



# AISNSW School Based Research Project

## Application Form

The AIS School Based Research Projects are designed to provide new opportunities for schools to undertake, access and utilise education research in their practice. School based research projects are intended to be undertaken over a two year period by practising teachers and/or school leaders. These will be in areas of education which ultimately impact student outcomes and make a substantial contribution to new insights in and beyond individual schools.

Before completing this application please read the project guidelines. These can be downloaded here: [Application Guidelines](#)

A school may apply to undertake a research project on its own, or alternatively a cluster of schools may apply for a project with one school identified as the lead school.

School principal approval is required in the submission of this application.

# Key Contact Details

Please enter your school and project contact details.

## School details

School name	Inaburra School
School address	Billa Rd Bangor NSW 2234
School phone	95432533
Principal's name	Tim Bowden
Principal's email	bowdent@inaburra.nsw.edu.au
Principal's approval (signature)	

## Project contact details

Contact name	Lye Chan Long
Contact role/position	Leader, Learning Enrichment
Contact email	longl@inaburra.nsw.edu.au
Contact phone	0402289639
I am interested in participating as a	<input checked="" type="checkbox"/> Single school <input type="checkbox"/> Lead school of a cluster of schools

# Background and Rationale

This project aims to study the effect of using biographies as bibliotherapy (environmental perceptions) and differentiation techniques (goal valuation/ task meaningfulness) to counter underachievement in a group of identified high ability underachievers at Inaburra School.

The research question for the study is: *Would bibliotherapy and/or differentiation techniques be sufficient to reverse underachievement in high ability students?*

Inaburra School would see the project as a study of what interventions could be useful for high ability underachievers. There has been little or no research to date on the use of bibliotherapy with high ability students for the purpose of reversing underachievement. There has also only been one study into the use of the AOM with high ability underachievers in the US. This project will be the first study in Australia into the use of the AOM and bibliotherapy with high ability underachievers. It will also utilise the strength of the school in its use of technology with students to deliver the course. It is hoped that the project would give some guidance for further work with other similar students. It may allow the school to embed the interventions into the school curriculum for any other identified high ability underachievers. This may also inform other schools with the same issues in the AIS membership.

## Background

Inaburra School is an independent, Christian, K-12 comprehensive school in the southern suburbs of Sydney. It has a student population of approximately 1000 students, making it a medium sized school. Since its inception, there have been some able students who have enrolled, and while many of them are academically achieving, there are also a number of them who are not. More recently, a cluster of them have been identified and since the employment of a staff member trained in gifted education, it has been decided that a study into addressing the needs of these high ability underachieving students would be timely and profitable. The idea came about before the introduction of the AIS Elevate program to the school, so it may be that there are other schools within the AIS which will be interested in this study.

## Literature review

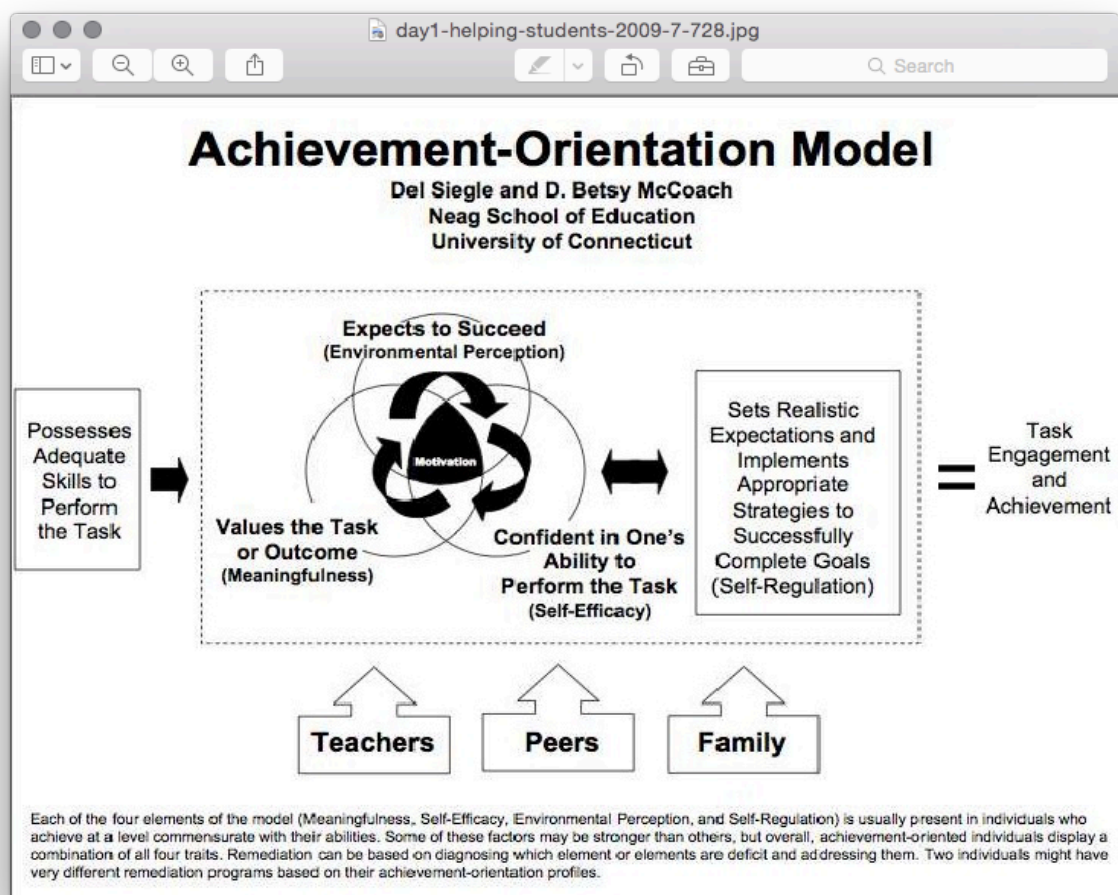
The definition of gifted (Inaburra prefers to call them high ability students) is informed by the definition adopted by the NSW Department of Education (DEC), namely Gagne's (2004) DMGT. In it, a gifted student who is not fully engaged in the developmental process may not achieve his/her potential and is therefore underachieving in one or more areas. There are many reasons as to why the student may be underachieving, which is explained by the environmental and intrapersonal catalysts. In fact, high ability underachievement can be considered as a 'chronic phenomenon' which cannot be fixed without appropriate interventions (Colangelo, Kerr, Christensen & Maxey, 1993).

While the school and family may provide positive influence, the intrapersonal catalysts contributed by the student often is the inhibiting factor towards achievement, in particular, the mental and self-management catalysts. Mental characteristics include temperament and personality. Self-management characteristics, including awareness and motivation/volition, lead to self-actualisation

and personal maturity, both constructs being useful for school achievement/ talent development (Gagne, 2004). This is supported by Hattie's (2009) meta-synthesis of studies involving self-efficacy, self-concept, and motivation.

In the US, middle school (6th & 7th grade) appears to be the critical period where underachievement appears, due to a lack of perceived challenge (Kanevsky & Keighly, 2003; Peterson, 2001; Zabloski & Milacci, 2012), a lack of resilience when faced with new academic challenges (Rayneri, Gerber & Wiley, 2006), or a desire to identify with their non-identified peers (Bailey, 2011; Reis & McCoach, 2000). In NSW, it would appear anecdotally that year 8 is when underachievement often appears and it intensifies in years 9 and 10. The challenge of years 11 and 12 may seem to act as an antidote.

The Achievement-Orientation Model (AOM) was proposed by Siegle and McCoach in 2005 to explain why high ability students underachieve (see Fig. 1). A study by Ritchotte, Matthews and Flowers (2014) suggests that the model may have validity in its use to develop interventions to address the needs of high ability underachievers. According to the AOM, high achieving students find school useful (goal valuation), the environment supportive (environmental perceptions), and perceive themselves to have ability to perform academic tasks (self-efficacy), all of which leads to motivated students who self-regulate and are engaged in their learning, all of which is supported by Hattie's (2009) meta-synthesis. Fig 1. AOM (Siegle and McCoach, 2005)



A study into interventions for high ability underachievers (Rubenstein, Siegle, Reis, & McCoach, 2012) found that students using treatments linked to goal valuation and environmental perceptions showed the greatest change, measured in grade improvement; treatments linked to self-efficacy and self-regulation showed no or little grade improvement. The researchers suggest that treatments may have to be individualised to suit the cause of underachievement, and that providing the student with choice and relative control over differentiation of their learning appears to work best.

Another intervention that does not appear to have been researched fully but may have substantial benefits is bibliotherapy. Bibliotherapy systematically matches reading materials to the needs of each learner to help with student achievement and development (Johnson, Wan, Templeton, Graham, & Sattler, 2000, cited in Cook, Earles-Vollrath, & Ganz, 2006), often used with students with disabilities. Cook et al. (2006) suggest that bibliotherapy provides information and insight into a specific experience, communicates new values and attitudes towards the problem, and more importantly, help students understand that they are not the only one who have experienced the problem. Further, Hebert, Long and Speirs Neumeister (2001) suggest that biographies of gifted individuals could help students gain insights into dealing with problems that they face.

# Methods and Data Collection Approaches

## **Project proper in 2016**

The project will involve 6-12 students (depending on the identification process) from year 7 and 9, 1 or 2 classroom teacher(s), and 1 project manager. The course for the students will run for 10 weeks on a Year 9 elective line (5 lessons per cycle) in Term 1. The Year 7 students would do their course in Term 3. Term 2 and 4 would be used to analyse and write up the data. This would be repeated in 2017 with new cohorts.

First, students will be identified as gifted underachievers based on their ability (psychometric tests, CogAT or other similar tests) at moderately gifted and above, and their achievement (PAT tests, class and semester reports) at a C grade or less. They will audition using a quirky application created to test their willingness to solve an unclear problem. They will then complete a survey/ pretest with an additional set of questions created for the project. The instruments will include ones that have been used in a motivation in high ability underachievers study (Phillips, PhD candidate, University of Wollongong). Parents will also be asked for their insights into student behaviour at home and strategies they have used successfully with students. No ethical guidelines have been contravened in the consideration of the project.

Second, the students will be invited to participate in a course that will run for 10 weeks (see below).

Third, the course will be a flexible, open environment: utilising a card system to allow students to move freely within boundaries of school; not located in a classroom but a learning space (perhaps outside or using a variety of places known to facilitator); using Google Chat to communicate with students during the lesson. Work has to be in a shared folder created by IT department.

Fourth, the post-test (using similar instruments as the pre-test) should show evidence of learning by the students. Parents and teachers would be asked for feedback on the process and progress. The second semester reports will be used to determine usefulness of the project. This will also be used to determine the project size and format in 2017. It is anticipated that there will be modifications following the analysis of the program.

The project will run for 5 periods per fortnightly cycle over 1 term = 23 periods. The 10 week program is as follows:

- Introducing idea (1 period): share how people become talented, talk about what was need to bring to the learning, flexible learning within some boundaries such as period of school time, can learn at home. Some work as a group sometimes.
- Pre-test & survey (2 periods): student identify their own way of learning by watching flipped learning videos (3 mins max). Find strength and weakness (learning survey) and work on improving weaker area by end of research project.

## Bibliotherapy stream:

- Planning idea (6 periods): The practical task is self-selected by each student. It will work parallel with study into an eminent person (someone older than themselves) who has

achieved in an area of interest. The student's will work through the process of how the person achieved, what they needed to learn to reach this level, and hopefully what the student learnt from this process of learning in the course. (support from school librarians would be useful to recommend the appropriate reading material)

- Researching idea (9 periods)
- Discussion with expert (2 period) OR

Differentiation techniques stream:

- learning about the differentiation techniques using the Maker Model(see pilot program below for description) (6 periods)
- identifying lessons/activities in their own subjects that can be differentiated and negotiated with teachers; planning differentiated activities for themselves (10 periods)
- evaluating their differentiated lessons (1 period)
- putting together their presentation (1 period)
- presenting idea (1 period); The culminating activity is to include observations of similarities and differences between people studied. This activity will take the form of a 5-10 min Ted talk with an invited audience.
- post-test (1 period): the students will sit a post-test with some of the questions from pretest being repeated to measure altered behaviour and learning.

**Pilot**

The pilot will run for 6 weeks beginning week 4 of Term 3 in 2015. Four (4) students have been identified; 2 in the control group, 1 in each of the interventions discussed. The program will be a short version of the project design below. The program is described as:

week 1	Pre-assessments using computational and socio-affective skills (including control group) as well as instrument on motivation in high ability underachievers	
	student 1- bibliotherapy	student 2- differentiation techniques
week 2	Discuss purpose of pilot and expectations. Introduce idea of an expert being involved.	Introduce the Maker Model* and the techniques for differentiation. Discuss the end product and expectations with student.
week 3	Introduce how people become talented in an area of this student's interest. Research the path to the selected person's remarkable achievements.	student to consider what technique may be useful for an identified subject (negotiated with teacher)
week 4	Research idea (past and current information)	Put technique to practice in the subject area
week 5	Research idea (past and current information) con't	Put technique to practice in the subject area (con't)
week 6	work on presentation: blog or report in any form they choose, to express what they feel / learnt including explaining their inspiration for their presentation choice. This has to be	

	<p>reported on whatever they have done regardless of their opinion on the completeness of the task.</p> <p>4 volunteer staff members view presentations and make evaluations of students.</p> <p>Post tests for the 4 students. Compare pre and post data, classwork and teacher evaluations.</p>
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\* Maker Model: one of the models specifically designed to help teachers differentiate curriculum for gifted students. Involves the use of a menu of strategies clustered under the dimensions of Content, Process, Product and Learning Environment.

The pilot, because of its time limit, will not include any Flipped learning, Google Chat or open learning environments as per the project proper. The use of such technology is only as an aid to providing communication access between teacher and student, or student and student.

Professional development needs:

Teachers will need to be conversant with the characteristics and demands of underachieving gifted students. They may need to be trained in the Maker Model and the use of bibliotherapy. Some of this training can be done in-house while it would be good to also attend PD in the areas of twice-exceptionality and underachievement (which may be where we will need assistance from the AIS to source such PD).

At the end of 2017, it is anticipated that teachers should have increased their capacity to manage high ability underachievers in their classrooms (while this is encouraged, the project will focus on student data, based on improving student motivation and attitudes, rather than this form of teacher data on teacher improvement).



# Budget

As a minimum, the proposed project budget needs to identify expenditure in the line items listed below. A **nil** value is acceptable where appropriate.

## A. Staffing Costs

Item	Amount
Teacher Release	50000
Staff Salary Component	
Specialist Mentor	25000
Other (please identify in field below)	

Please describe other item/s:

## B. Research-related Activities

Item	Amount
Purchase of materials	2000
Conducting events / activities	2500
Accessing additional external expertise	5000
Other (please identify in field below)	10000

Please describe other item/s:

Inaburra School would like to have the capacity to form a relationship with Prof. Karen Rogers who has carried out a number of studies into underachievement and twice exceptionals. She resides in Minneapolis, US and it would be possible to video-conference with her in this project.

Inaburra School would also like to approach Siegle and McCoach who first developed the AOM, and subsequent researchers such as Richotte, to further understand the latest developments in this field.

### C. Travel

Item	Amount
Visits to other schools or research sites	\$15000
Other (please identify in field below)	

Please describe other item/s:

Inaburra would like to be able to visit schools who are using interventions for gifted underachievers. There are none in Australia that we know of. There are two places that we would like to visit: the Davidson Institute in Reno, and the Bridges School in Studio City, both in the US. We think \$15000 would take 2 teachers to those schools to investigate the programs and interventions used with these students. It would then be possible to visit with Prof Karen Rogers to discuss the project.

#### D. Other items

	Description	Amount
Item 1	Professional development for teachers on underachievement and gifted students- using R. Phillips expertise and study on motivation in high ability underachievers	20000
Item 2	Thinking space- equipment	500
Item 3		

#### E. Total funding requested

	Amount
Total of all funding requests (A+B+C+D)	\$130,000

## F. School contributions (where appropriate)

	Description	Amount
Financial		
In-kind (please identify)		
Other (please identify)		

## TOTAL PROJECT COST

	Amount
Total funding requested and school contributions (E+F)	130,000

# Your Team

Please indicate who will be on your research team (if known)

Name	Position and school	Research role
Lye Chan Long	Leader, Learning Enrichment	Project Manager/ specialist mentor
Adrienne Erwin		Technology expert, teacher
At least 1 other teacher not identified yet		

# Cluster Schools

Please supply contact details of each school in your selected school cluster for the project. If you have more than one additional school in your cluster, copy and paste the two tables below as appropriate.

## Cluster school details

Cluster school name	
School website address	
Contact person	
Contact person's email	
Contact person's phone	

## Cluster School Team

Please indicate who will be on the research team (if known)

Name	Position and school	Research role

# Specialist Mentor Details

Please add details of the Specialist Mentor (if known at this time)

Participating schools commit to establishing or building on an existing Specialist Mentor relationship with an individual consultant or an academic from an institution such as a university.

The school can identify such a mentor or seek the assistance of the AIS in identifying a Specialist Mentor suitable to the intended field of research.

The Specialist Mentor will work closely with the school research team for the duration of the project.

## 1) Do you already have Specialist Mentor?

Yes       No

# Specialist Mentor Details

Mentor's name	Lye Chan Long
Organisation (if applicable)	
Website address (if applicable)	
Role/Position	Learning Leader, Learning Enrichment
Contact email	longl@inaburra.nsw.edu.au
Contact phone	0402289639



# Network Organisations

Even where a school applies as a single school, projects are likely to involve contributions from other organisations and schools.

## Organisation details

Organisation/school name	
Website address	
Contact name (if known)	

**Thank you** for completing the AIS School Based Education Research Project application. If you have any further enquiries please email the Research and Data team at [RandD@aisnsw.edu.au](mailto:RandD@aisnsw.edu.au)