

The Wii Gaay Project

Education Research Journal

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School of Education
University of New England, Australia
Vol 1: 1–9
ISBN#: 1 921208 33 3
ISSN#: 1832-5122
www.une.edu.au/erj

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ABSTRACT

Historically, the identification of gifted children coming from a background of disadvantage, including socio-economic disadvantage and cultural minority status, has proven to be quite difficult. The Wii Gaay Project has adopted the Chaffey (2002) Coolabah Dynamic Assessment tool in order to identify gifted Indigenous students, who include gifted underachieving students (students previously identified to have high learning potential) and ‘invisible’ gifted underachieving students (students not previously identified to have high learning potential). These students are then provided with an intervention that addresses the perceived underlying causes of the underachievement, enabling them to attain their potential within the education system. This paper outlines the findings of the project and the implications for educators.

KEYWORDS:

Gifted Aboriginal children; gifted underachieving students; invisible underachieving students

INTRODUCTION

The identification of intellectually gifted Australian Aboriginal children, and the provision of suitable educational experiences that will enable them to attain their potential within the education system, are currently both significant issues. The Wii Gaay Project (Merrotsy, 2006) in northwest NSW offers an example of a model that is proving to be effective both in identifying underachieving and ‘invisible’ underachieving Aboriginal children who have high learning potential, and in reversing academic underachievement by addressing the issues perceived to contribute to it. *Wii gaay* means *clever child* in the Gamilaraay language.

The Wii Gaay Project has three components: effective, quantitative and culturally appropriate identification; appropriate intervention and long-term provision; and community involvement. Indeed, community involvement is central to the whole project, which is reflected in three ways. First, members of the Aboriginal communities participate in all aspects of planning, development and implementation of its programmes. Second, there is widespread parent and community consultation and community awareness days. Third, individual Aboriginal adults participate in the identification process and the intervention programme, and act as role models and mentors. Community involvement is not only possible but is necessary if the learning needs of the children are to be adequately addressed.

METHOD

Identification

The Wii Gaay Project has adopted the Chaffey (2002) Coolabah Dynamic Assessment tool in order to identify gifted Aboriginal students, who include underachieving gifted students (students previously identified to have high potential) and 'invisible' underachieving gifted students (students not previously identified to have high potential). The assessment seeks to optimise cognitive performance by addressing perceived causes of academic underachievement, which include low self-efficacy and low teacher expectations.

Chaffey's (2002) CDA process comprises a pretest which uses the Raven's Standard Progressive Matrix (RSPM), a two-hour intervention which attempts to optimise cognitive performance, and a post-test which again uses the RSPM. To apply CDA appropriately, training is imperative. The initial training comprises three sessions of two full days each, with theoretical and practical assignments following each session. Some of the causes of low self-efficacy strongly suggest that, in order to best identify high academic potential in underachieving Aboriginal children, Aboriginal educators trained in CDA are necessary.

For the Wii Gaay Project, each year about fifteen children are identified to be involved in the programme for two years (Years 4 & 5). Two of the graduating children, a boy and a girl, are selected to be Year 6 role models for the younger children.

Intervention

In the Wii Gaay project, specific strategies are employed in a long-term intervention programme that addresses the perceived causes of underachievement in the identified children so that they may attain their academic potential. In particular, the children are involved in enjoyable activities in a safe, comfortable and pressure free environment, and with a focus on intrinsic motivation through mastery and self-efficacy enhancement. The activities develop a positive attitude towards learning by establishing trust, increasing metacognitive knowledge and control, addressing cognitive and affective (both social and emotional) development, and ensuring constant success through scaffolding and supported by

performance and attributional feedback. The project also provides peer role models and adult mentors, and includes a programme of school development and teacher professional learning.

The intervention programme is implemented in two ways, through camps and through on-going activities in school, and it is important that these two components are essentially related.

Each year, the children participate in two three-day camps. For some children, attendance at camp involves a six-hour trip each way. At the camps, they are involved in literacy, numeracy, and information and communication technology based activities that increase cognitive efficiency, develop basic skills, and build on other areas of need such as research techniques. The various tasks are thematic and are designed to challenge the students, who continually receive mastery feedback and scaffolding of information to ensure that they always experience success. Aboriginal community leaders also involve the children in a diverse range of cultural and relationship building activities. Throughout the camp, of course, the children are surrounded by like-minded peers. This has a number of advantages including self-efficacy development by peer comparison (Bandura, 2003) and the removal of peer pressure that often occurs in school by doing well and standing out (cf. the forced choice dilemma, Gross, 1989). A respected and high achieving Aboriginal person from the wider community also attends the camp to act as a mentor and to enrich the vicarious experiences of each child.

After camp, there is on-going support for each child within their school setting. First, the isolation and the large distances involved in the project area make the use of the internet as a communication tool almost essential. There is an on-line forum for the children to maintain their friendships and to support one another. Second, during the three weeks after camp, the adult Aboriginal mentor from camp acts as an on-line mentor for each child. At other times, Aboriginal people who are positive, academic role models are introduced to the programme, and they interact with each child by email once a week for three to four weeks. Third, each term the project field officer visits each child in their school, to support them and to set a series of tasks to complete. The aim is to improve underdeveloped academic skills and to increase engagement by using tasks that are enjoyable and that respond to the child's preferred learning style.

RESULTS

The research component of the Wii Gaay Project collected quantitative and qualitative data on the effectiveness of the identification model used, on academic and affective gains for participating children, and on teacher attitudes and expectations.

Coolabah Dynamic Assessment

If the RSPM is administered, and then readministered about a week or so later, a child would be expected to perform slightly better in the second test due to familiarity with the test items. If the metacognitive intervention really does

address causes of underachievement, then a child achieving to their potential should still perform slightly better in the second test (A1: see Table 1), whilst an underachieving child should make considerable improvement (P). Sometimes the child will perform worse in the second test (G1).

Of course, some children perform at an extremely high level in the pre-test and do not need to have the intervention and the post-test administered. Note in Annie's case (achieving in the top 2% of normed scores for the pre-test) that her Year 3 Basic Skills Test results were Literacy Band 4 and Numeracy Band 3 (where Band 6 is the highest), and that her teacher thought that she was performing to her potential at the lower top of the class.

In the post-test, most of the other children shown in Table 1 performed at the 90th percentile or better, and were invited to join the Wii Gaay programme. It is worth emphasising that their pre-test scores are typically in the middle of the range: they are classic examples of 'invisible gifted underachievers'.

'Lizbeth is worth a special mention. Her post-test result is clearly not strong. Three months later, another test was accidentally administered in which she scored poorly on the easier subscales of the RSPM but extremely well on the two hardest subscales. Her subsequent involvement in the programme has proved to be a remarkable success story.

Table 1. *Coolabah Dynamic Assessment results for the pre-test and post-test*

Student	Pre-test Percentile	Post-test Percentile
A1	50	73
G1	78	69
Annie	98	99
P	14	75
Danny	55	91
Kelly	43	93
Matty	39	93
'Lizbeth	30	60
E	47	98
T1	80	96
A2	64	95
T2	64	98
B1	46	90
F	71	98
Z	66	96
R	71	91
D	80	96

School performance

School performance is commonly measured by state examination results, but better early measures of reversing chronic underachievement could well be participation in schooling and engagement in learning.

Table 2 shows the results for the Wii Gaay children in the Year 3 and Year 5 Basic Skills Tests in Literacy and Numeracy, compared with general data on state averages for all students and for Aboriginal students. The data show that: in Year 3 the Wii Gaay children were consistently but insignificantly below the State average in both Literacy and Numeracy, which is significantly greater than the average for Aboriginal students; in Year 5 the Wii Gaay children were consistently but insignificantly above the State average in both Literacy and Numeracy, which again is significantly greater than the average for Aboriginal students. The only child to perform at Band 6 is Annie in Literacy.

Table 2. *Basic Skills Test results*

Basic Skills Tests	Literacy		Numeracy	
	Year 3	Year 5	Year 3	Year 5
Wii Gaay:	50.3	57.4	52.6	60.5
State:	50.6	56.6	52.8	60.4
Aboriginal:	45.7	51.8	47.6	53.9

Anecdotally (hard data do not appear to be available), school attendance rates for Aboriginal students are poor, and this includes Aboriginal children in the northwest region of NSW. The days absent for the Wii Gaay children are shown in Table 3 and presented as a percentage. Data are shown for all of the Wii Gaay children, as well as with one and then two outliers removed. The asterisk * signifies that one family experienced some difficulties and sent their child away to stay with relatives for over three weeks. Two points are immediately obvious. First, there is a significant drop in the number of days absent from school, apparent over two years. Second, the number of days absent appears to be significantly low (or, if you prefer, the attendance rate appears to be remarkably high).

Class work, completion of most homework and participation in extended individual research projects indicate that each of the Wii Gaay children wants to learn and is engaged in their learning.

Table 3. *Average days absent (indicated as a percentage)*

Average % days absent	2004	2005	2006
Range	0 – 30	0 – 36*	0 – 20
All Wii Gaay students	9.2	6.0	4.2
Excluding one student	8.4	4.4	3.8
Excluding two students	7.6	3.8	2.8

Self-efficacy

Self-efficacy was measured using the Berman-Chaffey (2004) Self-Efficacy Scales. For individuals, the scales do give interesting information, as shown by the case study children in Table 4 (scaled out of 3). Large changes in scores, whether up as for 'Lizbeth in Maths, or down as for Annie in School, appear to be significant. Consistently low scores, as for Danny, are certainly a clear sign that the child is unhappy and needs further support.

However, some caution is needed in interpreting the group data. For example, the children like very much being a part of the Wii Gaay programme. Their responses may reflect that they want to please the person who is administering the scales, or that they feel excited and happy about school and learning because they were on a camp and amongst friends and other children with like minds.

Table 4. *Berman-Chaffey (2004) Self-Efficacy scales results for Case Study children*

B-C Scale	School 04	Read 04	Maths 04	School 05	Read 05	Maths 05
Annie	2.2	2.4	2.4	1.4	2.6	2.3
Kelly	2.5	2.6	2.9	2.4	2.9	3.0
Matty	2.6	2.3	2.3	2.5	2.7	2.6
'Lizbeth	2.3	2.1	1.8	2.6	2.4	2.6
Danny	1.3	1.2	0.7	1.4	0.8	1.1

Teacher attitude and expectations

There is a strong correlation between teacher estimates of student performance and the student CDA pre-test score (see Table 5). In all but one case (T3), the teacher estimated that the student was working to their potential or near to their potential at the estimated level of performance. In all but one case (T2), the teacher estimate of potential, considered with respect to their estimate of

Table 5. *Teacher estimates of performance and potential*

Student	Pre-test Percentile	Post-test Percentile	Teacher estimate performance	Teacher estimate Performance
Annie	98	99	LTOC	TP
Danny	55	91	UBOC	NTP
Kelly	43	93	LTOC	TP
Matty	39	93	LMOC	NTP
'Lizbeth	30	60	LMOC	NTP
E	47	98	MOC	NTP
T1	80	96	UMOC	TP
A2	64	95	UMOC	NTP
T2	64	98	TOC	NTP
B1	46	90	MOC	NTP
F	71	98	MOC	NTP
Z	66	96	MOC	NTP
R	71	91	MOC	NTP
D	80	96	MOC	NTP

Notes: B = Bottom, L = Lower, M = Middle, OC = Of Class, T = Top, U = Upper, N = Near, TP = To Potential.

performance, was considerably below the potential indicated by the student CDA post-test score.

Part of the Wii Gaay Project consciously attempts to address teacher knowledge about giftedness and Aboriginality, about the education of Aboriginal students, gifted students and underachieving students in general, and about implementing recommended strategies in the classroom. However, some teachers express confusion and lack of understanding about the programme, and some of their statements could be interpreted to be racist. On the other hand, others are enthusiastic about the value of the programme and the effect that it is having on the children:

Obviously for so many of these kids, Wii Gaay has brought it out in them and they are achieving so much more. ... You can see the kids growing and really gaining that confidence to keep going. (Matty's teacher.)

IMPLICATIONS

Coolabah Dynamic Assessment appears to be very effective in identifying underachieving gifted Aboriginal children, in particular invisible underachievers. 'Lizbeth shows us that some gifted underachievers still remain 'invisible' after the model has been applied. Certainly, the Wii Gaay children show high academic

potential not only in their post-test results but also in the activities and projects that they do at camp and for the project field officer.

Even though the intervention programme appears to give only modest academic gains for the Wii Gaay children, they are participating in school, they are engaging in classroom activities, they are spending considerable time several days each week completing homework, and they are involved in on-going individual learning projects. The process of identification and recognition of high learning potential along with the intervention programme appears to give enormous benefits in terms of the affective development of the Wii Gaay children. They love being 'a Wii Gaay kid', they express positive attitudes towards learning, they are mostly happy at school, and they are able to relate and form friendships with like-minded peers, often for the first time in their lives. It is noteworthy that a large number of siblings of Wii Gaay children have performed at a high level in the 2007 Basic Skills Test, and have stated that they want to do well so that they too can be 'a Wii Gaay kid'.

Some responses to the professional development programme remind us that attitudes and expectations of people can be slow to change. Some teachers do not see the need to change their classroom practice, and believe that the identification and intervention process gives the family unrealistic expectations of their child. Other teachers adjust their classroom practice, have a positive and supportive attitude towards their students, and have higher expectations of them.

ACKNOWLEDGEMENT

The Wii Gaay Project is a Community project. It has been supported by a three-year grant from the Telstra Foundation, and jointly managed by the Catholic Schools Office, Armidale and the University of New England, with valuable support in particular from Dr Graham Chaffey, Mrs Sharon Cook (CSO Aboriginal Education Consultant) and Mrs Cate Taylor (*Wii Gaay* Project Co-ordinator).

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