

Questions of Engagement: Improving the learning experience of students in Years 5-8

*Interim report for the Maribyrnong & Moonee
Valley Local Learning and Employment
Network.*

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Research Team

Dr Peter Burridge

Victoria University
Senior Lecturer - College of Education

Dr Peter Burridge is a senior lecturer in the College of Education at Victoria University, Melbourne Australia. For the past 20 years he has focused on enhancing the learning of adolescent students within secondary schools. He has been involved in the development and evaluation of a number of innovative programs across the northern and western suburbs of Melbourne working with disengaged students. These programs have used natural environments, experiential learning and social constructivist approaches to foster the growth and learning reengagement of students.

Contact: peter.burridge@vu.edu.au

Dr Cathryn Carpenter

Victoria University.
Senior Lecturer - College of Education - Youth Studies

Dr Cathryn Carpenter has lectured and implemented outdoor experiential programs in secondary and tertiary settings as well as within commercial organisations for the past thirty years. Her research interests focus on health and wellbeing through the design and implementation of educational, developmental and/or therapeutic programs for young people. These programs often incorporate the exploration and experience of natural environments and places. Her work within the Youth Work degree in the College of Education at Victoria University is developing curriculum and experiences that empower and enhance the agency of young people.

Contact: cathryn.carpenter@vu.edu.au

Ms Wendy Pitt

Maribyrnong and Moonee Valley Local Learning and Employment Network (M&MVLLN)
Partnership Broker.

Ms Wendy Pitt has 40 years experience in state education. Her diverse range of management and leadership experiences at all levels of the education sector including teaching, administration and policy making. Her focus in the past twenty years has been on developing and implementing change in education policy and practice designed to improve outcomes for disadvantaged young people with a strong emphasis on the needs of young people from multi-cultural and low socio-economic backgrounds and those who are disengaged from mainstream education. As a Partnership Broker she has worked particularly with schools in the West of Melbourne. Her experience includes Post Compulsory Policy Manager (DEECD) and Senior Campus Principal.

Contact: wendypitt@mmvllen.org.au

Pre-service Teachers and Youth Work Students:

The following Victoria University students have been involved in the collection of data as part of their final year of education or youth work studies. The research team would like to acknowledge their commitment to the project and thank them for their work with the schools and the school students involved with the project.

Mr Matthew Borg
Ms Penny Burton
Ms Misikir Davies
Ms Rachel Grove
Mr James Mathieson
Ms Ella Mulvey
Ms Rozeena Sen

TABLE OF CONTENTS

BACKGROUND..... 4

RATIONALE..... 4

GUIDING RESEARCH QUESTIONS 5

SCHOOL CONTEXTS..... 5

DATA COLLECTION..... 6

MOTIVATION AND ENGAGEMENT SURVEY (MES) 6

SMALL GROUP STUDENT INTERVIEWS 8

DATA ANALYSIS..... 9

MOTIVATION AND ENGAGEMENT SURVEY (MES) ANALYSIS 9

FINDINGS FROM STUDENT SMALL GROUPS INTERVIEWS 13

BOOSTERS..... 13

GUZZLERS..... 14

LEARNING 15

SCHOOL 16

SUMMARY OF FINDINGS..... 17

PEDAGOGY CONSIDERATIONS 18

REFERENCES..... 20

Background

The *Questions of Engagement* project is an initiative of the Maribyrnong and Moonee Valley Local Learning and Employment Network (M&MVLLLEN) with the general aim of addressing the issue of disengaged young people aged 10-14. Consultation with Victoria University College of Education provided confirmation that this was a valuable area for research that collaboration with the M&MVLLLEN provided an opportunity to develop an innovative strategy to undertake the project with schools.

Consultation with the Principals from both primary and secondary schools in the Flemington / Kensington area endorsed the validity and the potential value of this project to improve the learning outcomes for their students. The project was seen as an opportunity to gain deeper insights into the levels of engagement and motivation of their students and to develop strategies to improve engagement of students with learning. The key focus is that engagement of all students, not just those identified as being disengaged, should be investigated on the premise that engagement is multi-faceted and includes cognitive, behavioural and social engagement.

A partnership with Victoria University, Principals and MMVLLLEN was established in late 2013 and the project commenced in 2014. The data from Stage One of the project provides an overview of student engagement at each of the schools. This paper provides a summary of the data collected across the schools. The aim of the presented data is to provide a catalyst for informed discussion with teachers about classroom practices and school structures that support and inhibit students' engagement with schooling. These discussions will inform Stage Two of the study which in 2015 will focus on examining classroom practice.

Rationale

Understanding student engagement is providing greater insights into students' levels of academic achievement, social connectedness, personal wellbeing and why they complete or drop out of school (Appleton, Christenson and Furlong, 2008). Engagement is not simply a student's behavioural response to a learning activity, but it is the complex interaction between a student's personal background and history with the unique ecology and social geography of the school (Lawson & Lawson, 2013). Student engagement is now viewed as multidimensional with both in school and out of school factors interacting within the context of the learning setting (Appleton, Christenson & Furlong, 2008). The indicators of student engagement are the affective (emotional), cognitive and behavioural involvement with the activity (Fredricks, Blumenfeld & Paris, 2004; Gibbs & Poskitt, 2010). This means that students who are engaged with a learning task are more than behaviourally 'on task', but are investing both their emotional and cognitive energy into the process of learning. Conversely disengaged students are not passively unengaged but may be actively avoiding the task or even consciously disrupting their own learning. They are disaffected from learning (Skinner, Kindermann & Furrer, 2009). If the factors surrounding disengagement

are understood it can be addressed. Student engagement is ‘malleable, namely, it is amenable to improvement via pedagogy and other interventions’ (Lawson & Lawson, 2013, p. 435).

Guiding research questions

Discussions conducted with the schools in 2013 led to the development of four guiding research questions. The data from stage 1 of the project provides insights into these questions and provides data to guide ongoing discussions around classroom practice and school structures.

Research questions:

1. How do students value and interact with different aspects of the school curriculum?
2. What are, and where do, the sources of motivation come from that support student engagement?
3. What is the role of students’ aspiration and engagement with schooling?
4. How does curriculum and pedagogy affect students’ engagement with schooling?

School Contexts

Five schools became involved in the study and provided a range of contexts to explore student engagement with schooling. The schools included both primary and secondary schools enabling the study to examine students’ engagement with schooling from Year 5 through to Year 8. This study encompasses the transition from primary school which in Victoria, Australia, finishes in Year 6 with students moving to secondary school which commences in Year 7. The majority of students in Victorian government schools change schools as they move from primary to secondary school.

The Flemington / Kensington area is socially diverse region including the full spectrum of social advantage and disadvantage. Table 1 provides a summary of the area using the Australian Bureau of Statistics (ABS) Index for Relative Socio-economic Advantage and Disadvantage (IRSAD) from the most recent census data undertaken by the ABS in 2011. This index combines 25 variables to provide a general measure of advantage and disadvantage for households in a given area (BAS, 2014). Each area is given a ranking and deciles of between 1 and 10 with 10 representing households with high socio-economic advantage. As presented in Table 1 the range of advantage and disadvantage in the communities surrounding the schools involved in the study are dramatic. This range of diversity is supported by the school data from the MySchool website and the Index for Community and Socio Educational Advantage (ICSEA) which numerically represents this level of advantage for each school, it has a median value of 1000 with a standard deviation of 100 ICSEA values (ACARA, 2013). The schools involved in the study had ICSEA values from that ranged from 850 to 1130.

Suburb	IRSAD decile Range of statistical areas that make up the suburb	IRSAD decile for the suburb* (1 = highly disadvantaged; 10 = highly advantaged)	IRSAD Percentile for suburb*
Flemington	1-9	2	12
Kensington	2-10	8	80
Ascot Vale	1-9	6	57

Table 1: Summary of Socio-economic Advantage and Disadvantage (*From SEIFA 2011 mapping tool)

The other characteristics of the schools that indicate the range of contexts present were school size, language background and academic achievement. All schools were of the small to medium size with student populations between 100 and 400 students. Most schools had reasonably even numbers of boys and girls with less than 10% variance between genders. Language backgrounds were varied with schools ranging between 13% and 96% of students having a language background other than English. Academic achievement as measured by NAPLAN testing over the past 3 years was generally lower than like schools but often close to the state metropolitan school average.¹

Data Collection

To explore the research questions two sources of data were collected. An independent and validated survey instrument was administered to students to collect student data on aspects that can support or hinder student engagement and motivation. The survey was followed up with small group interviews conducted with students to explore the influences identified from the survey data. The interviews were a guided discussion that allowed for student thoughts on engagement to emerge from the conversations.

Motivation and Engagement Survey (MES)

To investigate students' motivation and engagement with their schooling, students were asked to complete a motivation and engagement questionnaire. The instrument used was the *The Motivation and Engagement Scale* (MES) developed by Andrew Martin (2003). This is an instrument that has been tested over several thousand Australian secondary school students and has high internal validity and is appropriate for students in Years 5 to 8. The questionnaire consists of 44 items that measure 11 subscales of motivation and engagement. These subscales have been divided into 'Boosters' - those attributes that promote and support motivation and engagement and 'Guzzlers' - those attributes that restrict or undermine motivation and engagement. A total of 237 students from years 5-8 completed the survey during July 2014, comprising 99 girls and 138 boys. The subscales are summarised in Table 2.

¹ The Myschool website reports public data on Australian schools each year. <http://www.myschool.edu.au>

Boosters Promote and support engagement	Guzzlers Undermine and restrict engagement
Self Belief - effort will lead to success (Self efficacy)	Anxiety – worry about learning and performance
Valuing - regard schooling as important	Failure avoidance – use excuses or avoids the chance to fail.
Learning Focus – wanting to understand	Uncertainty control – cannot identify reasons for success or failure
Planning - revision and study	Self Sabotage – lack of application or planning around learning tasks and assessments
Task management – organisation of learning	Disengagement – giving up on school and / or putting little effort into learning
Persistence – keep trying even when it is difficult	

Table 2: *Subscales of the MES*

The MES data has been analysed using three approaches:

1. Raw Scores

Students score each of the items on a 7-point Likert scale with 4 items making up each subscale. To obtain a score out of 100 the 4 items forming each subscale are added together and multiplied by 3.575. It should be noted that some factors systematically score higher or lower than other factors. Generally students score higher for boosters than guzzlers, but subscales do vary within these areas. For example students score highest on self-belief for boosters and lowest on self-sabotage for guzzlers (Martin, 2003, p 95).

2. Motivation Quotient

The raw scores can be converted to a motivation quotient to compare groups of students and the different subscales. The quotient has been based on a normative sample of 33,778 of Australian students aged 12-16 years (Martin, 2014). A score of 100 is the norm so for supportive subscales scores above 100 are ideal. For undermining subscales below 100 is ideal.

3. Percentage of students negative to the norm graphs using the raw score

Another approach to examine the data is using the norm to calculate the number of students within a particular cohort or school with a score negative to the norm for boosters or guzzler subscales. This percentage ideally should be zero for both subscales.

Small Group Student Interviews

Victoria University pre-service teachers and youth work students involved with the project were based at the school for the year. They worked in classrooms of the students being surveyed with their classroom teacher, becoming familiar with the students and the daily routine of the classroom. Pre-service teachers and the youth work students conducted the interviews with assistance from a researcher. The relationships they developed with the students supported honest and trusted conversations during the interviews to occur.

The interviews were confidential and conducted in groups of 2 to 5 school students with multiple groups being interviewed at each of the schools. These interviews were conducted away from teachers and other students. Students were reminded that their comments were confidential and would not be linked to them as all the interviews would be analysed and combined before the general findings were presented back to the teachers and Principals. A total of 16 small group interviews were conducted during August 2014 across the five participating schools. Audio recordings of the interviews were made for later transcription and analysis. The transcribed interviews were analysed for themes relating to the MES survey and a further six themes that emerged from the interview data.

Table 3 provides a summary of all 17 themes collected under 4 categories.

Boosters	Guzzlers
<ul style="list-style-type: none"> • Self belief • Valuing • Learning focus • Planning • Task management • Persistence 	<ul style="list-style-type: none"> • Anxiety • Failure avoidance • Uncertainty control • Self sabotage • Disengagement
Learning	School
<ul style="list-style-type: none"> • Teachers checking students understanding • Clarifying what to do • Identifying engaging / boring activities 	<ul style="list-style-type: none"> • Don't like about school • Look forward to at school • Difference at secondary school

Table 3: *Summary of themes used to analyse student interviews*

Data Analysis

Examples and summaries of the key themes that have emerged from the Motivation and Engagement Survey and students interview data were presented. This data provides the foundation to address the four guiding research questions.

Motivation and Engagement Survey (MES) analysis

The five radar graphs set out in Figure 1 provide examples of ‘typical students’ raw scores for the 11 subscales from across the schools involved in the study. These graphs of ‘typical’ students were developed by using the mean raw scores for various groups of students involved in the study. The graphs have the boosters for motivation and engagement collected in the top half of the graph above the red line and guzzlers below the red line.

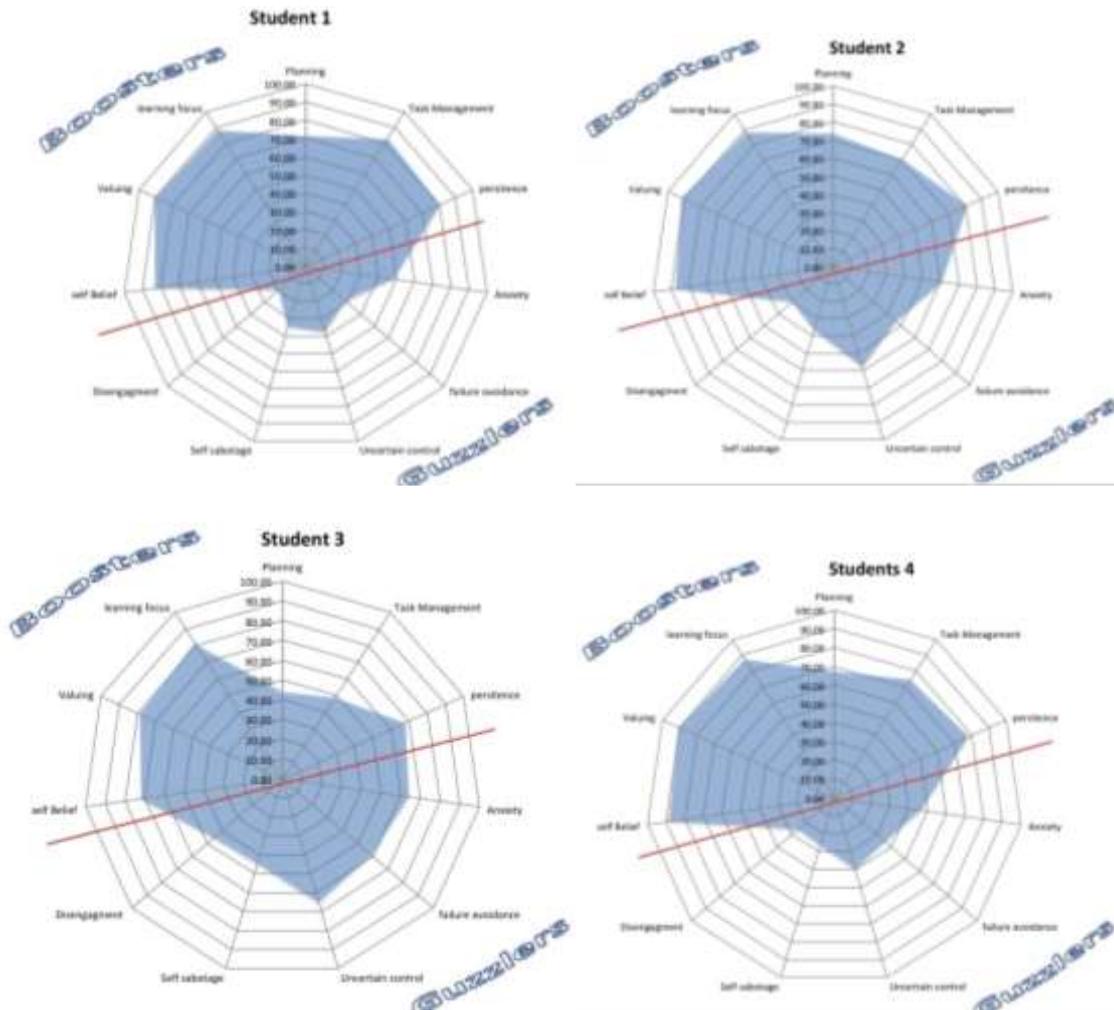


Figure 1: Radar graphs of MES scores of ‘typical students’ from the study

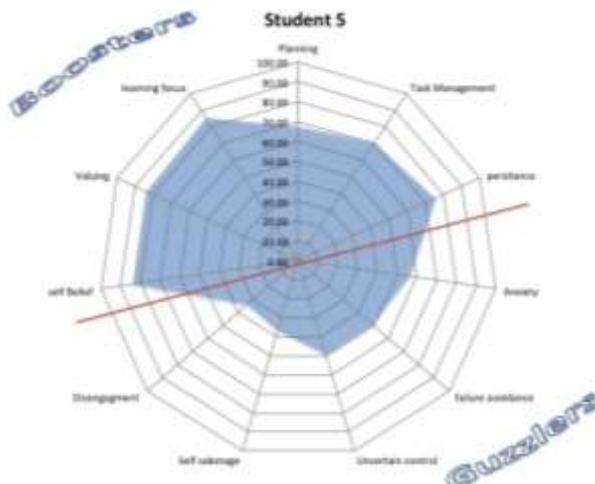


Figure 1(continued): Radar graphs of MES scores of 'typical students' from the study

The typical students graphs indicate that students have generally scored more highly on boosters than guzzlers that is consistent with other studies (Martin, 2003). Specifically the data identifies that students value schooling, have high self-belief and are generally focused on learning. Although focused on learning, the graphs indicate that most of our 'typical students' are weak in task management and planning. Anxiety and being unsure of how to ensure success with learning are also dominant student concerns.

Figure 2 presents the mean motivational quotient (MQ) for all students within the cohort presented by gender. The MQ norm is equal to 100 MQ units with scores above 100 for boosters and below 100 for guzzlers being positive indicators of engagement and motivation. These results support pervious findings for gender differences, where girls are more focused with their learning but more anxious than boys. The higher level of disengagement of girls than boys, although below the norm, is different to some previous studies where boys have been found to be more disengaged from schooling than girls (Logan & Medford, 2011; Martin 2003). The mean MQ data for all students has not confirmed the findings from the typical student raw scores, as the MQ data appears positive for the areas identified as weak in radar graphs. However, when MQ data is examined by targeting the percentage of students who are negative to the norm these concerns are confirmed as set out in Figure 3. An ideal outcome for this measure is zero for all subscales, meaning that no student is negative to the normal range. The subscales for Planning, Task Management, Anxiety and Uncertain Control have large percentages of both boys and girls who were negative to the norm. Two other subscales that are of concern include self-sabotage and disengagement sub-scales.

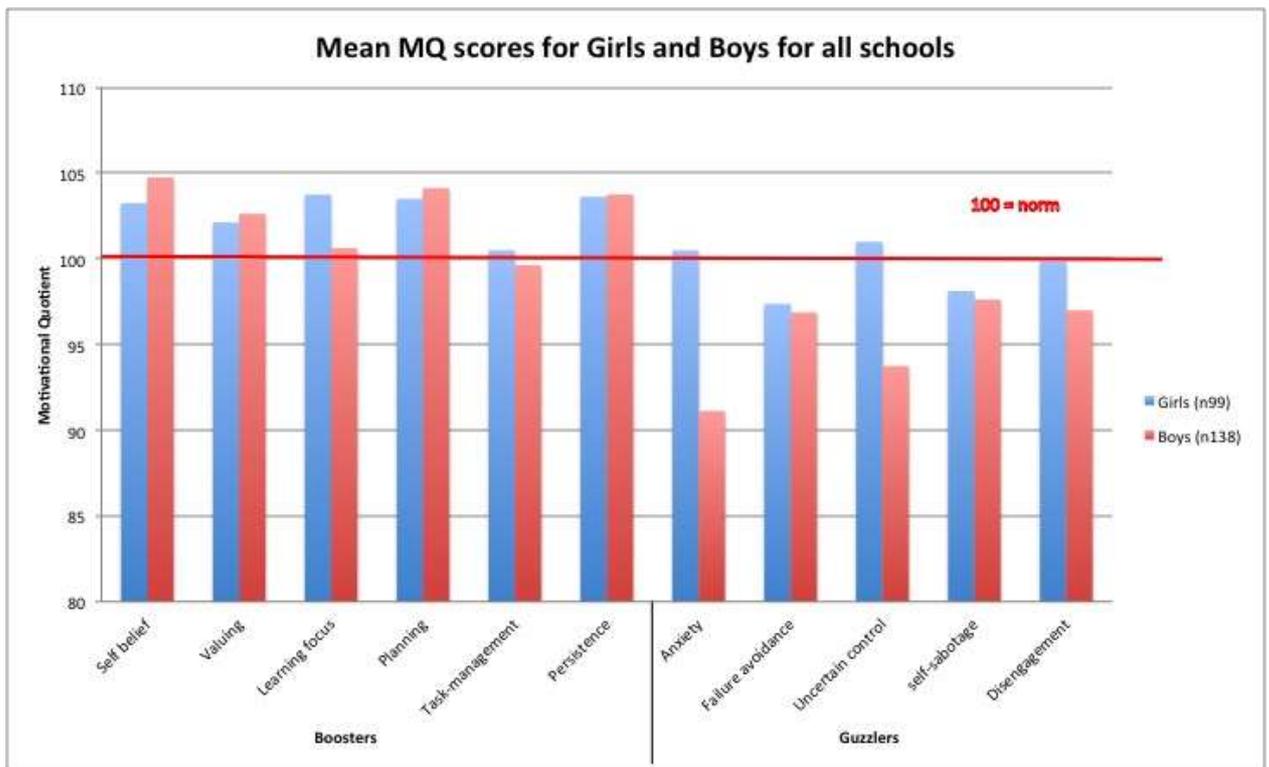


Figure 2: Mean motivational quotient (MQ) for all students by gender.

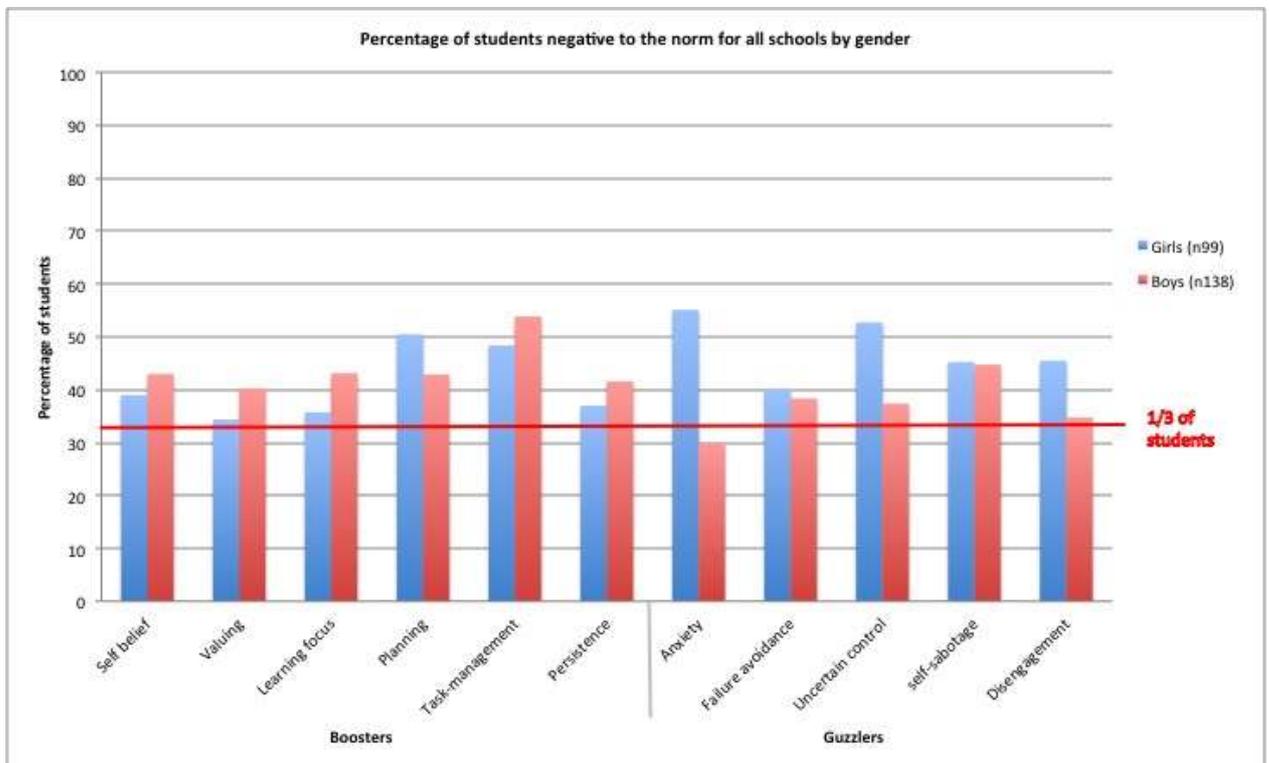


Figure 3: Percentage of students negative to the norm by gender.

To explore the subscales of planning, task-management, anxiety, uncertainty control and self-sabotage further, the mean results for each school have been extracted to examine how these scales vary across the schools. Both the mean MQ scores and percentage of students negative to the norm are presented in Figures 4 and 5 respectively.

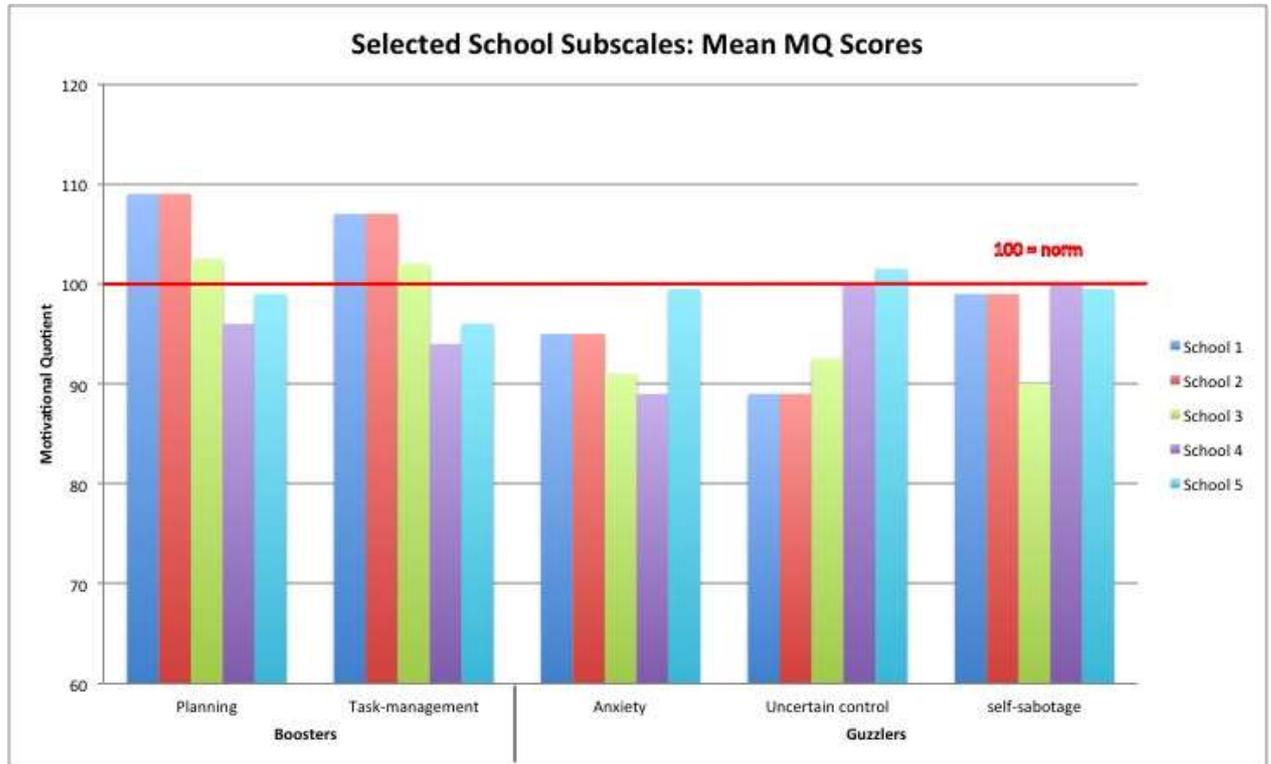


Figure 4: Selected school subscales: Mean motivational quotient scores

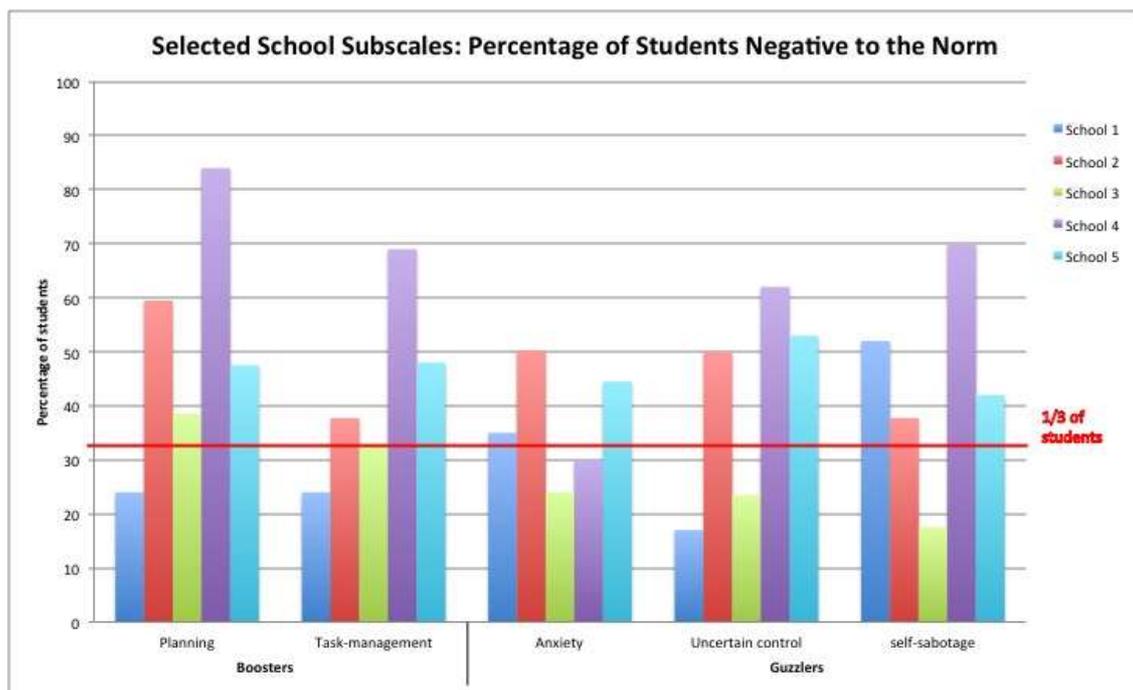


Figure 5: Selected school subscales: Percentage of students negative to the norm.

The range of scores across the schools indicates that the schooling context that included factors such as, student background, school culture, teacher experience and school policy play a role in how students engage with school. These variations across schools become more evident for most schools in the study when examining the percentage of students negative to the norm data. For example when comparing School 2 MQ mean score for planning which is very positive, with the percentage of students negative to the norm there is a concern, as 60% of students are below the norm. This indicates that there is a very broad range of planning abilities in the cohort of students and that planning should be a focus of improvement with this group even though a mean positive MQ score is present.

Students' responses to the survey data indicate that they value school and are generally focused on their learning. However, as the data was examined using the percentage of students negative to the norm data, a wide range of capacities in the various student cohorts is revealed. Across most schools over 30% of students were negative to the norm for planning, task management, anxiety, uncertainty control and self sabotage indicating that these areas could be a focus for improvement which may lead to higher levels of student engagement and learning.

Findings from student small groups interviews

The 16 small group interviews conducted across the schools provided opportunities to explore engagement and motivation through conversations with the students. These interviews provide further data to identify factors that influence student engagement with schooling. A summary of the findings from across the schools is set out below using the four categories and 17 themes discussed in the method. Under each theme is a series of points that lists the key characteristics used to identify those themes from the interview responses. These characteristics emerged from the students' comments and in the case of boosters and guzzlers were also informed by the descriptors of the MES survey sub scales.

Boosters

Self-Belief

- Completion of tasks
- Personal strengths and weaknesses
- Successes / failures
- What people think?

Generally students had high levels of self-belief apart from a small number who identified as being academically poor.

Valuing

- Parents attitude to school and homework
- Students reasons for going to school
- Parent visits to the school
- Students view on relevance of school work

Students commented on the need for schooling but some spoke of its lack of relevance or lack of connection to the real world. A small number were more indifferent about schooling. Students from all the schools identified that their parents thought school was important and most asked questions about school and followed up with homework.

Persistence

- Keeping going with a difficult task
- Giving up on a task
- Asking for help from others
- Practicing

In general all students did not give up straight away but would try to work out a problem or concept they did not understand, ask for help from friends, then from the teacher. Students did start to give up if the teacher's explanation did not help. They were reticent to ask for teacher help more than once.

Learning focus

- Concentration
- Staying on task
- Doing well on a task

Getting distracted was an issue for the majority of students. Ease of distraction was related to interest level in the subject or topic, level of difficulty, noise and other activities in the classroom or school.

Planning

- Homework completion or avoidance
- Managing work or learning tasks
- Study for tests
- Other commitments

Planning was very limited across the schools. Students did not have many strategies around planning for longer projects or for homework. Some of the 'keen to achieve' students had set routines for homework and management of homework and other activities. Most students had other activities to attend outside school including sport, music, and friends.

Task Management

- How to get started on a task

Task management was limited with students not having a strategy to start short or long-term tasks.

Guzzlers

Anxiety

- Concerns about homework
- Concerns about school work
- Time lines or dead lines

Students were anxious about some aspects of schooling. In particular doing well on tests and successful completion of large projects and homework. The small number of students, who were indifferent about school, did not seem to be worried about school and levels of achievement. This seems to indicate a level of disaffection in these students.

Uncertainty control

- Limited feedback from teachers
- Unsure of why they got a good or bad result
- What teachers do at the start of a lesson
- How teachers explain what is required for a lesson or task

This is an area that seems of greater influence than indicated by the MES when using the above dot points as indicators. Across the schools the explanation of tasks in the classroom varied with most instructions being verbal without other strategies to reinforce the instructions or explanation. Feedback on students work varied with comments about the feedback being limited and not critical enough to identify what is good and bad about a piece of work. In primary schools maths seemed to get more specific feedback than in other subjects. In secondary schools teachers moved on before students fully understood the topic or concept. This teacher feedback is the students' perception and there may be much more monitoring of student learning occurring in the classroom, but students are not aware of these activities by the teachers.

Self Sabotage

- Not caring about understanding
- Not caring about completion of tasks
- Not worrying about asking for help
- Not studying for tests

There were low levels of self sabotage which seemed more linked to other areas such as disengagement rather than giving up or actively undermining one's own learning which was in contrast to the MES results. This maybe due to the MES questions being more general and related to putting things off or not studying. This aspect maybe subtle and could be linked to planning and task management by students.

Failure avoidance

- Keeping results from parents and peers

This did not appear in the interviews, only one comment by one student. Generally students wanted to do well and were 'resilient to failure'. Some students only shared good results with parents.

Disengagement

- Distracted in class
- Difficulty concentrating

This was closely tied to students learning focus and how easily other students or events in the classroom distracted them. The level of a student's interest in the topic also appeared to strongly influence the levels of engagement. The types of learning activities and the style of teaching affected levels of engagement dramatically with students talking about being poorly motivated and distracted in particular classes or with particular teaching approaches.

Learning

Checking students understanding

- Observations from students on how teachers check if they understand
- Moving on even though they do not understand

There were few assessments for prior knowledge that students could identify or formative assessment of individual students whilst a topic or concept was taught. Formative assessment appeared to come through verbal feedback or general 'help' given by the teacher during class. Maths was an exception where a quiz or homework sheets maybe given during a topic to check student understanding.

Clarifying what to do

- Try to work it out, ask friends or the teacher

The general approach was ask a friend then the teacher

Lack of written explanations, diagrams or other sources of information meant there was limited opportunity for students to explore other options of clarifying what needed to be done.

Engaging learning ('boring' was the opposite)

- Class activities
- Activities you do well on
- Preferred way of learning
- Effectiveness / value of the classroom learning
- Level of challenge / difficulty
- Relevance of the activity

Generally students thought learning was more effective when:

- *Discussion with peers occurred and working with others*
- *Connection of topics to the world beyond school*
- *Hands on activities – doing something, creating*
- *Active and outside*
- *Opportunities to concentrate in a quiet environment*

Most student enjoyed working with others but many preferred opportunities to work on their own.

School

Don't like

- Range of things

Generally students liked coming to school but spoke of particular subjects they did not like, or the type of learning activities that occurred and if these were repetitive or boring. There were a small number of students who commented about other students they found 'annoying' or who gave them a hard time.

Look forward to

- Types of subjects
- Social - friends
- Activities - lunchtime, co curricular

Friends and active or creative activities were the things students look forward to when coming to school.

Different at secondary school

- Highlights some of the strengths of primary schools

Primary school students were concerned about making new friends and, that there will be more homework. Looking forward to different classes and maybe a range of teachers but will miss their primary school teachers whom they seem to trust and value.

Summary of Findings

Returning to the guiding research questions, below is a brief response to each question.

1. How do students value and interact with different aspects of the school curriculum?
 - Students generally valued school and acknowledged the need for schooling to get on to either secondary school and /or be able to get on in life.
 - Students generally have good levels of self belief but most would benefit from better planning and task management skills to be able apply their learning focus more effectively
 - Subjects that were more activity based and creative were identified as more enjoyable and easier to stay focused
 - Co-curricular activities were important to primary schools students, with students, identifying choir, interschool sports, performances as being valued aspects of school life

2. What are, and where do, the sources of motivation come from that support student engagement?
 - Interest in the subject area or the topic /concept being studied was an important source of engagement. If it resonated with the students they found it much easier to concentrate and stay on task.
 - Learning activities or tasks that were more active or creative motivated students. This included computer games with students talking about maths and spelling-based games.
 - Challenge of the learning task and getting the level of challenge and support 'just right' increased motivation and engagement. Too easy = boring, too hard = I won't try for long. Providing support to help students through the difficult parts promoted both motivation and engagement
 - Opportunities to concentrate and focus. Student spoke of this in two ways. First, time to adjust to a change in topic and focus or refocus ones mind to a learning activity and second, a quiet environment where individually one could work on a difficult learning activity without external distractions.
 - Anxiety and uncertainty control levels were quite high in a number of schools which indicates that better understanding of expectations and how to achieve them may increase motivation.

3. What is the role of students' aspiration and engagement with schooling?
 - Information and data about students aspirations was limited but a number of students in Years 5 & 6 did identify wanting to go to particular secondary schools as they thought they were 'good schools' or had programs they would like.

4. How does curriculum and pedagogy affect student's engagement with schooling?
 - Repetitive tasks or tasks without a clear purpose were identified as boring.

- The level of challenge presented by a task was important. Very easy tasks or problems and very hard tasks or problems lead to students becoming disengaged.
- Particularly in secondary school individual teachers were associated with a subject and the level of interest in that subject.
- Most students identified group work as enhancing their learning and level of interest. However, if the group did not work well together or were easily distracted it undermined their learning and ability to concentrate.
- Feedback on students tasks and understanding was mentioned in different contexts with more critical feedback being seen as important, clearly identifying what is good in a piece of work and what is bad. This type of feedback was seen as a motivator to improve.
- Self-sabotage was a concern in 4 of the 5 schools indicating that they may not be aware of why they may achieve in some subject but not others. Clear expectations and having a range of strategies to succeed in different subjects may help student engage in learning more effectively.

Pedagogy considerations

From the data presented there are a number of areas that could be influenced by the application of particular learning approaches. In general a better understanding by students of learning goals and expectations could help with planning, task management, anxiety and uncertainty control. Students spoke of more active learning activities and opportunities to experience different environments increasing their interest in topics or a subject area. Feedback on their learning and building understanding from their current knowledge also supports engagement and motivates learning. Listed in the table below are a number of learning approaches that could develop some of these factors, potentially increasing student engagement with schooling.

Learning approaches	Learning requirement	Engagement Potential	Reference
Constructivist, student focused teaching incorporating student choices.	Build knowledge from personal understanding using higher order thinking. Setting personal goals for understanding.	Decrease uncertainty control with clear goal setting. Increase motivation by building on prior knowledge	Bandura, 1986; Piaget, 1972; Russell, 2002; Vygotsky, 1962, 1987.
Cooperative learning approaches.	Works with peers to test and develop inter-personal skills. Construct knowledge in a social and cultural context.	Increase engagement by providing opportunities to share and discuss ideas and concepts	Johnson, Johnson & Stanne, 2000; Gillies & Boyle, 2009.
Skills in organisation, study, research, reporting, and thinking (metacognition) are taught and used in all learning areas.	Develop skills for strategic planning, self-assessment and review. Accurate evaluation of self-efficacy and efficacy potential.	Increase in planning and task management skills. Decrease in self-sabotage with greater understanding of personal learning	Hochman, 1997; Schunk 2008.

Table 4: *Learning approaches to address some of the issues raised in the data*

Learning approaches	Learning requirement	Engagement Potential	Reference
Variety of teaching and learning approaches both enactive and vicarious to provide opportunities for students to learn and demonstrate their learning in different ways.	Enable the development of mastery in a range of skill areas. Provide opportunities to apply learning to a range of contexts. Provide a range of models to support students.	Increased engagement by variety of learning activities. Decrease in anxiety by focusing on mastery skills rather than test scores	Bandura, 2006; Loka, Hollingsworth & Hackling, 2006
An expectation that all students meet a high standard in their studies.	Being challenged by the clearly explained learning tasks, resulting in levels of disequilibrium occurring which will encourage evaluation of current concepts. Learning tasks which align with students' ZPD.	Clear expectations that challenge students will decrease uncertainty control but also increase engagement through and achievable task.	Meece, 2003;
Assessment that promotes learning.	Assessment that focuses on mastery development rather than performance focused and is clearly linked to the skills and knowledge being developed. Encouraging the development of positive self-efficacy.	Regular feedback on students understanding and progress towards mastery supports planning of learning.	Newmann & Associates, 1996; Meece, 2003; Slabbert & Hattingh, 2006.
Learning tasks with connections to the world beyond the classroom.	Learning tasks should have value beyond the classroom with the potential to engage with real world problems.	Connects learning with community to increase learning focus and value of schooling	Newmann & Associates, 1996; Smyth, McInerney & Fish, 2013

Table 4 (Continued): *Learning approaches to address some of the issues raised in the data*

The partnership with Victoria University, Principals and MMVLEN will continue in 2015. The data from Stage One of the project is informing current developments of stage two of the project that will be developed and implemented in 2015. Ongoing discussions about classroom practices with teachers, and the school structures that support and inhibit students' engagement with schooling is the focus of the 2015 collaborative project. Continuing the action research cycle with all partners deepens the understanding of pedagogical changes that can enhance students' engagement with learning.

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