. The improvement in the students' numeracy results have been overwhelming. Gifted underachieving students in particular benefit from this form of intervention as it provides an opportunity for students to enhance their academic self-efficacy in mathematics, fills skill-gaps and prepares students for the eventual inclusion in gifted mathematics classes.

Overview of Numeracy Project:
1. Pre-testing of all Indigenous students
2. Grouping of students according to need areas identified when pre-tested.
3. Creation of specific mathematical activities aimed at target skill gaps.
4. 30-minute daily small group withdrawal of students.
5. Post-testing of students to ascertain learning gains and to identify need areas.
6. Ongoing assessment and evaluation.

2. Interest-Based Learning: using ICT

Gifted underachievers often have less metacognitive and transfer skills, (Peters et al.. 2000, p. 616). Problem solving using robotics encourages reflective thinking and provides opportunities for students to develop metacognitive skills. Students respond positively to robotics challenges, as they perceive them as 'fun' rather than work. The Robo-dance unit where students program robots to dance to their own selection of music increases task engagement. Upon completion of the robotics intervention students participate in state robotics competitions and act as mentors to other students. The increased self-efficacy displayed by the students may then be transferred into other academic areas.

3. Research on Eminent People

Studying autobiographies and biographies can provide examples of success and failure, which may assist students to realise that you can "learn a great deal from failures," (Kerr. cited in Adderholdt-Elliott 1987, p. 58). Focusing on the lives of significant Indigenous Australians who have contributed to our society, demonstrates that they often had to take risks, follow their dreams and reach for the stars in order to achieve success.

The study of a significant Indigenous person may also assist students in understanding that success in life is achieved not just on academic records but on meeting needs, overcoming obstacles and creating opportunities for oneself. These units of work provide an important source of vicarious experience for Indigenous students and may highlight the possible rewards of high achievement and their role in the process.

Overview of the study on Eminent People:
1. Students select a famous Australian to research.
2. The teacher provides scaffolds to assist students with the organisation of the research project.
3. Students use a 'Learning and Reflection' log to assist with the organisation of the research sessions.

4. The teacher provides opportunities for students to discuss their research and gives specific performance feedback.
5. The students design their table displays for the presentation day and create/ design the costume they will wear.
6. Students present their research project to the school and local community. The visitors walk around the table displays and ask the students questions. The students are encouraged to dress-up and pretend they are the eminent person that they studied.

4. Specific Indigenous units of work
Aboriginal people generally hold the view that education for their children must acknowledge their culture, help Aboriginal children to learn and know their culture, and support their cultural identity.
(Hughes & Moore,1997, p.10)

In a school where the majority of students are Indigenous Australians, it is imperative that the curriculum incorporates Aboriginal perspectives wherever possible. This integration into Key Learning Areas, allows the students to acknowledge the importance of their Indigenous heritage in every aspect of Australian life. It also encourages the students to understand and respect the richness of this heritage.

In addition to the integration of Indigenous perspectives, each grade undertakes a particular Aboriginal focus for one term each year. The aim of these specific units is to deepen the student's knowledge and understanding of Aboriginal people, their culture and traditions.

Kindergarten - **Places We Know and Places We Are Yet to Discover**
Students examine characteristics common to people, including Aboriginal peoples, describing some of the similarities and differences.

Year One - **Indigenous People of Australia**
Students identify the names and location of Aboriginal language groups in Australia. They study traditional foods and weapons used for hunting.

Year Two - **Dreaming Narratives**
Students learn how Aboriginal children are taught to connect to their country through Dreaming Stories. Students are introduced to the three elements of a Dreaming story: rules for living, the natural environment and spiritual connections to country.

Year Three – **People and their Beliefs**
Students compare and contrast the beliefs of the Aboriginal People and those of the Melawatis, the indigenous people of Indonesia. The students explore how these two groups of people influence their native countries.
Appendix 5: Interventions currently being implemented in schools continued

Year Four - Before and after British Colonisation
Students explore different language groups of Australia's original inhabitants, the Aboriginal People, the explorers who came to their shores and the arrival of the British colonies and occupation of Australia.

Years Five and Six **– Reconciliation with Indigenous Australians**

Students study significant events that have shaped Australia's identity, particularly the contributions of groups, movements, policies and laws to the development of fairness and social justice in Australia.

5. **Mentoring for the Future/ Career Education Project**
(Grace Mugavero, Kate Howard, Susan Clifton – Program designers/ co-ordinators)
Only 51 per cent of Indigenous students across New South Wales remain at school to complete year 12. It is imperative for the sake of social harmony, and for the economic and cultural prosperity of rural and regional communities in New South Wales, that we close the gap between the educational achievements of indigenous and non-indigenous students, and foster success amongst all of our young people whether black or white. (Fardell, 2009, p. 13821)

The primary school can play a pivotal role in improving educational success amongst Aboriginal students. Through the "Mentoring for the Future" Program, students in Years Five and Six are matched with an Indigenous adult. The aim of the program is for the mentor to serve as a role model for the student, providing encouragement to complete schooling and pursue further education.

Initially, the email communications are based on common interests between the student and mentor. These are usually related to sport, dance or music. However, as the relationship develops and trust established, the mentor initiates discussions regarding their own education and career (all mentors must have completed secondary education and have commenced/completed tertiary study). By discussing their own educational pathway, the mentors are providing the students with the guidance and confidence to start to focus on their own future.

Ultimately, the focus for the correspondence becomes the student's own goal setting for the future. The mentor asks questions about what they would like to do when they leave school, what decisions need to be made about subject choices and tertiary courses available.

The communication with successful Aboriginal adults in the Mentoring for the Future program provides the vicarious experience required by Indigenous students. Furthermore, it highlights to these students and their families, that educational success is possible.

Two other projects emerged from the Mentor program - Careers Expo and Workplace Visits. At the Careers Expo, volunteers attend the school for a day and provide students with the opportunity to learn about a wide variety of professions. In the past, the students have experienced workshops related to; policing, plumbing, marketing, banking and finance, consulting, law, medicine, real estate, education, mechanics and management.

The Workplace Visits program, allows the students the opportunity to meet people in their place of employment and discuss their occupation. Large workplaces are selected so the children are able to meet and interview a myriad of people employed across a broad range of occupations. At Sydney University, the students met librarians, lecturers, catering staff, grounds staff, managers, students and facility operators. Other workplace visits include; Sydney International Airport, South Sydney Council and Westfield Shopping Centres.

Both the Careers Expo and Workplace Visits programs reinforce the importance of planning and considering a multitude of career possibilities.

6. **Wingara "A Place To Learn and To Think"** (Mary Weaver and Susan Clifton - Program designers/ co-ordinators)

Wingara is a learning centre that provides an environment in which students with severe emotional and social issues can experience success as learners and become functioning members of the school community. The center developed from a strong need to cater for students within the school who are considered 'at risk'.

Intensive support is provided in Literacy and Numeracy, while providing the students with the skills to recognize and manage their emotions and behaviour. One of the main aims of the "Wingara" Learning Centre is to develop the student's skills to function effectively and return to the mainstream environment.

The success of the unit largely depends on the positive and collaborative relationships between the students, their parents/careers and the entire school community.

7. **Leadership for Reconciliation Program** (Susan Clifton - Program designer/ co-ordinator**)**
Most educators agree that a major role of education is the transmission of a society's culture from one generation to the next.........Aboriginal students have a distinctive cultural heritage...
(Hughes & Moore, 1997, p. 4)

The Leadership for Reconciliation Program is specifically designed to develop leadership skills in primary students (Years 4,5 and 6). It involves students from two schools, one a very disadvantaged inner city school, and the other in a more advantaged suburb on Sydney's lower north shore. These students work together in preparation for a five-day trip to Central Australia.

One of the main aims of the program is to develop leadership skills in the students as they act as Ambassadors before, during and after the trip. Once selected, the students embark on a momentous journey to strengthen Reconciliation between Indigenous and non-Indigenous students.

The learning and experiences gained from this opportunity are invaluable. The students are exposed to richness of Aboriginal culture in Central Australia as they work and play together with the various communities.

On their return, the students prepare presentations for other schools and groups. These genuinely reflect the children's pride in their heritage and increased awareness of Indigenous history, spirituality, beliefs and lifestyle.

In the longer term, many students demonstrate increased confidence in themselves and their academic learning as a result of the Leadership for Reconciliation program. Many become positive leaders and role models in the school community.

Ultimately, we hope the program will encourage these students to be committed to positive leadership well beyond their primary school years.

Appendix 6: Curriculum Intervention: (Section 3a from the AIM)

As stated previously, the following components are essential when designing an engaging curriculum:

- developing an 'enduring understanding' (universal idea) that is transferable across more than one discipline,
- formulating 'essential questions' related to syllabus outcomes and the 'enduring understanding,'
- identifying the concepts (important knowledge) needed in order for a student to answer the 'essential questions'.

Below, is a brief overview of the steps needed to design curriculum to engage gifted achieving and underachieving students.

1. Enduring understanding

When designing a curriculum for achieving and underachieving students, the teacher reflects on:

- What is the 'big' or the universal idea of this unit?
- What will students understand/ accomplish / remember from studying this unit of work?

An enduring understanding is developed using concepts such as those listed in the table below.

These relate to the knowledge and skills contained in the syllabus outcomes.

CONCEPTS or THEMES		
Power	Death	Leisure
Ownership	Work	Courage
Freedom	Commitment	Peace
Family	Responsibility	Violence
Invincibility	Sound	System
Hate	Creation	Silence
Morality	Evaluation	Energy
Communication	Conservation	Pollution
Life	Conflict	Change
Religion	Wisdom	Love
Friendship	Tradition	Cycles
		Other

(Gross, McLeod, Drummond, & Merrick, 2001, p. 81)

2. Essential Questions

In planning essential questions, the teacher considers:

- What perspectives does this enduring understanding have?
- What important issues problems or debates are relevant?

Essential questions are those that are open-ended with no single correct answer. They are designed to stimulate inquiry, debate and further questions, and allow scope for students to engage with the curriculum within their 'flow zone'.

3. Important Knowledge

Important knowledge is closely linked to syllabus outcomes and indicators- all the facts, concepts and principles related to the unit. The amount of knowledge a student has may be determined through pre-testing. The information gained from the pre-test is used to shape the teaching and learning experiences designed. When students already have knowledge of a topic, the teacher assists them in applying this knowledge in learning experiences that challenge their thinking.

Pre-tests that may be implemented include:

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- Content related multiple choice and/or short answer questions using Bloom's Taxonomy or the Williams Model to differentiate questions.
- Concept maps aligned with syllabus outcomes.
- Off-level testing.
- Discussion with small groups or one to one- this will depend on the age of students and the class size.

Program Model Selection/ Learning Activities (Section 3b and 3c from AIM)
As stated previously, once the enduring understanding, essential questions and important knowledge are identified, the learning tasks and assessments are then designed using models based on sound pedagogy. The teacher designs compulsory tasks for the students to complete before they are given opportunities to design their own learning tasks.

Three examples of compulsory tasks are outlined in the table below.
The product options listed demonstrates how students are given the opportunity to engage in an area of strength or interest.
Example: (Program Model Selection)

KLA	Model	Learning task	Product options
HSIE	Wheelwork Williams: Skills of search	Study the contribution of one significant Indigenous Australian to Australian society. - How has he/she contributed to Australian Society? - What challenges did they face? - How has he/she been an inspiration to others?	Students may present their research in any format in negotiation with their teacher (Other products may be found in the Bloom's Wheel – Appendix 9) For example: Poetry: Rap / rhyme Drawing PowerPoint Artwork Literary description / factual or historical recount
--------	--------------	-----------------------------	Dance, song, music
HSIE	Williams: Analogy	How is the desert like Antarctica?	Pod cast Design and make Posters
--------	--------------	-----------------------------	Interviews
HSIE	Bloom's Taxonomy: Analysis	Compare and contrast the beliefs of the Aboriginal people and those of the Melawatis, the Indigenous people of Indonesia. Analyse how these two Indigenous groups influence their native countries. (Yr3)	Other options

(The learning tasks for underachieving students need to be based on the students' current level of performance, with the level of difficulty gradually increased to evaluation and synthesis, as the students achieve success and their self-efficacy is raised.)

Appendix 7: Learning and Reflection Log

Name:_____ Class:_____

		Learning and Reflection Log	
		This log MUST be filled at the beginning and at the end of each lesson and signed by your teacher.	
Date	*Plan* What am I going to work on today?	*Reflection on learning / effort* When filling out my log I need to reflect on questions like: What did I achieve/learn? What new skills did I learn? What might I do differently next time?	*Teacher's Signature*

Maria Bousnakis, Tracy Burns (2007)

Giftedness from an Indigenous Perspective

Appendix 8: Information Literacy Process

The Information Process will help you organise and reflect on the compulsory and choice tasks you will be working on this term.

There are five steps in the Information Process.

DEFINE What is the topic? What are you going to research? What is the task asking me to do?	

LOCATE
Where can you find the information?
There are many different sources of information to choose from.
	Internet
	    Books
	
	Articles
	    Recordings

SELECT What is the information that I need? What are the key words for this idea? How can I put this idea into my own words? Select the important ideas from the sources you are using.	
ORGANISE What is the best way to use my time? How will I organise the information I have found? Have I recorded on my log sheet?	
PRESENT How will my research be presented? What is the best way to present my work to a group of people or individuals? What are the products I will be presenting? Presentation is a very important part of the information process. This shows what you have learnt through your research.	

WHEEL WORK

REMEMBERING

UNDERSTANDING

CREATING

drawing   quiz

booklet   description   worksheet

plan

pantomime

hypothesis   play

machine   narrative

magazine   TV/radio show

website/page   poem

cartoon   news article   structure

cryptic crossword   sculpture

puppet show   invention

new recipe   procedure

show and tell   reproduction

test   list   labelled work

photo gallery   definition

fact sheet   painting

workbook

label

findaword

crossword   map

explanation   diorama

scrapbook   timeline

recitation   quiz   summary

show and tell   photo/collection

stitchery   records

puzzle

sketch   list

Topic:

discussion   court trial

self evaluation   book blurb

rubrics   recommendation

experiment   conclusions

persuasive ad/speech   survey

news editorial   court trial

exposition   conclusion

debate

letter

panel

survey   report

questionnaire   web

log   discussion

summary

chart

graph

checklist

diagram

illustration   sculpture

report   demonstration

presentation   journal

performance

diary

interview

recount

spreadsheet

EVALUATING

APPLYING

ANALYSING

Appendix 10

NAME:_____

Achiever Rubric

(Adapted from Coil, 2005)

Read this rubric and think about which comment best describes how you feel about yourself now. Colour in the squares that represent you today and then put a star in the boxes of the comments that you want to identify you at the end of the term.

Criteria:	Not so Hot	Working on it	Almost there	You're an achiever
Self-efficacy (What I believe in me)	I am the type of person who fails so I don't even bother to try.	I have some ability to do things and I try not to give up when I fail at something	The failures that I have teach me how to succeed. People who know me have faith in me.	I am the type of person who does well in anything I try. I look at my mistakes as a learning tool. I don't give up.
Goal setting	I don't bother setting goals, good things will happen to me one day.	When there is an exam I will study in the week leading up to it.	I set goals for things now and in the future. I check them sometimes to see how I am going.	I am the king/queen of setting goals. I make plans and check them regularly to make sure that I am on track to success.
Motivation (What makes me work)	I don't care about how I go at school.	I like learning some things but if they are new I like other kids to be working with me because it makes it easy.	If things get hard then it makes try even harder. Even though people around me encourage me I like to slack off sometimes.	I am excited about learning; I am interested in most things. I enjoy the challenge of the task when things get a bit harder.
Organisational skills	I always have to look hard to find things because I lose things. I don't think that I am very organised.	I know what I have to do and sometimes make notes however I often spend so much time thinking about things that the task doesn't get done.	I don't get to play as much as other kids because I always get my homework done first.	I am very organised and make sure that all my work is in order and done on time so that I don't have to stress about it and I can still go out and do my favourite things.
Study skills	Study is something that I don't do and I wouldn't know how to begin.	I don't enjoy studying so I leave it to the last minute.	I complete my homework and when I have assignments I research the topic. I like to memorise things before a test.	I am the ideal study buddy, I can note-take, research and recall information this means that I am always prepared.

Identifying High Academic Potential in Australian Aboriginal Children Using Dynamic Testing[1]

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Abstract

The primary purpose of this study was to determine the effectiveness of dynamic testing as a method for identifying high academic potential in Australian Aboriginal children. The 79 participating Aboriginal children were drawn from Years 3–5 in rural schools in northern New South Wales. The dynamic testing method used in this study involved a test–intervention–retest format where the intervention was designed to address predicted causes of underachievement. The dynamic testing method used in the present study proved to be an effective identification tool, revealing high academic potential in similar proportions to those in the instrument normative population. The present study has implications for both gifted education and Aboriginal education generally. These implications arise from the findings of this study that many of the children were 'invisible' underachievers and that it is possible to identify this underachievement in the dynamic testing process.

Introduction

The disproportionately low representation of Aboriginal children in Australian programs for the gifted (Braggett, 1985; Harslett, 1996; Taylor, 1998) suggests that the identification of academic giftedness in Aboriginal children is an issue in need of further investigation. The problem of under-representation of minority groups in programs for the gifted is not confined to Australia. In the USA, prior to 1980, minority groups were under-represented in programs for the gifted by 30% to 70% (Richert, 1985). Although in more recent times educational authorities in the USA appear more aware of the issues regarding appropriate identification strategies, minority students remain significantly under-represented in programs for the gifted (Frasier, 1997; Gallagher & Coleman, 1992). The issue of under-representation of minority groups in programs for the gifted is a challenging one. However, as Frasier (1997) stated:

> There is no logical reason to expect that the number of minority students in gifted programs would not be proportional to their representation in the general population. (p. 498)

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[1] This article is reprinted from the Australasian Journal of Gifted Education, 12 (1), June 2003.

The difficulties experienced in identifying academic giftedness in Australian Aboriginal children are not unique. Similar problems have been experienced with children from other cultural minorities and/or low socio-economic status (SES) groups (Borland & Wright, 1994; Braggett, 1985; Ford, 1996) and are the result of a number of interacting factors which include low expectations of academic performance linked to the deficit thinking paradigm and SES. The deficit thinking paradigm suggests that children from particular racial, social or cultural groups may be academically less able than members of the dominant culture, for reasons related to their group membership (Valencia & Solorzano, 1997). The deficit view has been used by some to explain why children from cultural minorities and/or low SES groups often score lower on IQ tests and perform at lower levels in the classroom. Furthermore, these deficit views have been a contributing factor in the establishment of expectations of lower–level test and school performance, resulting in self-fulfilling prophecies (Ford, 1996; Rosenthal & Jacobson, 1968), so that underachievement in the classroom and on tests seems inevitable and the outcome has often been a culture of 'blaming the victim' (Ryan, 1976). The deficit thinking paradigm has been strong with respect to Australian Aboriginal children (McConnochie, 1982).

The methods used to identify academic giftedness are prone to underestimate its presence in culturally different and/or low SES children. The most commonly used methods, IQ tests and teacher–centred processes (Davis & Rimm, 1998), are potentially flawed with respect to children from cultural minorities and/or low SES groups. Such children often score lower than the general population on IQ tests due to socio-emotional issues and inefficient metacognition rather than because their cognitive potential is lower (Tzuriel & Feuerstein, 1992). The ability of teachers to identify gifted students from these groups has been questioned (Braggett, 1985; Pendarvis, 1990), the suggestion being that teachers are likely to identify 'teacher pleasers' as gifted, often overlooking gifted students who display oppositional behaviours or are different in other ways (Davis & Rimm, 1998; Pendarvis, 1990). It is apparent that identifying academically gifted children from cultural minorities and/or low SES groups has been difficult and that a substantial source of the problem is the inadequacy of the methods chosen.

Overcoming the problems in identifying academically gifted children from cultural minorities and/or low SES groups has been hindered by the way three central constructs — giftedness, talent and underachievement — have been defined. Most conceptions of giftedness and talent do not give sufficient emphasis to the gifted underachiever, one exception being Gagné's (1995) differentiated model of giftedness and talent. If gifted underachievers are not meaningfully accounted for in conceptions of giftedness and talent it is highly unlikely that underachievers will be effectively sought. This is especially so for gifted underachievers from minority groups where giftedness is often heavily masked (Ford, 1996). The most commonly used definitions of underachievement require, to establish academic potential, performance on some measure or indicator of potential (Reis & McCoach, 2000), but the most commonly used methods to assess this are IQ tests and teacher nomination, the very assessment forms where minority students have been shown to underperform (Braggett, 1985).

The presence of gifted children in minority groups is acknowledged in every Australian state policy, but advice on suitable identification methods is limited. Underachievement is often mentioned but not defined. That children may underperform both in the classroom and on commonly used measures of aptitude or potential has long been recognised (Butler–Por, 1993; Reis & McCoach, 2000; Whitmore, 1987). However, a review of the literature has revealed the absence of a consistent term for this type of underachievement, which can only lead to lack of recognition in the classroom, with low expectations, deficit views and continued underperformance some of the consequences. The establishment of a consistent definition is a simple and necessary step if gifted children from cultural minority and/or low SES groups are to be included in programs for the gifted in equivalent numbers to the wider community. For the purpose of the study reported here the term 'invisible' underachievers is used and is defined as individuals whose assessed potential is less than their actual potential and who also underperform in the classroom.

Dynamic testing may, partially at least, solve the problem of providing a suitable assessed aptitude for achievement for Indigenous children (Grigorenko & Sternberg, 1998). Dynamic testing may be considered a subset of dynamic assessment which has been defined as:

> approaches to the development of decision-specific information that most characteristically involve interaction between the examiner and examinee, focus on learner metacognitive processes and responsiveness to intervention, and follow a pretest-intervention-posttest administrative format. (Lidz, 1997, p. 281)

Dynamic testing is different from dynamic assessment in that it only seeks to determine the learning potential of an individual, rather than to establish long term cognitive change (Grigorenko & Sternberg, 1998). Dynamic testing follows the test–intervention–retest format of classic dynamic assessment but is characterised by a comparatively short intervention which is designed to establish learning potential by showing the extent to which the individual has the ability to benefit from the intervention experience. The intervention is designed to address issues that are perceived to contribute to the underperformance of an individual in the initial pretest, usually some measure of cognitive ability. A posttest given some time after the intervention determines the extent of improvement from the pretest and, thus, provides an indication of learning potential. Consequently, dynamic testing has the potential to identify giftedness in individuals who under-perform on one–off tests of cognitive ability.

The central purpose of this study was to determine the suitability and effectiveness of dynamic testing in identifying high academic potential in Australian Aboriginal children, its principal research question being: Can dynamic testing effectively identify high academic potential in a sample of Australian Aboriginal children?

Method

Subjects
The dynamic testing method was administered to 79 Aboriginal children in Years 3 to 5 (ages 8 to 11) from schools in a rural district of northern New South Wales. The schools varied from small schools to larger ones in regional centres. All Aboriginal children within these grades in the participating schools were invited to take part in the assessment. Local Aboriginal communities were informed about the project and asked to contribute ideas on how to optimise the overall assessment. As a result of this consultation the group size for the intervention component was determined to be not more than four and not fewer than two, parents were given individual advice when requested and a respected Aboriginal adult was involved in each intervention. Acceptance of the research by the Aboriginal communities is reflected in the high participation rate of 90%.

Experimental design
The experimental design (see Figure 1, below) involved two groups (Intervention and Control) matched on pretest Raven's Standard Progressive Matrices (RSPM) scores. The Intervention Group received a metacognitive intervention designed to probe each child's cognitive potential (Vygotsky, 1974). The RSPM–matched Control Group received a placebo intervention designed only to give the illusion of being the same as the metacognitive intervention. One week after the respective interventions the RSPM was re-administered to both groups, concluding the formal dynamic testing process. However, in order to investigate the persistence of the pretest to posttest gains, a far posttest was administered to both groups six weeks after the posttest.

Intervention and Control groups were used to determine the extent, if any, of practice effects resulting from the multiple application of the RSPM.
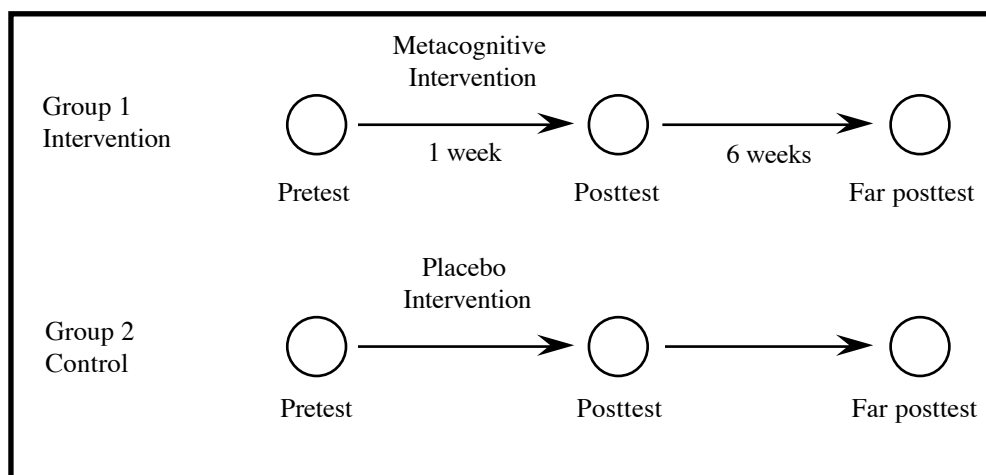
Figure 1. Experimental design used to investigate the principal research question.

The placebo intervention

A placebo intervention was used with the Control Group to ensure that these children thought they were participating in the research program in exactly the same way as the children in the Intervention Group. Consequently, the placebo intervention was of the same duration, took place in the same room and had a trusted Aboriginal person present. The activities were delivered using an overhead projector, as in the metacognitive intervention. However, the placebo activities consisted of memory games and puzzle completion tasks, neither of which were considered to have any relationship to metacognitive training.

The metacognitive intervention

In order to achieve the maximum from both the test taking effort of the children and the metacognitive intervention embedded in the dynamic testing, it was necessary to address socio-emotional and cultural factors that were perceived as possible inhibitors of these outcomes. These factors were the forced-choice dilemma (Gross, 1989), self-efficacy (Bandura, 1977), expectation issues (Lovaglia, Thompkins, Lucas & Thye, 2000; Rosenthal & Jacobson, 1968; Steele & Aronson, 1995), and cultural differences. It is necessary, therefore, to consider the intervention in two parts, the socio-emotional component giving access to the metacognitive component. If a child has the highest academic potential yet her/his test performance is inhibited by fear, self-doubt or the pressures of low expectation or alienation to education, then a true estimation of the child's academic potential will be difficult to obtain.

Strategies employed to overcome the socio-emotional inhibitors to optimal performance

The forced–choice dilemma

Involuntary minority peoples, including Australian Aboriginal people, often experience a powerful forced-choice dilemma with respect to education. For academically able Indigenous students the dilemma is clear: should the students 'act white' and risk alienation from their cultural peers or retain peer acceptance and shun academic excellence (Colangelo, 2002; Ogbu, 1994)? In order to minimise any possible forced-choice dilemma the following strategies were adopted:

- 'Ice-breaker' sessions were designed to make the students comfortable with the assessor and with the data collection process. The activities were all designed to meet the children in an environment that they enjoyed.

- The dynamic testing procedures were presented in such a way that the RSPM was perceived as being very different from usual classwork. The nature of the RSPM itself helped in this regard as it requires neither literacy nor numeracy skills to complete. The 'test' nature of the RSPM was de-emphasised and replaced with the idea that it involved puzzles and games. Within this framework, the idea of 'pass' or 'fail', or 'good' or 'bad' performance, disappeared and was replaced with the terms 'having fun', 'doing your best' and 'helping me work out the puzzles'.

- A respected Aboriginal adult was present at every data collection and ice-breaker session. This person was well known to and respected by the children. During data collection and intervention sessions the Aboriginal

person generally assisted the tester and offered appropriate support to the children where required.

Self-efficacy
A child's self-efficacy is of primary importance as it determines how much effort will be expended and how long that effort will be sustained in the face of difficulties. Self-efficacy has been identified as an important component in developing expertise (Sternberg, 2001) and the test performance of involuntary minority students (Lovaglia, Lucas, Houser, Thye & Markovsky, 1998). Bandura (1977) identified personal accomplishments as the most powerful of the factors that positively influence self-efficacy. It was assumed that many of the students in this study were academic underachievers and would be likely to have a low self-efficacy with respect to school tasks. If this were so then these students would be unlikely to engage fully in or persevere with the cognitive tasks presented. With this in mind, all components of the metacognitive intervention were designed to result in successful outcomes for all students. The expected outcome was improved self-efficacy. This was especially so in the first hour of the intervention as the intervention items were graded in difficulty, with the more difficult items presented in the second hour of the two–hour intervention.

Expectation
The literature reviewed with respect to expectation revealed three separate issues that could potentially act as blocks to optimal performance in the dynamic testing. Firstly, the effect of negative teacher expectations (Rosenthal & Jacobson, 1968) was addressed by putting forward low key, but constantly positive views about the students' performance. It was expected that the children would try to the best of their ability and would succeed. There was a fine line here that needed to be addressed by ensuring that trust was established early in the ice-breaking and data collection processes. Secondly, as a non-Indigenous person it is possible that the tester may have triggered a stereotype threat response (Steele & Aronson, 1995) from the children if too demanding of them before trust was established. Lastly, the 'shadow of the future' effect (Lovaglia et al., 2000) was addressed by developing the notion that the dynamic testing process was not a test at all and outcomes would be anonymous, thus reducing fears that might arise if a student did too well. This issue is strongly linked to the forced-choice dilemma.

Cultural Factors
The forced-choice dilemma and expectation issues are linked to Aboriginal culture through the concept of involuntary minority status (Ogbu, 1994). Specific cultural issues that were addressed were as follows:

- Not only did the assessment instrument used in the dynamic testing require no reading or writing skills but also there are no specific cultural knowledge requirements in the RSPM. These factors have resulted in the RSPM being described as a relatively culture-fair test of cognitive ability (Matthews, 1988).

- Although the optimal condition for scaffolding would be one-to-one, the metacognitive intervention (Intervention Group) was done in groups of four in order to minimise the effects of shyness.

- As previously mentioned, all data collection sessions were completed with a respected Aboriginal adult present and positively participating in the process.

Once the socio-emotional and cultural inhibitors to focused participation were addressed, the metacognitive intervention component of the dynamic testing could proceed.

The metacognitive intervention

The dynamic testing metacognitive intervention was based on Vygotsky's (1974) notion that an individual's Zone of Proximal Development (ZPD) can be explored by an intervention that guides the individual's cognitive and metacognitive endeavours to give indications of what cognitive potential may exist (Lidz, 1987). Vygotsky (Reiber & Carton, 1987) stated that "What collaboration contributes to the child's performance is restricted to limits which are determined by the state of development and his (sic) intellectual potential" (p. 209).

Guiding principles and strategies employed in the metacognitive intervention
The metacognitive intervention used in the present study was developed in a number of ways. Firstly, the literature relating to dynamic testing was reviewed and appropriate strategies and methods adapted to meet the needs of the present research. Secondly, the proposed metacognitive intervention was tested and refined in two pilot studies.

Guiding principles were as follows:

1. None of the training items was from the RSPM but analogues only were used (Tzuriel & Feuerstein, 1992).

2. While a standard, and thus reproducible, presentation of intervention material occurred, all efforts were made to ensure that all students understood the demands required to complete successfully the tasks presented (Bandura, 1977; Budoff, 1987).

3. The child was asked to draw the final solutions as a means of moving the elements of the solution into the concrete. In double classified problems Budoff (1987, p. 177) noted that many students were able to derive one attribute at a time but had difficulty holding this first attribute in working memory while the second was derived. His solution was to have the students draw the first attribute before deriving the second attribute of the double classified problem.

4. After each problem was solved one of the children was asked to indicate orally how he or she had arrived at the solution (Carlson & Wiedl, 1979). No child was asked to explain a solution unless the correct answer had been given first. Each child was asked to contribute in turn, so that no individual dominated or missed out. The group size in the intervention was never more than four, so

every child received at least four opportunities to give an explanation. Any child who showed reluctance in this regard was not pushed to explain her/his solution.

5. Excessive speed and impulsive behaviour were discouraged (Budoff, 1987). Curbing impulsivity was achieved primarily by using strategies 3 and 4, above.

6. During the interactive components of the intervention, positive performance-based feedback was constantly given (Bandura, 1977; Craven, Marsh & Debus, 1991).

7. At no time were the students pressured to perform at a given achievement level. The students were simply encouraged to do their best. When difficulties were encountered positive, encouraging help was immediately forthcoming.

8. A mutually respectful environment was established during the course of the ice-breaker sessions. The working environment necessary to produce optimum interaction between the students and the mediator was highly dependent on this mutual respect.

9. The event was kept as enjoyable as possible.

Self-efficacy and the metacognitive intervention
The need to encourage the self-efficacy of the students with respect to the dynamic testing was seen as pivotal to the procedure's ultimate success. Constant success in reaching the correct solutions to the RSPM cognitive analogues was the central strategy for developing and encouraging the students' self-efficacy (Bandura, 1977). The gradual change from easier to harder cognitive tasks in the cognitive analogues and constant scaffolding ensured that all children reached the desired solutions.

Feedback was constantly given to the children to support metacognitive knowledge, metacognitive control and self-efficacy development. Schunk (1991) notes the positive effects of praise for effort (attributional feedback) in developing self-efficacy while Craven et al. (1991) note positive effects of performance and attributional feedback on self-concept. Brophy (1981) suggests twelve strategies for delivering praise. Of these, the following were consistently used during the metacognitive intervention:

- The accomplishment was specifically identified.
- Information was conveyed to the student regarding the particular student competence that led to success.
- It was ensured that the students understood that their achievements were the result of their effort and ability.
- Praise was delivered only when it was deserved and had a clear focus.

The intervention items (Cognitive analogues of the RSPM)
The metacognitive intervention items were selected from the Learning Potential Assessment Device (LPAD) Set Variations I and II and Variations B.8–B.12 (Feuerstein, Rand, & Hoffman, 1979). All items are cognitive analogues of the RSPM.

These items are presented in a similar form to the RSPM in order to establish familiarity with the format while the matrices contained similar cognitive processes to the RSPM but using dissimilar presentations. In all, 24 items were selected for use in the intervention, representing the major cognitive processes used in the RSPM.

Case studies
Case studies were developed for eight children who were identified as having high academic potential following the dynamic testing. Semi structured interviews were conducted with the child, their teacher and parent(s).

The instrument
The RSPM is designed to measure Spearman's g (de Lemos, 1989) and is considered to be one of its purest measures (Jensen, 1981; Matthews, 1988). In the present study the RSPM was used to measure the children's potential to learn. The RSPM is considered to be a relatively culture-fair instrument (Matthews, 1988) and to be motivating to students (Budoff, 1987).

Data Analysis
Raw scores
The RSPM was given to all students, both Intervention and Control Groups, at the pretest, posttest and far posttest stages of the data collection process, producing a total of 237 sets of RSPM data. The raw score means, standard deviations and the RSPM Australian norms were used to compare the students in this study to the population as a whole in relation to general learning potential.

ANOVA
In order to determine the significance of any differences in RSPM performance of the Intervention and Control Groups a repeated measures form of ANOVA was used.

Results

The data presented as raw scores allow comparisons of gain scores (from pretest to posttest) and changes in the percentile band placement as indicated by the RSPM Australian norms. In order to help determine the merit of the dynamic testing method used in the present study to identify academic giftedness, individual scores of those who reach gifted status (>85th percentile band) are presented (see Tables 1 and 2).

Table 1. RSPM Pretest, Posttest and Far Posttest Mean Raw Scores and Standard Deviations for Intervention, Control and Total Groups

Dynamic Testing	Intervention Group		Control Group		Total Group	
	X̄	SD	X̄	SD	X̄	SD
Pretest	27.85	8.95	26.2	8.82	27.09	8.87
Posttest	36.24	8.21	29.05	10.24	32.78	9.87
Far Posttest	35.44	7.86	30.0	10.14	32.82	9.38

Table 2. RSPM Norm Percentile Bands of Intervention, Control and Total Group at Pretest, Posttest and Far Posttest

Dynamic Testing	Intervention Mean Percentile Band X̄	Control Mean Percentile Band X̄	Total Group Mean Percentile Band X̄
Pretest	29.98	24.63	27.41
Posttest	54.49	32.71	44.01
Far Posttest	50.93	34.61	43.08

Gifted group

Any student who scored at or above the 85th percentile band in any of the three administrations of the RSPM has been included in the 'Gifted Group'. As most categorisations of giftedness centre around percentile band rankings on standard tests (Gagné, 1998), it is useful to present the raw scores and percentile bands for this group at pretest, posttest and far posttest. These results are presented in Table 3.

Table 3. RSPM Raw Scores and Percentile Bands for the Total Gifted Group at Pretest, Posttest and Far Posttest

Case	RSPM Pretest Raw Score	RSPM Norm Percentile Band	RSPM Posttest Raw Score	RSPM Norm Percentile Band	RSPM Far Posttest Raw Score	RSPM Norm Percentile Band
s02*	23	26	45	96	43	91
s13*	21	18	44	91	36	58
s14*	26	26	43	88	36	58
s26*	35	58	43	91	45	96
s27*	43	88	39	73	41	81
s29	35	37	47	93	46	90
s45*	35	58	39	75	42	88
s48*	36	42	43	80	44	85
s49	38	71	41	85	45	94
s52*	45	86	50	97	47	93
s57	48	85	42	54	46	77
s62*	36	42	42	75	46	91
s67*	41	81	45	93	43	88
s69	40	63	41	69	44	85
s72*	35	41	42	72	45	86
Mean	35.80	54.80%ile	43.07	82.13%ile	43.27	84.07%ile

*   Intervention students

Comparing the dynamic testing performance of control and intervention groups

In order to determine the significance of any differences in the dynamic testing performance between the Control and Intervention Groups the RSPM data were examined using the repeated measures form of ANOVA, the summary is presented in Table 4.

Table 4. ANOVA Summary

Source	Procedure	Sum of Squares	df	Mean Square	F Ratio	P Value
TIME	Sphericity Assumed	1664.49	2	832.24	54.31	0.001
	Greenhouse-Geisser	1664.49	1.71	972.16	54.31	0.001
	Huynh-Feldt	1664.49	1.77	940.38	54.31	0.001
	Lower-bound	1664.49	1	1664.49	54.31	0.001
TIME * GROUP	Sphericity Assumed	323.76	2	161.88	10.56	0.001
	Greenhouse-Geisser	323.76	1.71	189.10	10.56	0.001
	Huynh-Feldt	323.76	1.77	182.92	10.56	0.001
	Lower-bound	323.76	1	323.76	10.56	0.002
Error(TIME)	Sphericity Assumed	2359.91	154	15.32		
	Greenhouse-Geisser	2359.91	132	17.90		
	Huynh-Feldt	2359.91	136	17.32		
	Lower-bound	2359.91	77	30.65		
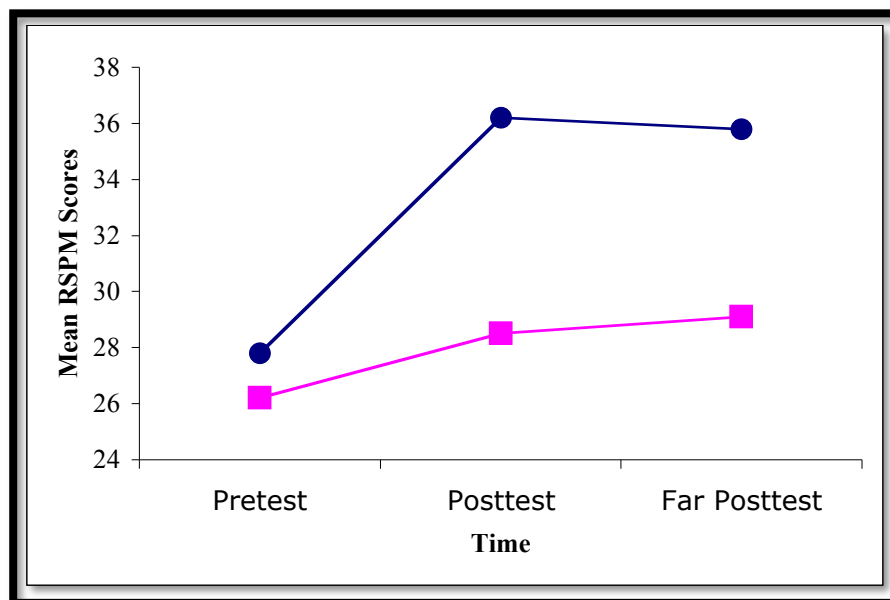
□ = Control Group   O = Intervention Group

Figure 2. RSPM mean scores at pretest, posttest and far posttest for Control and Intervention Groups.

It is evident from Table 4 that the interaction effect of interest — Factor 1*Group — is significant (F=10.56, df=2, p<.001). The plot of RSPM means in both Intervention and Control Groups on pretest, posttest and far posttest is given in Figure 2, above. A subsequent, protected comparison of means revealed that:

- there was no significant (p=.05) difference between the groups at pretest (F=0.632; df=1; p=.429);
- there was a significant (p=.05) difference between the groups on posttest (F=11.95; df=1,77; p=.001);
- there was a significant (p=.05) difference between the groups on the far posttest (F=7.158; df=1,77; p=.009).

Discussion

The dynamic testing procedure resulted in significant improvements in performance in the cognitive variable as measured by the RSPM. A significance level of p<.05 for the differences between pretest and posttest scores was sought, whereas a significance level of p<.001 resulted from analysis using the repeated measures form of ANOVA. This finding strongly supports the hypothesis that dynamic testing would successfully improve the Intervention Group's performance in the cognitive variable as measured by the RSPM.

The significant changes from pretest to posttest were associated with using two approaches aimed at addressing 'deficient learning habits, and motivational patterns that are responsible for the poor performance' (Tzuriel & Feuerstein, 1992, pp. 187–188). Firstly, an overarching socio-emotional strategy was employed with the Total Group (Control and Intervention) to help counter perceived inhibitors to test performance and motivation. The second, and major strategy, used with the Intervention Group was the metacognitive intervention aimed at addressing deficit learning habits. The metacognitive intervention was the independent variable in this study. The significant difference (p<.001) between the mean posttest scores of the Intervention and Control Groups strongly supports the notion that the score change was the result of the independent variable alone as both groups were immersed in the socio-emotional intervention.

The claim that the Intervention Group RSPM pretest to posttest score gain is largely the result of the metacognitive intervention supports the theoretical foundations of dynamic testing, that is, the interlocked concepts of the Zone of Proximal Development (Vygotsky, 1974) and Cognitive Modifiability (Tzuriel & Feuerstein, 1992). The significant increase in scores following intervention offered strong support for the conclusion that the participating children were performing below their potential at pretest. That is, they were underachieving and their Zone of Proximal Development contained a substantial number of immature cognitive functions. The cognitive modifiability of the Intervention Group is supported by the posttest and far posttest outcomes. The one–week period between intervention and posttest chosen for the present study may not have been long enough to sustain a claim that the cognitive changes, as indicated by actual RSPM performance, were more-or-less stable (Tzuriel & Feuerstein, 1992). However, the mean gains made at

posttest (8.4 raw score points) were largely maintained at the far posttest (7.6 raw score points) six weeks later and this does indicate relative stability and integrity of the cognitive changes made. The six–week time frame ensured that the cognitive changes were not affected by experimental artefacts immediately after the intervention or by spontaneous temporal changes (Tzuriel & Feuerstein, 1992).

Dynamic testing outcomes reveal underachievement on the RSPM pretest
In the present study the mean pretest score on the RSPM for the Total Group was 27.09 raw score points, which represented a mean 27.41 percentile band on the instrument norms. The well below average RSPM pretest score for the study group suggested substantial underachievement when compared with the norm population. That the low pretest score represented a substantial underachievement by the study children was supported by the significant improvements of the Intervention Group following intervention. These data supported the notion that one-off applications of relatively culture-fair tests such as the RSPM do not produce a true indication of the academic potential of children from culturally different and/or low SES populations. Underachievement on relatively culture-fair tests has been linked to sociocultural factors (Skuy, Kaniel & Tzuriel, 2001), 'cognitive impairments, deficient learning habits and motivational patterns' (Tzuriel & Feuerstein, 1992, p. 185) and socio-emotional factors such as expectation, status, and self-efficacy (Lovaglia et al., 1998). It can be concluded that any one-off RSPM assessment of Aboriginal children should be treated in such a way as to recognise high scores only, because low or even average scores are likely to represent a degree of underachievement.

Following the metacognitive intervention the mean RSPM raw scores for the Intervention Group increased from 27.85 to 36.24, a gain of 8.39 raw score points. In terms of the RSPM instrument norms the Intervention Group moved from the mean 29.98 percentile band at pretest to the 54.49 percentile band at posttest. The stability of the score increase from pretest to posttest was established when the far posttest group mean percentile band remained at 50.93 after a six–week period. The total Intervention Group score changes on the RSPM from pretest to posttest indicate that the pretest scores of the study children represent a substantial underachievement. This suggests that dynamic testing may be a better way of using the RSPM to determine academic potential than a one-off application for the participating children. However, the identification of giftedness is essentially an individual process.

Individual dynamic testing outcomes
Interpreting individual dynamic testing outcomes
At the individual level a descriptive approach, using percentile bands and raw score changes, was necessary in order to make dynamic testing score changes easier to understand and consequently to facilitate their use in the field. In order to achieve this outcome the RSPM dynamic testing data were discussed in two ways. Firstly, the raw score changes were used in a purely descriptive way to demonstrate the general magnitude of changes observed. Secondly, the percentile bands that the different test scores represented when compared with the norm population were used to enhance further the descriptive power of the dynamic testing outcomes. Further, since raw scores change with the age cohorts, percentile bands can give a view of test performance that is consistent across age groups. It is fully recognised that the

posttest and far posttest percentile bands should not be interpreted in a strictly psychometric sense, as on these testing occasions intervention strategies were employed that were not used when the instrument norm samples were collected. This, however, did not apply to the pretest as these data were collected in strict accordance with the RSPM manual. Percentile bands at posttest and far posttest can provide an indication of potential that was brought to life by a comparison to the norm population. For example, student s13 recorded a pretest score of 21 raw score points and improved to 44 raw score points at posttest, clearly a large improvement. In terms of percentile bands this meant a shift from the 18th to the 91st bands, which highlights the dramatic nature of that change.

The use of the RSPM norms to make descriptive comparisons with the dynamic testing outcomes was limited by one major factor. If the norm population used for the RSPM was given the benefit of a similar metacognitive intervention used in the present study it is highly likely that some upward shift in test performance would result due to the undoubted presence of some underachievers in the norm population. However, in a review of research related to coaching and testing, Lidz (1987) noted that while test scores did improve they were relatively minor for populations with superior educational opportunities, a view supported by Anastasi (1988). This notion is supported by the relatively small gain scores on the RSPM dynamic testing reported by Tzuriel and Feuerstein (1992) when the study population consisted of a mix of disadvantaged and regular schools. Consequently, when making descriptive comparisons of the dynamic testing outcomes with the RSPM norms it should be considered that the dynamic testing outcomes may be slightly elevated relative to the RSPM norms. Despite this complication, descriptive comparisons of the dynamic testing outcomes of the students in the present study with the normative population gave a much better indication of the children's academic potential than the one-off first application of the RSPM.

Individual dynamic testing
The dynamic testing scores at both pretest and posttest can be used for the identification of giftedness. The pretest scores can be used in the same way as one-off standardised tests with a score benchmark applied to determine gifted status. In the present study three of the 79 study children scored at or above the 85th percentile band at pretest and could be considered as gifted applying Gagné's (1995) broad conception of giftedness and talent. However, the three children identified as gifted by the pretest represented only 3.8% of the study children and this would inevitably lead to an under-representation of Aboriginal children in nominations of giftedness.
Individual posttest scores in the dynamic testing process may better reflect the academic potential of an individual student than the pretest scores. Students who have the potential to benefit from the socio-emotional strategies and metacognitive intervention are most likely to show the greatest gains at posttest. That is, if pretest scores are negatively affected by socio-emotional inhibitors, low self-efficacy and inefficient metacognition it is highly likely that successful intervention at each of these levels will lead to improved posttest scores. The greater the initial underachievement the greater the potential gain at posttest. If a child is not negatively affected by performance inhibiting factors little gain can be expected following intervention as the child is likely to score close to potential at pretest.

It is highly unlikely that in the present study all Intervention Group students performed to their potential at posttest despite the strategies employed, as this would mean that all students were successfully and fully reached during intervention. However, the posttest scores of a number of individuals are most relevant for support for the use of dynamic testing as a tool in the identification of high academic potential in Aboriginal children.

The RSPM results of the study children who scored at or above the 85th percentile band on any of the three test occasions are presented in Table 3. Fifteen of the 79 study children scored at or above the 85th percentile band on at least one testing occasion. Of the 15 children identified as gifted 11 were from the Intervention Group. The test occasion that identified the child is shown below, in Table 5.

Table 5. RSPM Test Occasion on which the Child was Identified as Gifted

Student	Intervention Group			Control Group		
	Pretest	Posttest	Far Posttest	Pretest	Posttest	Far Posttest
S02 *		X	X			
S13 *		X				
S14 *		X				
S26 *		X				
S27 *	X					
S29					X	X
S45 *			X			
S48 *			X			
S49					X	X
S52 *	X	X	X			
S57				X		
S62 *			X		X	
S67 *		X	X			
S69						X
S72 *			X			

* Intervention students

Two (4.9%) of the 41 Intervention Group children were identified as gifted by the pretest, with a further five identified at the posttest following the metacognitive intervention. These seven students (17.1% of the Intervention Group), identified as gifted as a result of the dynamic testing test-intervention-retest protocol, showed a mean raw score gain of 10.71, substantially higher than the total Intervention Group mean raw score gain of 8.39. This represents a mean shift from the 54.71 percentile band to the 89.96 percentile band. These data suggest that the intervention children identified as gifted following intervention were underachieving to a greater extent

than the already underachieving total Intervention Group. Furthermore, the 17.1% of the Intervention Group who reached the gifted 85th percentile band benchmark following the dynamic testing was very close to the 15% expected from the norm population.

Four children from the Intervention Group scored in the gifted range only in the far posttest. These students gained, on average, 6.0 raw score points from pretest to posttest but gained a further 2.75 raw score points from posttest to far posttest, these latter gains moving them into the gifted range. It is reasonable to assume that the additional gains made by these children at far posttest were not just practice effects but also due to the result of the continuing impact of the socio-emotional strategies. This notion is supported by fact that two (s49 and s69) of the four children from the Control Group and one (s26) of the Intervention Group children who reached the gifted benchmark improved substantially from posttest to far posttest. In total, seven of the fifteen study children who reached the gifted 85th percentile band benchmark improved from posttest to far posttest.

Individual gain scores from pretest to posttest can be used to give an indication of the level of underachievement of a child. The individual score changes from pretest to posttest that occurred in the Intervention Group during the dynamic testing process were extremely variable, raw score changes ranging from plus 31 to minus 6. It is important to note that many of the study children improved little while others improved dramatically, suggesting variable levels of underachievement, while others regressed. For example, student s40 (Intervention) scored in the 61st percentile band on all three testing occasions and was described by her teacher as a conscientious student who seemed to be working to her potential. Further, this child has parents who are keenly involved in education and are strongly supportive of her educational efforts. In contrast student s43 (Intervention) moved from the 2nd percentile band to the 80th percentile band at the posttest. The large posttest gain was probably the result of her noted impulsive answering habits which were remediated in the intervention. Twelve of the study students regressed in the posttest, suggesting that some students were not reached by the metacognitive and socio-emotional strategies or were negatively affected. Only three of the regressed posttest scores came from the Intervention Group and it is likely that the metacognitive intervention was effective in reducing the number of score regressions in the Intervention Group.

Conclusion

The research presented in this paper has shown that the dynamic testing method used was effective in identifying high academic potential in an encouraging proportion of the study children. Furthermore, as most of these children were previously unidentified as having high academic potential, many were also newly revealed as underachievers. Hence, dynamic testing holds the hope of positively influencing Aboriginal education by better identifying academic potential in Aboriginal children and by improving the school performance expectations of teachers, the children themselves and members of the Aboriginal communities. Nevertheless, with this optimism a warning must be given: dynamic testing must be conducted with trained personnel as misuse carries the risk of invalid outcomes, a

result that can only serve to reinforce deficit views. Social-emotional and cultural considerations must be fully understood and sensitively implemented, as must the technical aspects of the intervention process.

The underachievement on the RSPM pretest by the children in this study supports the finding by Lidz and Macrine (2001), Lovaglia et al. (1998), Skuy et al. (1988), Skuy et al. (2001) and Tzuriel and Feuerstein (1992) that even relatively culture fair nonverbal standardised tests may not reveal the true academic potential of culturally different and low SES children. Indeed, their 'invisible' underachievement on such tests continues to reinforce deficit views and culturally stereotypes. On the other hand, the success in this study of dynamic testing in revealing some of this hidden potential offers the hope of a more realistic, constructive and equitable approach to the challenge of identifying giftedness in all sectors of our society.

References
Anastasi, A. (1988). *Psychological Testing*. New York: Macmillan.

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioural change. *Psychological Review*, *84*(2), 191–215.

Borland, J. H., & Wright, L. (1994). Identifying young, potentially gifted, economically disadvantaged students. *Gifted Child Quarterly*, *38*, 164–171.

Braggett, E. J. (1985). *education of gifted and talented children: Australian provision*. Canberra: Commonwealth Schools Commission.

Brophy, J. E. (1981). Teacher praise: A functional analysis. *Review of Educational Research*, *51*, 5–32.

Budoff, M. (1987). Measures for assessing learning potential. In C. Lidz (Ed.), *Dynamic Assessment* (pp. 173–195). New York: The Guilford Press.

Butler–Por, N. (1993). Underachieving gifted students. In K. A. Heller, F. J. Mönks, & A. H. Passow (Eds), *International handbook of research and development of giftedness and talent* (pp. 649–668). Oxford: Pergamon.

Carlson, J. S., & Wiedl, K. H. (1979). Toward a differential testing approach: Testing-the-limits employing the Raven Matrices. *Intelligence*, *3*, 323–344.

Colangelo, N. (2002). Counseling gifted and talented students. *The National Research Center on the Gifted and Talented Newsletter*, Fall, 5–9.

Craven, R. G., Marsh, H. W., & Debus, R. L. (1991). Effects of internally focused feedback and attributional feedback on enhancement of academic self-concept. *Journal of Educational Psychology*, *83*, 17–27.

Davis, G. A., & Rimm, S. B. (1998). *Education of the gifted and talented*. (4th ed.). Needham Heights: Allyn and Bacon.

de Lemos, M. M. (1989). *Standard Progressive Matrices. Australian Manual*. Hawthorne: Jenkin Buxton Printers.

Embretson, S. E. (1987). Toward development of a psychometric approach. In C. S. Lidz (Ed.), *Dynamic assessment* (pp. 141–170). New York: Guilford Press.

Feuerstein, R., Rand, Y., & Hoffman, M. B. (1979). *The dynamic assessment of retarded performers*. Baltimore: University Park Press.

Ford, D. Y. (1996). *Reversing underachievement among gifted black students*. New York: Teachers College Press.

Frasier, M. M. (1997). Gifted minority students: Reframing approaches to their identification and education. In N. Colangelo & G. A. Davis (Eds), *Handbook of gifted education* (Vol. 2, pp. 498–515). Needham Heights, MA: Allyn and Bacon.

Gagné, F. (1995). From giftedness to talent: A development model and its impact on the language of the field. *Roeper Review*, *18*(2), 103–111.

Gagné, F. (1998). A proposal for subcategories within gifted or talented populations. *Gifted Child Quarterly*, *42*(2), 87–95.

Gallagher, J., & Coleman, M. R. (1992). *State Policies for the Identification of Gifted Students from Special Populations: Three States in Profile*, University of North Carolina.

Glutting, J. J., & McDermott, P. A. (1990). Principles and problems in learning potential. In C. R. Reynolds & R. W. Kamphaus (Eds), *The handbook of psychological assessment of children. Intelligence and achievement* (pp.296–347). New York: Guilford Press.

Grigorenko, E. L., & Sternberg, R. J. (1998). Dynamic testing. *Psychological Bulletin*, *124*(1), 75–111.

Gross, M. U. M. (1989). The pursuit of excellence or the search for intimacy? The forced–choice dilemma of gifted youth. *Roeper Review*, *11*(4), 189–194.

Harslett, M. (1996). The concept of giftedness from an Aboriginal cultural perspective. *Gifted Education International*, *11*, 100–106.

Jensen, A. R. (1981). *Straight Talk about Mental Tests*. London: The Free Press.

Kanevsky, L. (2000). Dynamic assessment of gifted students. In K. A. Heller, F. J. Monks, R. J. Sternberg, & R. F. Subotnik (Eds.), *International handbook of giftedness and talent* (pp. 283–295). New York: Elsevier.

Lidz, C. S. (1997). Dynamic assessment approaches. In D. S. Flanagan, J. L. Genshaft, & P. L. Harrison (Eds), *Contemporary intellectual assessment* (pp. 281–296). New York: The Guilford Press.

Lidz, C., & Macrine, S. L. (2001). An alternative approach to the identification of culturally and linguistically diverse learners: The contribution of dynamic assessment. *School Psychology International*, *22*, 74–96.

Lovaglia, M. J., Lucas, J. W., Houser, J. A., Thye, S. R., & Markovsky, B. (1998). Status processes and mental ability test scores. *American Journal of Sociology*, *104*(1), 195–228.

Lovaglia, M. J., Thompkins, D., Lucas, J., & Thye, S. (2000). *The shadow of the future: How negative expectations cloud test performance*. Paper presented at the Fifth Biennial Wallace National Research Symposium on Talent Development, The University of Iowa, Iowa City, USA.

Matthews, D. J. (1988). Raven's Matrices in the identification of giftedness. *Roeper Review*, *10*, 159–162.

McConnochie, K. (1982). Aboriginal and Australian education: Historical perspectives. In J. Sherwood (Ed.), *Aboriginal Education: Issues and Innovations* (pp.17–32), Perth: Creative Research.

Ogbu, J. U. (1994). Understanding cultural diversity and learning. *The Journal for the Education of the Gifted*, *17*(4), 355–383.

Pendarvis, E. D. (1990). *The abilities of gifted children*. Englewood Cliffs, NJ: Prentice Hall.

Reis, S. M., & McCoach, D. B. (2000). The underachievement of gifted students: What do we know and where do we go? *Gifted Child Quarterly*, *44*(3), 152–170.

Richert, E. S. (1985). Identification of gifted children in the United States. The need for pluralistic assessment, *Roeper Review, 8*, 68–72.

Rieber, R. W., & Carton, A. S. (Eds.). (1987). *The collected works of L. S. Vygotsky* (Vol. 1). New York: Plenum Press.

Rosenthal, R., & Jacobson, L. (1968). *Pygmalion in the classroom: Teacher expectation and pupils' intellectual development*. New York: Holt, Rinehart and Winston.

Ryan, W. (1976). *Blaming the victim*. New York: Vintage Books.

Schunk, D. (1991). Self-efficacy and academic motivation. *Educational Psychologist*, *26*, 337–345.

Skuy, M., Kaniel, S., & Tzuriel, D. (1988). Dynamic assessment of intellectually superior Israeli children in a low socio-economic status community. *Gifted Education International*, *5*, 90–96.

Steele, C. M., & Aronson, J. (1995). Stereotype threat and the intellectual test performance of African Americans. *Journal of Personality and Social Psychology*, *69*(5), 797–811.

Sternberg, R. J. (2001). Giftedness as developing expertise: A theory of the interface between high abilities and achieved excellence. *High Ability Studies*, *12*(2), 159–179.

Taylor, S. D. (1998). *Minority students and gifted and talented programs: Perceptions, attitudes and awareness*. PhD Thesis, University of Sydney.

Tzuriel, D., & Feuerstein, R. (1992). Dynamic group assessment for prescriptive teaching: Differential effects of treatments. In H. C. Haywood & D. Tzuriel (Eds), *Interactive assessment* (pp. 187–206). New York: Springer–Verlag.

Valencia, R. R., & Solorzano, D. G. (1997). Contemporary deficit thinking. In R. R. Valencia (Ed.), *The evolution of deficit thinking* (pp. 160–210). London: The Falmer Press.

Vygotsky, L. S. (1974). *Thought and language*. Cambridge: The M.I.T Press.

Whitmore, J. R. (1987). Conceptualizing the issues of underserved populations of gifted students. *Journal of the Education of the Gifted*, *10*(3), 141–153.

Is Gifted Education a Necessary Ingredient in Creating a Level Playing Field for Indigenous Children in Education?[1]

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The generally below average academic outcomes for Indigenous children in Australian schools is well documented. In recent years substantial monies have been provided to help reverse this trend, with little effect. What has this to do with gifted education? The fact is that academically gifted Indigenous children have been a major part of the overall academic underachievement of Indigenous children. Gifted Indigenous children have been grossly under-represented in programs for the gifted (Braggett, 1985; Chaffey, 2002; Taylor, 1998) while evidence is emerging that the gifted cohort are underachieving to a far greater degree than the rest of the Indigenous population. This trend is also reflected in a sample of Canadian Indigenous children (Chaffey, McCluskey, & Halliwell, 2005).

Indigenous children are under-represented in programs for the gifted for a number of reasons. Firstly, many of the brightest Indigenous children are grossly underachieving in the school setting (Chaffey, 2002; Chaffey, Bailey & Vine, 2003) making it highly unlikely they would be identified through teacher-centred methods. Further, many of these gifted children are 'invisible' underachievers (Chaffey, 2002). This makes most identification methods unreliable for these children as they actually underachieve on normally reliable quantitative identification methods. Another factor relates to the issue of involuntary minority status (Ogbu, 1994). Involuntary minorities have been placed in long-term subordinate positions as a result of colonisation, conquest, or slavery (Ogbu, 1994). Involuntary minority status peoples often experience powerful cultural group affiliation versus academic performance pressures (forced-choice dilemma, Gross, 1989) and oppositional behaviours to education (Ford, 1996). For academically able Indigenous students the dilemma is clear: should the students 'act white' and risk alienation from their cultural peers or retain peer acceptance and shun academic excellence (Ogbu, 1994; Colangelo, 2002). For most Indigenous children the answer is simple as community is a most powerful force in their lives.

The solution to providing appropriate gifted education programs for Indigenous children lies in addressing the two key issues discussed above. Firstly, identification:

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any identification method must be able to move through the considerable talent masks most gifted Indigenous children, knowingly or unknowingly, employ. This method must assess learning potential rather than current achievement levels, as many of the children are academic underachievers (Chaffey, 2002; Chaffey, Bailey & Vine, 2003). Secondly provision: most existing mainstream programs for the gifted are not suitable for Indigenous children as many gifted Indigenous children are academic underachievers with substantial academic skill gaps and socio-emotional inhibitors to academic engagement. The small achieving cohort of gifted Indigenous children is also highly susceptible to socio-emotional forces that would lessen their chances of successfully engaging in mainstream gifted programs (Chaffey, 2002). Any provision model that hopes to effectively cater for these children must first address the academic underachievement and overcome the raft of socio-emotional barriers that so often act as talent masks.

Then over time, as socio-emotional barriers fall, as academic self-efficacy grows, and as skill gaps diminish many of these children will be ready, socio-emotionally and cognitively, to successfully engage in mainstream gifted programs.

Now to the question 'Is gifted education a necessary ingredient in creating a level playing field for Indigenous children in education?' I would answer strongly 'yes!'

I hold this view due to the fact that, fundamentally, gifted education is based on what high ability children can do, an approach diametrically opposed to the largely deficit based approaches that too often have dominated Indigenous education. Gifted education focuses on high achievement and working to one's potential. Deficit models emphasise remedial approaches with little focus on children with high learning potential. Historically, Indigenous education has been dominated by deficit model approaches.

The establishment of suitable gifted education programs for Indigenous children could impact on the educational setting of Indigenous children in the following ways:

1. Enhanced teacher and school expectations

The impact of teacher expectations, especially on children from low SES and some cultural minority backgrounds, is well documented. A cohort of academically-engaged gifted Indigenous students should enhance overall teacher expectations of academic success for these students. Further, evidence is emerging from a number of programs that teacher expectation regarding Indigenous students is often generally enhanced as teachers view all Indigenous students through a different lens. This outcome will be enhanced if the gifted program contains a teacher professional development component that reveals factors that contribute to underachievement for these children and provides appropriate pedagogy to help reverse underachievement.

2. Role modelling for peers / siblings

The establishment of a cohort of academically achieving gifted Indigenous students will impact positively on other Indigenous students in a vicarious manner. The general absence of peer academic role models is part of a cycle of underachievement that can be broken by the emergence of a gifted cohort.

3. Indigenous community

The existence of a cohort of academically achieving gifted Indigenous students has the potential to help remove the shadow of generations of poor academic outcomes for most Indigenous communities. Involuntary minority status issues are the result of exclusion and can only be overcome by genuine inclusive outcomes. A genuine gifted education program does this in the education setting.

The emergence of an academically achieving gifted Indigenous cohort can positively influence most of the Indigenous students in schools. If the less academically able cohort dominates thoughts and provision, the malleable middle will move downwards and the children with high learning potential will largely disappear into the middle and become 'invisible' underachievers. That is what we too often currently see. If the children with high learning potential dominate thoughts and provision I suggest it is possible to reverse the current unacceptable situation.

Conclusion

Gifted education has the potential to contribute greatly to the emergence of equitable educational outcomes for all Indigenous students. However, I suggest it will be difficult to shift the current lamentable position if a gifted cohort does not emerge. The expectations of schools, teachers, Indigenous communities and the students themselves toward educational outcomes can be positively influenced. Without this the best of plans may be in vain.

A word of caution: The academic underachievement and 'invisible' underachiever status of many academically gifted Indigenous children means successful inclusion in traditional gifted education provision is unlikely. Suitable identification methods and provision must seek, first, to reverse underachievement from both the socio-emotional and cognitive perspectives.

References
Braggett, E. J. (1985). *Education of gifted and talented children: Australian provision*. Canberra: Commonwealth Schools Commission.
Chaffey, G. W. (2002). Identifying Australian Aboriginal Children with high academic potential using dynamic testing. Unpublished PhD Thesis, University of New England, Australia.

Chaffey, G. W., Bailey, S. B., & Vine, K. W. (2003). Identifying high academic potential in Australian Aboriginal children using dynamic testing. *The Australasian Journal of Gifted Education*, *12* (1), 42-55.

Chaffey, G. W., McCluskey, K. & Halliwell, G. (2005) Using Coolabah Dynamic Assessment to identify Canadian Aboriginal children with high academic potential: A cross-cultural study. *Gifted and Talented International*, 20 (2), 50-59.

Colangelo, N. (2002). Counseling gifted and talented students. *The National Research Center on the Gifted and Talented Newsletter*, Fall, 5–9.

Ford, D. Y. (1996). *Reversing underachievement among gifted Black students*. New York: Teachers College Press.

Gross, M. U. M. (1989). The pursuit of excellence or the search for intimacy? The forced-choice dilemma of gifted youth. *Roeper Review, 11* (4), 189-194.

Ogbu, J. U. (1994). Understanding cultural diversity and learning. *Journal for the Education of the Gifted*, *17*(4), 355-383.

Taylor, S. D. (1998). *Minority students and gifted and talented programs: Perceptions, attitudes and awareness.* PhD Thesis, University of Sydney.

Look to the Past, Stand Tall In The Present: The Integral Nature of Positive Racial-Ethnic Identity for the Academic Success of Mäori Students

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Abstract

To increase Māori participation and success in gifted programs we must address the negative stereotypes that suppress their achievement. In this paper the author endeavours to move beyond the established, but gloomy, statistical landscape detailing Māori participation and achievement in gifted education programs, and instead draws on several threads of social identity theory to illustrate the synergistic connection between positive Māori identity and academic achievement. This paper proposes that the study of *whakapapa* (genealogy), as a means of exploring how giftedness has traditionally been interpreted and mobilised within family or tribal histories, can simultaneously strengthen the development of positive racial-ethnic identity and academic exceptionality for gifted Māori learners. The proposed curriculum involves three key components: a comprehensive knowledge of whakapapa and positive sense of identity as Māori; a knowledge of how their area of exceptionality is of value to their communities of interest (social capital); and, an understanding of how they can transform their gifted assets in service to those communities (constructive action). The collective wisdom of exceptional ancestors should be seen as the quintessence of Māori educational potential. When Māori look backwards into our past and recount the exceptional deeds of ancestors, their gifted characteristics and qualities can be celebrated and their legacy can be an inspiration. In helping learners to better understand and appreciate the richness of their whakapapa, schools create conditions where gifted Māori learners can learn how to be gifted *and* proud, academically exceptional and Māori.

> *"Tōku toa, he toa rangatira"*
> *My bravery is inherited from the chiefs who were my forebears*

Although schools in New Zealand strive to create equitable learning environments, the reality is that students experience education differently. There is a significant amount of literature about the academic underachievement of Māori that suggests the traditional approach to education works less well for them. Recent research suggests that the enduring problem of Māori underachievement can be attributed to a number of factors, including: low teacher expectations of Māori (Rubie-Davies, Hattie,

& Hamilton, 2006); deficit theorising (Bishop, Berryman, Tiakiwai, & Richardson, 2003); culturally unfamiliar content and contexts for learning (Bevan-Brown, 2005); and, loss of cultural esteem and Māori identity (Bishop, Berryman, Cavanagh, & Teddy, 2007; Durie, 2005). It is reasonable, then, to suggest that these patterns may also play a role in the continued under-representation of Māori students in New Zealand gifted and talented education programs. The literature in this area reveals that Māori under-participation in gifted programs has been a well-documented concern for over a decade (Bevan-Brown, 1992; Cathcart & Pou, 1994; Niwa, 1998/99) and cites additional causes including culturally inappropriate definitions of giftedness (Bevan-Brown, 2004); poor identification of gifted Māori students (Reid, 1990); culturally insensitive and unsupportive programs (Jenkins, 2002; Jenkins, Macfarlane, & Moltzen, 2004; Macfarlane, 2004); and, finally, and of particular relevance to this paper, is Bevan-Brown's (2004) contention that gifted and talented Māori students are not encouraged, directly or indirectly, to develop a knowledge of, and pride in, their own culture. This paper suggests a curriculum that insists Māori success at school not come at the expense of their own language and culture.

It is not my intention to review the existing literature relating to Māori and gifted education in this paper. There is already a small, but sound, body of New Zealand literature that clearly defines the parameters of this topic, and the ongoing concerns of the field (for a thoughtful and thorough recent review of the literature, see Rangimarie Mahuika's [2007] piece in the MAI Review). It would also be redundant to give a detailed description of the myriad statistics that speak to the disproportionate under-representation of Māori students in gifted education programs throughout New Zealand. Rather, this paper endeavours to move beyond those established statistical landscapes and instead draws on several threads of social identity theory to illustrate the synergistic connection between positive Māori identity and academic achievement. To support the assertion that secure Māori identity is essential in aiding the academic performance of gifted Māori students, I will review research that has examined the relationship between racial-ethnic identity and academic achievement, a literature that is often presented in connection with academically at-risk, rather than academically talented students.

The manifestation of giftedness

Gifted and talented learners have generally been identified as those who demonstrate, or have the potential to demonstrate, exceptional abilities relative to others of their age (Ziegler & Heller, 2000). However, most traditional definitions, perceptions, and theories of intelligence and giftedness, based exclusively or extensively on intelligence tests, have closed doors for diverse students due to their narrow and uni-dimensional focus. New Zealand literature in this field, since at least the mid 1990s (Bevan-Brown, 1996), has advocated for multi-categorical definitions, multi-dimensional approaches to identification, and the inclusion of Māori perspective. However, the continuing under-participation of Māori students in gifted and talented programs suggests that those charged with identifying gifted students, often classroom educators with little or no expertise in gifted and talented education, might still be employing traditional notions of giftedness based on exceptional intellectual ability, as a key criterion. In fact, a 2008 Education Review Office (ERO)

review of gifted and talented education found that less than half of all New Zealand schools use multi-categorical definitions and those definitions that are used reflect a limited range of areas of ability, often relying on a singular identification method (Education Review Office, 2008). As a consequence these schools overlook cultural, spiritual, emotional and Māori manifestations of giftedness, resulting in many exceptional Māori students with advanced capabilities in creative, community-focused and/or cultural domains never having their performance or potential recognised. For that reason, we need to consider a range of practicable and innovative solutions that focus on shifting the understandings, practices and attitudes of educators if we are to address the great loss of unrecognised Māori talent in our schools.

Many contemporary definitions and theories consider that different cultures view intelligence and giftedness in different ways; what is valued as gifted in one culture may not be valued as gifted in another culture (Renzulli, 2002). In this way, giftedness is a social construct influenced by a cultural group's epistemology, values, needs, customs, concepts, attitudes, beliefs and practices (Bevan-Brown, 2002). As a result there have been attempts in the field to expand conceptions of giftedness in order to better consider the "ways in which people transform their gifted assets into constructive action" (Renzulli, 2002, p. 34). An open-ended conception acknowledges that cultural differences can exist in how giftedness manifests across a range of contexts and social groupings in ways that benefit others. As such, when nurtured appropriately one's giftedness has the potential to positively impact others and provide a valuable service to one's community. According to Gardner (1983; 1999) a high Intelligence Quotient (IQ) in the absence of productivity does not equate to intelligence. Rather, intelligence involves the potential to process information so that it can be activated in a cultural setting to solve problems or create products that are of value in a culture – a form of service.

A focus on learning through service involves blending learners' academic content with meaningful service in a community, and can change the attitudes and behaviours of both the learner and the recipient of the service. Tasks which employ this type of learning should provide learners with opportunities to engage in self-discovery and the acquisition and utilisation of culturally relevant knowledge, skills and values highly regarded in one's own community. Renzulli (2002) refers to such culturally relevant knowledge, skills and values as "social capital" (p. 34) and states that social capital is a set of intangible assets that address the collective needs and problems of individuals and of our communities at large.

Two recurring concepts in the Māori giftedness literature, that clearly link to Renzulli's notion of service, are *manaakitanga* and *mana tangata*. Manaakitanga can be perceived as the personal quality of being outstandingly hospitable or generous (Macfarlane, 2004) or caring for and helping others (Rymarczyk Hyde, 2001). Within Māoridom, great emphasis and value is placed on working co-operatively with others (Cathcart & Pou, 1994) and aspects of spirituality and inter-personal relationships are highly prized as being beneficial to the whole tribe (Niwa, 1998/99). Bevan-Brown's (1993, 2005) research indicated that this cultural obligation to serve others still exists, that to be considered 'a gifted Māori', not only must you be exceptional in a

culturally valued area but you must also use your outstanding skill, ability or quality to help or serve others in some way.

The second concept is mana tangata, which is especially relevant to the Māori view of giftedness because it refers to an endowment of honour or status for one's in-depth knowledge of Māori traditions, language and culture, and the demonstration of this knowledge in a culturally appropriate manner (Bevan-Brown, 2004). It has long been acknowledged that when individuals know the qualities or knowledge valued by their culture, they are more likely to strive toward acquiring and demonstrating them. Cathcart and Pou (1992) encapsulate this concept well in the statement "People are most likely to display high levels of ability in skills highly valued by their culture" (p. 15). So what specific gifted characteristics, qualities and/or skills are valued in the Māori community?

Bevan-Brown (2005) succinctly summarises the three main ways giftedness is viewed according to Māori worldview. The first area she discusses is being 'culturally gifted' in terms of exceptionality in Māori arts, crafts, music, historic and cultural knowledge and traditions, whakapapa and te reo (the Māori language). These knowledges and skills are valued for their contribution to the revitalisation and maintenance of Māori language, knowledge and customs. The second area refers to culturally valued qualities including *awhinatanga* and *whakaritenga mahi* (helping and serving others), *maia* (courage and bravery), *manaakitanga* (hospitality), *wairuatanga* (spirituality), *whanaungatanga* (familiness), *aroha-ki-tangata* and *tutohutanga* (love for, caring and sensitivity to others), and *pukumahi* and *pukeke* (industriousness and determination) (Bevan-Brown, 1993; Jenkins, 2002). For Māori, these qualities are just as important as academic exceptionality because individuals with these traits are more likely to mobilise their interpersonal, political and moral lives in ways that place human concerns and the common good above personal advancement (Renzulli, 2002). The third area Bevan-Brown (2005) discusses is the culturally appropriate demonstration of one's giftedness, which in *te ao Māori* (the Māori world) is influenced by the values of humility, group co-operation and group benefit. Thus, Māori value a wide range of abilities and qualities, which are culturally and contextually specific, but generally less individualistic than western concepts of giftedness. This broad conceptualisation of Māori giftedness, whilst frustratingly non-specific for some educators, is appropriate given the high degree of cultural, social, linguistic and physical difference that characterise Māori peoples.

Contesting stereotypes, affirming self, reconceptualising possibilities

To increase Māori participation and achievement in gifted programs we must address the negative stereotypes that suppress their achievement. In New Zealand, Māori student achievement is impacted by negative stereotypes that allege intellectual inferiority. Claude Steele (1997; 2004) and Joshua Aronson (2004) call this phenomenon 'stereotype threat' and state that these stereotypes impact the performance, motivation, and learning of students who have to contend with them. Steele's writings highlight the way in which being the target of a negative group stereotype (when one does not believe the stereotype) can make situations aversive

when that stereotype is salient. Both researchers assert that students who are most vulnerable to stereotype threat are those who care the most and who are most deeply invested in high academic performance – gifted students. In other words, gifted Māori students who have a strong academic identity are more likely to be negatively impacted by stereotypes that tell them that 'Māori are not academic'. They are most at risk of seeking to escape the aversive situation through either disidentification or disengagement (Osborne, 2004). Steele suggests that stigmatised students' "susceptibility to this threat derives not from internal doubts about their ability (e.g., their internalization of the stereotype) but from their *identification* with the domain and the resulting concern they have about being stereotyped in it" (Steele, 1997, p. 614). In summary, Steele's stereotype threat hypothesis suggests that gifted Māori students may be caught in a particularly divisive paradox. Low identification with academics could be generally related to poor academic outcomes, yet more comfort in school and strong identification with academics could lead to better academic outcomes, but cause the experience of schooling to be particularly aversive.

Other international literature illustrating links between the academic and racial-ethnic identity development of minority students suggests that positive racial-ethnic identity can play a protective role in minority students' lives (Miller & Kaiser, 2001). According to this research, students who identify strongly with their racial-ethnic group are better able to negotiate potentially negative environments, deal with discrimination and prejudice, and have high self-esteem. Other evidence (Bowman & Howard, 1985; Oyserman, Brickman, & Rhodes, 2007) has shown that positive racial-ethnic socialisation is associated with more school efficacy, higher educational aspirations, more racial-ethnic knowledge, and a greater understanding of the racial-ethnic prejudice (Quintana & Vera, 1999). More recently, Altschul, Oyserman, and Bybee (2006) examined three components of racial-ethnic identity that act together to buffer the impact of stereotype threat and strengthen persistence at school. The components are a positive sense of belonging to one's racial-ethnic group, a high awareness of racism, and a strong sense of embedded achievement. Embedded achievement is the belief that achievement is an in-group identifier, a part of being a good in-group member, and a belief that the achievement of some in-group members helps other in-group members succeed. Given these strong international research findings, I predict that a strong and positive Māori identity might help gifted Māori learners to buffer the potential impact of stereotypes, and subsequently engage, persist and succeed at school – as someone both gifted and Māori.

Supporting gifted Māori to stand tall

Gifted Māori students must be encouraged to value their culture and see it as a meaningful and relevant part of their academic learning. Bevan-Brown (1992, 2005) has found that those children whose racial-ethnic identities had been tapped into and developed, appeared to "bloom". Rymarcyk Hyde (2001) also explains how this can increase self-esteem and confidence, resulting in gifted Māori learners being more likely to develop their potential. To achieve this, teaching and learning strategies need to be culturally appropriate and the focus should be on a curriculum that is culturally meaningful and relevant. This would support the development of strong racial-ethnic

identity and subsequently the improved self-concept with regard to being Māori *and* gifted.

Durie's (2001) framework for educational advancement asserts that Māori academic achievement should not be at the expense of cultural identity. He instead suggests that Māori educational advancement should involve the ability to attain western standards of education while also maintaining links and an identity as Māori. Durie (2001) stresses that participation *of Māori* is different to participation *as Māori*. Kapahaka (Māori dance performance) can be considered an example of a culturally responsive learning medium that provides opportunities for Māori students to positively express Māori identity through engagement with their language, culture and traditional practices (Rubie-Davies, 1999; Whitinui, 2008). Māori students in Whitinui's (2007) research believed that involvement in kapa haka reaffirmed who they were as Māori, increased their desire to succeed at school and improved their individual confidence, self-esteem/self-worth and commitment to participate in the learning environment. Similar research by Rubie-Davies (1999) also found that participation in kapahaka had a direct and positive effect on students' participation levels at school. Rubie-Davies's research concluded that kapahaka was a culturally appropriate medium for learning that has the potential to improve student achievement levels across several areas of the curriculum and has a positive impact on students' overall perceptions of their school life.

In New Zealand, Bennett's (2002) research examined the degree to which Māori cultural identity moderated the relationship between student problems and academic achievement in university settings. His research findings revealed that the strengthening of cultural identity among Māori students could act as a form of *primary prevention* in terms of decreasing the impact that certain environmental stressors have on their academic performance. His research findings support initiatives that enhance and foster cultural identity development within academic settings and suggests that the relationship between student problems and grade point average is moderated by cultural identity. Bennett and Flett (2001) also found that a high cultural identity as Māori mediated the impact of academic problems and helped Māori students maintain their educational outcomes. These authors also suggest that positive Māori identity may give students access to a network of social support that can buffer them against the detrimental effects of stress and problems. The results of Bennett and Flett's study also support the value of exposure to models of educational success in the children's communities.

Whakapapa/genealogy: To know, to belong, to thrive

In most views of Māori identity, whakapapa is generally agreed to be the key characteristic. Karetu (1990) describes whakapapa as the glue that connects individuals to a certain place or marae, locating them within the broader network of kin relations. Karetu further states that whakapapa is not simply about having 'Māori blood' but knowing about that descent and having a meaningful relationship to it. Knowledge of whakapapa and sense of identity are very important to Māori. Te Rito (2007) believes there is consensus of opinion among Māori that the 'loss' of such identity and whakapapa connections by urban Māori has been a contributing factor to

Māori being over-represented with regard to the ills of present society. Te Rito (2007) further states that, "Whakapapa has had a major part to play in the resilience of Māori and their ability to spring back up" (p. 4). Gifted Māori learners who, aside from their specific area of exceptionality, have a deep knowledge of whakapapa could increase their social capital and mobilise their exceptionality in ways that benefit their communities, subsequently increasing their mana tangata through service.

Therefore, the integration of whakapapa as curriculum could have multiple benefits for gifted Māori children. Bevan-Brown's (2004) findings reveal that "children who had a knowledge of and pride in their Māoritanga had heightened self esteem and confidence and thus were more likely to develop their potential" (p. 189). Her research also found that "children who were strong in their cultural identity, and were in a situation where their culture was valued, were less likely to succumb to negative peer pressure against achieving" (p. 189). It is evident from the literature that gifted Māori learners are more likely to thrive in a culturally responsive environment, that is, one which ensures the learning experiences are as closely linked to the Māori learner's whakapapa, traditions and stories as possible. Educational experiences for gifted Māori children will be enhanced when they are encouraged to use their own whakapapa as a starting point for better understanding what giftedness means for both their cultural and educational identities.

Within our history is our future wellbeing

Giftedness occurs in all cultural, economic and social groups, and is displayed through a combination of a wide range of behaviours. Thus, conceptions of intelligence differ as a function of time and culture. People in different cultures may have quite different ideas of what it means to be 'smart'. Students should be encouraged to learn about their whakapapa as a way of not only understanding self, but also celebrating those gifted individuals and groups in their whakapapa that used their social capital in socially constructive ways. It is believed in Māoridom that a meaningful understanding of one's place in the present can only be understood by reflection and knowledge of one's past (Ihimaera, Williams, Ramsden, & Long, 1993; L. Reid, 2000).

When thinking about my paternal whakapapa (Te Arawa, Ngati Whakauue) and my personal knowledge of *tipuna* who have shaped the way our tribe has developed and maintained strong tribal identity, I am amazed at the diversity of exceptionality. So, within this small example, who is most gifted?

- *Tama te Kapua* - chief navigator of the Te Arawa canoe in its journey from Hawaiiki? He was gifted with the knowledge of navigation - the science of plotting and following a course from one place to another and of determining the position of a moving waka. Mobilisation of his gift allowed his people to find new lands and avoid inter-tribal warfare.

- *Ihenga* – great explorer and discoverer? The accounts of Ihenga's exploratory activities bear testament to a person of great mana, courage, and resilience. He was adventurous and always curious and had a deep knowledge of tribal lore. His incantations were powerful and his keenness to be reflective of his deeds

was a noted trait. He always attended to the detail and while he was not averse to taking risks he was aware that accountability to the iwi was a paramount factor.

- *Kurungaituku* - the famous woman huntress? She was gifted with the speed of the fastest athlete, and her winged arms enabled her to skim across the mountains and valleys of her domain. She guarded the whenua of her tribe by keeping an eye out for enemies. She was loyal, clever and fierce.

- *Sophia Hinerangi, Maggie Papakura, Bella Papakura, Rangitiaria Dennan (Guide Rangi) and Dorothy Huhana Mihinui (Guide Bubbles)?* Since the 1890s the profession of guiding at Whakarewarewa has been almost exclusively in female hands. These women became international personalities, notable for their colourful characters and knowledge. They are remembered for their humour and charm, their command of both the Māori and English languages and knowledge of their culture. The essence of *manaakitanga* and *nga uepū* (a group working for a similar purpose) are evident in their combined giftedness.

- *Ngatoroirangi* - the famous Tohunga (spiritual leader) of the Arawa canoe? The spouting hot geysers, the mud pools and the volcanic fire of the Rotorua region are all the result of Ngatoroirangi and his actions. He was gifted with a strong sense of manaakitanga and stamina. He was also gifted in terms of his wairuatanga, and leadership.

- *Emily Rangitaira Schuster* - recognised as a cultural expert whose skills were sought world-wide? Her mana, knowledge and prestige led the way in terms of Māori arts and crafts being valued in domains other than Māori. She exuded *mana tangata.*

The point is that if we made this judgment based on a traditional definition of intelligence, we would not be able to select anyone in this group as 'gifted' per se. However, intuitively we know that all of these people have high degrees of intelligence in their own unique fields. All would have had their own set of skills, or domain of specialised knowledge specific to their context (social capital). All used their exceptionality and wisdom in socially constructive ways that provided a service to others (constructive action). Clearly, each member of this group used their intellectual, motivational and creative assets in ways that enabled them to solve genuine problems, create effective products and/or offer valuable services.

Like Macfarlane (2006), I believe that the collective wisdom of exceptional tipuna, should be seen as the quintessence of Māori educational potential. When Māori look backwards into our past and recount the exceptional deeds of tipuna, all Māori will find outstanding role models from the past to guide them in moving forwards. Their legacy can be an inspiration and their qualities celebrated. Indeed, like Te Rito (2007) I believe that whakapapa, and its "innumerable networks to people past and present and to physical places like papakāinga" can provide gifted Māori learners, struggling to connect their academic and Māori identities, "with a life-line" that is immensely empowering (p. 4). It is crucial that Gifted Māori learners be encouraged to value their culture and see it as a relevant and meaningful part of their educational success.

Culturally responsive curriculum should include content that values, affirms and develops the learner's gifted potential, whakapapa, and identity as Māori.

Final thoughts

This paper has proposed that the study of whakapapa, as a means of exploring how giftedness has been interpreted and enacted within family or tribal histories, can simultaneously strengthen the development of positive racial-ethnic identity and academic exceptionality for gifted Māori learners. The proposed curriculum involves three key components: a comprehensive knowledge of whakapapa and positive sense of identity as Māori; a knowledge of how their area of exceptionality is of value to their communities of interest (social capital); and, an understanding of how they can transform their gifted assets in service to those communities (constructive action). I speculate that the acquisition of culturally-valued knowledge, awareness of how to mobilise exceptionality in the service of others and positive sense of Māori identity, might be the key to overcoming the disengagement and disaffection rampant among gifted Māori learners. In helping learners to better understand and appreciate the richness of their whakapapa, schools create conditions where Gifted Māori learners can learn how to be gifted *and* proud, academically exceptional and Māori.

References
Altschul, I., Oyserman, D., & Bybee, D. (2006). Racial-ethnic identity in mid-adolescence: content and change as predictors of academic achievement. *Child Development, 77*(5), 1155-1169.

Aronson, J. (2004). The threat of stereotype. *Educational Leadership, 62*(3), 14-19.

Bennett, S. (2002). *Cultural identity and academic achievement among Māori undergraduate university students.* Paper presented at the National Māori Graduates of Psychology Symposium, Hamilton, NZ.

Bennett, S., & Flett, R. (2001). Te Hua o te Ao Māori. *He Pukenga Korero: A Journal of Māori Studies, 6*(2), 29-34.

Bevan-Brown, J. (1992). *Special abilities: A Māori perspective.* Wellington, N.Z.: He Parekereke Dept. of Education Victoria University of Wellington.

Bevan-Brown, J. (1993). *Special abilities: A Māori perspective.*, Massey University, Palmerston North.

Bevan-Brown, J. (2002). *Providing for the culturally gifted: Considerations for Māori children.* Paper presented at the The 15th Biennial World Conference for Gifted and Talented Children: Gifted 2003 A Celebration Downunder. Adelaide, South Australia.

Bevan-Brown, J. (2004). Gifted and talented Māori learners. In D. McAlpine & R. Moltzen (Eds.), *Gifted and talented: New Zealand perspectives.* Palmerston North: Kanuka Grove Press.

Bevan-Brown, J. (2005). Providing a culturally responsive environment for gifted Māori learners. *International Education Journal, 6*(2), 150-155.

Bishop, R., Berryman, M., Cavanagh, T., & Teddy, L. (2007). *Te kotahitanga phase 3 whanaungatanga: Establishing a culturally responsive pedagogy of relations in mainstream secondary school classrooms.* Wellington: Ministry of Education.

Bishop, R., Berryman, M., Tiakiwai, S., & Richardson, C. (2003). *Te Kōtahitanga: the experiences of year 9 and 10 Māori students in mainstream classrooms.* Wellington, N.Z.: Ministry of Education Research Division.

Bowman, P., & Howard, C. (1985). Race-related socialization, motivation, and academic achievement: A study of black youths in three-generation families. *Journal of the American Academy of Child Psychiatry, 24*, 134-141.

Cathcart, R., & Pou, N. (1994). The gifted child who is Māori. *NZAGC Gifted children. Their future: Our challenge, 17*(3), 13-17.

Durie, M. (2001). *A framework for considering Māori educational advancement: Hui Taumata Mātauranga, Opening Address*. Taupo: Department of Māori Studies, Massey University.

Durie, M. (2005). *Nga Tai Matatu: Tides of Māori endurance*. Melbourne: Oxford University Press.

Education Review Office. (2008). *Schools' provision for gifted and talented students: Good practice*. Wellington, NZ.

Gardner, H. (1983). *Frames of mind: The theory of multiple intelligences*. New York: Basic Books.

Gardner, H. (1999). *Intelligence reframed: Multiple intelligences for the 21st century*. New York: Basic Books.

Ihimaera, W. T., Williams, H., Ramsden, I. M., & Long, D. S. (1993). *He Whakaatanga o te ao : the reality*. Auckland, N.Z.: Reed.

Jenkins, H. (2002). *Culturally relevant pedagogy: Embracing Māori giftedness.* Unpublished dissertation. Hamilton, New Zealand: University of Waikato.

Jenkins, H., Macfarlane, A. H., & Moltzen, R. (2004). Embracing Māori giftedness: The dynamics of power, culture and visibility. *New Zealand Journal of Educational Studies, 39*(1), 55-69.

Karetu, T. (1990). The clue to identity. *National Geographic, 5*(Jan), 112 - 117.

Macfarlane, A. H. (2004). *Kia hiwa ra: Listen to culture: Māori students' plea to educators*. Wellington, N.Z.: New Zealand Council for Educational Research.

Macfarlane, A. H. (2006). Becoming educultural: te whakawhitinga on ngā mātauranga. *Kairaranga: Weaving educational threads, weaving educational practice, 7*(2), 41-43.

Mahuika, R. (2007). Māori gifted and talented education: A review of the literature. *MAI review, 1*, 1-13.

Miller, C. T., & Kaiser, C. R. (2001). A theoretical perspective on coping with stigma. *Journal of Social Issues, 57*, 73-92.

Niwa, T. (1998/99). Māori students with special abilities. *APEX, 11/12*(1), 3-8.

Osborne, J. W. (2004). Identification with academics and violence in schools. *Review of General Psychology, 8*(3), 147-162.

Oyserman, D., Brickman, D., & Rhodes, M. (2007). Racial ethnic identity: Content and consequences for African American, Latino and Latina youth. In A. Fuligni (Ed.), *Contesting stereotypes and creating identities: Social categories, social identities and educational participation* (pp. 91-114). New York: Russell Sage.

Quintana, S. M., & Vera, E. M. (1999). Mexican American children's ethnic identity, understanding of ethnic prejudice, and parental ethnic socialization. *Hispanic Journal of Behavioral Sciences, 21*, 387-404.

Reid, L. (2000). *Being, doing, and becoming : what personal history influences career choice for Māori?*, University of Auckland.

Reid, N. (1990). Identifying the culturally different gifted in New Zealand. *APEX, 3*(3), 3-10.

Renzulli, J. (2002). Expanding the conception of giftedness to include co-cognitive traits and to promote social capital. *Phi Delta Kappan, 84*(1), 33-58.

Rubie-Davies, C. (1999). *The effect of a Māori culture group experience on children's self-esteem, locus of control and academic performance.* University of Auckland, Auckland, NZ.

Rubie-Davies, C., Hattie, J., & Hamilton, R. (2006). Expecting the best for students: Teacher expectations and academic outcomes. *British Journal of Educational Psychology, 76*(3), 429-444.

Rymarczyk Hyde, C. (2001). Māori children with special abilities (MCWSA). Recognising and providing for: "Nga pohutukawa roa - tall pohutukawas". Accessed at http://www.tki. org.nz/r.gifted/pedagogy/Māori_students_e.php.

Steele, C. (1997). A threat in the air: How stereotypes shape the intellectual identities and performance of women and African Americans. *American Psychologist, 52*(June), 613-629.

Steele, C. (2004). A threat in the air: How stereotypes shape intellectual identity and performance. In J. A. Banks & C. A. M. Banks (Eds.), *Handbook of research on multicultural education* (Vol. 2, pp. 682 – 699). San Francisco: Jossey-Bass.

Te Rito, J. S. (2007). Whakapapa: A framework for understanding identity. *MAI Review, 2*(Article 2), 1-10.

Whitinui, P. (2007). The indigenous factor: Exploring kapahaka as a culturally responsive learning environment in mainstream secondary schools. University of Auckland, Unpublished doctoral disseration.

Whitinui, P. (2008). Kapahaka counts: Improving participation levels of Māori students in mainstream secondary schools. *MAI Review, 3*(Article 8), 1-14.

Ziegler, A., & Heller, K. A. (2000). Conceptions of giftedness from a meta-theoretical perspective. In K. Heller, F. Monks, R. Sternberg & R. Subotnik (Eds.), *The international handbook of giftedness and talent* (pp. 3-21). Oxford: Elsevier Science Ltd.

Gifted and Talented Maori and Pasifika Students: Issues in Their Identification and Program and Pastoral Care Provision

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Recently I had the immense privilege of interviewing a gifted and talented Mäori boy in the senior secondary school. He shared his journey from personal and family trauma, including rejection by his peers when he was misplaced in a middle band class in his early secondary schooling through to becoming a successful academic who has won acceptance amongst his peers and has a clear sense of purpose and direction in his life. What are the secrets to his success and the success of other gifted and talented Mäori and Pasifika students and what can we learn about identification, programme provision and pastoral care from their stories?

A twenty-minute presentation only gives scope for a brief comment about some of the issues. These are not necessarily the most important issues, but they are some of the issues of which I have become aware through my research and almost 16 years experience as principal of two primary schools, one with a 42% Mäori and 21% Pacific Island roll and the other with a 57% Mäori roll.

In common with all students, I believe Mäori and Pasifika students are involved in a search for their personal identity. They want to know who they are, what they are here for and where they are going in life.

In addition to the search for identity there are some culturally specific issues that are significant. Conceptions of giftedness and/or intelligence detailed in published works generally have their derivation in western European culture. As a result there are significant issues that arise for individuals in indigenous and minority cultures related to identification, program provision and pastoral care. Mono-culturally biased conceptions of giftedness have led to mono-culturally biased identification procedures, program provision and pastoral care. This relates to the pattern of dominance and subordination in intercultural relations that developed in New Zealand (Bishop & Glynn, 1999).

A third issue is the different social and cultural nature of Mäori and Pasifika homes by comparison with pakeha (New Zealand Europeans). A Mäori senior staff member in one school, whose wife is a Pacific Islander, commented, "I know through extensive researching about PI (Pasifika) and Mäori there is a massive difference culturally in terms of socially at home compared to pakeha. These boys have very small homes. They don't have an area to study. They sleep in the lounge, especially PI. They don't

have access to the Internet. Socially those are very difficult. They spend a huge proportion of their time at church and doing service." These wider issues all relate to more specific issues related to identification, program provision and pastoral care.

In New Zealand, both Mäori and Pasifika students have been under-represented in programs for the gifted (Keen, 2003; Riley, Bevan-Brown, Bicknell, Carroll-Lind & Kearney, 2004). We need to reflect on why Mäori and Pasifika students are under-represented and question the means by which it is determined students should be participants in programs for the gifted and talented.

Frasier, Garcia and Passow (1995) concluded from their review of assessment issues that there are three main reasons for the under-representation of minority groups in programs for the gifted and talented:

1. Test bias. Cultural and language issues make standardised testing unfair for students from ethnic minorities.
2. Selective referrals. The attitudes of teachers and their inadequate knowledge about minority students means that many gifted and talented students are never identified.
3. Reliance on deficit-based paradigms. Because educators focus on the deficits of students they fail to recognise the strengths that they have.

What then can be done to address these issues?

Reviewing tests for mono-cultural bias and providing tuition on test-taking techniques and providing sample practice questions can enable traditional-style tests to be a more accurate reflection of cognitive ability. Culturally neutral tests such as Torrance's Tests of Creativity and Ravens Progressive Matrices inevitably reveal gifted and talented Mäori and/or Pasifika students who have not been identified by other tests. Silverman (2002) considers that many gifted and talented students who are never identified are visual-spatial learners. I have used her visual-spatial identifier across a sample of around 1600 Year 9 and 10 students at Hamilton Boys' High School from 2007 to 2009. I have then checked the extreme visual-spatial students from middle and bottom band classes and checked their non-verbal reasoning subtest scores on the standardised MidYIS test undertaken by all our Year 9 students. Those with high scores of 114+ have been tested using Ravens' Progressive Matrices. I have had several Mäori boys who have performed extremely well including two who have gone off the top of the scale in the Ravens' test with percentiles of 99+. Further follow up has then been taken, including consultation with parents and teachers.

A first step to dealing with the issue of selective referrals should be developing greater teacher awareness of Mäori and Pasifika as well as traditional western European conceptions of giftedness and talent. This would enable teachers to identify giftedness through observation in the normal course of their teaching. Significantly, from Bevan-Brown's (2004) research with Mäori the areas most frequently identified by interviewees as domains of giftedness were:

- Outstanding personal qualities and high moral values.
- Service to others.
- Traditional knowledge and skills. (p. 178)

It is highly improbable that any sample of western European adults would have come up with such a list. Miller's (2003) research with people of Cook Islands' ethnicity indicated a high value also placed on these domains of giftedness. Clearly, to develop appropriate identification processes for Māori and Pasifika students and to also make appropriate program provision, educators must take cognisance of what is valued by Māori and Pasifika people, and involve Māori and Pasifika educators and the whanau of students.

Now we move to consider deficit thinking. Think of chess. How would you describe the stereotypical skilled chess player? Would you picture a Māori girl in that role? When I was principal at Kihikihi Primary School I ran a lunchtime chess club. We had a ladder and students competed for places on the ladder. I decided to enter the top seven in the Waikato Individual Chess Championships. Five of those top seven were Māori girls, one was a Māori boy and the other was my son. Three of the Māori girls beat boys from a well-coached private preparatory school. Kihikihi School did not have a stereotypical group of chess players. They were the only Māori at the tournament. Negative stereotyping is strongly linked to deficit thinking. Encouraging students to break the stereotypes is an important part of breaking down deficit thinking. Challenging teachers to discard their stereotypes is also vitally important.

With regard to providing effective programs for Māori and Pasifika students the key issues relate to relevance, challenge and teaching strategies.

Relevant programs will provide opportunities for students to make links with their cultural roots. For example, in the primary school there are reading texts produced by Learning Media of particular relevance to Māori and Pasifika students such as "Uncle Timi's sleep" which is set in the Cook Islands and "At the marae". At the secondary school level, in the English program, Māori woman author, Patricia Grace's "Journey" is a Year 11 set text at Hamilton Boy's High School. It explores the issue of dislocation from the land and change in the world of the Māori.

Programs need to have sufficient challenge. Several secondary school students have commented to me how lacking in challenge their programs were in the senior primary school or intermediate years, as they are sometimes known in New Zealand. They enjoy the greater challenge of work at high school. At Hamilton Boys' High School up to 90 boys each year begin their NCEA Level 1 qualifications a year early in Year 10, and in Year 11 many, in fact most of these, take on the CIE international qualification, IGCSE. Many of our top students qualify for university entrance both through the New Zealand NCEA system and the CIE system. In Year 13 last year, we had around 60 enrolments in the New Zealand Scholarship examinations. Most of our academics, including those of Māori and Pacific Islands ethnicity, enjoy the additional challenge that our school program provides by comparison with most other New Zealand secondary schools. In the senior school our students have a range of 36 different subjects from which to choose. Our school has a program that provides both acceleration and enrichment for our top academics.

The teaching strategies used are also an important factor in providing effective programs. Boys I interviewed spoke particularly about the teacher's sense of humour, use of today's technology and feedback as being important.

At the heart of providing effective pastoral care to students are three important principles: help students discover their identity, communicate that you care about them and encourage them to take risks. Both parents and educators have responsibilities in these areas.

"Due to their isolation, uniqueness, feelings of not being normal, and self-analytic ability, many gifted youth experience severe identity problems regarding who they are and what they wish to become" (Davis & Rimm, 2004, p. 43). Being in touch with their cultural roots is a very important part of students discovering their identity, particularly in understanding who they are. Many Māori and Pasifika students spoke to me about how important it is for them to connect with their cultural roots through the language and/or performance aspects of their culture. What was pleasing to hear was that all the boys I interviewed in my PhD research considered the school valued their culture.

Many boys commented on the care given to them by both parents and teachers. One Samoan migrant father, for the past 3½ years has regularly dropped his gifted son at the university library to enable him to study there. With competition for the computer at home from other siblings, and no Internet access, this boy's father has decided that the best way to give him the support he needs is to drop him at the university library and collect him when he is finished. Many of the top Pacific Island academics, in fact, commented that their parents would do anything possible to provide them with the resources and support to ensure academic success. Many boys also commented on the way some teachers went out of the way to care for them. Many teachers are providing extra tutorials out of regular class time to help students achieve to their best. One Pacific Island boy recounted to me how his tutor teacher, also a Pacific Islander, loaned him his laptop because he had no computer available at home that he was able to use for his homework. Several boys also spoke about how they had been helped by teachers who were approachable and made themselves available to give extra help outside of normal classroom hours. Such care builds a relationship of trust that assists student achievement.

Davis and Rimm (2004) stated that a certain amount of risk taking is necessary for students to be able to achieve successfully in the academic field and in their careers. Unless they take risks they severely compromise their opportunities to succeed or to become leaders. As part of the EHSAS (Extending High Standards Across Schools Project) in which Hamilton Boys' High School was involved with two other boys' secondary schools, three weekend hui were held where ten top Year 9 and 10 Māori academics from each school got together to hear motivational speakers and participate in activities designed to challenge students to take risks, build team work and leadership capacity. One activity that has been recounted to me was learning to paddle a waka on Lake Rotorua. This was the first time many of them had done this. The boys went a long way out onto the lake and then had to turn for home and paddle into the wind in cold conditions. They had to keep on encouraging each other all the

way but arrived back with a sense of triumph and camaraderie. It is important that students have new and different learning experiences rather than sticking to the safe and familiar. It is also important that some of these experiences require them to overcome fears within sensible safety guidelines.

There are many factors to be considered in the identification of gifted and talented Mäori and Pasifika students. From my experience and research three of the key factors are the search for personal identity, the conceptions of giftedness held by schools and teachers, and an awareness of the different social and cultural features of Mäori and Pacific Islands students' home lives. Consider. What are you doing to encourage students to develop a strong sense of personal identity? How broadly based is your conception of what constitutes giftedness and talent? How well do your programs and pastoral care provision take into account the cultural and home backgrounds of your students?

One of the young men I interviewed is a shining example of a student who overcame a very significant obstacle to achieve as a top academic. He is a Pacific Island migrant. He came to New Zealand at the start of Year 10 having studied some English and being able to read and write in English to some extent but had never had a conversation in English. He recounted his first day in a New Zealand school to me explaining how the palangi had been talking to him in the playground and he didn't know what they were saying. Right from the start he was placed in the top Year 10 class based on some entrance tests the school did with him. He described how his first hour in class was so hard. He told me he never wanted to go to an easier class or give up but was determined to make it in that class. He asked his father and sister for help at home and studied at night until he could understand what he had been taught during the day. He put his success down to the support of his parents and sister, the care and support of teachers, believing in himself, never giving up and his Christian faith. Clearly this is a young man with a strong sense of personal identity who I believe will go places in life.

References

Bevan-Brown, J. (2004). Gifted and talented Mäori learners. In D. McAlpine & R. Moltzen (Eds.), *Gifted and talented: New Zealand perspectives* (2nd ed.) (pp. 171-197). Palmerston North, New Zealand: Kanuka Grove Press.

Bishop, R., & Glynn, T. (1999). *Culture counts: Changing power relations in education.* Palmerston North, New Zealand: Dunmore Press.

Davis, G.A. & Rimm, S.B. (2004). *Education of the gifted and talented* (5th ed.). Boston: Pearson.

Frasier, M.M., Garcia, J. H., & Passow, A. H. (1995). *A review of assessment issues in gifted education and their implications for identifying gifted minority students.* Storrs, CT: National Research Center on the Gifted and Talented.

Keen, D. (2003). *Talent in the new millennium.* Paper presented at the 2003 World Council for Gifted and Talented Children conference, Adelaide, August 2, 2003.

Miller, G. (2003). *Perceptions of giftedness in the Cook Islands Mäori community.* Unpublished Master of Gifted Education thesis, Flinders University of South Australia, Adelaide, Australia.

Riley, T., Bevan-Brown, J., Bicknell, B., Carroll-Lind, J. & Kearney, A. (2004). *The extent, nature and effectiveness of planned approaches in New Zealand schools for providing for gifted and talented students.* Wellington, New Zealand: Ministry of Education.

Silverman, L. K. (2002). *Upside-down brilliance: the visual-spatial learner.* Denver, CO: De Leon Publishing.

Celebrating Gifted Indigenous Roots: Gifted and Talented Pacific Island (Pasifika) Students

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We should see culture, not as a singular, but as layers of beliefs, knowledge, and experiences which both interact and intercede as the requirements of daily living demand (Anderson, Hoeberigs, Mackinnon, & Thwaites, 2006).

Abstract

This paper will examine notions of indigenous roots and what it means to celebrate them in our secondary schools/high schools. The context of Pasifika students is provided as a foundation from which to understand the nature and place of Pasifika students in the New Zealand context. The research landscape which underpins much of the philosophy behind the framework of identifying gifted and talented Pasifika students is provided by Cummins, Delpit and Anae. The process of establishing the cultural identifiers to reflect notions of Pasifika gifted and talented students and how these cultural identifiers are used will be explored. Inclusion of student voice from the induction into the program and their reflections during the course of the program will also be outlined. How these gifts were then nurtured to produce and heighten Pasifika students with their talents will also be discussed.

Introduction

Culture and indigenous roots in Pasifika terms cannot be separated as the opening quote suggests. Just as Anderson, Hoeberigs, Mackinnon and Thwaites (2006) suggest, culture is a layer of beliefs, knowledges and experiences which both interact and intercede as the requirements of daily living demands. The prevalent use of the term 'Pasifika' is employed to align with the Ministry of Education definition of Pasifika people, those people who have migrated from the Pacific and live in New Zealand. The migrant experiences of Pasifika peoples to New Zealand have been highly documented by noted anthropologists such as Anae (1998) who discusses the "identity journeys" of New Zealand born Samoans. The issues that Anae highlights in terms of the diaspora understanding of these migrant people will be explored further in this paper with reference to the concept of the identity continuum. 'Indigenous roots' is used to refer to the native culture and protocols that are unique to Pasifika people, with commonalities amongst the people, specifically the universal ties that hold them together. But despite the similarities amongst Pasifika people, it is important to note that Pasifika people cannot be seen as a homogeneous group with

one language and one culture, as each Pacific nation has its own distinct culture and distinct language, or in the Cook Islands Maori case, distinct dialects of their language.

Differing contexts

Identifying gifted and talented Pacific Island (Pasifika) students in Aotearoa (New Zealand) is new and foreign territory. The author of this paper recently completed a contract with the New Zealand Ministry of Education in 2009 to develop cultural identifiers for identifying Gifted and Talented Pasifika students. Nothing of this nature had been previously undertaken. The significance of the production of these cultural identifiers lies in the fact that the cultural strands that are woven together to reflect the multiple identities and varying essences of Pasifika students, lie in contexts *other than* their school contexts.

Establishing Cultural identifiers

Gifted Pasifika is embedded within the family and community, not in the school
The aim of this holistic teaching and learning framework, focuses on developing personalised learning programs and mentoring opportunities for Pasifika students. By valuing Pasifika students' indigenous roots in their culturally religious and wider community backgrounds to form the basis in bridging the gap between home and school, the affirmation of cultural leaders within the home context will flourish in the school environment.

Pasifika identifiers undertaken through interviews with students and parents
Parents in the local Pasifika community of West Auckland affiliated to my school were invited to attend a Pasifika parents evening to discuss their notions of gifted and talented Pasifika students. The response from the parents was overwhelming, in the sense that it is not seen to be accepted to openly identify your child as being gifted, but that the idea of being the parent of a gifted Pasifika child was highly satisfying and a representation of prestige.

Factors to consider when establishing cultural identifiers include:

- Use context of the student's own culture and community to build programs of learning.
- Context for gifted behaviours is foremost within the family and community.
- Parents must understand the process and be active participants within it.
- Parents and students must have trust in the facilitator/teacher leading this process.

Cultural Identifiers

Pasifika community groups consulted about notions of Pasifika giftedness
Ten cultural identifiers were developed based on consensus gained from the parent community of our school, and were put to the test by consulting other Pacific

communities involved in local church networks and NZPPTA (New Zealand Post Primary Teachers' Association) Pasifika teachers from around the Auckland region.

1. ADAPTABILITY (e.g. Strategically adapts to Pasifika or NZ thinking)
Students are able to move between worlds depending on what is required of them, having mastered the shift between cultural capitals that allows opportunity for success. Students who are strong in their heritage languages are able to translate between worlds, whereas students who are not so strong in their heritage languages are at least familiar with the processes for socialisation in both worlds which steer them well for understanding expected behaviours and acceptance.

2. MEMORY (e.g. Cites formal Pasifika customs, familial and village links)
Students are able to formally recite customs, protocols, family/ancestral history and links to honorific addresses for village genealogy. This is similar to the Aboriginal emphasis on kinship and family ties, where relationships with family members and being able to memorise specific and detailed genealogy is highly prized as a status symbol.

3. CHURCH AFFILIATION (e.g. Knowledge and experience to benefit others)
Students who are raised predominantly in a Christian religious environment, whether it is in a church which speaks their mother tongue, or an English-based faith, extol the virtues of using their knowledge and experience gained as an individual to benefit others. It is important for gifted and talented Pasifika students to be able to use their skills and experiences in church to be able to transfer to their school context, for example, public speaking, showing signs of respect, behaving in accordance to social norms and questioning for understanding or clarification.

4. COMMITMENT TO EXCELLENCE (e.g. Seeks self-improvement)
Pasifika students are continually motivated by their parents and communities to improve themselves in whatever context they are in. Talents are products of the gifts being realised, so Pasifika students when raised in a nurturing environment are able to seek opportunities for excellence and pursue excellence for family pride and also for personal achievement.

5. RELATIONSHIPS (e.g. Uses talents to promote positive relationships)
Pasifika parents encourage their children to use their talents to foster positive relationships with other gifted Pasifika students. Once Pasifika students are actively engaged in using their talents of music, sport, academic achievement, social experience, they are able to create events for themselves which will showcase these abilities.

6. RESILIENCE (e.g. Reacts to situations with purpose and dialogue)
Gifted Pasifika students are continually being supported to react to situations that have failed outcomes, to continue to persevere and show great determination. Rather than wallow in self-pity, Pasifika students see setbacks as opportunities to aim even higher and achieve to their personal best so that they are able to react more positively in any given situation.

7. LINEAGE / BIRTHRIGHT (e.g. Family traditions shape experiences)
Gifted Pasifika students are able to relate to family traditions which dictate the social and cultural protocols which highlight obedience, respect and humility. If Pasifika students are from families which have significant expectations that pertain to the maintenance of family titles or duties that are specific to their families, they endeavour to excel and maintain connections that will advance their families, village links and community status.

8. LANGUAGE FLUENCY (e.g. Communicates in oral/written forms)
The overwhelming response by parents is that gifted Pasifika students are able to speak, understand or write in their mother tongues. The identity continuum of language fluency shows that despite where New Zealand-born Pasifika may fall, that it is the school's responsibility to value and cater for the needs of the differing types of gifted Pasifika students:

IDENTITY CONTINUUM
Based on Anae's (1998) thesis

Fluctuating between
Identity confusion ----------------------- Secured identity

NZ born Pasifika	NZ born Pasifika	Pasifika born Pasifika
No language fluency	Language fluency	Language fluency

9. LEADERSHIP (e.g. Faithful service progresses to leadership)
Gifted Pasifika students are seen as leaders once they have served faithfully in their church and family contexts. Once other members of the community or village have seen that they have served faithfully, expectations and obligations to lead follow.

10. REPRESENTATION (e.g. Successful career pathways reflect on parents)
As is the increasing case for gifted Pasifika students, their success in job pathways and career opportunities raise the status and prestige of the parents, as their success is seen as a reflection on the parents' upbringing and social standing within Pasifika communities.

Research landscape

Cummins' framework of bilingual education, Lisa Delpit's power of dialogue and Melani Anae's research on the identity journeys of New Zealand-born Samoans provide the research landscape for which Gifted and Talented Pasifika Education must be nurtured. The impact of Pasifika Languages being taught as a medium for instruction in secondary schools as a tool in which to further enrich the learning experiences of Pasifika students has now clearly seen to be a crucial tool for academic success. One important avenue through which Pasifika gifted and talented students will be able to enrich their learning experiences is through the maintenance of their heritage languages, such as Samoan, Tongan, Fijian, Niuean, Tokelauan, Tuvaluan and Cook Islands Maori.

Cummins (2003) highlights the important job for policy makers to support how teachers can best teach minority students. Teachers must examine avenues to reverse minority student failure. Cummins sets the policy context in which there is an urgency for students to have engagement with the school through incorporation of languages and/or culture into school programs, community participation is valued and included, intrinsic motivation is provided for students to succeed by valuing their first language, and finally curriculum advisors empower minority students through relevant assessment which targets prior knowledge and facilitates the shift from the students' known to embracing the "unknown" curriculum. The interdependence theory reinforces the value of first language to help transition second language learners into becoming more academically proficient in their second language. It is important to note here that educators see the continuum of being able to empower minority students, rather than disable minority students. Cummins alludes to the additive and subtractive bilingualism that educators can often unknowingly practise in their classrooms. Empowered students have a strong sense of their cultural identity, and have mastered appropriate school-based knowledge and interactional structures. Disempowered or disabled students do not experience cognitive/ academic and social/emotional foundations. The disempowerment of minority students continues to occur with the presence of the "insufficient hypothesis" that is perpetuated by opponents of bilingual education. It is critical to note here that maximum exposure to English is seen as the only means to increase the acquisition of English.

There is an essential element called "cultural ambivalence" which is experienced by minority students, which refers to the minority students' lack of cultural identification. This is quite similar to the notion of "identity confusion" that Anae (1998) discusses in her doctoral thesis. This adds an interesting dimension to the continuum, because if minority students exhibit signs of being "culturally ambivalent", this raises questions of whether this is because they have chosen to not identify with their minority status culturally, or have been suppressed, and never allowed to fully engage in their minority culture. Is this a conscious, unconscious or uninformed decision made by the minority student? Who allows the minority student to be able to empower themselves? This leads to the notion that student empowerment being regarded as a mediating construct influencing academic performance or as an outcome variable of itself.

Delpit (1988) argues that teachers must teach students the explicit and implicit rules of power to move towards a more just society. I am familiar with the five rules of power and see it on a daily basis in my professional setting and other groups which I am involved in that show hierarchical structures. The five rules of power that Delpit refers to in the article can be viewed not just from a literacy perspective, but also from a sociological, anthropological, ethnographic standpoint to show how New Zealand society operates:

1. "Issues of power are enacted in the classroom". Delpit goes so far as to acknowledge the textbook publishers as they have the power over what content is being valued in the classroom by the teacher, but if not by the teacher, then by the administrators who value this knowledge.

2. There are codes or rules for participating in power, that is, there is a "culture of power". The power relations that exist between parties is evident in a classroom setting, in the staffroom, in an assembly. There are procedures that must be followed, who can, why and how people participate in the setting.

3. The rules of power are a reflection of the rules of the culture of those who have power. Official meetings in schools follow the process of the dominant culture, New Zealand European/British models for meeting procedures. The only place in which the model will differ is for powhiri or pohiri where Maori tikanga will be observed or Pasifika culture when prayers are observed to begin and close a meeting. The rules of the culture of power is maintained because there is no challenge given to how it can be conducted otherwise, and also because as a communication strategy in itself, everyone is a participant in New Zealand style meetings and is fluent with the protocols.

4. If you are not already a participant in the culture of power, being told explicitly the rules of that culture make acquiring power easier. Explicit instruction is definitely the best tool to use when guiding and facilitating the understanding of bilingual learners. Valuing the process-oriented rather than skills-oriented.

5. Those with power are frequently least aware of — or least willing to acknowledge — its existence. Those with less power are often more aware of its existence. Those with less power are acutely more aware of their dominated state because they always see the deficit. It is difficult to negotiate because it is how society has always been, there is the host society and migrant settlers. The overall issues and implications for my professional setting include the oblivious nature of those who are in power. Those who have the "culture of power" are unaware of their importance in providing better opportunities for bilingual students in the school context. The direct implications for my teaching will insist that I explicitly teach all students who have English as their second language, the rules of the "culture of power" to engage. Nash (2000) is in alignment with Delpit who discusses issues of codes of power, as he outlines the necessity for cultural capital to be valued and the perpetuation of deficit theory in reference to Pasifika student achievement.

Implications for secondary education of Pasifika students

Other schools around New Zealand have shown immense interest in developing such programs of giftedness for Pasifika students in their schools. More research and raising the awareness of culture in gifted and talented education will be the key to understanding how Pacific Island students and more importantly, how other indigenous students, can utilise their innate sense of selves to master and navigate through their conflicting worlds.

Low achievement rates for Pasifika students across all education sectors in New Zealand continue to be reported on. However, government agencies have seen the need to introduce strategic plans such as the Ministry of Education's Pasifika

Education Plan 2009-2012 and the New Zealand Qualifications Authority Pasifika Strategy 2009-2012 to cater for the improvement of the overall achievement of Pasifika students, so the deficit reporting model prevails. It is interesting to note, however, that Pasifika students are the highest ethnic group that pursues postgraduate study in tertiary institutions.

Conclusion

In the development and monitoring of the programs for gifted Pasifika students, the following factors have been crucial in its success:

- Intra and interpersonal skills must be valued.
- Our students are at the heart of the learning process.
- Gifts sometimes need a helping hand if they are to be transformed into talents.
- Identify passions, strengths and weaknesses in a holistic manner.
- Identify intrinsic and extrinsic motivators.
- Create opportunities and goals to achieve the goals with the indicators.
- Identify roles of key support people to achieve outcomes.

Traditionally in gifted and talented education, cognitive models and frameworks are used to identify gifted and talented students in mainstream secondary schools. Celebrating indigenous roots of Pasifika students (New Zealand-born Pacific Islanders or Pacific Island-born Pacific Islanders) helps to support the extension of familial links and community groups into the secondary school community to foster academic success.

References

Anae, M. (1998). *Fofoa-i-vao-'ese: Identity journeys of New Zealand born Samoans.* Unpublished doctoral thesis, University of Auckland, New Zealand.

Anderson, E., Hoeberigs, R., Mackinnon, L., & Thwaites, T. (2006). *Culturally inclusive arts education in Aotearoa.New Zealand.* Accessed at www.dramanz.decanker.com/?p=246.

Cummins, J. (2001). Empowering minority students: A framework for intervention. In C. Backer & N. Hornberger (Eds.), *An Introductory Reader to the Writings of Jim Cummins* (pp. 175-194). Clevedon, UK: Multilingual Matters.

Delpit, L. (1988). The silenced dialogue: Power and pedagogy in educating other people's children. *Harvard Educational Review, 58*(3), 280-290.

Nash, R. (2000). Educational inequality: The special case of Pacific students. *Social Policy Journal of New Zealand, 15*, 69-86.

Talented and Living on the Wrong Side of the Tracks

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Abstract

Gifted young people from low socioeconomic backgrounds are underrepresented in gifted and talented programs in New Zealand schools (Ministry of Education, 2000) and in recent years this has been highlighted as an area of concern. The aim of this paper is to indicate the extent to which giftedness and financially challenging circumstances influence the identities of young people from low socioeconomic backgrounds. This study investigates the lived experiences of 93 survey participants and eight interviewees aged between 17 and 27 years, who grew up in financially challenging situations in New Zealand. The research indicates that socioeconomic adversity can actually contribute significantly to adaptive outcomes for gifted young people from financially disadvantaged backgrounds. Moreover, socioeconomic adversity is intrinsically valuable in relation to aspects of identity. This study also suggests that the limitations of giftedness can have more detrimental effects on an individual's sense of identity than limitations associated with their socioeconomic circumstances.

Introduction

Imagine experiencing the highs and lows of being gifted; the euphoria felt with each success, the weight of expectations, or the intense focus required to reach heights that others may only ever yearn for. Then imagine managing this talent within the context of financial constraints. This paper reports on preliminary findings of a study, which explored the lived experiences of gifted and talented young people who have grown up in low socioeconomic circumstances in New Zealand. The key purpose of the project was to investigate the personal and environmental features that enabled these resilient individuals to excel, despite the specific challenges they faced. A common perception of individuals who live in low socioeconomic situations may be that these people experience substantial disadvantage. The personal voices of the young people in this research project provide a valuable glimpse into how challenges associated with financial hardship in interaction with the wealth of considerable talent, may actually result in remarkable resilience.

Background

Gifted and talented education in New Zealand
New Zealand education takes a multicategorical approach to giftedness (Ministry of Education, 2000), which acknowledges that gifted and talented students are not solely those with academic intelligence. Instead, a broad range of special abilities, including creative, leadership, and physical abilities, amongst others, are also recognised as legitimate areas of talent. There is no set national definition in New Zealand for gifted and talented education. As an alternative, schools are encouraged to develop their own programs to meet the needs of their gifted students based on guidelines which have been designed to help facilitate their implementation (Ministry of Education, 2000). This allows schools a degree of autonomy, and it also enables them to approach the identification and nurturing of gifted students in diverse ways, according to the students and communities they are catering for. While this can be an advantage, there are suggestions that the lack of a national definition may also serve to broaden and generalise conceptions of giftedness so that considerations for this group of students can be weakened (Moltzen, 2004a).

Young people from financially disadvantaged backgrounds are one group of students who are underrepresented in gifted and talented programs in New Zealand schools (Ministry of Education, 2000).[1] In recent years the Ministry of Education has recognised this underrepresentation as an issue that requires attention. As a result, various measures have been taken in an attempt to address general gifted and talented education issues. These include an addition to the National Administration Guidelines (NAG) 1 (iii) (Ministry of Education, 2008a), a guideline for schools (Ministry of Education, 2000), and a handbook for parents and teachers of gifted children (Ministry of Education, 2008b). Until recently, a national coordinator and school advisers were appointed throughout the country, and funding was provided for in school and ICT programs, pre-service teacher training, and the professional development of current educators (Ministry of Education, 2008c).

Despite these initiatives, specific groups of gifted New Zealand young people remain unidentified. Issues associated with the identification of gifted and talented young people include perceptions of disadvantage, egalitarian attitudes, and mixed expectations. Deficit or stereotypic thinking diminishes the ability and willingness of some educators to recognise the potential in their students (Alton-Lee, 2003) and this is particularly relevant for students from low socioeconomic backgrounds. The presence of underachievement amongst the gifted and talented is a significant issue, as it results in the loss to society of unfulfilled potential (Moltzen, 2004b). As well, gifted young people who underachieve represent an unrealised fulfilment of personal potential (Siegle & McCoach, 2002). Combine the increased likelihood of underachievement with the added pressures of socioeconomic strain, and young people who are already perceived to be disadvantaged are faced with quite specific challenges.

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[1] According to the Ministry of Education (2000), the largest proportion of 'hidden gifted' in New Zealand schools include students who are gifted but underachieving, children from diverse cultures, those with learning difficulties or disabilities, and those from low socioeconomic backgrounds.

Socioeconomic trends in New Zealand

An alarming persistence of child poverty exists in New Zealand and, according to recent reports, the socioeconomic gap continues to widen (Ministry of Social Development, 2008; St John & Wynd, 2008). In 2007, 22% of all New Zealand children were reported to be living in poverty (Fletcher & Dwyer, 2008), and this is likely to impact on their health, development, and educational opportunities (Friesen, Woodward, Fergusson, Horwood, & Chesney, 2008; St John & Wynd, 2008). As well, childhood disadvantage increases the chances of poor outcomes later in life (Perry, 2004). Young people who are gifted from low socioeconomic backgrounds are more likely to experience disadvantage simply because they have been denied access to opportunities or are deprived due to the nature and quality of their assets (St John & Wynd, 2008; Thrupp, 2008). The effects of poverty on wellbeing, ability, and achievement have been increasingly noted, and an array of factors associated with poverty is inclined to exacerbate these effects (Fletcher & Dwyer, 2008).

If current trends continue, an increasing number of gifted New Zealand young people will find themselves living in financially challenging situations throughout their childhoods and the crucial talent development years. The Ministry of Education (2008c) has highlighted future areas of focus for gifted education policy development, and amongst these is the call to address the particular needs of low decile schools. Some researchers have also recommended that exploration in the area of gifted and talented individuals includes the need for sampling from lower socioeconomic families (e.g. Biddulph, Biddulph, & Biddulph, 2003; Gallagher, 2008; Riley, 2004; Versteynen, 2001). While there has been extensive international research undertaken with socioeconomically disadvantaged gifted groups, relatively few studies have emerged from New Zealand. There may be some comparisons that can be made with international research; however, it is important that New Zealand's unique cultural context is considered in relation to the experiences of gifted individuals from low socioeconomic backgrounds, rather than making weak correlations with other cultural contexts.

Risk and resilience, giftedness, and socioeconomic adversity

Resilience is conceptualised as the ability to adapt in the face of adversity or significant challenges to achieve adaptive outcomes (Masten & Coatsworth, 1998). Risk and resilience literature indicates that the resources that come with giftedness are considered to be a significant protective factor (Bland & Sowa, 1994; Masten & Coatsworth, 1998). When personal or environmental features pose a risk to positive outcomes for the individual, gifts and talents can serve as protective factors that counteract the likelihood of maladaptive outcomes (Seeley, 2003). Some of the resources cited as being associated with high abilities include cognitive ability, self confidence, positive aspirations for the future, and motivation to succeed (Schoon, Parsons, & Sacker, 2004). Research in the area of resilience also indicates that good intellectual capacity and the presence of a caring adult, for example a parent or mentor, are two of the most important protective factors and predictors of resilience (Masten & Coatsworth, 1998; Rutter, 1987).

Socioeconomic status can impact on the nature and quality of interactions and transactions that occur within and between the environments of gifted individuals.

Risk and resilience literature reports that the conditions associated with poverty are considered to be a significant risk factor (Fletcher & Dwyer, 2008; Gallagher, 2008; Pianta & Walsh, 1998; Pungello, Kupersmidt, Burchinal, & Patterson, 1996). In other words, these conditions increase the likelihood of adverse outcomes. Environmental and personal characteristics that are believed to be specific to individuals from low socioeconomic backgrounds have been identified (e.g. Luthar, 2006; Rutter, 2007). In the New Zealand context, environmental characteristics may include inadequate or overcrowded home environments and neighbourhoods that are characterised by high crime rates and higher rates of substance abuse (Ministry of Social Development, 2008; Wynd & Johnson, 2008). Deprived neighbourhoods also tend to have fewer accessible services and amenities, low education and employment levels, and high levels of transience (Fletcher & Dwyer, 2008; Krishnan, Jensen, & Rochford, 2002). Personal impacts of low socioeconomic status may include poor physical or mental health (Fletcher & Dwyer, 2008; Ministry of Social Development, 2008), reduced aspirations, and loss of confidence (Duncan & Brooks-Gunn, 2000; Fletcher & Dwyer, 2008; McLoyd, 1998). High stress levels related to financial pressures can also impact on the quality of interactions between parents and their children (Evans, 2004) and in more extreme cases, this can result in physical abuse, neglect, or violence (Fletcher & Dwyer, 2008).

Not all gifted young people who are from low socioeconomic backgrounds flounder, as is evident in this study. According to Rutter (2007), the experience of adversity may present opportunities that actually promote resilience. Leading theorists (e.g. Gagné, 2003; Renzulli, 2002; Tannenbaum, 2003) have identified that key ingredients for the realisation of exceptional potential lie within the individual and their environments, and the interactions and transactions that occur between both. Conditions associated with socioeconomic adversity are experienced in different ways by individuals. Some individuals are 'born into' generational poverty, and these people are more likely to experience the effects of socioeconomic adversity to a greater extent (Duncan & Brooks-Gunn, 2000; Fletcher & Dwyer, 2008; St. John & Wynd, 2008). Others are 'thrust' into poverty through situations such as divorce or the death of a parent, or sudden unemployment. Regardless of the situation, it is the interplay between the risks associated with conditions of socioeconomic adversity and the protective elements of giftedness that are what ultimately lead to resilience or to vulnerability in these gifted young people.

Methods and data sources

This paper reports on the reflective experiences of 93 survey participants and eight interviewees who are gifted and who grew up in low socioeconomic situations in New Zealand. Participants were sourced from First Foundation (www.firstfoundation. co.nz), an organisation that was formed in 1998 as a means of providing a "hand up" rather than a "hand out" to talented young New Zealanders from financially disadvantaged backgrounds. The scholarships provided by First Foundation provide an opportunity for recipients to pursue tertiary education where they may otherwise not have been able to due to socioeconomic limitations.

Students from partnership schools are invited to apply for the First Foundation scholarships once they reach year 12, which is the second to last year of secondary schooling in New Zealand. Partnership schools range mainly from deciles one to three, and this means that the bulk of their students are drawn from low socioeconomic areas. If successful, scholarship recipients are linked with partnership businesses, which partly fund the students' tertiary studies. These businesses also provide the recipients with part time work over the course of their studies, and a portion of the students' income is also paid into their scholarship funds. As well, scholarship recipients are partnered with a mentor who provides additional support during the scholarship period.

Participants for this project were drawn from current and past First Foundation scholarship recipients and, at the time of research, most of these individuals were aged between 17 and 27 years. From a potential 181 participants, 93 young people responded to the survey, and this included 26 males and 67 females. Most of the survey respondents had completed the majority of their schooling in New Zealand, with 79 participants having spent at least 10 years in New Zealand schools. Survey respondents represented a range of cultures, with 15 young people identifying themselves as being New Zealand Maori, 38 as New Zealand European, and 29 as coming from various Pasifika backgrounds. The remaining 41 participants predominantly identified themselves as being New Zealand born Asian or Indian. Each of these young people was identified as academically gifted at some stage during their schooling, but most also had talents in a range of other areas. Additional talents tended to be those that are perhaps more evident within school settings, and these included leadership, creative arts, and sporting talents in particular.

Eight First Foundation scholarship recipients were invited to participate in interviews and these individuals were selected based on an extensive analysis of their profile information. Efforts were made to ensure that interview participants included a mix of genders, cultures, and talent areas. Four male and four female participants who had completed all of their schooling in New Zealand took part in the interviews. A range of cultures was represented by these eight individuals. Participants included Matiu and Aroha (New Zealand Maori), Laura and Jennae (New Zealand European), Ben (Samoan), Sarah (New Zealand born Asian), Kris (Maori/European) and Niu (Niuean/European).[2]

The interview participants also represented a range of talent areas. All of the eight participants had been identified as gifted and talented by their schools based on their academic strengths. Matiu and Aroha had shown particular strengths in leadership also, and both had played pivotal roles in kapa haka[3] as well as representing their schools as head boy and head girl[4] respectively. At the time of research, Matiu had recently been awarded a national Maori business award, and Aroha was embarking on a law degree at university. Laura and Jennae showed particular promise in the arts. Laura had pursued a fine arts degree at university and has recently been

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[2] Pseudonyms have been used to protect the identity of participants.
[3] Kapa haka is the term used for traditional Maori performing arts.
[4] In New Zealand, a head boy and a head girl are appointed to be the student leaders of their schools in Year 13, their final year of high school.

awarded a national award for her work. Jennae demonstrated exceptional ability as a dancer and, at the time of interview, was highly regarded for her skills both as a dancer and also a choreographer in the community where she lived.

Ben presented as having high abilities in a range of areas, and these included leadership, creative, and sporting talent. At the young age of nineteen, he had a significant leadership role at his university and was also on a government advisory committee. As well, Ben was a talented musician and had been recognised by his community for his service in this area. He had also won a championship award for his sporting abilities. Along with being academically able, Kris and Niu had played their respective sports at regional and national levels. During his interview, Kris revealed that he had made the difficult decision to decline a position in the development squad for a national sports team so that he could pursue a business career. Niu had played representative sport for a number of codes, despite a hereditary disability that had threatened to impact on his athletic ability as he was growing up. Sarah, the youngest of the interview participants, was about to begin her final year at school as head girl. Along with her academic and leadership abilities, she indicated that she had a particular passion for service to others, and was hoping to pursue a career with the United Nations.

The collection of data for this study occurred in three phases. Phase one involved an online survey that was sent anonymously to all current and past recipients of First Foundation scholarships. This survey included 27 questions that were divided into sections about themselves, their gifts and talents, their childhood and school experiences, their relationships, and their socioeconomic circumstances. The second phase of data collection involved in-depth semi-structured interviews. The interview questions were informed by responses to the survey questions, with the aim of eliciting more rich and contextualised details of the participants' life experiences. Following the interviews, email contact was maintained so that these individuals could add information if they desired, and also for the purpose of clarification on behalf of the researcher. In the third phase of data collection, the First Foundation scholarship application files of each of the eight interview participants were accessed and reviewed. This enabled the researcher to verify and validate information given by interview participants, and additional insights from supporting references were gleaned as part of this process.

Qualitative data were transcribed and analysed using Interpretative Phenomenological Analysis (IPA). IPA analysis follows the established pattern of qualitative methods with cumulative and integrative coding. Where IPA is distinctive as a methodology is in the importance of the individual case (Smith, 2004). This methodology allows the researcher to gain an 'inside view' (Willig, 2001) of each participant's lived experiences. It is reliant on how the participant articulates their experiences and how the investigator analyses this information, through careful interviewing and examination of the participant's perceptions. This methodology is consistent with the intention of the project, which was to capture the voices of the young people themselves, and to explore the perceptions, evaluations and attributions that they hold in relation to their talents and personal circumstances.

Interpretive Phenomenological Analysis (IPA) is largely a phenomenological approach, but it also shares some of the theoretical underpinnings of symbolic interactionism (Denzin, 1995). Phenomenological research is concerned with clarifying situations as they are directly experienced by individuals in the contexts of their lives (Giorgi & Giorgi, 2008). Symbolic interactionism focuses on how meanings are constructed through the activities and interactions within the social and personal worlds of individuals (Henwood & Pidgeon, 2006). Smith and Osborn (2008) argue that IPA is concerned with underlying cognitions which the individual uses to make sense of their world, and that what participants disclose gives insight into their cognitions and emotions. The relevance of this approach to the present study is apparent, as the participants' reflections and interpretations of their lived experiences as gifted young people from financially challenging backgrounds were being sought.

Results

The survey and interview data aligned with current ideas from risk and resilience literature. This was evident from responses to a question that asked participants to indicate what it was they felt had helped them to develop their gifts or talents. Participants revealed that the most significant influences on their talent development had been self confidence and self belief, which are reported to be resources associated with high abilities (Schoon, Parsons, & Sacker, 2004). The other significant influence was a supportive family member. Another survey question asked participants to indicate who they felt had been most influential in the development of their talents, and 81.7% of participants revealed that this had been a family member. Additional comments made by participants indicated that the most influential family members tended to be a parent or caregiver rather than siblings or extended family.

Data about socioeconomic adversity from the present study also confirmed findings from risk and resilience research. Participants were asked to comment on challenges they had faced that had impacted on the development of their gifts or talents as they grew up. The difficulties most commonly cited by these young people were financial difficulties and family struggles or challenges, which are reported by resilience literature to be significant risk factors (Gallagher, 2008; Pianta & Walsh, 1998; Pungello, Kupersmidt, Burchinal, & Patterson, 1996). These two major challenges featured significantly higher than other aspects that were mentioned, clearly indicating that participants felt that their socioeconomic circumstances had presented quite definite challenges. Comments made by participants in response to this question reflected some of the conditions outlined in resilience literature as being characteristic of individuals from low socioeconomic backgrounds. The following explanation provides an example of this:

> Financial difficulties were [a] biggie, because I come from a single parent family. As well as having to cope with a 'part time' step dad who had a gambling problem. Money was always tight. I remember many a day coming home to no power or phone.

Identity and giftedness

'Identity' was one of three key themes that emerged from this research, and the remainder of this paper reports on accounts of how the participants' giftedness, combined with growing up in low socioeconomic situations, impacted on their sense of identity. For the purpose of this research, identity has been conceptualised as a sense of personal wellbeing, which follows Erikson's (1968) ideas about identity formation. Erikson proposed that an individual's identity was developed through their interactions with and within their social environments. It encompasses self awareness, self confidence, self belief, and a sense of belonging. The perception that one is valued by those who are important to them is also a major component of the formation of a strong identity. In this study, ninety three survey respondents and 8 interview participants elaborated on how they perceived and developed themselves and their gifts and talents within the context of their challenging personal circumstances.

Perhaps not surprisingly, the data indicated that giftedness had impacted positively on the participants' sense of identity and self worth. When survey participants were asked to describe what they felt was the best thing about being gifted and talented, 64% of respondents revealed that their giftedness had had a positive personal impact as they grew up. The majority of these responses referred to feelings of self worth, confidence, and a sense of fulfilment. One participant outlined that the greatest benefit of her giftedness was "Having something that I'm passionate about and good at, that gives me pride and a sense of self worth." Another stated that "It's a big 'eye-opener' to you and your world. You realise that you have something unique that you can give to others. It's something that no one can take from you because it's embedded in you forever. It's awesome!" In terms of her self worth, one survey respondent expressed that "Knowing there is something that you can do well makes you feel useful. You have value whether you are gifted or not but being useful is a satisfying feeling."

The interview accounts also reflected that giftedness had had positive intrinsic impacts on participants. Kris, a talented sportsman as well as being academically strong, described how having a talent meant that he was more confident all round. He stated that:

> you get to do things other people probably wouldn't be able to and it gives you more confidence...even if you're good in one area, I feel more confident even if I know I'm not very good at another area, that I could do it if I put my mind to it.

Similarly, Ben pointed out that an advantage of having high abilities is that "you're able to excel purely because you *do* have those talents and those gifts."

Matiu reflected on the personal significance of his successes, and described how these had strengthened his self belief. Reflecting on how he had felt after experiencing success at school, he stated that at the time he had thought, "if I can do this *now,* imagine what I *can* do." Matiu made reference to a top New Zealand award he had recently won and attributed this achievement to smaller successes that had boosted his confidence. He stated that "everyone would think why wouldn't *this* be your best

achievement, and it's like well…I wouldn't have got that…I wouldn't even have [had] the confidence to *go* for…something like that, if it wasn't for being head boy."

Giftedness also had negative intrinsic impacts on participants and this was evident from responses to a survey question that asked them to indicate what the worst thing was about being gifted and talented. In response to this question, 75% of participants referred to expectations from self and others, the resulting feelings of the pressure to perform, and the fear of failure. One survey participant explained that "I am too hard on myself which can make life difficult for me and those around me." Other comments reflected the perceived expectations that other people had for participants because of their talents, and the resulting intrinsic impacts. The following two quotes are examples of comments that were echoed throughout the survey responses:

> The expectation is the worst thing by far. People think that you're perfect all the time and therefore when you do make a mistake, they fall on top of you like a ton of bricks…people expect you to be on the ball all the time.

> Everyone has such high expectations of you…it can put quite a lot of pressure on you…I have never failed anything in my life and would like to get it out of the way, because now I am afraid that when I finally do fail something I will find it hard to deal with.

Another response summed up the pressures associated with high expectations and the impact of these on his feelings of self worth. This participant said that, "You feel like a failure if you don't achieve what others expect you to, or if you don't do as well as what you hope, you feel like you are letting people down."

Interview participants gave more detailed accounts of the negative intrinsic impacts related to their giftedness. Kris described the high expectations he had for himself, stating that "[I] expect a lot from myself and I'm pretty harsh on myself…if I don't achieve what I want to achieve sometimes I get really – not down, but I get sort of, sort of angry." Jennae, a talented dancer, described herself as being "a perfectionist" and outlined that this had made her "critical of self." She explained that the high expectations she had for herself had placed her "on the edge, if not just over the edge of burnout" recently. Niu talked about pursuing a sport that his father had been involved in and how "there was a bit of pressure…to live up to [his] reputation." He described how "there was always – someone – who would *compare* us." Sarah, the youngest interview participant who was in her final year of high school at the time of research, pointed out that throughout high school her teachers had "expected me to get first in every school subject." Reflecting on her failure to meet these expectations, she outlined that "when they see your results and stuff, it makes you feel really bad." Sarah elaborated on these feelings, stating that "I used to beat myself over the head but now…I think of it as…I deserve what I get."

One consequence of Matiu's giftedness had been a fear of failure, which stemmed from other people's expectations of him and his identity as a Maori male. Referring to the reported rates of underachievement associated with Maori students in New Zealand schools, he described how his teachers had been encouraging: "It was *kinda* like a 'do it for your people' kind of thing." While these perceived expectations had

been a support for Matiu in one sense, he outlined that "what's hard is that...when you fail it seems like you fail – you fail on behalf of *everyone* that you represent." He went on to point out that "*you* can't stuff up because, you know, if you stuff up then...you'll just be like another statistic."

Laura's interview account described how the expectations of others had impacted significantly on who she had become as a young adult in relation to her creative talents. Going against many of her teachers' advice, Laura chose to follow her passion for visual arts rather than a more 'traditional' and 'stable' pathway with her strengths in science and maths. Laura described her initial reaction to the expectations of her teachers. "I didn't – want to disappoint people, I didn't want to let people down, I felt like maybe – I was smart so I *owed* – them. I owed them to be better than just being a selfish artist." Laura stated that "I gave in for awhile" but she eventually made the choice to focus on developing her artistic abilities. Describing herself as "stubborn", she said that "they never thought I should do art, and so I kind of did it maybe to prove them wrong in a way."

In her final year at school, Laura had the highest grade point average, however, all of her papers were arts subjects. In the final assembly, the award was given to a male peer who had the second highest grade point average but who was pursuing 'more important' or 'valued' subjects, such as physics and maths. Laura described how "disappointed" she had been:

> I took all my arts subjects and that was kind of like "Look I've proved you wrong – I can do well in whatever I choose to do." And then that wasn't even acknowledged. But then...you have a little cry about it, and you get over it and pick yourself up and realise that [the teachers] didn't matter anyway. Because I did what I wanted to do...and I did well at it. I proved to myself that I could do it...and they *know.*

Laura's decision to pursue her own interests has paid off, as she has recently completed a fine arts degree and she also received a national award for her work.

Identity and socioeconomic adversity
Participants indicated that socioeconomic adversity presented definite disadvantages for them. A survey question asked participants to describe how they felt financial constraints had limited the development of their talents. In response to this question, 70% of participants identified extrinsic limitations such as attending "inadequate" schools and having limited access to resources and extracurricular activities. In contrast, only 30% of responses to this question referred to more personal impacts, and comments made by participants highlighted humiliation, frustration, and a feeling of not belonging as being most significant. One individual explained that the biggest limitation for him was "the constant pressure of knowing that your family is struggling financially. Feeling stressed and embarrassed at the fact that you can't afford this or that." Another participant revealed that there were specific frustrations related to her circumstances that had impacted on her sense of self worth:

> When you know you're good at something and you love to do it, there is nothing more frustrating than having to do something else, due to

circumstances, whatever they may be. The sense of frustration and pointlessness to life when it is like this can be overwhelming.

A sense of disarticulation or not belonging was also an issue for some participants. One young person pointed out that she "used to find it hard talking to people that I considered were from a 'higher class' than me and my family."

Interview participants also outlined how aspects of their socioeconomic circumstances had impacted on their sense of identity. Laura described that she had felt "undeserving" when her parents gave her things that would help her to develop her artistic talents because she knew that they could not really afford it. She also had younger siblings and she stated that "I couldn't reconcile myself with the fact that…by me having this, somebody else isn't." Ben referred to how people would just assume that things were "all good in the hood", or okay for him and his family, simply because he came across as talented, smart, and well adjusted. Jennae talked about the embarrassment of having to front up to school with notes saying that she couldn't afford to pay for something this week. Sarah described how "I didn't belong anywhere because…I had friends that had, like, multimillion dollar *houses* and *businesses* and stuff, and then I had mum who couldn't really afford to like, send me to…camps and stuff."

Aroha had experienced quite a turbulent home life as she was growing up, and she described how this had resulted in feelings of self doubt. Despite her obvious academic and leadership abilities, Aroha stated that one of the achievements she was most proud of was "finishing school". When asked why this was such a big achievement for her, Aroha explained that:

> I was in a really low place, year 9 and 10, so it was like…you think about three years later in your life and…you don't really…*know* if you're going to succeed or not, like the rest of the kids at school, you know. You *look* at people that are um, quite *successful* and highly *academic* and you *really* wanna *be* like them but you sort of *know* that you can't because…there's just all this stuff that's happening with you, yourself – whether it's in the home or, with your friends, you know…and um, coming from a broken family, *you* really can't see past that trauma. It's really hard, so *yeah,* that is a…*huge achievement* for me…just to finish school.

Not only had Aroha finished school, but she had successfully completed her final year as head girl. She is currently studying law at university and hopes to be a significant role model for her family and community. Aroha also has aspirations to be involved in Parliament at some point in her life. She recently had the opportunity to meet John Key, the current New Zealand Prime Minister, and cheekily informed him that "I'm coming after you!"

The research data revealed that financial constraints had also impacted positively on the participants' sense of identity. Three quarters of survey participants indicated that experiencing financial constraints as they were growing up had been intrinsically beneficial for them. One survey question asked participants to describe how financial constraints had contributed to the development of their talents. In response,

approximately 50% of participants revealed that these constraints had resulted in them developing a personal strength and determination to change their circumstances. Participants outlined that financial challenges had "made me strive harder for what I want for my future" and "strengthened my resolve to succeed beyond the constraints." One participant stated that "When you're surrounded by a less than positive environment and characterised by negative stereotypes, there's no shortage of motivation to better yourself by developing your talents and skills to break the mould and defy those narrow minded views." Another individual reflected on the source of her determination: "My father's constant struggle to put food on the table and trying to get us kids an education is one of the reasons why I am determined to change not only my life but also my family."

Interview participants elaborated on how socioeconomic adversity had resulted in a strong motivation to change their personal circumstances. Kris outlined how he had been aware as he was growing up that the family's financial situation had been "tight" but that this had always been a "motivating tool" for him. As he said, "I've always thought well, you know, I can make something better than this later on." Two interviewees referred to the "poverty cycle" and the "cycle of unemployment" in their extended families. Matiu reflected on his upbringing, stating that, "I've witnessed and I've grown up in a life where...there is underachievement, there is a poverty cycle, there is violence, there is all of that." He pointed out that "if I didn't *see* that...I probably wouldn't have been as focused as I am." Matiu described how he was determined not to let his upbringing determine who he would be in the future, pointing out that "that's what made me want to be something else...and if I don't – if *I* don't *do* this then there's nothing stopping me from...getting back into that cycle." Referring to her home environment, Aroha described how it had made her "angry and upset that that's the way we have to live...and that became my motivation and my inspiration." She talked about her desire to "break that chain of unemployment around my family...I wanna be the first to sort of break through the ice, and then make a path for them." Aroha has already seen some of the benefits of her hard work. Another member of her family has "found inspiration to get out there and do something herself" as a result of Aroha's influence.

Participants related other intrinsic benefits of financial limitations to their sense of identity. As one survey respondent expressed, financially difficult circumstances had made her "realise that you should focus on the journey and not the destination, because it's the journey that determines the type of person you will become." Developing a strong work ethic and an appreciation for things that other young people perhaps did not place as much value on were cited as significant benefits also. One survey participant described how financial constraints had strengthened her self awareness:

> [financial constraints] made me appreciate things more and place more value on simple things...taught me the value of hard work...taught me that it is never a reason for failure, because success does not stem from money, but from other values...all of which do not have a dollar value.

Another participant reflected that experiencing socioeconomic adversity "makes you a stronger person as you have to fight for what you want." Self worth and confidence were also outcomes of socioeconomic adversity for one individual, who stated that:

> It [financial constraints] has served as a way for me to achieve things then look back upon them and realise that I have done them without huge amounts of money backing me. It is far more satisfying and makes me feel like money is not the 'be all and end all', and if you want to do it, you can.

In his interview, Ben conveyed that challenges associated with his personal circumstances had enabled him to develop a strong belief in himself. He outlined that:

> it *is* all up to you. If you wanna pass, *you* will pass. It doesn't matter if the – system is – or the structure is set up, you know, so that it – it actually pushes you towards failure, or [it] doesn't matter if that encouragement isn't there from teachers and peers. It doesn't matter if, um, you – you know, your mum isn't supportive, that sort of thing, it's all *you* – it's all *about* you.

Aroha also articulated that her self belief had been strengthened as a result of socioeconomic challenges, pointing out that hard times had actually contributed to "who I am." Referring to her rocky relationship with her father, she reflected that "through all the distress and hardship that he's *put* me through, *he's* made me who I am now." She continued on to say that "if he *didn't* put me through that stuff, then I wouldn't be as strong as I am now."

Matiu outlined how his sense of identity had been boosted by supportive teachers in the midst of personal and home challenges. Having to move out of his own unstable home environment to live alone during his high school years, Matiu explained that his school had become a "second home" for him. He pointed out that his teachers had allowed him to "be myself." Their encouragement and the fact that they had "put no constraints" on him had impacted positively on his confidence. Matiu stated quite definitely that being made head boy of his high school was the achievement that "means the most." When he was given this role, he said of his teachers, "it was like they actually just said 'Look, you can do it.' And from then on it was just like the world's my oyster from there…and everything's just bloomed since then."

Discussion

This study revealed that both giftedness and financial adversity contributed to a strong sense of identity in talented young people from low socioeconomic backgrounds. For the majority of participants, having a gift or talent impacted positively on their feelings of self worth and self confidence, and some individuals described the sense of fulfilment that had resulted from having high abilities. Socioeconomic adversity and associated challenges appeared to develop in many participants a strength of determination and belief in themselves. The intense desire to change their personal circumstances tended to manifest as a strong work ethic, and

participants reported that the challenges they had faced had become a specific source of personal motivation.

This finding contributes to the complexities surrounding the interactions and transactions that occur between individuals and their environments that are recognised in human development literature. As outlined earlier, literature suggests that giftedness is more likely to contribute to a positive sense of self (Schoon, Parsons, & Sacker, 2004), while socioeconomic adversity tends to increase stress levels and lower self esteem (Fletcher & Dwyer, 2008; Ministry of Social Development, 2008). Although participants did outline some of the negative impacts of socioeconomic adversity, most of these young people indicated that the outcome of their circumstances had positively influenced how they perceived themselves in relation to other people and in the context of their challenging environments.

Socioeconomic adversity was found to be more intrinsically valuable than damaging in terms of talent development and self identity. This challenges stereotypic perceptions that may be commonly held about individuals who come from financially disadvantaged backgrounds. It also broadens the picture of what has traditionally been suggested to be characteristic of people living in low socioeconomic situations. Participants reported that drive and determination, a strong work ethic, and an appreciation for things that may be less significant to more financially advantaged young people were the most intrinsically beneficial elements of their financial constraints. While many participants also experienced some negative impacts related to their socioeconomic circumstances, it appeared that their determination to change their situations tended to counteract any long lasting influence that these effects may have had.

Perhaps one of the more surprising findings of this research was that the limitations of having a gift or talent impacted more on the participants' sense of identity than the limitations of socioeconomic adversity. It was clear that the weight of expectations played a significant role in terms of hindering talent development, and participants noted that these expectations arose from themselves as well as others. The pressure to perform was seen as a major limitation of giftedness and this appeared to lead to a fear of failure for many of the research participants. The accumulation of expectations and pressures related to their high abilities were significantly damaging to the self worth and confidence of participants, and their belief in themselves and their abilities. The main intrinsic limitations of socioeconomic adversity were described by participants as being feelings of frustration, humiliation, and a sense of not belonging. However, participants in the study tended to view these as secondary to more extrinsic limitations, such as having limited access to finances and resources that would help them to develop their talents.

The notion that giftedness might be more intrinsically limiting for individuals than adverse socioeconomic circumstances may not necessarily oppose some of the ideas presented in risk and resilience literature, but rather add to these. While giftedness may be considered to be a major protective factor (Bland & Sowa, 1994; Masten & Coatsworth, 1998), and socioeconomic adversity a significant risk (Fletcher & Dwyer, 2008; Gallagher, 2008; Pianta & Walsh, 1998; Pungello, Kupersmidt, Burchinal, & Patterson, 1996), the development of resilience and a strong sense of self is a result of

complex interactions. The number and combination of risk factors can influence identity development, and this is dependent on the processes or interactions that might occur between risk and protective factors (Pungello, Kupersmidt, Burchinal, & Patterson, 1996). Reporting on the risk and protective processes occurring in the lives of participants in this research falls beyond the scope of this paper, however, this would be useful to investigate in the context of the wider study.

It is clear that gifted young people who experience socioeconomic constraints face definite challenges in relation to developing their gifts and talents. However, these challenges tend to place more physical restrictions on the individual rather than impacting in personal or intrinsic ways. This raises a question about the support that these particular young people are given. Are parents, teachers, and other professionals associated with gifted and talented young people from low socioeconomic backgrounds focusing too much on trying to 'fix' the extrinsic or the physical limitations that they experience? Participants in this study clearly indicated that physical limitations of socioeconomic adversity are significant, and for this reason, these should not be overlooked. Further findings from this study revealed that physical assistance provided in the form of tangible resources and opportunities actually contributed to the participants' overall sense of wellbeing. However, it could well be that more focus is also required on the intrinsic aspects, and on supporting and empowering these young people to develop a strong and secure sense of their own identity, whatever this may mean for the individual within the context of their challenging situations.

Kris reflected aptly that "at the time, [physical limitations] seem like a big disadvantage but now it doesn't really seem to faze me anymore because you don't need that stuff at the end of the day." Instead, what seems to be more important to this particular group of young people is having personal strength and a firm sense of who they are. This was articulated clearly through the voices of participants in this study, who stressed that "learning to realise your own life in every aspect is something that is very significant." What was most important for these young people was "just knowing who you are and [that] no one can change that" and "knowing how much value you hold as a person…knowing who *you are.*"

Acknowledgements

References

Alton-Lee, A. (2003). *Quality teaching for diverse students in schooling: Best evidence synthesis.* Wellington, New Zealand: Ministry of Education.

Biddulph, F., Biddulph, J., & Biddulph, C. (2003). *The complexity of community and family influences on children's achievement in New Zealand: Best evidence synthesis.* Wellington, New Zealand: Ministry of Education.

Bland, L.C. & Sowa, C.J. (1994). An overview of resilience in gifted children. *Roeper Review 17*(2), 77-80.

Brooks-Gunn, J. & Duncan, G. (1997). The effects of poverty on children. *The Future of Children, 7*(2), 55-71.

Denzin, N. (1995). Symbolic interactionism. In J.A. Smith, R. Harre, & L. Van Langenhove (Eds.), *Rethinking psychology* (pp.43-58). London: Sage.

Duncan, G.J., & Brooks-Gunn, J. (2000). Family poverty, welfare reform, and child development. *Child Development, 71*(1), 188-196.

Erikson, E.H. (1968). *Identity, youth and crisis.* New York: W.W. Norton & Co.

Evans, G.W. (2004). The environment of childhood poverty. *American Psychologist, 59*(2), 77-92.

Fletcher, M., & Dwyer, M. (2008). *A fair go for all children: Actions to address child poverty in New Zealand.* Wellington, New Zealand: Children's Commissioner.

Friesen, M.D., Woodward, L.J., Fergusson, D.M., Horwood, L.J., & Chesney, A. (2008). Living standards and material conditions of young New Zealand families. *Social Policy Journal of New Zealand, 33,* 47-69.

Gagné, F. (2003). Transforming gifts into talents: The DMGT as a developmental theory. In N. Colangelo & G.A. Davis (Eds.), *Handbook of gifted education* (3rd ed., pp. 60-74). Boston, MA: Pearson Education.

Gallagher, J.J. (2008). Psychology, psychologists, and gifted students. In S.I. Pfeiffer (Ed.), *Handbook of giftedness in children: Psycho-educational theory, research, and best practices* (pp. 1-11). New York: Springer Science & Business Media, LLC.

Giorgi, A., & Giorgi, B. (2008). Phenomenology. In J.A. Smith (Ed.), *Qualitative psychology: A practical guide to research methods* (2nd ed., pp. 26-52). London, UK: Sage.

Henwood, K., & Pidgeon, N. (2006). Grounded theory. In G.M. Breakwell, S. Hammond, C. Fife-Schaw, & J.A. Smith (Eds.), *Research methods in psychology* (3rd ed., pp. 342-364). London: Sage.

Krishnan, V., Jensen, J., & Rochford, M. (2002). Children in poor families: Does the source of family income change the picture? *Social Policy Journal of New Zealand, 18,* 118-147.

Luthar, S. S. (2006). Resilience in development: A synthesis of research across five decades. In D. Cicchetti & D. J. Cohen (Eds.), *Developmental psychopathology. Volume three: Risk, disorder, and adaptation* (2nd ed., pp. 739-795). New York: Wiley.

Masten, A. S., & Coatsworth, J. D. (1998). The development of competence in favorable and unfavorable environments: Lessons from research on successful children. *American Psychologist, 53,* 205-220.

McLoyd, V.C. (1998). Socioeconomic disadvantage and child development. *American Psychologist, 53*(2), 185-204.

Ministry of Education. (2000). *Gifted and talented students: Meeting their needs in New Zealand schools.* Wellington, New Zealand: Learning Media.

Ministry of Education. (2008a) *The national administration guidelines (NAGS).* Retrieved from http://www.minedu.govt.nz/educationSectors/Schools/PolicyAndStrategy/PlanningReportingRelevantLegislationNEGSAndNAGS/TheNationalAdministrationGuidelinesNAGs.aspx

Ministry of Education. (2008b). *Nurturing gifted and talented children: A parent-teacher-partnership.* Wellington, New Zealand: Learning Media.

Ministry of Education. (2008c). *Gifted and talented students: Initiatives for gifted and talented learners.* Retrieved from http://www.tki.org.nz/r/gifted/initiatives_e.php

Ministry of Social Development. (2008). *The Social Report: Indicators of social wellbeing in New Zealand.* Wellington, New Zealand: Ministry of Social Development.

Moltzen, R. (2004a). Historical perspectives. In D. McAlpine & R. Moltzen (Eds.). *Gifted and talented: New Zealand perspectives* (pp. 1-32). Palmerston North, New Zealand: Kanuka Grove Press.

Moltzen, R. (2004b). Underachievement. In D. McAlpine & R. Moltzen (Eds.). *Gifted and talented: New Zealand perspectives* (pp. 371-400). Palmerston North, New Zealand: Kanuka Grove Press.

Perry, B. (2004). Working for families: The impact on child poverty. *Social Policy Journal of New Zealand, 22,* 19-54.

Pianta, R. C., & Walsh, D. J. (1998). Applying the construct of resilience in schools: Cautions from a developmental systems perspective. *School Psychology Review, 27,* 407-417.

Pungello, E.P., Kupersmidt, J.B., Burchinal, M.R., & Patterson, C.J. (1996). Environmental risk factors and children's achievement from middle childhood to early adolescence.

Developmental Psychology, 32(4), 775-767.

Renzulli, J.S. (2002). Emerging conceptions of giftedness: Building a bridge to the new century. *Exceptionality, 10*(2), 67-75.

Riley, T. (2004). Looking ahead: Research to inform practice in the education of gifted and talented students in New Zealand. *APEX: The New Zealand Journal of Gifted Education 14*(1). Retrieved from http://www.giftedchildren.org.nz/apex/v14no1art01.php

Rutter, M. (1987). Psychosocial resilience and protective mechanisms. *American Journal of Orthopsychiatry, 57,* 316-331.

Rutter, M. (2007). Resilience, competence and coping. *Child Abuse and Neglect, 31,* 205-209.

Schoon, I., Parsons, S., & Sacker, A. (2004). Socioeconomic adversity, educational resilience, and subsequent levels of adult adaptation. *Journal of Adolescent Research, 19* (4), 383-404.

Seeley, K. (2003). High risk gifted learners. In N. Colangelo & G.A. Davis (Eds.), *Handbook of gifted education* (3rd ed., pp. 444-451). Boston, MA: Allyn & Bacon.

Siegle, D., & McCoach, B. (2002). Promoting a positive achievement attitude with gifted and talented students. In M. Neihart, S.M. Reis, N.M. Robinson, & S. Moon (Eds.), *The social and emotional development of gifted children: What do we know?* (pp. 237-249). Waco, TX: Prufrock Press.

Smith, J. A. (2004). Reflecting on the development of interpretative phenomenological analysis and its contribution to qualitative research in psychology. *Qualitative Research Psychology, 1,* 39-54.

Smith, J. A., & Osborn, M. (2008). Interpretative phenomenological analysis. In J. A. Smith (Ed.), *Qualitative psychology: A practical guide to research methods* (2nd ed., pp. 53-80). London: Sage.

St John, S., & Wynd, D. (2008). Growing inequality and child poverty. In S. St John & D. Wynd (Eds.), *Left behind: How social and income inequalities damage New Zealand children* (pp. 12-26). Auckland, NZ: Child Poverty Action Group.

Tannenbaum, A.J. (2003). Nature and nurture of giftedness. In N. Colangelo & G.A. Davis (Eds.), *Handbook of gifted education* (3rd ed., pp. 45-59). Boston, MA: Pearson Education.

Thrupp, M. (2008). Some inconvenient truths about education in Aotearoa-New Zealand. In S. St John & D. Wynd (Eds.), *Left behind: How social and income inequalities damage New Zealand children* (pp. 109-119). Auckland, NZ: Child Poverty Action Group.

Versteynen, L. (2001). Issues in the social and emotional adjustment of gifted children: What does the literature say? *APEX: The New Zealand Journal of Gifted Education 13*(1). Retrieved from http://www. giftedchildren.org.nz/apex/v13no1art04.php

Willig, C. (2001). *Introducing qualitative research in psychology: Adventures in theory and method.* Buckingham, UK: Open University Press.

Wynd, D. & Johnson, A. (2008). A geography of poverty: Housing and neighbourhoods in New Zealand. In S. St John & D. Wynd (Eds.), *Left behind: How social and income inequalities damage New Zealand children* (pp. 90-103). Auckland, NZ: Child Poverty Action Group.